Pharmaceutical Care in Substance Misuse
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About this package

Welcome to this distance learning pack on pharmaceutical care for people in Scotland who are substance misusers.

Substance misuse is a significant issue in Scotland for individuals, for communities and for services. As you work through the pack, you will learn something about its incidence and impact and how, as a pharmacist, you can make a significant contribution to tackling the problems it creates.

This package has been written in conjunction with members of the group of Scottish Specialist Pharmacists in Substance Misuse (SSPISM) as well as other recognised specialist pharmacists within Scotland.

The pack uses their knowledge and expertise in substance misuse as well as associated problems, including blood-borne viruses to relate the education to current practice within Scotland.

It aims to meet the education and training needs of all pharmacists who deliver ‘substitute’ services (mainly methadone) and needle exchange services which will be part of locally negotiated ‘Additional services’ within the new community pharmacy contract in Scotland. The pack should also be useful for pharmacists within primary care and the hospital setting to understand the patient journey involving integrated care1.

Format

The pack is organised into SEVEN chapters.

The initial three chapters focus on the background to the problem of substance misuse, particularly in Scotland. The statistics, the range of substances misused and the problems of blood-borne viruses and other infections in relation to substance misuse are covered in the early chapters.

The latter chapters focus more specifically on the services that pharmacists can offer drug misusers, particularly in relation to supervised substitute prescribing (mainly methadone and buprenorphine) and needle exchange services. They also cover the aspect of pharmaceutical care of substance misusers in general and what future developments are underway.

Aim

The overall aim of this pack is to help you develop your knowledge and skills in relation to pharmacy services, and in particular pharmaceutical care, in relation to substance misusers. The package is designed to equip you to deliver care that is evidence based and up-to-date, while providing you with many additional sources of useful information.
Objectives of the pack
On completion of this package you should be able to:

- be familiar with the terminology and definitions used in substance misuse, the scope and extent of drug misuse in Scotland, the range of substances that may be misused, the extent of drug misuse among younger people, that drug misuse is a chronic relapsing condition and that ‘harm reduction’ is an important element for substance misuse.
- recognise the principal drugs and substances misused in Scotland, review the principal risks faced by patients misusing substances, identify areas in which the pharmacist can help treat patients misusing drugs or substances and identify the problems and risks associated with misuse of multiple substances.
- describe the transmission and prevalence in Scotland and worldwide of HBV, HCV and HIV, identify treatments, outline advice to be given to avoid or minimise transmission and outline the means of avoiding transmission within the pharmacy setting when offering services to drug misusers.
- outline the purpose as well as legal and ethical issues of needle exchange schemes, detail the elements of a needle exchange scheme and debate the reasons for and against provision of a needle exchange scheme from your community pharmacy.
- explain the role of substitute prescribing, detail setting up a supervised methadone administration scheme, describe the withdrawal experience and the treatments that can help to control it, explain the extent of relapse and measures that can be taken to help overcome them as well as explain to drug misusers how to react when encountering an overdose.
- outline the importance of building good relationships with drug misusers and detail the process and delivery of pharmaceutical care as part of an integrated care plan package for drug misusers.
- be familiar with the nature of possible new treatments and tests relating to drug misusers, new technological aids to deliver services to drug misusers, outline the concerns regarding CDs in relation to the Shipman Inquiry and consider the implications of the new community pharmacy contract in Scotland on pharmacy services for drug misusers.

Activities
There are various activities detailed throughout the pack which are indicated by the following icons in the margin:

- Activity Box
- Key Facts Box
- Suggested Answers
- Case Study (Tom, Jamie, Chrissy)
- Summary/Key Points (end of each chapter)

Case studies
There are three people (Tom, Jamie and Chrissy) who will feature throughout the pack and will be referred to for various case questions and tasks at the relevant points. Through their stories you will learn about some of the attitudes, issues and challenges that enter the lives of people who are drug misusers. The proposed answers to each activity are provided at the end of each chapter.
Multiple Choice Questionnaire

On completion of the package, the multiple choice questionnaire should then be attempted and returned to the NES Pharmacy office, either as a paper copy or can be submitted electronically online (see instructions on page 204).

Feedback

We hope that you find this pack a useful background and/or update for you to provide pharmacy services in relation to drug misusers and as a useful reference point for the main aspects of substance misuse. Please help us to assess the value and effectiveness of the pack by adding any comments in the relevant section of the MCQ answer sheet provided at the end of the pack.

How to work through the distance learning package

Although it is best to work your way through the chapters from the beginning to the end in a logical order, completing the activities for each chapter as you go. However you may wish to focus on particular chapters that are relevant to your practice. The pack overall should take approximately TWELVE hours to work through depending on your learning style, experience and access to relevant information resources. Some of the other distance learning packages available from NHS Education for Scotland (Pharmacy) will also complement this package in relation to pharmaceutical public health services. A full list of these packages are available on the NES website www.nes.scot.nhs.uk/pharmacy/ or by telephoning 0141 223 1603.

How this package can assist your CPD

At the beginning of each chapter the objectives describe what you should be able to do when you complete the particular chapter. This is designed to help you monitor how you are progressing through the pack and to identify any further learning needs that you may have in relation to each aspect. You should use your personal CPD record to record your learning, future learning needs and changes to practice that you have implemented as a result of your learning. If the information is not detailed in the pack we have also listed many useful reference websites which may provide you with the relevant information.

Keeping up to date

Although the information is as up-to date as possible at the time of publication there is always new information, statistics, policy directives and research evidence becoming available. In addition there is always information available which is pertinent to your local situation in relation to services for drug misusers – you should contact your local Substance Misuse Specialist Pharmacist or NHS area Pharmacist for local guidance. You should also endeavour to continue to review recommended websites for further study.

Royal College of General Practitioners (RCGP) Scotland

The material included in the distance learning pack is accepted as equivalent to part 1 of the RCGP ‘Certificate in the management of drug misuse’. Pharmacists who successfully complete this NES Pharmacy distance learning pack are eligible to apply for the part 2 (multidisciplinary) Certificate. More information about this can be obtained by contacting ilkelleher@rcgp-scotland.org.uk or see http://www.rcgp.org.uk/drug/certificate.asp
Disclaimer

While every precaution has been taken in the preparation of these materials, neither NHS Education for Scotland nor external contributors shall have any liability to any person or entity with respect to liability, loss or damage caused or alleged to be caused directly or indirectly by the information therein.

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## Chapter 1 Introduction

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Chapter 1 provides an introduction to substance misuse (and in particular drug misuse) - the range, the extent and the issues related to the problem.

Objectives

When you have completed this chapter, you should be able to:

- explain the scope and extent of drug misuse in Scotland
- name the range of substances that may be misused
- explain the extent of drug misuse among younger people
- understand the characterisation of drug misuse as a chronic relapsing condition
- understand the meaning of ‘harm reduction’.

But first, let’s meet three people who will feature throughout the pack. Through their stories, you will learn about some of the attitudes, issues and challenges that enter the lives of people who are drug misusers.

Case study characters

Tom

Tom is 21 years old. He has been dependent on heroin for two years and has never been in any form of treatment. He has tried to give up the drug himself at home, but found it too difficult.

Tom has a relatively stable background, living at home with his parents, who both work. He has an elder brother who also works and has never been involved in drugs. His parents now know about Tom’s drug problem and have encouraged him to seek treatment.

Tom went to a reasonably good school but got attached to a group of young people who smoked cannabis and eventually he tried smoking heroin. This led him on to injecting heroin.

He has worked as a shop assistant in various places since leaving school but lost jobs due to poor attendance. He is currently not working and wants to concentrate on getting off drugs.

His specialist nurse suggested he should commence a methadone course with a view to reducing the dose over the next few months from his current 50 mg. If he reduces the methadone dose sufficiently, he may be able to undertake detoxification with buprenorphine. This would speed up the whole treatment programme, something he wants very much.
Jamie

Jamie, who is 34, has been using heroin since leaving home and living on the streets at 17, and is hepatitis C positive. Although he worked for some years as a local authority gardener, he has been unemployed since going to prison for burglary and car theft in 1991. He was stealing to finance his heroin use.

Jamie's living conditions are very chaotic. Thrown out of a hostel for dealing heroin, he has periodically been living on the street or in squats or temporary shelters when he could find them. He mixes with a group of companions, some of whom are heavy drinkers and others who are injecting drug misusers. He begs and steals where he can.

Jamie has suffered from a range of medical problems over the years, including a bout of phlebitis that required hospital admission, and has had numerous attendances at accident and emergency departments with injuries and septic injection wounds. He has never attempted to end his drug-misusing habits, and rejects most attempts at assistance. 'I'm just on the drugs, there's nothing anyone can do about it', he says.

His group are always short of money and will try anything to get a 'hit'. There is a lot of sharing of injection equipment and other items, mixing of drugs and efforts to get additional methadone and prescribed drugs to 'top up'. The group is at risk from 'bad supplies' and have been known to experiment with any injectable substance that becomes available.

Jamie sometimes tries to threaten people by saying he is HIV positive and may injure them. He does not know whether he has HIV, and has refused tests. He has no fixed address, does not see a GP regularly and receives no regular prescriptions, though he sometimes uses pharmacy needle exchange services. He has tried in the past to pass forged prescriptions.

Chrissy

Thirty-two year old Chrissy has been in and out of various treatment services for 10 years for her heroin misuse. She has tried community and in-patient detoxification, methadone maintenance and methadone reduction, but always relapses.

She has two children aged eight and 10 years who currently live with her, although there have been times when they have been taken into foster care. Her partner, who is also a heroin user, is currently in prison serving a sentence for possession with intent to sell.

Chrissy suffers from depression and is hepatitis C positive. She is very undernourished, smokes (when she can afford it) and has never worked. Her current methadone maintenance regimen is 75 mg, and she takes fluoxetine for depression and anti-inflammatories for general pain relief (she suffers from aches and pains, which she blames on the methadone). She also suffers from chronic constipation and occasionally takes laxatives.

Her social worker sees her regularly to keep an eye on how she is coping with the children, and she meets her specialist nurse every fortnight. Their joint treatment plan is to keep her stable on methadone so she does not need to take other drugs. At present, she only uses heroin on top of her methadone when a friend calls round, but her heroin use increases when her partner is at home.
We will follow Tom, Jamie and Chrissy’s progress throughout the pack. But to begin with, we will define some terms used in the pack and will then go on to take a look at figures and statistics relating to drug misuse in Scotland.

**Using terms**

The language we use about a community, an individual or an issue says a lot about our perceptions. The primary focus of this pack is misuse of illicit drugs, although we also touch on the misuse of wider substances that can be obtained legally. We do not, however, refer to ‘drug addicts’; rather, we have opted for the terms ‘drug misuser’, ‘injecting drug misuser’ or ‘problem drug user.’ These terms are more accurate, as not all drug misusers are addicts. More importantly, we feel the term ‘drug addict’ has very pejorative connotations that encourage stereotyping. People who misuse drugs vary considerably, and engaging in stereotyping – like a ‘one-size-fits-all’ approach to treatment – is seldom helpful.

**Activity 1.1**

How would you define ‘substance misuse’? Compare your definition to the one we set out in the text below.

We use the term ‘substance misuse’ when we refer to misuse of a wide range of substances available legally, including alcohol, tobacco, solvents and over-the-counter (OTC) preparations.

In general, we refer to **substance misuse** when items that can be obtained legally are:

- used **illegally**
- used **inappropriately** (that is, not for the purpose for which they are licensed and prescribed or sold).

Most people probably think of substance misuse as something illegal, with the picture of a hopeless addict injecting ‘hard drugs’ being uppermost in their perception of the typical substance misuser. As we have set out above, this is not the definition we are taking for this pack.

In reality, of course, a wide variety of substances, ranging from those that are illegally obtained and used to those that are legally prescribed or purchased, can be implicated in substance misuse. Almost any substance is capable of being misused. And misusing substances does not necessarily lead to addiction, and certainly not to hopelessness.
Substance misuse

It’s probably fair to say that practically all synthetic and natural substances that have an effect on the mind or body have been misused at some point in human history. People began to ferment alcohol from grain or grape at least 6,000 years ago, and there are references in ancient Babylonian texts and the Old Testament to people becoming intoxicated with alcohol.

The chewing of Khat, a green-leafed shrub, goes back to prehistoric times. It has been chewed by people who live in the Horn of Africa and Arabian peninsula for centuries, but has recently become more common in Europe, including the UK, particularly among emigrants and refugees from countries such as Somalia, Ethiopia and the Yemen. The sub-Arctic hunter-gatherers of Siberia and Northern Europe used – and perhaps still use – Amanita muscaria (fly agaric) fungi for livening up rituals and partying, while their shamans riskily took higher doses to achieve contact with the ‘spirit world’.

Substances whose primary role is medicinal are also misused. The obvious example is heroin, but a wide range of prescription drugs such as temazepam are also implicated, as are over-the-counter preparations such as paracetamol (which is increasingly being used in over-dose and suicide attempts), dihydrocodeine and cyclizine.

Misuse of non-medicinal products in modern societies is widely recognised as posing threats to individual and public health, with tobacco, alcohol and even unhealthy food choices being implicated in a wide range of health and social problems. All such products can be legally purchased and consumed by a wide range of people.

Society does not rate misuse of these ‘socially acceptable’ substances on a par with drug misuse, yet their effects on health can be just as devastating. As we shall see in Chapter 2, smoking results in 13,000 deaths in Scotland and 35,000 hospital admissions each year. Alcohol-related deaths in Scotland rose by 21% to 2,052 a year between 2000-2004, and there are even suggestions that fast-food products, heavily implicated in the rise of obesity in Scotland and other Western countries and with the development of a range of serious obesity-related illnesses, may trigger addiction-like responses in the brain similar to drugs.
Drug misuse presents an important challenge to Scotland. The 2005 National Prevalence Study suggested there were 51,583 problem drug users in Scotland (see Box 1.1). This equates to roughly 1% of the population, compared to approximately 0.5% in England and Wales. Around 19,000 people are injecting drugs (one person in every 300 in the population of Scotland), and half of them are hepatitis C positive. Up to 59,000 children in Scotland have a drug-misusing parent.

Box 1.1 Problem drug users

The Scottish Drug Misuse Database uses the following definition of ‘problem drug users’:

‘Any person who experiences social, psychological, physical or legal problems related to intoxication and/or regular excessive consumption and/or dependence as a consequence of his/her use of drugs or chemical substances.’

The Scottish Drug Misuse Database (SDMD) reported a 35% increase in ‘new’ individuals reported to them between 2000 and 2005. Further details from the SDMD are shown in Box 1.2.

Box 1.2 SDMD 2004-05 data on ‘new’ drug misusers in Scotland

- Twice as many males as females were reported.
- 58% of those undergoing health assessments reported physical health issues, and 50% mental health issues.
- The majority of new misusers had started using illicit drugs while in their teens.
- 51% of heroin users reported that they injected the drug (this compares with 57% in 2003-04 and 54% in 2000-01).
- The median age of those reported was 29 years.
- 99% described their ethnicity as ‘white’.
- Of those reporting heroin use, 92% said it was their ‘main drug of misuse’.
- 50% said they had spent time in prison.
- 84% were unemployed.
- 19% were living with dependent children.
- 13% lived in temporary or unstable accommodation, and 2% were ‘roofless’.
- 739 new clients reported taking cocaine (and 308 crack cocaine); this is probably a significant underestimate.
For a detailed account of injecting drug misusers by NHS area and council area, see Appendix 1.

**Perspectives on drug misuse**

Drug misuse is a major problem for individuals and for communities. People’s responses to the ‘drug problem’ vary, from those who advocate an ultra-repressive stance – ‘lock them all up’ – to ultra-liberal perspectives which hold that the best response is to ‘decriminalise all drugs’. A range of positions can be found between these two extremes:

- for some, the misuse of drugs is primarily a *criminal justice* issue
- for others, it is a *moral* matter
- drug misuse can be perceived primarily as a *psychological* or *psychiatric condition*
- it can be seen as a *social issue* due to its association with poverty, unemployment and child protection issues, antisocial behaviour and criminal activity
- it can be seen primarily as a *public health* issue.

In Scotland, the Criminal Justice system still plays a leading role in drug policy, which comes under the remit of the Justice Minister. In 2004, 42,384 drug-related offences were recorded by Scottish police forces, of which 77% were for possession. Drug-related offences increased by 35% from 2000 to 2005. Prisons also play a major role in dispensing drugs policy. Over 60% of prison receptions in Scotland in 2004-05 - 14,282 people - were referred to addictions services; of these, 65% were offered assessment.

The perspective we take in this pack, however, is closest to the last in the list above - primarily a *public health* one. We recognise and respect the merits of the other perspectives, but for pharmacists, the fundamental objective is to see the drug misuser as a *patient*, helping him or her to manage the health problems that drug misuse may bring and avoid doing further harm or damage to themselves and others. Pharmacists also have a longer-term goal of supporting drug misusers to make the difficult and often slow journey through drug dependency towards, if possible, abstention.

Abstinence is, of course, the best option from a health perspective, but there is much that can be done to help those who cannot abstain – providing advice on safer injecting or inhaling practices, running needle exchange schemes and taking measures to prevent ill-health, for instance. Many agencies dealing with drug and substance misuse are engaged in the process of *harm reduction*, and this is a theme that we will pursue throughout the pack.

Pharmacy is not starting from scratch in this field of practice. More than 700 Scottish community pharmacies provide supervised consumption of methadone services, and over 100 operate needle exchange schemes. All pharmacies provide services of some kind to drug misusers, even if they are not always aware of the fact.
The nature of drug misuse

Drug misuse is typically a chronic, relapsing condition. Some drug misusers want to end their use of drugs, but the majority seem prepared to continue with their consumption and dependence. Dependence generates a physical need to take the drug and a strong desire to avoid the symptoms associated with withdrawal. A high proportion of drug misusers who attempt to give up their habit fail in the attempt due to the temptations of re-commencing and the discomforts of withdrawal.

Drug misusers may rely on drugs to help them cope with stresses and difficulties in life. They may be members of communities and have partners who also misuse; giving up means not only giving up the drug, but also perhaps giving up the lifestyle and the networks to which they have become accustomed. Additionally, drug dependency and the personal and social challenges it creates tends to have a very negative impact on self-esteem, leaving many drug misusers feeling they are incapable of making the change.

Let’s consider, for a moment, how all this is reflected in the lives of our three patients. Tom has tried to come off drugs, but failed; Jamie has no interest in doing so; and Chrissy is semi-stable on methadone, but has a heroin-using partner and tends to use it herself when a particular friend comes round.

Ideally, those who work with drug misusers would like to see them reach a state of abstinence. But abstinence is hard to achieve – even if the misuser desires it – and as with our patient Tom, the risk of relapse is high. If abstinence is out of reach, we need to consider what steps to improvement can be considered a ‘success’.

Activity 1.2
Apart from abstinence, what would you consider as a ‘success’ in treating Jamie if he was to present to your pharmacy? Make some notes now and return to them when you have finished studying the chapter. Would you make any changes to your original ideas? If so, why?
Drug classifications
We can group substances that are ‘recreationally’ misused as follows:

- opioids (heroin, methadone)
- cannabis
- stimulants (cocaine, crack, ecstasy, amphetamines)
- depressants (benzodiazepines, alcohol)
- hallucinogens (LSD, magic mushrooms)
- volatile substances
- anabolic steroids
- over-the-counter medicines (OTCs)
- tobacco.

Each presents various challenges for pharmacists and patients, and most of these are considered further in Chapter 2.

In relation to misuse of illicit drugs, a classification is made under the Misuse of Drugs Act 1971, where the Classes A, B and C relate to the penalties that can be applied by a court on convictions for possession, use, dealing or trafficking of controlled drugs (Table 1.1)

Table 1.1 Penalties for possession and dealing

<table>
<thead>
<tr>
<th>Class</th>
<th>Possession</th>
<th>Dealing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class A: ecstasy, LSD, heroin, cocaine, crack, magic mushrooms, amphetamines (if prepared for injection)</td>
<td>Up to seven years in prison or an unlimited fine, or both.</td>
<td>Up to life in prison or an unlimited fine, or both.</td>
</tr>
<tr>
<td>Class B: amphetamines, methylphenidate (Ritalin)</td>
<td>Up to five years in prison or an unlimited fine, or both.</td>
<td>Up to 14 years in prison or an unlimited fine, or both.</td>
</tr>
<tr>
<td>Class C: cannabis, benzodiazepines, zolpidem, anabolic steroids, some analgesics, GHB (gamma hydroxybutyrate)</td>
<td>Up to two years in prison or an unlimited fine, or both.</td>
<td>Up to 14 years in prison or an unlimited fine, or both.</td>
</tr>
</tbody>
</table>

The Misuse of Drugs Regulations 2001 contain five schedules of controlled drugs, listing restrictions on the possession, supply, production and import or export of drugs to meet medical or scientific needs. The Schedules demonstrate the large number of drugs that can potentially be misused. The Schedules in the Regulations can be updated at any time; ketamine, for instance, was included in Schedule 3 of the Regulations in January 2006 and is now a Class C drug.
Activity 1.3
Give a brief summary of the rules under the five schedules of the Misuse of Drugs Regulations 2001, and give two examples of drugs on the schedule. Then compare your response to the information given in Table 1.2 – how well do they match up?

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Examples</th>
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</thead>
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<tr>
<td>1</td>
<td>Cannabis, coca leaf, ecstasy, LSD, raw opium and psilocin.</td>
</tr>
<tr>
<td>2</td>
<td>Cocaine, dihydrocodeine, heroin, methadone and morphine.</td>
</tr>
<tr>
<td>3</td>
<td>Barbiturates, rohypnol, temazepam and some tranquillisers.</td>
</tr>
<tr>
<td>4</td>
<td>Part I includes most minor tranquillisers. Part 2 consists of anabolic steroids, which can be possessed without a prescription, but cannot legally be supplied to others.</td>
</tr>
<tr>
<td>5</td>
<td>A range of low-dose, non-injectable preparations, many of which are OTCs eg. kaolin and morphine.</td>
</tr>
</tbody>
</table>

The schedules referred to here are those from the Misuse of Drugs Regulations 2001 [see http://www.opsi.gov.uk/si/si2001/20013998.htm].

Table 1.2 Schedules under Misuse of Drugs Regulations 2001

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule 1: contains the most strictly controlled drugs, which are not authorised for medical use. They can usually only be supplied under a Home Office licence for research purposes.</td>
<td>Cannabis, coca leaf, ecstasy, LSD, raw opium and psilocin.</td>
</tr>
<tr>
<td>Schedule 2: these are prescribable drugs for medical use. It is an offence for someone to be in possession of these drugs if they are not prescribed.</td>
<td>Cocaine, dihydrocodeine, heroin, methadone and morphine.</td>
</tr>
<tr>
<td>Schedule 3: these are prescribable drugs for medical use. It is an offence for someone to be in possession of these drugs if they are not prescribed.</td>
<td>Barbiturates, rohypnol, temazepam and some tranquillisers.</td>
</tr>
<tr>
<td>Schedule 4: it is illegal to possess these drugs without a prescription.</td>
<td>Part I includes most minor tranquillisers. Part 2 consists of anabolic steroids, which can be possessed without a prescription, but cannot legally be supplied to others.</td>
</tr>
<tr>
<td>Schedule 5: it is illegal to supply Schedule 5 drugs to other people. These drugs are not considered to offer a high risk of misuse.</td>
<td>A range of low-dose, non-injectable preparations, many of which are OTCs eg. kaolin and morphine.</td>
</tr>
</tbody>
</table>
As has been explained above, almost any drug can be misused, and people may misuse more than one drug. Of the 14,332 new patients and clients reporting illicit drug use to the SDMD in the year ending March 2005, 7,586 gave heroin as their main drug of misuse (261 reported methadone as their main illicit drug, 333 dihydrocodeine and 743 diazepam). A proportion of the ‘main drug’ heroin users also reported using a range of other substances, with cannabis (at 24%) being the most frequently cited.

**The harm caused by drug misuse**

While a positive response to drug misusers is advocated and promoted throughout this pack, there is no denying that drug misusers can and do cause harm to themselves, their families, their communities and society as a whole. This is represented in Figures 1.1 and 1.2.

**Figure 1.1 Harm that drug misusers can do to themselves**

<table>
<thead>
<tr>
<th>Toxicity of misused drugs</th>
<th>Harm from the methods of use</th>
<th>Risk of overdose</th>
<th>Long-term morbidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological harm</td>
<td>Trouble with law and authorities</td>
<td>Risks when intoxicated</td>
<td>Premature death is a risk for drug misusers</td>
</tr>
</tbody>
</table>

Some chemical dependency can lead to irreversible damage to the brain.

**Figure 1.2 Wider harm caused by drug misusers**

<table>
<thead>
<tr>
<th>Deteriorating communities</th>
<th>Damage to family and friends</th>
<th>Harm to children and siblings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harm to victims of crime</td>
<td>Financial costs to criminal justice system and health services</td>
<td>Accidental effects (discarded syringes and other paraphernalia)</td>
</tr>
</tbody>
</table>

Chapter 1 Introduction
Drug-related physical health problems
Drug misuse causes a wide range of physical health problems. Some of the more common and/or serious ones are listed below.

Cardiovascular illness
Taking regular and high doses of stimulant drugs like amphetamine, cocaine/crack, ecstasy and anabolic steroids increases the risk of heart attacks, especially for people who already have heart problems or hypertension or who smoke or drink heavily. Cocaine can also have serious detrimental effects acutely and chronically on the coronary arteries, heart muscle and central nervous system.

Coronary disease
Proliferation and thickening of the inner lining of the coronary arteries reduces blood flow, which is exacerbated by premature hardening and narrowing (atherosclerosis). Coronary artery spasm may result in a heart attack (myocardial infarction), with an increased risk of coronary artery thrombosis.

Myocardial disease
The heart muscle can be acutely damaged by catecholamine excess with subtle microscopic damage (contraction band necrosis). Repeated use of cocaine over several weeks causes a mild form of heart muscle inflammation (myocarditis); repeated use over several months will result in patchy scarring of the heart muscle (cardiomyopathy). There is a risk of sudden death due to cardiac arrhythmia as a result of this myocardial damage, which is most likely to occur during acute intoxication. Cardiomyopathy can also occur with heavy amphetamine use.

Endocarditis
A small number of injectors (perhaps 2 in 1,000) can develop endocarditis, which is an infection of the cardiac tissue due either to bacterial or fungal organisms. In intravenous drug users it is usually due to *Staphylococcus aureus* infection of the right-sided heart valves. If a problem drug user complains of fatigue, weakness, headaches, night sweats and weight loss, this possibility must be considered and an appropriate referral for medical attention made.

Stroke
Drug use is also implicated in the development of stroke due to hypertensive blood vessel rupture within the brain (intracerebral haemorrhage) or on the surface of the brain (subarachnoid haemorrhage). In addition, blood vessels may undergo spasm, causing ischaemic infarction of the brain.

Deep vein thrombosis
Injecting drug users run the risk of deep vein thrombosis (DVT). A DVT is a fibrin and platelet clot to which red blood cells become attached. It originates in a site where injecting has damaged a vein, and repeated injection in the same area increases the risk. Injections into the groin are a particular risk. The clot may detach as an embolus and cause a vein blockage elsewhere, such as the lungs, brain or extremities.
Some DVTs can occur without noticeable symptoms, but it is useful to pay particular attention to injecting drug misusing patients who experience:

- unilateral leg pain (usually in the back of the calf)
- oedema (swelling) of the affected limb
- cyanosis of the limb (bluish discolouration indicating impaired blood supply)
- collateral superficial veins.

These problems can lead to severe and life-threatening illness if untreated.

The Scottish Intercollegiate Guidelines Network (SIGN) guideline 36, *Antithrombotic Therapy* sets out the relevant predisposing factors:

- recent trauma, surgery or medical illness
- immobilisation from any other cause, especially in the presence of: known thrombophilia; previous venous thromboembolism; pregnancy; puerperium; age over 40 years; obesity; varicose veins; oestrogen use; malignancy; heart failure; inflammatory bowel disease; nephrotic syndrome; and cancer.

They may be reluctant to seek medical advice and often ask in the pharmacy for help. If you suspect that someone has a DVT, you should refer him or her for urgent medical treatment. The person should avoid exercise and it is recommended that he or she rests and raises the affected limb to a level higher than the heart, if possible. Anticoagulant therapy will probably be needed (heparin or warfarin) for up to three months, but intravenous drug users are unlikely to be prescribed warfarin due to the risk of bleeding.

SIGN guideline 36 recommends that in clinically-suspected DVT, unfractionated heparin should be commenced by an intravenous bolus dose (5,000 IU or 75 IU/kg body weight), followed by maintenance intravenous infusion (1,000-1,500 IU/hour). Subcutaneous administration may be preferred with injecting drug users, and the guidelines suggest that the advisability of continued anticoagulant therapy following hospital discharge should be critically assessed with injecting drug users, given:

- their tendency to comply poorly with medical care
- the risks of bleeding from vein and artery self-injection
- the lack of venous access for monitoring of oral anticoagulants and for treatments of oral anticoagulant-induced bleeding.

Wound infections at injection sites are considered in Chapter 3.

**Respiratory problems**

Cannabis is poorly combustible in comparison to tobacco. Burning results in production of abundant tars and hydrocarbons which are particularly toxic to the lungs. Particles in the smoke are deposited throughout the lungs and are subsequently taken up by the scavenger cells (alveolar macrophages). This results in numerous microscopic pigment-laden macrophages being scattered and grouped throughout the lungs. Scarring results in chronic degenerative lung disease (emphysema). There is a higher incidence of cancer from cannabis smoking in comparison to tobacco smoking.
Cocaine inhalation can damage the lungs and airways. Destruction of the nasal passages is well-known, but smoking the drug can also irritate the chest and lungs; lost voice may result. Smoking crack can result in ‘crack lung’, the symptoms of which are severe chest pains, breathing problems and high temperature. It can result in respiratory failure and death.

The hot vapour inhaled during smoking may cause a marked wheeze and burns to the lining of the mouth and throat; users can initially be unaware of these traumas due to the anaesthetic actions of the drug.

If crack is made by ‘washing back’ with household ammonia, the ‘stones’ will include ammonium chloride, which burns when inhaled. Again, the anaesthetic effect of the cocaine may mask this.

Septicaemia
It is useful to enquire (and examine) whether your patient has any signs of infection at injection sites. Septicaemia can occur following ulcers and abscesses, signs of which include heat, erythema and swelling (users sometimes call this ‘blowing’).

Cellulitis
Skin surface floras such as Staphylococcus aureus are harmlessly present on everyone, but can create infection when there is a break in the skin. Subcutaneous bacteria cause inflammation under and in the skin, causing cellulitis. This can lead to skin ulcers and abscesses. If the infection gets into a vein, it can cause more serious problems such as septicaemia.

Osteomyelitis
This serious condition is caused by Staphylococcus aureus-infected emboli from other regions. There may also be synovial infections in the knee, hip and elbow joints.

Burns
Heroin injectors can sustain burns from careless use of ‘cooking’ equipment. Amyl nitrite and other volatile substances are flammable and may combust if close to, for instance, a lit cigarette. Carelessness and intoxication may lead to domestic fires. There are reports of drug misusers leaving cigarettes burning unattended, forgetting to take pots off lit cookers and leaving electrical equipment switched on. The users are not the only people vulnerable to such carelessness – children in the vicinity are also at risk. One patient showed a drug team scars on his arm caused by a childhood burn from an electric ring left on by his alcohol-misusing father.

Oral health problems
Some people who misuse drugs develop oral health problems. Use of opioids leads to a degree of self neglect, and there may be cravings for sugar and reduction in saliva output (xerostomia). This encourages the build-up of plaque, leading to gingivitis and decay. Root disease and abscesses can also be problematic, and there is an increased incidence of oral thrush.

Many people in their late teens to early thirties in Scotland are embarrassed about the state of their teeth – and not just drug misusers. They feel that having poor dental health incites people to judge them negatively, claim it makes it more difficult to get a job, and believe it gives them less confidence in forming relationships.
For drug misusers, "their teeth are a beacon to their drug-using past". Many methadone users feel their teeth are so poor, they are too embarrassed to seek treatment. As we shall see in Chapter 4, some methadone users actually cite the methadone as the cause of their tooth decay; this may have a grain of truth in that methadone syrup is 50% sugar, but most commonly, dental damage is already well established through neglect during the drug-injecting period by the time the user moves to methadone.

Research in Dublin suggest that drug misusers with bad teeth may have difficulty getting treatment from some dentists; this problem may be fairly widespread. It is important that they explain their drug misuse when seeking dental treatment. Users who know they have the human immunodeficiency virus (HIV) or who have a hepatitis virus (see Chapter 3) should tell their dentist, who can then take appropriate precautions. There are suggestions that dentists’ concerns that drug misusers are less than honest about the blood-borne virus status leads to treatment being denied. Specialist HIV centres keep lists of dentists who will treat HIV-infected patients.

**Constipation**

Repeated use of opioids, including methadone, leads to constipation. This is a common complaint you are liable to hear from drug misusers. Tolerance does not develop for this symptom. Patients taking opioids for pain relief in severe illness have the same problems. In many cases, over-the-counter options for treatment of constipation will be appropriate, but people with severe constipation should be referred to their GP.

OTC treatments fall into four groups:

- **bulk forming agents**: ispaghula husk (such as Fybogel®), bran, sterculia
- **motility enhancers**: senna (such as Senokot®), bisacodyl
- **osmotic laxatives**: magnesium sulphate (Epsom salts), synthetic sugars (lactulose or lactitol), glycerol
- **lubricating agents/faecal softeners**: docusate sodium

Constipation can be prevented or reduced by attention to diet and increasing physical activity. Most people do not consume sufficient fibre from cereal foods, beans, lentils, fruit and vegetables. The average intake is 12g per day, while the recommended intake for adults is currently 18g per day. NHS Direct recommends 20–30g per day, and suggests reducing intake of processed foods such as cheese and white bread. Increasing the water intake is also important.

**Diarrhoea**

This can be caused by high doses of some of the sugar-free formulations of methadone. A change to the sugar-based mixture may be advisable, while recognising the latter’s impact on plaque formation. However, constipation can also be a problem for patients taking methadone. Diarrhoea may also be an effect of detoxification/withdrawal.

**Pain**

One of the most common complaints that misusers have is pain eg. sore teeth and/or gums, headache.
Deaths associated with drug misuse

According to the Registrar General for Scotland, there were 336 drug-related deaths in 2005. Of these, 204 were regarded as related to misuse rather than other causes. Both these figures show reductions from the figures for 2004.

The Registrar General data also show that:

- of the 336 deaths in 2005, heroin/morphine was involved in 194 (58 %) compared to 225 deaths (63%) in 2004
- diazepam was involved in 90 (27%) deaths, including 58 of the deaths involving heroin/morphine; deaths involving diazepam peaked in 2002 and have decreased markedly since then
- methadone was involved in 72 (21%) of deaths, slightly fewer than 2004 (80 deaths)
- deaths involving cocaine increased from 38 in 2004 to 44 in 2005
- the number of deaths involving ecstasy fell from 17 to 10 over the same period
- one-third of deaths - 111 - were in the Greater Glasgow & Clyde NHS Board area, with 57 in Lothian and 40 in Lanarkshire
- deaths in Lothian increased by 21 compared to 2004, but there were reductions of 40 in Greater Glasgow & Clyde and 16 in Grampian
- 83% of those who died were under 45
- under 25s accounted for 14% of the deaths - down from 23% in 2004
- over three-quarters of those who died (77%) were men, but the number of deaths of women rose from 67 in 2004 to 77.

Why do people misuse drugs?

Recreational drug misusers

Some people – who we tend to call ‘recreational drug users’ - take illicit drugs to have an experience which they find personally or socially agreeable.

Heroin, for example, delivers an intense burst of pleasurable feelings (the ‘rush’) and sensations of warmth, which are followed by a longer period of relaxation (up to an hour) in which the user feels drowsy (‘gauching’) and has reduced cardiac function and lowered respiration. Users feel distanced from harmful or threatening forces such as pain, anxiety or difficult situations. Heroin offers relief to users who may be experiencing these stressors, much as alcohol does for many other people.

Cocaine is a stimulant that produces an enlivening effect that lasts up to 40 minutes before diminishing. There may be feelings of well-being, personal strength and indifference to fatigue and pain. Users often believe they gain mental (and verbal) prowess as well as sexual potency, although research fails to support this notion.

Recreational users will often initially deny that their drug misuse causes them harm and will not regard themselves as ‘problem drug users’. But recreational drug misuse can lead to dependency as well as short and long-term health problems, and even ‘recreational’ drugs can kill; 10 people died in Scotland in 2005 due to ecstasy use, and 44 from cocaine.
Drug misusers, however, often have different motivations. They may choose – or persist with – a drug because it insulates them from physical and mental pain and distress rather than a purely pleasurable experience.

Our patient Jamie, for instance, found himself unable to get a regular job or maintain a proper home after living rough. Like some of his companions, he turned to drugs and alcohol to offer him relief from his intolerable circumstances. But regardless of how good the drug and alcohol use made him feel for short periods, his difficult circumstances persisted, and were still waiting on him when he ‘came down’. Jamie’s increasing drug habits led him to crime to finance his needs, which in turn led to prosecution and imprisonment. His health deteriorated, and pain and injecting injuries developed. More heroin took his mind off these problems, but Jamie’s mental state deteriorated. He felt unable to abandon the drugs while trying to face his reality, and became convinced that he could do nothing to make an acceptable life for himself.

Recreational users may not be aware of the risks they face, or may deny them. Few users of ecstasy or cannabis accept that there is anything harmful about their use, and there are regular heroin or cocaine users who feel capable of leading a ‘normal’ life, holding down a job, running a home and raising a family. Younger people may have an unrealistic idea of how easy it will be to abandon their chosen drugs when ‘the time comes’.

Risks increase as dependence on the drug deepens. Users may reach a stage where they feel they have to balance their enjoyment of the drug against the health and dependency problems that are being created. How can we help them when they reach this point? This is something the pack will address in subsequent chapters.

Young drug misusers
Misuse of illicit drugs is very much a problem of the young, as Figure 1.3 shows.

Figure 1.3 Age of first use of illicit drugs (Scotland)
Activity 1.4
Why do you think young people might misuse drugs? Make some notes, then compare them with the text below.

Young people may fall into problem drug misuse by mischance or miscalculation (as Tom did with heroin), or may belong to a social group in which drug misuse is considered ‘normal’. They may have an unrealistic idea about the risks involved in drug misuse; the substance misusing individuals they meet are likely to be relatively young, probably still relatively healthy, and may seem to live a life of enviable freedom and enjoyment in which they appear to have escaped the perceived constraints of home, school and jobs.

Young people like to experiment, and some experimentation involves risks – young people taking risks with alcohol and tobacco consumption is an example. Some teenagers may see these risks as acceptable in the pursuit of developing their personalities and social opportunities, and may seek to ‘play’ with drugs as a challenge to other people’s authority and sense of morals.

Sadly, too many young people are able to exercise those risks through access to illicit drugs. The Scottish Schools Adolescent Lifestyle and Substance Use Survey (SALSUS) for 2004-05 reported that:

- 33% of 13 year-olds and 63% of 15 year-olds had been offered illegal drugs at least once; the main drug offered was cannabis, but stimulants, volatile solvents and opiates were also accessible; a small number had been offered heroin
- 6% of 13 year-olds and 10% of 15 year-olds reported having used illegal drugs at least once; the main source of drugs was friends of the same age or older
- 2% of 13 year-olds and 7% of 15 year-olds reported using illegal drugs once a week or more often
- 31% of 13 year-olds and 58% of 15 year-olds felt it would be easy to obtain drugs if they wanted them.

Cigarettes and alcohol were also commonly available. The report concluded that:

‘Smoking and drinking were significant predictors for drug use in the last year among both boys and girls, with smoking being the strongest predictor’ (Figure 1.4).
Figure 1.4 Proportion of 15 year-old pupils who were regular smokers, weekly drinkers and/or recent drug users: Scotland 2004


Parents, schools and youth workers probably have the most significant influence on young people, but as a pharmacist, you can also play a big part in helping young people who are misusing drugs or who are considering doing so.

A young person may show signs of drug misuse while attending your pharmacy for other reasons, or might even present up-front with a request for help with a drug-related problem. You can offer advice which will reduce harm to the individual, and this may also lead to you becoming known among young people as ‘someone you can trust, and someone who will help’.

Activity 1.5

Our patient Chrissy once called at a pharmacy when she was 16 and still at school. An assistant thought she looked and behaved strangely, and called the pharmacist. He suspected she was using drugs, but there was no proof of it. What might you say to a young person like Chrissy in a situation like this? Make some notes on how you would react, then study the text below.
The key issue for the pharmacist is to reduce harm, both to the young user and to others affected by his or her drug misuse. Typical elements in this with users of opioids are to encourage:

- **drug misusers** generally to control and if possible reduce their intake
- **heroin misusers** to change to a prescribed substitute, methadone or buprenorphine (Subutex®)
- **injecting drug misusers** to use safer injection techniques, including use of needle exchange schemes.

You can become an empathetic and non-judgmental source of advice about drugs for young people. Watching out for unusual purchases of OTCs (often obtained to deal with the after-effects of drug misuse such as muscle pain and constipation, although OTC remedies themselves may be misused) and being aware of attempts to improperly obtain prescription drugs will help you to pick up signals that a young person may be in need of help.

Young people starting to experiment with drugs or alcohol will have ideas about sources where they can access information about drugs, some of which may be very unreliable and even dangerous. If you can gain a reputation for speaking in a friendly and plain way with young people who have problems or questions, word will get around through their social networks. Remember, too, that many people who do not misuse drugs know someone who does, and may be worried about them. Someone who takes an anti-drug brochure or pamphlet from your pharmacy may soon pass it on to someone else. It all helps!

**Protecting the children of drug misusers**

An obvious issue for Chrissy, and many other drug-misusing mothers, is her children. The Advisory Council on the Misuse of Drugs (ACMD) issued a report in 2003 called *Hidden Harm.* The report focused on children in the UK with a parent, parents or other guardian whose drug use has serious negative consequences for themselves and those around them. There were 48 recommendations and six key messages:

- there are between 250,000 and 350,000 children of problem drug users in the UK - about one child for every problem drug user
- parental problem drug use causes serious harm to children at every age from conception to adulthood
- reducing the harm to children from parental problem drug use should become a main objective of policy and practice
- effective treatment of the parent can have major benefits for the child
- by working together, services can take many practical steps to protect and improve the health and well-being of affected children
- the number of affected children is only likely to decrease when the number of drug misusers decreases.
The Scottish Executive’s response to the report included a commitment to treat the findings of Hidden Harm as a priority issue. It follows the ideas presented in Getting our Priorities Right: Good Practice Guidance for Working with Children and Families affected by Substance Misuse, which advises the collection of information about parent/guardian drug misuse through asking the following questions:

- Where are the children when their parents are procuring drugs or getting supervised methadone? Are they left alone? Are they taken to unsuitable places where they might be at risk, such as street meeting places, flats, needle exchanges and adult clinics?
- How much do the parents spend on drugs per day and per week?
- How is the money obtained?
- Is this causing financial problems?
- Do the parents sell drugs in the family home?
- Are the parents allowing their premises to be used by other drug users?

Getting our Priorities Right points out that:

‘GPs and pharmacists involved in the prescribing, dispensing and monitoring of, for example, methadone have an important role to play in assessing the capacity of parents to look after children.’

This implies there are important child protection issues to consider. Numerous methadone patients have children and, as a result, parents must be advised on the safe storage of methadone; the risks of unsafe storage were highlighted in the tragic death of two-year-old Derek Alexander Doran in Elphinstone in December 2005 after drinking his parents’ methadone.

You should check the SEHD website for up to date guidance on this issue.

Services and treatment

What can pharmacists do about drug misuse?

Pharmacists can help drug misusers by:

- providing services related to needle exchange
- dispensing and supervising consumption of substitute treatments
- dispensing other medicines used in the treatment of drug misuse, such as lofexidine, naltrexone and buprenorphine
- providing advice and health education, including advice on secure handling and storage of medicines
- promoting healthy lifestyles
- referring on to appropriate agencies
- advising on safe sex and supplying condoms.
- register, if appropriate, users and their children onto the Minor Ailment Service (eMAS) within their community pharmacy
As the pharmacist, your primary role is to ensure the patient’s drug therapy is ‘appropriately indicated, effective, safe, convenient and achieving a defined outcome’. The Clinical Resource and Audit Group (CRAG) Framework for Clinical Pharmacy Practice in Primary Care has recommended that pharmaceutical care needs for drug misusers should include consideration of their needs for:

- a pharmaceutical product: a medicine, a formulation, and a ‘compliance aid’
- a pharmaceutical service: advice, simplified regimens, a medication review, monitoring of drug therapy and health promotion.

Some community pharmacists have been reluctant to engage with drug misusers in the past, but good results have been obtained where they have taken steps to engage with them in a positive, encouraging relationship.

Finally, pharmacists can be a solid resource on which the drug misuser can rely. Pharmacists have a strong reputation of being well-informed, independently minded and generally helpful. If you provide helpful support to people with drug misuse problems, they will come to you for information and advice as well as for standard pharmacy services. Pharmacists can also be a useful source of information on where drug misusers can obtain help and support on Hepatitis B and C and HIV. It is important that pharmacists treat misusers in a polite but firm manner.

You’ll find that many of these issues are covered in greater detail throughout the pack.

Harm reduction

The key policy in the UK and Europe governing professional responses to people who misuse drugs is ‘Harm Reduction’. According to a UK Government statement of December 2005:

‘The UK views harm reduction as an integral and important part of the overall [human immunodeficiency virus] prevention strategy in countries with serious HIV infections among [injecting drug users], as well as countries without serious epidemics where harm reduction intervention help maintain low prevalence rates’.

Harm reduction is defined by the UK Harm Reduction Alliance as:

‘…a term that defines policies, programmes, services and actions that work to reduce the health, social and economic harms to individuals, communities and society that are associated with the use of drugs’.
Harm reduction is a practical policy adopted by government and all agencies dealing with drug misuse. It attempts to reach an all-round vision of the drug problem which takes a humane view of fellow human beings who are dependent on illegal drugs. Harm reduction policy:

- is based on acceptance of misuse of drugs as a permanent issue in society, and the belief that measures to ‘stamp out’ drug misuse are either unacceptable or unachievable
- prioritises goals, helping misusers to address their most compelling needs
- does not presume that moving to abstinence should be the misuser’s prime objective
- focuses on realistic goals through a friendly and widely accessible support system
- seeks to widen the range of intervention opportunities that exist.

Harm reduction policy has direct and indirect objectives. Direct objectives include:

- reducing illicit drug misuse
- reducing the risk of drug-related disease, including the spread of blood-borne viruses (see Chapter 3)
- optimising the benefit of harm reduction programmes
- improving all aspects of drug misusers’ health
- improving integrated care through the provision of pharmaceutical care based on individual need
- reducing the incidence of drug-related deaths.

Indirect objectives are:

- to reduce drug misusers’ involvement in criminal activity
- to improve personal, social and family functioning
- to improve education and employment prospects.

This set of objectives reflects the belief that drug misuse is a complex problem that requires an understanding, compassionate, multi-disciplinary and multi-agency response. As the Scottish Drugs Forum notes:

‘...there is no single solution to Scotland’s complex drugs problem. We believe that drug use will only be tackled effectively in partnership and through a cohesive, co-ordinated multi-agency approach to the issue. We believe in the fundamental right of problem drug users to be treated equably, non-judgementally and with dignity and respect.’

Harm affects several different groups:

- drug misusers
- their partners, children and associates
- communities where drug-related crime is prevalent.
Part of the effort to reduce drug-related harm focuses on providing advice. NHS Health Scotland, for instance, supplies a range of education and advisory materials for drug misusers, parents and others. Community pharmacies are often the outlet for these kinds of materials. In addition, community pharmacies can:

- treat drug misusers with courtesy and respect, as you would any other patient
- provide care for harm arising from injecting drugs, such as abscesses, bruising and ruptured veins
- advise on psychological harm which may result from drug misuse, such as anxiety, depression and paranoia
- help users deal with simultaneous health problems such as constipation or bronchitis
- advise on how to avoid risky combinations of drugs or of drugs and alcohol
- provide drug substitution and needle exchange services
- advise on seeking blood tests where patients are concerned about hepatitis or HIV infection
- advise on any problems encountered with treatment medication
- direct drug misusers to other local services if appropriate, such as a needle exchange service or an accident and emergency department
- advise on how to reduce risks to companions – especially children
- work with other agencies and health care workers towards integrated care approaches.

Take our patient Jamie as an example.

The team caring for Jamie took the view that his lifestyle was too unstable and problematic for abstinence to be a feasible option at present. His unstable pattern of drug misuse, using the intravenous route and sharing injecting paraphernalia (which is much more common in unstable misusers), means he has contracted hepatitis C, and may be HIV positive. The team felt that factors that led to stabilisation, a reduction in problems related to drug use and a reduction in drug intake could be counted as successes. These would reduce the harm Jamie is experiencing, reduce his own role as a risk to others, and prepare the way for a move to abstinence – if he wishes to take it – in due course.

Activity 1.6
Spend some time thinking about the first steps you could take as a community pharmacist to contributing to meeting the team’s goals for helping Jamie. Then have a look at our response at the end of the chapter.
Drug misusers are part of our communities and, like many other people, need our help and services. In supplying them with pharmacy services, we are also helping their families, the wider community and other authorities and services that are trying to deal with the drug misuse problem. The policy of integrated care moves us into a new era of treatment and care, the central elements of which will be services based around harm reduction.

Staff training
As you begin to play a greater role in caring for drug misusers, you will find your attitudes and processes of working will change. Among other things, you will develop a deeper understanding of how things look from the patient’s point of view. It is important that you are able to share your new knowledge and understanding with your staff.

Pharmacy support staff need to know:

- relevant local guidance and company policies
- how to accept and deal with drug misusing patients as ‘ordinary people’, greeting and talking to them in a friendly manner (support staff will often be the first to meet any new patient: they should be advised to adopt a business-like but pleasant attitude)
- how to use any special systems, such as identification files
- when to direct the patient to the pharmacist or locum.

Pharmacy support staff may need to be immunised against hepatitis, and should be fully aware of the universal precautions necessary when potential infected objects are present. These issues are discussed in Chapter 3.

Key points

- Drug misuse has become a widespread problem, affecting most parts of the world. It is also an intractable problem, since drug misuse is a chronic relapsing condition and efforts to abstain commonly fail.
- Scotland has particular problems, with higher rates of drug misuse, alcohol consumption, smoking and hepatitis C virus infections than the rest of the UK.
- The overall policy is one of integrated care focusing on harm reduction, encouraging treatments that stabilise drug misusers and reducing the health and social risks that arise.

In Chapter 2, we take a look at the common drugs and other substances that are misused in more detail and describe some of the serious effects they have on people’s health.
A first harm-reduction step with Jamie might be to offer him needle exchange facilities and provide advice on safer injecting practices. This will reduce the likelihood of him suffering physical injury from injection and contracting blood-borne viruses. Risks to the community from his disposal of injecting paraphernalia should be discussed and a positive action plan adopted. If you do not provide a needle exchange service, you might want to refer Jamie to a pharmacy or agency that does. If he accepts needle exchange, it may be appropriate to suggest testing for blood-borne virus infection, with counselling as appropriate. Providing treatment for hepatitis C infection may be more difficult, given Jamie’s current lifestyle; for instance, he would need more stable housing before he could be offered ribaviron or interferon. Clearly, treatment of people who misuse drugs is a multi-disciplinary, multi-agency endeavour. You will have recognised by now that reducing harm and providing integrated care might mean you need to consider an extension of some of your services, perhaps to include supervised methadone administration and needle exchange services.
## Appendix 1

### Injecting Drug Misusers in Scotland

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<th>Region</th>
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See: http://www.drugscope.org.uk/druginfo/drugsearch/ds_results.asp?file=%5Cwip%5C11%5C1%5C1%5Ckhat.html

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Drug Misuse Statistics Scotland 2005

We should keep mindful of the fact that some in the public health perspective ‘camp’ are concerned that the harm reduction agenda in Scotland is being overshadowed by a criminal justice-driven agenda in which the emphasis is on prosecuting offenders, rather than on improving health for drug misusers.

Although the term opiate is often used synonymously with opioid, it should be limited to reference to the natural opium alkaloids and the semi-synthetics derived from them.


For the full lists, which give details of the controls applied, see: http://www.opsi.gov.uk/si/si2001/20013998.htm.

References and footnotes

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13 See SDMD table B1.13
14 See: http://www.sign.ac.uk/pdf/sign36.pdf
15 See: http://www.dundee.ac.uk/forensicmedicine/llb/drugdeaths.htm
16 Substance Abuse Management in General Practice, Network no. 10, February 2005.
17 For a review of the clinical evidence on these treatments, see: http://www.clinicalevidence.com/ceweb/conditions/dsd/0413/0413_keymessages.jsp
18 See: www.nutrition.org.uk
24 See: http://thescotsman.scotsman.com/index.cfm?id=336422006
25 The government of the United States is a major opponent of harm reduction policies worldwide, on the grounds that they make drug misuse seem socially acceptable. The US has taken a strong line against needle exchange schemes.
27 See the website of the Harm Reduction Alliance at: http://www.ukhra.org/harm_reduction_definition.html
Chapter 2 Common drugs and substances of misuse

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Chapter 2 provides an overview of the principal drugs and substances misused in Scotland and their associated risks.

Many drug misusers do not restrict their use to one single substance. Instead, they are considered ‘polydrug’ users who, in addition to the use of their drug of choice, may also consume excessive amounts of alcohol and/or tobacco. Many heroin users will also misuse drugs like diazepam and cannabis. Opioid dependency is therefore not the only challenge for treatment.

Complex patterns of drug and substance misuse exacerbate the harms caused. It may be hard to get this kind of message through to drug and substance misusers who may feel:

- guilty or ashamed about their misuse
- forsaken by family, friends and society
- suspicious about anyone trying to find out more about them (particularly if their drug use is illegal) or of treatment ‘from official sources’.

A full assessment of drug and substance misusing patients is therefore important. Immediate harm reduction is the initial aim, with longer-term goals focusing on helping the patient reach a stage where he or she can consider moving towards abstinence, if appropriate.

Objectives

When you have completed this chapter you should be able to:

- recognise the principal drugs and substances misused in Scotland
- review the principal risks faced by patients misusing these substances
- identify areas in which the pharmacist can help treat patients misusing drugs or substances
- identify instances where misuse of multiple substances can cause particular risks to patients.

Opioids

Heroin

Heroin (diamorphine) is an opioid processed from morphine, a naturally occurring substance extracted from the seedhead of the poppy plant. Street heroin tends to appear as a brown substance which may be loaded with impurities. Users refer to it by a variety of monikers, including ‘smack’, ‘junk’, ‘skag’ and ‘H’. 
Heroin can be injected, snorted or inhaled (smoked). The greatest intensity and most rapid duration of euphoria occurs with injection. Heroin crosses the blood-brain barrier soon after injection and is converted to morphine that binds rapidly to opioid receptors. The user feels a euphoric surge (the ‘rush’), usually within a few seconds. The rush will take longer to occur if the substance is injected into the muscle, snorted or inhaled – it can take up to 1.5 minutes when smoked.

Once the initial effects begin to wear off, the user feels drowsy, which might last for several hours. Mental functioning will be dulled due to the opioid depression of the central nervous system, leaving the user vulnerable to accidents and attacks. A range of physiological effects then occur, including slowing of cardiac and respiratory functions which, in some cases, can prove fatal.

As the body becomes more accustomed to heroin over time, misusers find they have to take larger and larger doses to achieve the same feelings of euphoria due to the ‘down-regulation’ of receptors. This leads to the onset of dependency and the development of withdrawal symptoms when the body’s heroin supply is depleted. Withdrawal symptoms include restlessness, muscle aches, bone pain, insomnia, diarrhoea, vomiting and cold flushes. The use of larger doses also makes the misuser more vulnerable to overdose.

Longer term, injecting heroin misusers are prone to a range of medical problems including collapsed veins, serious cardiovascular conditions such as pericarditis and liver disease. Those who inject intravenously are also vulnerable to serious health hazards such as deep venous thrombosis, septicaemia and infection with blood-borne viruses (see Chapter 3). Heroin can also lead to constipation, which can be a chronic problem that requires advice from the pharmacist.

Use of heroin during pregnancy, allied to many of the physical and social factors that accompany heroin misuse (dependency, malnutrition, misuse of other substances, accidents, viral and bacterial illness and unwillingness to access prenatal services, for instance), leads to serious consequences for the baby. These include low birthweight and cardiovascular and respiratory problems. Some babies of injecting heroin misuser mothers are born in a state of heroin dependency and will require treatment both as hospital in-patients and perhaps later in the community.

Methadone
Methadone is considered in detail in Chapter 4.

Cannabis
The drug obtained from the female plants (dried flowering or fruiting top) of Cannabis sativa has many street names, including marijuana, ganja, kd, bhang, dagga, hashish, pot, sensimilla (skunk), dope, weed and grass. Some of these refer to the dried vegetable matter, while hashish relates to the solid resin collected from the flowers and leaves. Cannabis contains the psychoactive ingredient 9 delta-tetrahydrocannabinol (THC).
Cannabis use is widespread among the ‘drug-taking community’ and is used by thousands of people who do not consider themselves drug misusers. Cannabis use — estimated by the Advisory Council on the Misuse of Drugs (ACMD) to have declined among 16–24 year olds from 28.2% in 1998 to 23.5% in 2004-05 — has sometimes been considered as a ‘gateway’ to more harmful drugs. The ACMD, however, believes that if cannabis is indeed a gateway, it is not a major one.

Proving a causal link is extremely difficult due to the many confounding factors which might act as gateways, such as the use of alcohol, tobacco, solvents and stimulants. The great majority of cannabis users do not move on to Class A drugs, but when cannabis was reclassified from a Class B to a Class C drug in January 2004, the ACMD pointed out that:

- cannabis is potentially harmful, with short-term risks to physical health
- cannabis raises the heart rate and blood pressure and may represent a risk to people with cardiovascular problems
- smoking cannabis may worsen asthma
- smoking cannabis causes at least as much — and possibly more — damage to the respiratory tract than smoking tobacco cigarettes; there is increased chronic bronchitis and a potential long-term risk of lung cancer (increased lung damage is caused by the need to inhale deeply, retain the smoke for longer and the fact that it is generally smoked without a filter)
- use during pregnancy should be discouraged (children of cannabis-using mothers can have low birth weight and may suffer from increased excitation during the postnatal period)
- cannabis impairs sustained attention and motor control: it is a risk when driving and operating heavy machinery
- cannabis intoxication can lead to panic attacks, confused feelings and paranoia
- cannabis use can worsen the symptoms of schizophrenia and lead to relapse in some patients
- the possibility exists that cannabis may exacerbate schizophrenia in people who are already affected.

Despite this, many people who use cannabis believe it to be harmless and, indeed, that it may provide health benefits. Drugs obtained from cannabis may prove to have useful medical properties, but it is unlikely that health care professionals would ever encourage the taking of cannabis in the preferred recreational way — by smoking.
Much of the ‘evidence’ quoted by supporters of the health benefits of cannabis is unimpressive, but the oral analgesic spray Sativex, which contains two chemicals found in cannabis (tetrahydrocannabinol and cannabidiol) is now available on a named-patient basis with a Home Office Licence. A report by a Royal College of Physicians (RCP) working party in December 2005 stated that the active ingredient of cannabis, tetrahydrocannabinol, appears to provide some benefit in the treatment of certain illnesses, but recommended further clinical trials.

The Advisory Council on the Misuse of Drugs (ACMD) issued a report on the further consideration of the classification of cannabis in 2005. It examined recent evidence on the effects of cannabis on mental health and claims of increased prevalence of cannabis with high levels of tetrahydrocannabinol (THC). The report states that the ACMD remain of the view that cannabis is harmful and its consumption can lead to a wide range of physical and psychological hazards. To see the full report you should check the ACMD website at http://www.drugs.gov.uk/publication-search/acmd/cannabis-reclass-2005?view=Binary

Stimulants

Stimulants are substances that excite the nervous system to build up feelings of strength, confidence and well-being in users. Some stimulants, such as cocaine and Khat, have a long history of use in parts of the world, while others (amphetamines, dating from the 1920s, and ecstasy (MDMA – 3-4 methylenedioxyamphetamine), which was apparently discovered by a chemist in the 1960s) are more recent creations.

Stimulants have a harmful effect on the cardiovascular system. They can raise blood pressure, encourage arrythmias and eventually cause heart disease. Psychological effects can also be serious, with substantial use leading to mood swings, agitation, irritability and, in some cases, aggression.

Cocaine

Cocaine (cocaine hydrochloride) and its smokable derivative, ‘crack’ (alkaloid of cocaine), are the most powerful stimulant drugs. The effects of a dose wear off quickly (in about 30 minutes), but may be less in the case of crack, whose more intense effects last about 10 minutes. This can lead users to multiply their intake to prolong the positive feelings they experience.

The coca plant, from which cocaine is developed, originates in mountainous areas of South America, where people have chewed the leaves for over two millennia. Cocaine was chemically isolated from the plant in the 19th Century and was made illegal early in the 20th Century.

Cocaine tends to be snorted into the nose. Injecting of cocaine and heroin combined – ‘snowballing’ – is becoming more common in Scotland, and is highly dangerous. Cocaine is often taken with alcohol, forming a third substance, cocaethylene, which has longer-lasting effects and is more toxic than cocaine alone, especially to the cardiovascular system.

Cocaine use was not reported by many of the new clients in the Scottish Drug Misuse Statistics (278 giving cocaine as their main drug and 48 crack, compared with 7,526 for heroin) in the year to 31 March 2005. However, there are many indications that cocaine use on a ‘social’ level is steadily increasing, helped by the relative fall in its cost.
A chronic user of cocaine or crack will not become physically dependent, but his or her body will increase its tolerance to the drug. People who come off will start to suffer exhaustion with insomnia and physical and emotional distress. There can also be symptoms such as diarrhoea, vomiting, trembling, anorexia and sweating, which for some can prove unbearable.

Some of the medical consequences of heavy consumption of cocaine may need treatment. Snorting cocaine damages the membranes which line the nose and can lead to nosebleeds, loss of smell and perforation of the nasal septum. Regular smoking of crack may cause breathing problems and partial loss of voice. Psychiatric effects include anxiety, panic attacks and symptoms of paranoia. The common causes of cocaine-induced death are convulsions, respiratory arrest, cardiac arrhythmia, coronary artery spasm and stroke.

Pregnant women who heavily use cocaine or crack may experience pregnancy complications and find that their babies are adversely affected. Cocaine crosses the placenta and enters the baby’s circulation. It can cause irreversible brain damage (or even death) in an unborn baby. ‘Crack babies’, as they have come to be known, have feeding difficulties and sleep disturbances. Many are very jittery and irritable, startled into crying at the gentlest touch or sound. Consequently, they are very difficult to comfort and are often described as withdrawn or unresponsive. Some of these complications may last eight to 10 weeks after birth, or even longer. Babies exposed to cocaine before birth are also at increased risk of permanent disabilities including cerebral palsy and visual and hearing impairment.

Drug-free psychosocial interventions such as counselling, provided on a non-residential basis, are the most cost-effective options for cocaine-using patients with few complicating problems. Recognised psychotherapies delivered by professional psychologists perform no better than well-structured drug counselling (see Box 2.1).

Box 2.1 Drug counselling for cocaine misuse

‘In one major US study of cocaine addiction treatment, all the clients received weekly 12-step-based group counselling. For some this was the sole treatment, for others it was supplemented by one-to-one 12-step drug counselling or by one of two psychotherapies focusing on thoughts (“cognitive”) and emotions (“supportive-expressive”). Over the following year these psychotherapies added nothing to the outcomes achieved by group counselling alone, even among clients with severe personality or psychiatric problems… individual 12-step counselling did improve cocaine misuse outcomes, though not dramatically and with diminishing strength over the one-year follow-up.’

Source: The National Treatment Agency Research into Practice - August 2002 No. 1a.

Amphetamines

Amphetamines are synthetic stimulants sometimes used to keep people awake for partying or for pre-examination ‘cramming’ by students. They have also been used by soldiers in combat situations – sometimes with official support.
Heavy users may consume up to 300 mg a day, and some inject doses of 10-20 mg rather than employing the more usual route of swallowing or sniffing. Amphetamines may seem to represent ‘good value’ to drug misusers, as the effect of doses can last several hours and at a lower cost than cocaine. Although amphetamines are seldom prescribed today, illegally produced supplies are widespread.

Prolonged use of amphetamines can lead users to neglect food, drink and sleep. Eating disorders such as anorexia and mild hallucinations can result. Poor dental health develops due to the drug’s effect of reducing calcium in the body and because some users tend to grind their teeth.

Amphetamines can cause rapid heart rate, irregular heartbeat, high blood pressure and damage to small blood vessels in the brain, threatening stroke. As with cocaine, anxiety and panic are common and paranoia can develop. Insomnia is frequent in early use; users may ‘calm down’ using alcohol, benzodiazepines or opioids, and hypersomnia may result.

Tolerance to amphetamines can develop quite rapidly. A condition known as ‘amphetamine psychosis’ (a syndrome of restlessness, elation, paranoid ideas and hallucinosis) can occur with strong psychological dependence. Users tend to take larger quantities to try to recapture the positive feelings they had during earlier use.

Immediate management of severe amphetamine toxicity involves:

- observation in a safe quiet environment
- use of benzodiazepines and anticonvulsants, if necessary
- ice baths to reduce body temperature.

Methamphetamine hydrochloride, an amphetamine derivative, can produce more extensive effects in its very strong form of crystalline ‘rock’ called ‘ice’. Use of ‘ice’, which can be smoked, injected intravenously, snorted or taken orally, can lead to overdosing. The drug alters mood in different ways, depending on how it is taken. Immediately after smoking or injecting, the user experiences a ‘rush’ that lasts only a few minutes and is described as intensely pleasurable.

Methamphetamine hydrochloride has a stronger effect on the central nervous system than amphetamines or cocaine. There may be psychological symptoms with prolonged use which may resemble schizophrenia, including paranoia and hallucinations. Methamphetamine-induced paranoia can result in homicidal or suicidal thoughts.

The Advisory Council on the Misuse of Drugs (ACMD) made a recommendation on the reclassification of methylamphetamine to a Class A drug. Its street names include ‘crystal meth’ or ‘ice’ and it acts on both the central and peripheral nervous system. The report is available from http://www.drugs.gov.uk/publication-search/acmd/ACMD-meth-report-November-2005?view=Binary
Khat

Khat is a herbal product consisting of the leaves and shoots of the shrub Catha edulis. It is cultivated in the Horn of Africa and the Arabian Peninsula and chewed to obtain a stimulant effect. Information about the use of khat in the UK comes from reports into the communities from countries that traditionally use khat. Most prevalence data comes from the Somali community.

Cathinone and cathine are alkaloid stimulants present in khat and are responsible for its subjective effects. It can cause risks to physical health eg. oral cancers, hypertension, male reproduction, dependency, psychiatric health and risks to society. Pharmacists should have an awareness of the existing evidence that khat use is widespread in the UK among immigrant communities from the Horn of Africa and the Arabian Peninsula. So far there is no evidence of its use by the wider community. For further information check the ACMD website http://www.drugs.gov.uk/publication-search/acmd/khat-report-2005

Ecstasy

Ecstasy (3,4 methylenedioxymethamphetamine, MDMA, commonly known on the street as ‘E’) is a member of the amphetamine family popular with some late-night ‘party goers’ and ‘clubbers’. The tablets are presented in a variety of colours and shapes and in a range of strengths: some are branded with cartoon characters, such as Shrek or Mickey Mouse.

Ecstasy stimulates the release of the neurotransmitter serotonin from brain neurones, producing a ‘high’ that lasts from several minutes to an hour (the elimination half life of varieties of ecstasy tablets can vary from four to 14 hours). The drug’s rewarding effects vary with the individual taking it, the dose, the purity and the environment in which it is taken. MDMA can produce stimulant effects such as an enhanced sense of pleasure and self-confidence and increased energy. Its psychedelic effects include feelings of peacefulness, acceptance and empathy. Users claim they experience feelings of closeness with others and a desire to touch them.

There have been 200 deaths related to ecstasy use in the UK in recent years. In Scotland, 17 deaths related to ecstasy use occurred in 2004. Deaths are mainly caused by heatstroke and retention of too much water, and a very small number of users may succumb to previously undiagnosed heart conditions. There are no reports of death due to toxic effects, but overdose can occur, particularly when ecstasy presented as a crystal similar to methamphetamine ‘ice’ is used.

It is increasingly suspected that excessive use of ecstasy may cause long-term neurological harm. Regular use can lead to sleep problems, lack of energy, dietary problems (including anorexia nervosa) and feelings of depression or anxiety. Some ‘weekend users’ may feel fatigued and anxious later in the week, the classic ‘mid-week hangover’.

There is no pharmacological treatment for ecstasy misuse or any replacement drug available. Frequent users may respond to counselling. It is important to explain the health risks of taking ‘E’ if you suspect someone is using it.
Depressants

Benzodiazepines

Benzodiazepines have been widely used as anxiolytic and hypnotic prescription medicines since the development of chlordiazepoxide as Librium® in 1960. There are numerous benzodiazepines, with a range of strengths.

Patients can become dependent on benzodiazepines, particularly if they have been suffering from anxiety. Withdrawal symptoms that resemble those associated with alcohol use (see below) can occur, such as mild delirium tremens and psychological effects including poor memory and ‘emotional blunting’. Symptoms may last for many months, and sudden withdrawal can result in seizures.

Benzodiazepines increase the effect of alcohol on the body. There are numerous cases in which individuals have collapsed into a prolonged deep sleep or coma-like condition. One benzodiazepine, flunitrazepam (Rohypnol®), has become notorious as a ‘date rape’ drug, used to ‘spike’ people’s drinks. It is ten times more potent than diazepam.

Benzodiazepines are Class C drugs under the Misuse of Drugs Act. Temazepam and flunitrazepam are in Schedule 3, and it is illegal to possess them without a prescription or other authority. The remaining benzodiazepines are in Schedule 4 Part 1; it is also illegal to possess them without a prescription. Supply of unprescribed benzodiazepines is an offence under the Misuse of Drugs Act.

Counterfeit diazepam has been reported in several parts of Scotland. The Edinburgh Drugs Misuse Team found tablets consisting of promethazine, a sedating anti-histamine, with traces of diazepam.7 Illegal imports are also available, and there is thought to be illegal production facilities in the UK. Other substances, such as warfarin, may be sold to users under the guise of diazepam ‘blues’.

Some drug misusers take benzodiazepines to ‘bring them down’ after using stimulants such as ecstasy or cocaine. Others take them to ‘enhance’ the effect of alcohol. They are also used as replacement drugs when the drug of first choice – such as heroin – is not available. Street names for diazepam include ‘Vallies’, ‘French blues’, ‘Wilshire blues’ and ‘Ardins’. Users are attracted by the relaxed feelings benzodiazepines produce, but they present considerable dangers, especially when mixed with alcohol.

Users develop tolerance to benzodiazepines fairly rapidly; in many cases, the hypnotic effect diminishes after two weeks and the anxiolytic effect after four months. Heavy users who have developed strong tolerance may find withdrawal very difficult (some specialists believe it is more difficult to withdraw people from benzodiazepines than it is from heroin due to the ingrained nature of the dependency produced and the intolerable nature of the withdrawal symptoms).

Patients who have been treated with benzodiazepines for general anxiety and panic attacks may become dependent. The best way to discontinue benzodiazepine use is to slowly decrease the dose. A slow taper is important because it minimises withdrawal symptoms and ensures that patients discontinue their medication safely.
Temazepam is a powerful hypnotic drug and is a benzodiazepine derivative. As with other ‘downers’, users of temazepam can become very drowsy and, when alcohol or opiates are combined, unconscious. Fatal overdoses are possible in these situations with users choking on their own vomitus while unconscious.

Temazepam was once available as a ‘liquid fill’ soft gel capsule for oral use which drug misusers could convert to an injectable form. A solid gel was developed to prevent injection, but misusers found they could liquefy the gel with heat. Injecting this form of temazepam was very dangerous as the gel could solidify within the vein causing potentially fatal thrombosis and collapsed veins. Accidental injection into an artery was even more dangerous.

As a result, gel temazepam was withdrawn from pharmaceutical use and replaced by tablets. Temazepam ‘jellies’, as they are known, are nevertheless still sometimes available ‘on the street’, although they are becoming less common. They tend to be counterfeit versions imported from Eastern Europe. In some cases, substances such as evening primrose oil are sold as ‘jellies’.

Temazepam and other benzodiazepines should not be used by people who are on interacting drugs such as erythromycin, itraconazole and diltiazem, or who have:

- a sudden worsening of any underlying lung disease (acute pulmonary insufficiency)
- abnormal muscle weakness
- allergy to benzodiazepines
- severely decreased liver function
- low, shallow breathing (respiratory depression)
- any syndrome involving short spells when breathing stops during sleep.

Ketamine

Ketamine (also known as K, Special K, Super K and Vitamin K) is an anaesthetic used mainly in paediatric and veterinary practice. It presents as an injectable liquid, a sniffable powder or as tablets.

Ketamine produces euphoria at low doses, but large amounts can lead to hallucinations, respiratory collapse or heart failure. Ketamine is sometimes used by drug misusers to give a greater ‘kick’ to other drugs and is particularly dangerous if used with alcohol or heroin.

Ketamine has been a Class C drug since 1 January 2006.

Alcohol

Alcohol, despite its reputation for being the cause of disorder and violence, is a depressant. Depressants lower the activity of the brain and central nervous system, making people calmer and sometimes sending them to sleep.

Excessive alcohol consumption is a major problem in Scotland. Alcohol kills roughly six times as many people in Scotland each year as do illegal drugs (2,052 for alcohol, versus 356 for drugs). Except where otherwise stated, the statistics overleaf are from Alcohol Statistics Scotland 2003, published by NHS National Services Scotland.8
There were 26,000 admissions to general hospitals of people with an alcohol-related illness in 2003-04, with a male:female ratio of 2.4:1.

The number of people admitted to general hospital with alcoholic liver disease rose 41% between 1997-98 and 2003-04.

Over 42,000 people attended a GP with an alcohol-related problem in 2003.

There was a total of 2,052 alcohol-related deaths in Scotland in 2004, a 21% rise since 1999.

Male deaths exceeded females by approximately 3:1.³

Alcohol-related deaths have risen from less than 1:100 in 1980 to 1: 30 in 2004.

72% of alcohol-related deaths are of people aged under 65.

59% of people who had an alcohol-related death had a diagnosis of alcoholic liver disease.

The Scottish Executive estimates that the total cost of alcohol misuse is steadily rising. For the last years for which estimates are available (2003-04), the cost was £1125.5 million.¹⁰

Alcohol dependency is strongly related to social and economic conditions. People living in the most deprived areas are four times more likely to die an alcohol-related death and three times more likely to be admitted to hospital with an alcohol-related illness.¹¹

Ethyl alcohol (ethanol) is absorbed into the blood by the stomach and small intestine and then passes into the brain. The scale of its effects depends on the individual, on prior consumption of food and, since alcohol is water soluble, on the drinker’s body fat:water ratio. The higher the body fat:water ratio, the higher the levels of alcohol in the bloodstream and the greater the intoxicating effect of a given dose. Consequently, women, in whom the ratio is higher, tend to be more affected by alcohol (especially during ovulation and menstruation), which explains why the recommended maximum intake for women is lower than for men.¹² Very overweight people may be more prone to intoxication for the same reason.

Alcohol is metabolised by the body into acetaldehyde and then to acetate at the rate of roughly 15 mg per 100 ml blood per hour. Part of the process takes place in the liver and, in heavy drinkers, the liver takes over more and more of the burden, which probably explains why alcohol tolerance increases with use.

At blood levels of up to 50 mg/100 ml, alcohol relaxes the person and increases confidence. Brain function is impaired above this level, with slurred speech, reduced motor co-ordination and blurred vision. Paradoxically, given that alcohol is a depressant, intoxicated people may become hyperactive and aggressive, as alcohol lowers inhibitions.

The heart and respiratory system begin to be depressed at alcohol levels of 100-300 mg/100 ml. This can lead to coma and death. Death from fatal doses of alcohol is fortunately rare in Scotland, but is a serious problem in areas such as the former Soviet Union, where alcohol is implicated in a three-year reduction in male life expectancy in the last 15 years.¹³ There is no cause for complacency in Scotland, however, for as we have seen, the toll of alcohol-related deaths is rising.

Health effects of excess alcohol consumption

Because alcohol tolerance develops rapidly, heavy drinkers are likely to suffer a number of physical effects of chronic alcohol poisoning. These are shown in Box 2.2.
Box 2.2 Health effects of excess alcohol consumption

**Liver disease**
- enlarged liver
- hepatitis
- cirrhosis (with complications; women are more affected)
- cancer (due to metabolic products and other substances contained in alcoholic drinks).

**Cardiovascular disorders**
- cardiomyopathy
- arrhythmias
- hypertension (exacerbating existing condition or primary cause)
- thrombocytopenia.

**Gastrointestinal disorders**
- oesophageal reflux
- gastritis
- oesophageal varices (linked to hypertension)
- acute and chronic pancreatitis.

**Endocrine disorders**
- diabetes mellitus
- loss of sexual function
- pseudo Cushing’s syndrome.

**Nutritional imbalances**
- reliance on alcohol as a food source can lead to malnutrition
- metabolisation of acetaldehyde to acetate consumes B vitamins and heavy drinkers may have lower levels, especially thiamine (possibly leading to ataxia and other central nervous system problems)
- high calorific content of many alcoholic drinks (especially beer) can contribute to the development of obesity
- alcoholics usually present with hypokalaemia, which is often linked with low magnesium levels
- they may also have hyponatraemia and low phosphate levels which require treatment.

**Central nervous system disorders**
- short-term memory loss
- strokes and cerebral haemorrhages
- conditions caused by thiamine deficiency: degeneration of the cerebellum; Wernicke’s encephalopathy; Korsakoff’s syndrome
- alcohol withdrawal seizures.
Psychological effects can also be severe. Depression and anxiety are common and personality disorders often develop, involving paranoid, irrational and violent behaviour. Some heavy drinkers suffer from hallucinations. Family break-ups and abuse are relatively common.

Alcohol and drug misuse
Alcohol presents health hazards when used singly, but these increase when used in combination with other substances. Alcohol can potentiate the effect of opioids and benzodiazepines in depressing the nervous system. It also increases the risk from barbiturates, as concomitant alcohol use greatly reduces the fatal dose.

Alcohol is particularly hazardous when taken with cocaine. If crack cocaine is used with alcohol, a potentially toxic substance, cocaethylene, is created, leading to additional problems. Cocaethylene has similar effects to cocaine but lasts longer in the body. It is also more toxic and causes greater physical harm, especially to the cardiovascular system.

Literature prepared for drug misusers often points to the hazards of concomitant alcohol use. The Methadone Handbook, for instance, advises users that ‘methadone and alcohol boost each other’s effect.’ It goes on to state:

’Soo if you overdo either or both, you are much more likely to overdose. And as they can both knock you out and make you throw up, you don’t have to take a lethal dose to end up choking to death on your vomit while too sedated to wake up.’

Activity 2.1
A local man comes to the pharmacy complaining about heartburn and asking for a remedy. He is overweight. You ask some questions to try to understand what is causing the heartburn. What sign(s) might alert you to the fact that he may have a drink problem? Our responses are given at the end of the chapter.

Heavy drinking
Heavy drinking often occurs within a social framework, especially among younger people, and is frequently associated with family difficulties and ‘life problems’ with anxiety and depression. None of these signs alone is a clear indicator of alcohol dependency, but several together may be.
People with alcohol problems typically dislike being asked about their habits. It may be best to ask questions about more general health-related issues such as eating, physical activity and smoking before raising the subject of alcohol consumption. Alternatively, a friendly ‘were you overdoing it last night’ kind of query can sometimes pay dividends – it all depends on the nature of the person, his or her sensitivity to the issue of alcohol consumption and the relationship you have been able to build with him or her.

Individuals may not present an entirely accurate picture of their consumption and habits for a variety of reasons, including embarrassment or shame. They may, for example, fail to refer to early morning drinking, or eliminate some kinds and episodes of drink from their account.

Treatment of alcohol dependency

There is good evidence that brief intervention sessions in the primary care environment, lasting 5-20 minutes and using the FRAMES pattern, can help users cut down on hazardous or binge drinking for up to a year. FRAMES consists of:

- Feedback about personal risk or impairment
- Responsibility: emphasis on personal responsibility for change
- Advice to cut down or abstain if personal harm is being caused
- Menu: immediate options for change, such as setting targets with the patient
- Empathic interviewing (listening carefully without cajoling or confronting)
- Self efficacy: a helping style which encourages people’s ability to deal with their problems themselves.16

Detoxification from alcohol dependency

Detoxification from alcohol may need to be carried out in hospital, particularly if the patient has severe physical or psychological symptoms. Most patients, however, prefer ‘home’ or ‘community’ detoxification.

The Scottish Intercollegiate Guidelines Network (SIGN) Guideline 74, The Management of Harmful Drinking and Alcohol Dependence in Primary Care, Section 4.2, sets out the issues related to detoxification.17

Activity 2.2

Read Section 4.2 of SIGN 74, Primary care detoxification versus inpatient detoxification, and make notes on the indications for a patient being recommended for in-patient detoxification. We have summarised at the end of the chapter.
Medication for detoxification is seldom needed if the patient’s consumption is less than 15 units a day for men or 10 for women and he or she has no withdrawal symptoms. At higher levels of consumption, treatment is designed to manage the withdrawal effects.

Benzodiazepines are the treatment of choice for managing withdrawal symptoms during detoxification in primary care. Tapered fixed dose treatment is favoured, with daily monitoring if possible. Chlordiazepoxide is the preferred benzodiazepine for patients managed in the community and should be prescribed for seven days to reduce the risk of dependency and the possibility of reselling on the street.

Clomethiazole should not be used for detoxification in primary care, as the risks of fatal interactions with alcohol are too great. There is no evidence to support the sole use of antiepileptic medicines for detoxification, and antipsychotic drugs should not be used as a first-line medication for detoxification.

Wernicke Korsakoff syndrome may occur in some patients during detoxification. Indicative symptoms, apart from a state of coma, are:

- confusion
- ataxia (especially truncal ataxia)
- ophthalmoplegia
- nystagmus
- memory disturbance
- hypothermia and hypotension.

Wernicke Korsakoff’s syndrome should be urgently treated with parenteral thiamine. There is a small anaphylaxis risk (one case with the use of Pabrinex since 1996), and SIGN 74 states that any patient who presents with unexplained neurological symptoms or signs during detoxification should be referred for specialist assessment.

Preventing relapse

Relapse is common. It is best guarded against by help from specialists, family and other agencies providing support, but NHS Quality Improvement Scotland has found evidence for the effectiveness of disulfiram (supervised by spouse and support worker) and acamprosate.18

Disulfiram depends on alcohol abstinence, with patients experiencing an unpleasant reaction if alcohol is taken eg. severe vomiting. Acamprosate interferes with the gamma-aminobutyric acid (GABA)/glutamic acid which are associated with alcohol dependence and hence reduces the voluntary intake of alcohol. It is a safe drug with few side-effects, but does not work with all patients. It is recommended for newly detoxified patients alongside psychosocial help.

If detoxified patients become very depressed, the GP may prescribe an antidepressant, such as a serotonin selective reuptake inhibitor (SSRI).

Alcohol and pregnancy

Advice to pregnant women varies from ‘there is no safe limit to alcohol consumption during pregnancy’, to ‘one or two units a week is safe’. Opinion seems to be veering towards abstention.
Drinking in the first three months of pregnancy may raise the risk of miscarriage or damage the health of the baby (as well as the mother). Foetal Alcohol Syndrome – a range of birth defects associated with the mother’s excessive alcohol intake during pregnancy, including brain damage, stunted growth, central nervous system dysfunction and malformations of the face and skull – may affect up to one baby in 1,000 in the UK.

Activity 2.3
From your study of the chapter so far, indicate with an ‘X’ tick which of the following are stimulants and which are depressants. The answers are at the end of the chapter.

<table>
<thead>
<tr>
<th>Stimulant</th>
<th>Depressant</th>
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<tbody>
<tr>
<td>Alcohol</td>
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<td>Alkyl nitrite</td>
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<td>Benzodiazepine</td>
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<td>Cocaine</td>
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<td>Ecstasy</td>
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<td>Methamphetamine</td>
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Volatile substances
Around 70-100 young people die from solvent abuse each year in the UK.

Inhalation of volatile solvents (often called ‘glue sniffing’ by the media, though the use of glue products represents less than 10% of cases) is a problem predominantly with young people. In Scotland, the main misuser group is 13 year-olds and under; the SALSUS survey for 2004 reported 1% of 13 year-old boys and girls having used ‘gas, glue or solvents in the last month’, and 1% of 15 year-old girls and 2 per cent of 15 year-old boys. Drug Misuse Statistics Scotland 2005 states that 2% of 15-19 year-olds misuse volatile substances. Some reports suggest that around 10% of secondary school children will have tried solvents at least once, and the extent of solvent abuse may be underestimated in official statistics.

Misusers typically come from lower socio-economic groups and there is evidence of association with broken homes, poor family relationships and low self-esteem. They often operate in groups in poorly supervised areas such as parks and riverbanks.

Over 30 products that can be abused can be found legitimately in people’s homes, all readily available for potential misusers. The full range of items includes de-icer and ‘damp-start’ sprays, nail varnish, liquid paper solutions and balsawood cement. Volatile gases (particularly butane) from lighter fuels and spray paint are misused, as are aerosols in hair spray and other pressurised products. It is an offence to sell butane gas lighter propellant to someone under 18 years.
The substances are inhaled after being spread or sprayed onto cloth to increase the volatile surface area, or can be inhaled from bags, a practice that has caused death from suffocation in cases where bags have been placed over the head. The inhaled solvents travel quickly to the brain and cause a ‘buzz’ which may last up to 45 minutes. There may be ‘drunken’ behaviour with slurred speech and even hallucinations, with nausea, vomiting, tinnitus, flushing and coughing.

Many deaths have occurred from volatile substance misuse. Some are accidents arising from intoxication, while others are from suffocation or vomitus inhalation while unconscious. Inhaled solvents reduce the partial pressure of oxygen in inhaled air, leading to hypoxia.

The low cost, legal possession and ease of use of volatile substances are no doubt a factor in people, particularly young people, turning to them.

Volatile nitrites

Amyl nitrite and butyl nitrite are stimulants of the alkyl nitrite group. ‘Poppers’, as they are commonly known, were formerly used as a vasodilator in the treatment of angina and as emergency treatment for cyanide poisoning.

Alkyl nitrites are inhaled; they can burn the skin if spilled and can be fatal if swallowed. They provide a short ‘buzz’ through the drug’s vasodilatory effects, lowering inhibitions and creating a feeling of excitement for a few minutes. Regular use can lead to tolerance and increased risk-taking behaviours. Some people get a pounding headache or feel sick and dizzy after use.

Heart rate increases, and the drugs can be a serious health risk for people with heart problems, breathing problems, anaemia or glaucoma. They are also dangerous if taken with other stimulants such as cocaine, amphetamines and ecstasy, and there are also risks with simultaneous use of sildenafil (Viagra®).

Tolerance develops within two or three weeks of continual use but is lost after a few days’ abstinence, leaving the user particularly vulnerable to headaches if use is resumed.

Amyl nitrite is flammable, and cases of severe burning have occurred among those who smoke cigarettes while using it.

Anabolic steroids

Anabolic steroids such as nandrolone (Deca-Durabolin®) are synthetic derivatives of testosterone. They are legal to possess with a doctor’s prescription, but illegal possession with intent to supply is an offence under the Misuse of Drugs Act.

Their main use has been in body building (‘anabolic’ refers to their ability to build muscle tissue). The drugs do not produce any particular feelings of well-being or euphoria, but their use may be attractive to people – men and women – who are particularly concerned about body image or athletic prowess. Users may take high doses of hundreds of milligrams a day (compared with the typical medical dose of 1 to 3 mg).
Adulterated versions of the drugs present dangers for users, but there are no acute effects with the pure versions. Some British body builders may have died from cardiac arrhythmias following use of a counterfeit version of Anabol which contained a high dose of the Beta-2 agonist clenbuterol. Anabolic steroids can generate an aggressive mood and long-term use can result in male-pattern baldness and high blood pressure. There is also a risk of heart disease and stroke.

Men who take large doses of anabolic steroids typically experience changes in sexual characteristics. Although derived from a male sex hormone, the drug can trigger a mechanism in the body that can actually shut down the healthy functioning of the male reproductive system. Possible side effects are:

- shrinking of the testicles
- reduced sperm count
- impotence
- baldness
- difficulty or pain in urinating
- development of breasts
- enlarged prostate.

Women may experience ‘masculinisation’ including growth of facial hair, changes in or cessation of the menstrual cycle, enlargement of the clitoris, deepened voice and breast reduction.

Steroids are injected intramuscularly (not intravenously) using large-volume barrels and, in some areas, anabolic steroid users are frequent clients of needle exchange services. The usual risks occur with injection of these drugs.

Ceasing use will usually involve slow reductions in doses, but the individual’s decision to alter his or her lifestyle and stop mixing with others who misuse the drugs is crucial.

**Analgesics**

Codeine and dihydrocodeine available alone or in combination products are liable to misuse due to their mild opiate properties. Their overdose risk is fairly low, although these risks increase if mixed with other drugs.
Activity 2.4
Check your understanding so far by answering this question.

What general health risks are faced by users of:

(a) stimulants

(b) depressants

(c) anabolic steroids.

Our responses are given at the end of the chapter.

Over-the-counter (OTC) medicines

Pharmacy staff should always be aware of the possibilities of customers misusing OTC products. A study published in 2002 showed that community pharmacists were most suspicious about customers’ misuse of Nytol®, Feminax®, kaolin and morphine, Nurofen Plus®, codeine linctus and Paramol®, although 15 other products or types of products were also mentioned. Products containing caffeine and decongestants, sedatives, anti-histamines and theophylline derivatives may be involved in misuse either by the purchaser or by others.

Customers can find themselves in situations where they have had beneficial effects from a medicine in the past and hope that larger or more frequent quantities may help them further. Extending paracetamol use can consequently be risky, as overdoses can be fatal. In adults, doses of more than 250 mg/kg of paracetamol may cause severe toxicity, the main complication of which is liver damage. Some people carelessly take more than the safe dose of paracetamol, perhaps believing it to be a ‘safe’ drug, while others increase their intake unintentionally through simultaneous use of other paracetamol-containing products such as Day Nurse®, Hedex®, Feminax®, Lemsip® products, Paracodol®, Propain® and others.
Kaolin and morphine mixture was a ‘traditional’ treatment for diarrhoea, partly because of morphine’s rapid effect on intestinal smooth muscle. Morphine, however, particularly in kaolin and morphine mixture, is subject to misuse and many pharmacists severely restrict its sale by following the simple guidance advised for all OTC products likely to be abused:

- keeping products out of sight in a drawer
- keeping a register of sales
- asking more questions about use than they would normally do
- limiting sales to suspected misusers
- refusing sales
- ceasing to stock products.

Young people buying menthol crystals, vapour rubs and volatile inhalation liquids may actually be intending to use the products with ecstasy. These substances can rapidly cool the skin while in ‘party mode’ and are thought by some people to increase the effect of the ecstasy. Some customers may request ‘household ammonia’ or bicarbonate of soda to help in the preparation of crack, and acetone may be used to clean crack pipes used for smoking.

**Tobacco**

Smoking remains the greatest cause of avoidable ill health and premature death in Scotland, with around 13,000 deaths annually from tobacco-related illnesses.

According to Action on Smoking and Health (ASH Scotland), adult smoking rates in Scotland have remained consistently higher than in England and Wales, and while the number of people smoking cigarettes fell sharply throughout the 1970s and 1980s, the decline levelled out during the 1990s.

Smoking rates among young teenagers are causing concern. The SALSUS survey for 2004 showed:

- 6% of 13 year-olds smoked regularly
- 19% of 15 year-olds smoked regularly
- 71% of 15 year-old regular smokers reported it would be ‘very difficult’ or ‘fairly’ difficult to give up smoking.

The contribution community pharmacists make to smoking cessation initiatives have been well acknowledged. In Scotland, the Starting Fresh project in Glasgow is an example of an initiative that has proved to be a considerable success since its inception in 2003 (see Box 2.3). NES Pharmacy provides a smoking cessation CD-ROM and a training course that focuses on pharmaceutical care approaches to smoking cessation.
Box 2.3 The Starting Fresh smoking cessation project

The Starting Fresh project aimed to develop a network of accredited community pharmacies across Greater Glasgow offering an easily accessible, cost-effective smoking cessation service with prescribing and dispensing of nicotine replacement therapy (NRT), advice, support and information.

Pharmacists and assistants are invited to participate in the project on a locality basis. As of September 2005, 183 (83%) community pharmacies were involved. The pharmacists and assistants take part in one-day training courses on ‘brief interventions’ and complete a distance learning pack on NRT. The pharmacy must have a quiet area to allow privacy for the patient/pharmacist interaction.

Advertising materials in support of the programme are produced. Patients self refer or are referred by a health professional or smoking cessation group co-ordinator. The pharmacist interviews the patients to assess their readiness to stop smoking and their suitability for using NRT. Where appropriate, he or she prescribes NRT using a locally agreed process. After this first consultation, either the pharmacist or assistant can see the patient.

Each customer agrees to attend the pharmacy on a weekly basis for a maximum of 12 weeks as a condition for inclusion in the programme, both for NRT (supplied in weekly instalments) and for access to advice from the pharmacist or assistant about their ‘quit’ attempt. At each visit, the pharmacist offers encouragement and information, measures the carbon monoxide levels in the patient’s blood using a Smokealyser, records relevant outcome data and (as appropriate) issues further supplies of NRT.

The programme has grown to a high level of activity in a relatively short timescale. As of September 2005, over 27,000 patients had accessed the programme. Through application of a unique methodology and the provision of pharmaceutical care, pharmacists and their support staff have achieved great success in terms of patient involvement and outcomes.

This information is drawn from: Grant L, Waugh J. Starting Fresh with the Glasgow Pharmacy Smoking Cessation Project Status Report, September 2005. NHS Greater Glasgow, Dalian House, 350 St. Vincent Street, Glasgow G3 8YU. Accessible at:

http://www.ashscotland.org.uk/ash/files/Starting%20Fresh%20with%20the%20Glasgow%20Pharmacy%20Smoking%20Cessation%20Project.doc

Activity 2.5

The Scottish Executive’s ‘Know the Score’ initiative has become highly regarded for its value in informing young people, parents and others about substances that are misused, the dangers they pose, and help that is at hand in Scotland. If you are not already familiar with ‘Know the Score’, visit the website now and take some time to discover the impressive array of information and advice it offers. You will see that it can not only support your patients, but also act as a resource for you and your staff.

The website can be accessed at http://www.knowthescore.info/
Key points

- We should recognise that in Scotland, as in the rest of the UK, many more people are made ill and killed by alcohol and tobacco than by illegal drugs.
- Drugs such as heroin, cocaine, ecstasy, cannabis and other illicit drugs nevertheless present considerable dangers.
- Some people abuse OTC products.

In Chapter 3, we turn our attention to a major category of harm that is associated with injecting drug use - infection with blood-borne viruses.
Activity responses

Activity 2.1 Response
A range of signs and symptoms may alert you to someone who is misusing alcohol:

- vomiting in the morning (following too much drink the night before)
- frequent absence from work on sickness
- heartburn and other gastrointestinal disorders
- injuries and accidents
- smell of drink on the breath (beer is the most pungent, and heavy drinkers may sometimes eat a lot of peppermints to cover the smell)
- obesity, red bloated face, bloodshot eyes
- hand tremor.

Activity 2.2 Response
SIGN 74 points out that withdrawal from alcohol needs careful clinical management and support. Hospital detoxification is appropriate in cases where the alcohol dependency is severe, and in particular where the patient:

- is confused or has hallucinations
- has a history of previously complicated withdrawal
- has epilepsy or a history of fits
- is undernourished
- has severe vomiting or diarrhoea
- is at risk of suicide
- has severe dependence coupled with unwillingness to be seen daily
- has a previously failed home-assisted withdrawal
- has uncontrollable withdrawal symptoms
- has an acute physical or psychiatric illness
- has multiple substance misuse
- has a home environment unsupportive of abstinence.

Source: http://www.sign.ac.uk/guidelines/fulltext/74/section4.html
Activity 2.3 Response

<table>
<thead>
<tr>
<th>Substance</th>
<th>Stimulant</th>
<th>Depressant</th>
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<tbody>
<tr>
<td>Alcohol</td>
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<td>x</td>
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<tr>
<td>Alkyl nitrite</td>
<td>x</td>
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<td>Ecstasy</td>
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<tr>
<td>Methamphetamine</td>
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<td>x</td>
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</tbody>
</table>

Activity 2.4 Response

(a) Stimulants raise heart rate and blood pressure and carry a cardiovascular risk.

(b) The general risk from depressants is that their combined effect can make the user unconscious or even comatose, especially if taken with opioids.

(c) The main health risk with anabolic steroids (apart from risks relating to injections) is unwanted changes to body shape and the reproductive system in both men and women.
References and footnotes

1 See Drug Misuse Statistics Scotland 2005, Table B1.15
2 See: http://www.drugs.gov.uk/drugs-laws/cannabis-reclassifications/mental-health-faq
3 Coffee is considered a stimulant because of the effects of caffeine, which is also widely used in a range of drinks. It is not, however, considered in this chapter.
4 See: http://www.dundee.ac.uk/forensicmedicine/lib/drugdeaths.htm
5 For more information on the effects of illegal drugs on babies, see: http://www.babycentre.co.uk/refcap/541318.html#3.
6 For a description of the 12-step programme used by Alcoholics Anonymous, see: http://www.alcoholics-anonymous.org.uk/geninfo/05steps.shtml
7 See: http://www.drugmisuse.isdscotland.org/dat/edinburghcity/asithappens1203.pdf
9 See: www.alcoholinformation.isdScotland.org
10 See: http://www.scotland.gov.uk/Publications/2005/01/20541/50225
12 Hazardous drinking is defined as the regular consumption of over 40 g of pure ethanol per day (five units) for men, and over 24 g of pure ethanol per day (three units) for women.
13 See: http://www.iussp.org/Publications_on_site/PRP/prp11.php
14 Scottish Advisory Committee on Drug Misuse. Psychostimulant Working Group Report, Section 5.1.
15 See: http://www.exchangesupplies.org/publications/methadonehbk/methintro.html
16 For a detailed practical guide to FRAMES see Sign 74 at: http://www.sign.ac.uk/guidelines/fulltext/74/section3.html
17 See: http://www.sign.ac.uk/guidelines/fulltext/74/section4.html
19 SALSUS survey 2004, Table 4.3
20 http://www.scotland.gov.uk/Publications/2003/10/18381/28166
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Chapter 3 describes the transmission and prevalence, particularly within Scotland, of blood-borne viruses and outlines advice on how to avoid or minimise transmission both within the pharmacy environment and beyond.

Blood-borne viruses, especially hepatitis B (HBV) and C (HCV) and the Human Immunodeficiency Virus (HIV), present world-wide problems on an enormous scale. They are principally transmitted through infected blood and other body fluids, though other viruses such as hepatitis A and G are water-borne.

HBV has a relatively small incidence in Scotland, with around 340 cases a year being notified to Health Protection Scotland (HPS), but 50,000 people living in Scotland are estimated to have been infected with HCV. Around 200 million people worldwide are believed to be infected with the HCV virus. From available statistics in Scotland, the probability of the following groups being infected with HCV is:

- 1:2-3 for current injecting drug users
- 1:1.5-2 for former injecting drug users
- 1:5 for prisoners
- 1:200 for pregnant women and non-injecting drug users who attend genito-urinary clinics
- 1:500 for health care workers (including surgeons)
- 1:2,500 for new blood donors.

Objectives

After completing this chapter, you should be able to:

- describe the transmission methods of HBV, HCV and HIV
- be aware of the prevalence of HBV, HCV and HIV infection in Scotland and worldwide
- identify treatments used for hepatitis infections and HIV
- outline advice to be given to patients to avoid transmission
- outline the means of avoiding transmission of infection to pharmacy staff
- identify other infections that may be acquired by drug misusers.
Hepatitis presents as inflammation of the liver and can be caused by viruses, bacteria, drugs, toxins, excess alcohol or auto-immune disease. So far, seven hepatitis viruses have been identified – hepatitis A to G – but the different members of the hepatitis ‘family’ are not close relatives in terms of their genetic make-up. Rather, they are grouped to reflect their effects on the liver.

**Hepatitis A virus (HAV)**

HAV is a faecal-oral waterborne virus found particularly in regions where sanitation and hygiene are poor. HAV is probably endemic in some parts of the world, so much so that vaccination is recommended for people travelling to areas of known high incidence, but HAV infections can be relatively innocuous with no long-term problems. High-risk areas for contracting the virus are the Middle East, South America, Eastern Europe, Central America, Africa and Southeast Asia, and HAV is the most common form of hepatitis in the USA. It is usually found in young adults and children.

An estimated 1,500 people in the UK are diagnosed with HAV each year. It is believed that up to 40% of the UK population may have been infected at some time. There was an outbreak of HAV among drug injectors in the Aberdeen area in 2000–01, affecting 74 people. Studies suggested that a lack of hygiene in preparing and injecting drugs was responsible. Generally, drug users who live on the streets or in particularly poor housing may be more at risk from HAV, with poor personal hygiene a particular problem.

Immunisation against HAV is required for various individuals, including:

- laboratory staff who work directly with the virus
- people with haemophilia treated with Factor VIII or Factor IX concentrates, or who have liver disease, or who are infected with HBV or HCV
- travellers to high-risk areas, especially frequent travellers and those staying for long periods
- people whose sexual behaviour puts them at risk.

HAV and HBV immunisation may be recommended for people who are HIV positive to reduce possible damage to the liver. Adults can be immunised with a single dose of vaccine, which protects them for a year. A second dose after 6–12 months confers 10-year protection. Lower doses are available for children. A combined Hepatitis A and B vaccine (Twinrix®) is used for some drug misusers in Scotland.

Symptoms of HAV infection appear 10–40 days after contact. There may be headache and pain for a week, after which jaundice may develop. There is no specific treatment, with patients being advised to rest and take care not to infect others. Low-dose paracetamol may be used for any pain, with caution due to the potential damage to the liver. Aspirin and ibuprofen are not recommended for pain due to the risk of bleeding.

Most HAV infections will resolve spontaneously, but a small number of patients, mostly older people, may suffer liver failure.
Hepatitis B virus (HBV)
Hepatitis B is the most common infectious disease in the world. The HBV virus is so contagious it can be contracted from sharing everyday items such as blood-stained towels, razors, toothbrushes and nail clippers with an infected person. Transmission may also occur via blood-contaminated straws used during cocaine use.

One-third of the population in some developing countries are thought to be carriers, although the incidence is less common in developed countries. According to the World Health Organization:

- more than 2 billion people alive today have been infected with HBV
- approximately 350 million are chronically infected
- cirrhosis and primary liver cancer caused by chronic HBV infection kill up to 750,000 people a year.

Occurrence in the UK has decreased thanks to better social conditions, screening and treatment of blood products, use of vaccines and barrier contraception. In Scotland, 341 cases of HBV infection were reported by laboratories to Health Protection Scotland (HPS) in 2004; of these, 21 cited ‘injecting drug use’ as the patient’s principal risk factor.

HBV, like HIV, is mainly transferred by blood and bodily fluids through sexual activity, blood contact (by sharing injecting equipment or through blood or tissue transfer) and via the mother-to-child route. A 2003 survey by Aberdeen researchers looked at risk factors in 119 patients with acute HBV infection during the years 1991-2000. The risks associated with HBV infection were:

- being an injecting drug user (57 people, 47.9%)
- having heterosexual sex (22, 18.5%)
- being a man who had sex with men (10, 8.4%)
- having sex with an injecting drug user (4, 3.4%)
- being tattooed (1, 0.8%)
- suffering a needlestick injury (1, 0.8%)
- suffering trauma (1, 0.8%)
- unknown (23, 19.3%).

Many of the patients in the survey had ‘dabbled’ in drug use. Thirty-one (54.4%) had previously been hospitalised with drug-related medical problems and 18 (31.6%) of the injecting drug users were receiving methadone at the time of presentation.

Treatment
Peginterferon-alfa, lamivudine (Zeffix®), adefovir dipivoxil (Hepsera®) and entecavir (Baraclude®) interfere with viral replication, reducing liver damage and disease progression.

Peginterferon alpha-2a or lamivudine are used for the initial treatment of chronic HBV. Adefovir dipivoxil may be used if the virus is resistant or develops resistance to lamivudine.
Who should be immunised against HBV?

Immunisation for HBV is recommended for:

- people who inject drugs and their sexual partners/household contacts
- people who have sex with numerous partners
- close family contacts of a case or carrier
- people who have haemophilia who require regular use of blood or blood products, and their carer(s)
- trainee and new health care workers
- health care personnel who have direct contact with blood or blood-stained tissues
- people working in body piercing or tattooing establishments (clusters of HBV infection have been reported among tattoo studio customers)
- embalmers working for morticians
- staff and patients of day care or residential accommodation for people with severe learning disabilities, due to the sexual abuse and practices that can occur in care homes
- prison and remand home inmates
- travellers to high prevalence areas who will work in health care settings or stay in the area for long periods
- families adopting children from high HBV areas
- infants born to mothers who have had HBV during pregnancy or previous HBV infection.

Pharmacy staff should also be advised to be immunised against HBV. Most European countries provide universal HBV immunisation for newborns, infants or adolescents, but the UK, the Netherlands and the Scandinavian countries do not. All prisoners in Scotland are offered vaccination.

Immunisation consists of three doses of vaccine by intramuscular injection, the second dose being administered after one month and the third six months later. Immunity may take up to six months to be conferred. An accelerated immunisation regime where the three doses can be given within two months (with a booster at 12 months, if possible) is often adopted with adult injecting drug users to offer a better chance of the course being completed.

Immunisation can be checked by a blood test, but not everyone produces antibodies following the vaccine – 10-20% of people do not. These individuals may require an additional dose, and may also need hepatitis B immunoglobulin (HBIG) if older or immunocompromised. Vaccine plus HBIG is indicated in various circumstances which include the following:

- prevention of infection in laboratory and other personnel who have been accidentally inoculated with HBV
- mothers who have become infected with this virus during pregnancy or who are high-risk carriers.

Vaccines tend to be well tolerated with only local pain at the site of the injection, though fever, rash, ‘flu-like symptoms and joint pain may also occur.
Hepatitis C virus (HCV)

HCV, which was first identified in 1989, is growing in prevalence. According to the Scottish Executive consultation document: Hepatitis C: proposed action plan for Scotland, published in June 2005:10

- 50,000 people in Scotland have been infected with HCV, a prevalence of 1%; this compares to around 0.5% prevalence in the rest of the UK
- of these, there are 37,500 HCV carriers (that is, are chronically infected with HCV)
- of the 37,500 HCV carriers, 24,800 are former and 8,200 current injecting drug users
- between 1,000 and 2,000 injecting drug users are acquiring HCV annually.

HCV can be spread by blood but not by breast milk or saliva, and sexual transmission does not seem to be an important route: the life-time rate for transmission from an infected partner is 3%.11 Tattooing, ear piercing, body piercing and acupuncture with unsterile equipment can also spread the virus, and there may be a transmission risk from sharing toilet items in which blood may be present, such as toothbrushes. Health care workers who are HCV positive should not undertake exposure-prone procedures.

Injecting drug use is a major avenue for HCV infection. In Scotland, 60% of people with HCV are known to have injected drugs, and 42% of injecting drug users in 2004 had antibodies to HCV.12 This is the highest rate in the UK.

Diagnosis is made from a blood test for the HCV antibody, but the test can show false reactions. A more sensitive test using the polymerase chain reaction (PCR) is used. An ‘appropriate discussion’, previously referred to as ‘counselling’, pre and post testing is recommended. High-level training is not required for a discussion, and the nature of the discussion depends on the particular patient circumstances. An ‘appropriate discussion’ should also occur before HBV testing.
Most people do not have symptoms after initial infection, although a few may experience ‘flu-like’ fatigue, fever, muscular aches and pain, nausea and vomiting, and a small proportion may have yellowed skin. Up to 80% of people infected with HCV may eventually develop a chronic infection, but the disease tends to progress very slowly with chronic symptoms commonly taking up to 20 years to appear. The ‘end stage’ is cirrhosis and liver failure, which affects 5-15% of patients over 20 years. Cirrhosis symptoms include progressive fatigue, yellow skin and eyes, very dark urine, easy bruising, abdominal swellings, muscle wasting, itching, disorientation and confusion. Between 4 and 9% of patients with cirrhosis will develop liver failure and 2-5% of patients with cirrhosis will develop primary hepatocellular carcinoma.

Current evidence suggests that around 20% of those infected with hepatitis C infection will clear the virus at the acute stage. Of the 80% who do not:

- some will remain well and will never develop liver damage
- many will develop mild to moderate liver damage (with or without symptoms)
- 5-15% will progress to cirrhosis of the liver over a period of 20 years
- a proportion of those with cirrhosis will progress to liver failure or primary liver cancer (see Figure 3.1).

**Figure 3.1 Outcomes in chronic HCV infection**

Treatment
Treatment focuses on dealing with the inflammation of the liver. Attacking the virus and reducing the tendency to cirrhosis and, ultimately, the need for liver transplantation are crucial. HCV is the reason for approximately 50% of liver transplants in the USA and the UK, so it is important to avoid transmission and treat where possible.

The National Institute for Health and Clinical Excellence (NICE) in England recommends that combination therapy with peginterferon alfa (PEG-IFN) plus ribavirin should be used to treat people aged 18 years or older who have moderate to severe chronic HCV. This is recommended whether or not they have been treated previously with interferon alfa or peginterferon alfa monotherapy or with interferon alfa + ribavirin combination therapy.

Treatment success depends on which of the HCV genotypes is involved, among other factors. Interferon alfa + ribavarin treatment clears the virus (with no detectable virus six months after the end of treatment) in 38-43% of cases. PEG-Interferon + ribavarin improves on these figures, and only one injection a week is needed.

Activity 3.2
What advice would you give an HCV-infected drug user to help him or her to reduce the risk of passing the infection on to others? What advice would help the person avoid exacerbating his or her HCV condition?

Our responses are given at the end of the chapter.

A SIGN guideline - SIGN Guideline 92 - on the ‘Management of Hepatitis C’ was launched in December 2006.

Complementary treatments
Many people with HCV consider complementary therapies in addition to orthodox medical treatment. People find massage, aromatherapy, reflexology, t’ai chi and meditation helpful in relieving symptoms such as tiredness and muscle aches, and the British Liver Trust endorses their benefits in relaxing the mind and body and enhancing a sense of well-being.

It is important, however, that you check to ensure any complementary therapies or preparations used do not interact with other medications prescribed to treat the HCV or any other conditions the patient may have. Complementary therapies and herbal remedies are expensive and have not been proven in appropriate trials to be effective in the treatment of HCV.

Vaccination
Currently, there is no vaccine against HCV.
Activity 3.3
Hepatitis questions
Before we move on to look at HIV/AIDS, let’s do a quick check on your understanding of the hepatitis viruses we have discussed. Look at the table and write ‘yes’ or ‘no’ in the boxes. Then compare your responses to the correct ones at the end of the chapter. If any of your answers were incorrect, go back to the particular section(s) of the chapter and revise before progressing.

<table>
<thead>
<tr>
<th></th>
<th>Faecal/water-borne</th>
<th>Blood-borne</th>
<th>Vaccination available</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAV</td>
<td></td>
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<td></td>
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<tr>
<td>HBV</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>HCV</td>
<td></td>
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</tbody>
</table>

HIV/AIDS

Cases of AIDS (Acquired Immune Deficiency Syndrome) were first reported in 1981, when the American Mortality and Morbidity Weekly Report cited a number of cases of the unusual *Pneumocystosis carinii* pneumonia in previously healthy, homosexual men.

In subsequent months, other rare infections were found in a number of groups: homosexual men, blood transfusion recipients, people with haemophilia and intravenous drug users. Each exhibited similar immune system changes which appeared to have been caused by a transmissible agent. This combination of diseases became known as ‘Acquired Immune Deficiency Syndrome’ (AIDS).

Although at first HIV infection was associated with homosexual men, it is now understood that more HIV is spread worldwide by heterosexual transmission than by homosexual activity.

In Scotland, from data up to June 2006, there were:

- 1662 cases (34.7%) of men who have sex with men
- 1435 (30.0%) cases as a result of sexual intercourse between men and women
- 1296 (27.1%) cases infected through injecting drug use.

In the quarter from April to June 2006, only one intravenous drug user was newly reported to be HIV positive.

More than 25 million people have died of AIDS since 1981; Africa has 12 million AIDS orphans. Statistics on the world epidemic of HIV/AIDS were published by UNAIDS/WHO in November 2005 (Table 3.1).
Table 3.1 Worldwide HIV/AIDS statistics, 2005

<table>
<thead>
<tr>
<th>Total (millions)</th>
<th>Adults (millions)</th>
<th>Women (millions)</th>
<th>Children &lt;15 years (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of people worldwide living with HIV/AIDS</td>
<td>40.3</td>
<td>38</td>
<td>17.5</td>
</tr>
<tr>
<td>People newly infected with HIV</td>
<td>4.9</td>
<td>4.2</td>
<td>0.7</td>
</tr>
<tr>
<td>AIDS deaths</td>
<td>3.17</td>
<td>2.6</td>
<td>0.57</td>
</tr>
</tbody>
</table>

Source: http://www.avert.org/worldstats.htm

Transmission of HIV

HIV is a retrovirus of a type known as a ‘lentivirus’. As you will know from your dealings with insulins, the ‘lente’ part of the word means ‘slow’. This reflects the fact that infection with HIV can take a very long time to develop into AIDS.

HIV infects immune system cells called T-helper lymphocytes, sometimes known as CD4+ lymphocytes (Figure 3.2). It makes copies of itself within the cells and more virus is released into the body. A lengthy struggle takes place between the HIV and the immune system. Eventually, after a period typically of 10 years during which there are usually few clinical symptoms, HIV begins to overwhelm the immune system. At this point, the patient can develop various opportunistic infections and is classified as having AIDS.

Figure 3.2
Drying of infected blood and other liquids reduces the risk of it infecting someone else to almost zero.

‘Social’ kissing does not represent a transmission risk, and sexual or ‘open-mouth’ kissing only does so when blood is transferred. HIV viruses from saliva and tears have not been shown to have infected anyone, and HIV does not appear in a person’s sweat. Blood-sucking insects such as mosquitoes do not transmit HIV.

The importance of blood in transmission has been repeatedly demonstrated. HIV is primarily spread in blood through, for example:

- sexual intercourse with an infected person (particularly when using sexual practices where blood may be involved)
- the use of injecting equipment previously used by an infected person (including accidents with such equipment)
- the transfer of an infected person’s blood into an open cut or mucous membrane
- medical transfer of blood, blood factors or tissues (this is now rare in developed countries due to improved screening measures)
- ‘vertical’ transmission from an infected mother to child in pregnancy, at birth or during breastfeeding (see Box 3.1).
Box 3.1 Vertical transmission of HIV from mother to baby

An HIV-positive woman can transmit the virus to her child through a number of routes:

- infection in utero
- infection through blood contact during labour and delivery
- infection via breast milk.

The numbers involved in mother-child infection in Scotland are low, but could be further reduced. HIV-infected new mothers should probably not breastfeed. Treating pregnant women (after the first trimester of pregnancy) and new babies with zidovudine can cut transmission rates substantially. Without treatment, mother to child transmission is reported to be between 25 - 30%. Using three antiretroviral drugs reduces transmission to 1.1%.18

Mothers who are at risk of having HIV should be tested well before their baby is born. Since 2002, ante-natal testing for HIV has been recommended to pregnant women in Scotland as part of a wider screening programme.

Disease progression

Progressive loss of immunity can be tested by a review of clinical condition using, for example, the World Health Organization's Disease Staging System for HIV.19 Reduction in numbers of CD4 T-helper cells and a rise in the viral load in the bloodstream can be measured, and are used to define when a patient should start anti-retroviral therapy.

Activity 3.5

Our patient Chrissy has a friend (Lucy) with whom she sometimes shares heroin. Chrissy was tested for HIV before her second child was born: she was negative. Lucy's HIV status has not been tested. Lucy smokes heroin with Chrissy, but sometimes injects when with other people (she may occasionally inject in Chrissy's presence). Lucy was at one time a sex worker.

Make some notes on the advice you would give Chrissy about any potential risks in her relationship with Lucy, then read our response at the end of the chapter.
Treatment of HIV

There is no known ‘cure’ for HIV, but the use of anti-retroviral (ARV) drugs can greatly delay the onset of AIDS in those infected with HIV. This means that people with HIV are now living longer.

Activity 3.6

If you haven’t already done so, you should now go to the website below to see an animated representation of the way HIV replicates itself. If you have already viewed the demonstration, you might want to have a look again before studying the next section of the text.

http://www.roche-hiv.com/Newsandfeatures/animations/animations.cfm

A growing range of drugs are available to block the virus’s enzyme action, reducing its ability to replicate. ARVs seek to block the virus replication process at a number of key stages:

- **reverse transcriptase inhibitors** try to prevent HIV from converting into viral DNA in the host cell, using reverse transcriptase.
- **protease inhibitors** try to prevent the cutting up of chains of viral proteins produced by the host cell to make new infectious viruses.
- **enfuvirtide which is a fusion inhibitor**, prevents the virus from fusing its membranes with those of the CD4 cells after it has docked with them, preventing infection of the cell.

Antiretroviral therapy should be commenced before the patient’s CD4 count decreases to below 200 cells/mm³. It is not normally commenced when the CD4 count is > 350 cells/mm³.

Some of the ARV drugs involved are shown in Table 3.2.
Combination therapy
Because HIV can mutate in the body, different strains of the virus may appear. A combination of drugs presented as a Highly Active Antiretroviral Therapy (HAART) will often reduce the rate at which resistant strains emerge.

The use of combination therapy has several beneficial effects. It:

- decreases the progression of HIV to AIDS
- decreases the death rate in people with AIDS
- controls opportunistic infections and AIDS-related symptoms
- decreases the number of hospital admissions
- improves patients’ sense of well-being
- creates improvements in patients with end-stage AIDS.

Table 3.2 ARV drugs

<table>
<thead>
<tr>
<th>Reverse transcriptase inhibitors</th>
<th>Non-nucleoside reverse RTIs (NNRTI or ‘non-Nukes’)</th>
<th>Protease inhibitors (PIs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nucleoside analogue RTIs (NRTI)</td>
<td>efavirenz (Sustiva)</td>
<td>Lopinavir + ritonavir (Kaletra),</td>
</tr>
<tr>
<td></td>
<td>nevirapine (Viramune)</td>
<td>indinavir (Crixivan),</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ritonavir (Norvir),</td>
</tr>
<tr>
<td></td>
<td></td>
<td>nevirapine (Viracept),</td>
</tr>
<tr>
<td></td>
<td></td>
<td>saquinavir hard gel capsules (Invirase),</td>
</tr>
<tr>
<td></td>
<td></td>
<td>atazanavir (Reyataz),</td>
</tr>
<tr>
<td></td>
<td></td>
<td>amprenavir (Agenerase),</td>
</tr>
<tr>
<td></td>
<td></td>
<td>fosamprenavir (Telsa),</td>
</tr>
<tr>
<td></td>
<td></td>
<td>tipranavir</td>
</tr>
</tbody>
</table>

COMBINATION DRUGS
- Abacavir + lamivudine (Kivexa)
- Zidovudine + lamivudine (Combivir)
- Emtricitabine + tenofovir (Truvada)

Another type of anti-retroviral drug is enfuvirtide a fusion or entry inhibitor. The drug attaches large molecules to the outside of CD4 cells (or T-cells) to prevent the HIV virus from merging with the T-cells and copying itself within them.
Activity 3.7
Before going on to consider how we can help people on ARV therapy, briefly remind
yourself of how the different classes of HIV medicines work:

(a) reverse transcriptase inhibitors

(b) protease inhibitors

(c) fusion inhibitors

The answers are supplied at the end of the chapter.

Helping people on antiretroviral therapy (ARV)

Most specialist HIV clinics will review patients’ medicines for drug interactions and will
advise patients on specific OTC medications that can be taken with HIV medicines, so you
have to be alert to the potential risks they may be facing by attempting to purchase OTC
preparations. This should become apparent as pharmacists should ask all patients requiring
or asking for OTC medicines if they are on any other medication. However, patients with
HIV may be unwilling to disclose the fact that they are taking antiretroviral therapy.

HIV medications can interact with many different medications (refer to the relevant section
of the current BNF), and you must keep this in mind when you are counter-prescribing
for known HIV/AIDS patients. Most patients will receive their ARV therapy direct from a
hospital, so it would be sensible to contact your local HIV centre for specialist information
from the pharmacist.

A central element of your role, as with all patients, will be advising the individual on how
to comply with the regimen, which is likely to be complicated. Again, drawing on the
expertise of the pharmacist in the specialist centre will be essential to ensure you do not
offer any confusing or conflicting advice.
Activity 3.8
Interactions between drugs used to treat HIV and common medications are relatively common. For a full guide, see: http://www.hiv-druginteractions.org/index.htm
Data for the programme are supplied by the University of Liverpool HIV Pharmacology Group.

It is worth spending time on this website to deepen your understanding of interactions. Use the programme to test a choice of drugs to experience how the interaction system works.

As an example, look up the interactions between methadone and antivirals. If you cannot access the website, the response it offers is given at the end of the chapter.

Complementary and alternative medicines
Complementary and alternative medicines can interact with HIV medication, with each having the potential to increase concentrations of the other. You should check each case of someone taking HIV medication who is trying to purchase complementary or alternative medicines with your local specialist centre or on the University of Liverpool website cited in Activity 3.9.

As an example, St John’s Wort and high-dose garlic capsules may reduce the concentrations of some antiretroviral medications.

Blood-borne viruses: practical issues for the pharmacist
Discussion/advice
While HIV/AIDS has a higher profile in the media, HCV is actually a greater, and increasing, problem at the current time.

Blood-borne viruses and the fear of acquiring HIV are sensitive issues, both for the individual and for other customers who may be in the pharmacy at the time of your discussion with the patient. Ideally, you should be able to access facilities that allow you to have your discussion in private.

Many drug misusers are unaware of the long-term health risks they face from hepatitis. It is important to be able to explain these, and also to show how the various blood-borne viruses can be contracted and transmitted. Individuals should be strongly urged to take care when there is a chance of making contact with an injecting drug misuser’s blood. This may happen on rare occasions when a person is suffering a bleeding injury, or with needles and other paraphernalia that have been used for injecting.

Needlestick injuries
Most needlestick injuries occur in hospitals, but there are also risks in other settings. Around 28% of injuries reported in NHS Scotland relate to incidents with sharps after disposal. Needlestick injuries that result in the transfer of a blood-borne disease are rare, but the relatively low rate of seroconversion should not be a cause for complacency.
HIV presents the lowest rate of infection through needlestick injury, with an estimated risk of 3-5 in 1,000 percutaneous needlestick injuries (0.3–0.5%). Evidence suggests that post-exposure prophylaxis with zidovudine in combination with other anti-HIV drugs can further reduce the rate of transmission of HIV if given soon after an injury.20 Triple antiretroviral therapy is given to people who receive a needlestick injury from an HIV-infected source.

The risk of acquiring hepatitis from a needlestick injury is considerably higher than for HIV: up to 40% for HBV and 3-10% for HCV. HBV can be transmitted relatively easily via needlestick injury or other means. Health care workers who encounter blood or bloodstained body fluids in the course of their work are advised to have a complete course of HBV immunisation (see pages 66-67 in this chapter), with those who fail to respond being given HBV immunoglobulin. In relation to HCV, of the 41 reported exposures of health care workers in Scotland between 1997-99, no seroconversions were identified.21

Percutaneous injuries should be washed liberally with soap and water, but without scrubbing. Bleeding should be encouraged by pressing gently around the site of the injury (taking care not to press immediately on the injury site). It is best to do this under a running water tap. The injured person should attend an accident and emergency department as soon as possible, where relevant tests will be done and treatment provided.

Even if no infection takes place, the injured person will experience a long period of uncertainly and concern while tests are performed and results awaited. Needlestick injury is a cause of significant emotional and physical stress, and all steps must be taken to guard against its occurrence. Box 3.2 sets out simple steps that can be taken to avoid needlestick injury.

**Box 3.2 Avoiding needlestick injury**

You can reduce the risk of needlestick injuries by:

- not re-sheathing needles
- ensuring all sharps containers are properly assembled before use
- giving yourself enough space to work with needles and sharps
- placing all needles and sharps into a sharps container after use: if they are brought by a patient, ask him or her to put the needles in the bin personally
- keeping all sharps containers easily accessible
- ensuring sharps containers are disposed of when three-quarters full (maximum).

**Avoiding cross infection**

This issue is particularly important if you are offering needle exchange or methadone services in your pharmacy. Your staff should be trained in dealing with blood spillages and in taking universal precautions against cross infection.

People who use drugs should be able to feel that they do not pose a particular risk to the health of your pharmacy staff, and adequately preparing your staff and premises to reduce the potential of cross infection is central in achieving this. Adopting the same universal precaution measures with all patients will reinforce this message (see Box 3.3).
Box 3.3 Universal precautions

Universal precautions were established to protect against infection with blood-borne viruses and other infections. It is impossible to know whether or not patients are infected with, for example, a blood-borne virus, so it is recommended that staff assume that every patient may be infected: precautions should therefore be taken with all patients. This avoids pharmacy staff having to select patients with whom they will apply precautions, and patients perceiving that they have been ‘selected’ for special treatment.

The precautions you set in place should create barriers against contact with blood and other body fluids and the risk of splashing. Pharmacy staff should always:

- cover skin cuts or abrasions with a waterproof dressing
- wear disposable latex gloves and a plastic apron when dealing with blood or body fluids, whether these are on the patient or spillages
- clean blood/body fluid spillages away immediately (see Box 3.4).

Box 3.4 Cleaning blood/body fluid spillages

The Department of Health recommends that staff should:

- wear disposable gloves if possible
- use absorbent paper towels to cover the spillage
- pour diluted bleach (one part bleach to 10 parts water) onto the paper towels and leave for at least two minutes before wiping up; where it is not appropriate to use bleach (for instance to disinfect a small spill on a carpet or clothing), hot soapy water is a reasonable alternative
- avoid direct contact with injecting equipment.

It may be useful to set up a blood spillage kit within the premises.

Conjunctiva and mucous membranes should be washed and rinsed thoroughly with large amounts of water if they are splashed by blood/body fluids, and all contaminated waste must be placed in yellow sacks and left for incineration.
Activity 3.9

Handwashing is the single most important means of infection control. We all agree with it, but do we always do it?

Think about what your pharmacy staff do. In what situation do they ALWAYS wash their hands? In what situations do they SOMETIMES do so?

Other infections associated with injecting drug use

In 2000, a number of injecting drug users in the northwest of Scotland, England and Ireland became ill and died due to a *Clostridium novyi* infection, which derived from infected heroin.

Infection by the fungus *candida albicans* (which is better known for causing vaginal thrush) can follow injection with brown ‘base’ heroin. It usually arises as a result of the acids (such as lemon juice) used to prepare heroin solution. A common effect is mycotic endophthalmitis, with blurred vision and oedema of the eyelid, and can lead to blindness.

In disseminated candidiasis, patients describe sudden onset of fever, shivers, myalgia, headaches and profuse sweating shortly after the intravenous injection of heroin. The fever usually lasts between one to three days, and is followed by cutaneous signs – painful nodules 0.5 to 1 cm in diameter occasionally surrounded by some erythema – in more than 90% of cases. Drug injectors who are aware of this risk may try to obtain citric acid for the purpose. This is now available from many needle exchange outlets (see Chapter 4), but the purchase of large or frequent quantities of citric acid should alert you to potential problems.

There is also the potential risk of cross-infection if the users share equipment and paraphernalia.
There was a small number of botulism infections found at drug injection site wounds during late 2004 in Glasgow and Aberdeen. No similar cases of this very serious infection had been reported in the UK prior to 2000. The recommended advice from the Deputy Chief Medical Officer to drug misusers at the time was to reduce the risk of harming themselves through injecting heroin. Users were advised:

- If you must take heroin, smoke it instead of injecting
- If you must inject, do not inject into muscle or under the skin: make sure you hit the vein – your blood is better at killing bacteria than your muscle
- Don’t share needles, syringes, cookers/spoons, filters or other ‘works’ with other drug users, even partners
- Use as little citric acid as possible to dissolve the heroin; a lot of citric acid can damage muscle, cause ‘citric burns’ and this damage gives bacteria a better chance to grow
- If you inject more than one type of drug, inject each at a separate place on your body and with clean works for each injection
- In relation to the risk of botulism: if you get swelling, redness or pain where you have injected yourself, or pus collects under the skin, you should get a doctor to check it out immediately, especially if the infection seems different to others you may have had in the past.

Tetanus infection is possible with injecting drug users, although it is not common.

**Key points**

- Infection by blood-borne viruses – especially hepatitis B, hepatitis C and HIV – is a significant risk for injecting drug misusers.
- The infections are spread primarily by blood, though hepatitis A and certain other pathogens are water-borne.
- Hepatitis C has a relatively high presence in Scotland. There is no protection against HCV by immunisation.
- Drug misusers can be advised on how to reduce these risks, and can be supported with testing and medication if they become infected.
- HCV can be cured by treatment with peginterferon-alfa and ribavirin.

In Chapter 4, the key measure of clean injecting equipment, which can be obtained through needle exchanges, will be reviewed.
Activity responses

Activity 3.1
Responses
(a) HBV is a blood-borne virus, so advice would include avoiding any activity that involves other people coming into contact with the patient’s blood. Also, patients should:
- avoid unprotected penetrative sex
- in the case of drug injectors, avoid the sharing of equipment
- avoid donating blood.
(b) You should review the Viral Hepatitis section (Peginterferon alfa-2a, lamivudine, adefovir dipivoxil, entecavir) in the most recent version of the BNF.

Activity 3.2
Response
The rate of HCV infection between partners is low (estimated at 3% in a lifetime). The main issue is to avoid passing on the infection in blood. You should advise your patient to avoiding sharing injection equipment and to take care when cuts and scratches occur. He or she should also be advised that infected blood can be passed on through toothbrushes and razors, and through tattooing and ear-piercing procedures. In relation to avoiding exacerbating their condition, you can advise your patient that smoking tobacco and drinking alcohol (even in moderation) can accelerate progression of liver disease.

Activity 3.3
Response
Hepatitis facts

<table>
<thead>
<tr>
<th>Hepatitis</th>
<th>Faecal/water-borne</th>
<th>Blood-borne</th>
<th>Vaccination available</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAV</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>HBV</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>HCV</td>
<td>no</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>
Activity 3.5

Response
Provided they don’t share injecting equipment, there is no particular medical danger in this friendship. If Lucy is HIV positive, Chrissy should be aware of any infection risks that may occur to her (and her children). Accidents can occur with mislaid equipment. Chrissy should be warned that using heroin ‘on top’ of methadone is risking overdose problems. Both Chrissy and Lucy would be well-advised to have an HIV test: discussing the options between them would be helpful.

Activity 3.7

Responses
(a) Reverse transcriptase inhibitors work by trying to prevent the virus entering the host cell.
(b) Protease inhibitors try to prevent the cutting up of chains of viral proteins produced by the host cell to make new infectious viruses.
(c) Fusion inhibitors try to stop the virus merging with the host cell.

Activity 3.8

Response
Since methadone interacts with many antiretrovirals, methadone doses may have to be altered depending on antiretroviral therapy. The HIV-drug interactions database states: ‘Potential interaction that may require close monitoring, alteration of drug dosage or timing of administration’ for methadone with eight out of 11 antiviral drugs listed. The same warning is given for buprenorphine with all of them.
References and footnotes

2. Scottish Executive Action Plan for Hepatitis C, 2005
3. Full recommendations can be found in the current BNF under Hepatitis A vaccine.
5. See: http://www.show.scot.nhs.uk/SCIEH/infectious/hepatitisb/infhepatitisb.htm
8. See BNF guidelines.
9. See current BNF for full guidance.
20. See: http://www.avert.org/needlestick.htm
# Chapter 4 Needle Exchange

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<td>References and footnotes</td>
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</table>
Chapter 4 outlines the purpose as well as the legal and ethical issues of needle exchange schemes and debates the issues around provision of such schemes from a community pharmacy.

As we have seen in Chapter 3, the sharing of needles and associated injection paraphernalia represents a major risk of harm to injecting drug users from infection with blood-borne viruses and bacteria.

The rapid increase in drug injection practices in Scotland in the 1980s led to major public health concerns, particularly following the identification of numerous cases of infection with the Human Immunodeficiency Virus (HIV) in the Edinburgh area. The threat of HIV infection has subsequently decreased due to swift action by various agencies and widespread publicity about the dangers of sharing injecting equipment, but HIV transmission among injecting drug users, although rare, is still occurring in Scotland.

Needle exchange schemes have played a major part in reducing a major HIV infection epidemic.

High rates of infection for HIV and HCV can be attributed to the sharing of injecting equipment, particularly involving needles and syringes. Similar problems have been reported in other countries, with high rates of HCV infection rates among drug injectors in countries where needle exchange services are less well established than in the UK, such as Spain and Italy. The presence of thousands of patients with hepatitis living in the community increases the risk of spread. This raises serious questions not only about threats to the health of individual injecting drug users, but also to public health.

Activity 4.1

‘According to the anti-litter organisation ‘Keep Scotland Beautiful’, over the last three years (1999-2002), 11 people have been injured by picking up used needles. They have been found not only in parks and playing fields but also churchyards, abandoned cars and private gardens.’

This snippet was reported by the BBC (Scotland) in April 2002. Take some time to consider how serious the problem of carelessly discarded used needles is in your area. Do injecting drug users have access to a needle exchange scheme? If so, have behaviours improved since its introduction? If not, what impact do you feel a needle exchange scheme might have on this problem?
Objectives

When you have completed this chapter you should be able to:

- outline the aims and objectives of needle exchange schemes
- discuss the legal and ethical issues of these schemes
- suggest the elements that a pharmacy needle exchange scheme should be able to provide
- consider the reasons for and against the provision of a needle exchange scheme from your pharmacy.

The harm of sharing equipment

Harm comes to injecting drug users through sharing needles and other equipment used for injecting. Most injecting drug users do not start their drug-taking ‘careers’ with injection. Rather, they tend to adopt allegedly less harmful methods, such as smoking. Regular use of a drug like heroin, however, builds the body’s tolerance, and users may decide to switch from smoking to injection to get a stronger (and more cost-effective) ‘hit’.

As we have seen in previous chapters, injecting drug users risk harm of several kinds:

- harm from the drug itself
- additional risks from contaminated drugs
- infection by bacteria
- candida infection if lemon juice, vinegar or other non-sterile liquids are used to dissolve heroin or ‘crack’
- danger of injecting into an artery or doing damage to nerves
- danger from foreign particles included in the prepared ‘hit’ (such as cotton fibres from filters or particles from ground-up tablets)
- overdose.

For all of these reasons, injecting drug users should always be encouraged to move from injection to less hazardous ways of taking their drugs. Your objectives in reducing harm in this way can therefore be identified as:

- maintaining regular contact with the patient to help and advise him or her on health issues
- encouraging a shift in administration technique from injections - the most dangerous method of intake - to the much less dangerous oral route
- helping those who persist with injection to do so more safely.
How sharing equipment can transmit infections

The major risk comes from sharing needles and syringes, which can transfer both viruses and bacteria. The used needle (and the syringe) may contain traces of the first user’s blood. This is a particular risk if the user ‘flushes back’ into the syringe to ensure that all the drug in the syringe is removed and injected. Some blood is certain to be left in the syringe. Even if the user rinses and wipes the syringe in bleach solution, it is seldom perfectly cleaned.

Injecting drug users may sometimes have to re-use a needle and/or syringe because they do not have access to new equipment. If they find themselves in this situation, the recommended course of action is:

1. first, rinse the syringe and any other equipment to be re-used several times with clean water
2. second, flood it with undiluted household bleach
3. third, rinse out the bleach with more clean water.

Activity 4.2

The recommended action for those who have to re-use equipment raises an issue that comes up many times when advising injecting drug users – the issue of interpretation of words and terms. In this case, how exactly would you define ‘clean water’ for the individual? Our response is given at the end of the chapter.

The injecting equipment or paraphernalia

Pharmaceutical-grade heroin (diamorphine hydrochloride) is a white powder. The hydrochloride makes it soluble in water. Street heroin, the usual source of supply for injecting drug users, is a greyish or brown powder that is not soluble in water and which may be ‘cut’ with adulterants. To make an injectable mixture, it needs to be turned into a soluble salt by mixing with an acid eg. citric acid or lemon juice and a small amount of water. Even ‘uncut’ street heroin will not be 100% diamorphine as it will also contain intermediate products from the ‘manufacturing’ process.
Several pieces of equipment and substances (‘paraphernalia’) are required for preparing drugs for injection:

- *a preparation surface* is required on which the injecting drug user can place his or her equipment.
- the powder is put into a *heat-resistant container* (a ‘cooker’, which is often a tablespoon).
- depending on the type of drug being prepared, an *acidifier* may be necessary to help dissolve the drug.
- *water* is required to mix the drug and liquefy it for injection.
- *some form of heat source*, such as a *cigarette lighter or match*, needs to be available to help dissolve the drug.
- once the drug is dissolved, a *filter* is submersed in the solution in the ‘cooker’; the powdered drug may contain sediments, so the solution is usually drawn into the syringe through a filter such as a cotton bud or *cigarette filter* (users often use antiseptic swabs for this purpose).
- a *jug or bowl* of water is often used to rinse and flush the needle after use.

All these pieces of paraphernalia may present a risk of transmitting bacteria or a virus.

**Injection culture**

The Scottish Executive’s Effective Intervention Unit (EIU) funded research into injection procedures in 2002. The research team directly observed thirty injecting drug users in Glasgow injecting on 53 separate occasions. Forty eight of these events were recorded on video and analysed, showing that group-injecting events usually involved cohabiting partners (16 out of 30 events witnessed) either by themselves or in conjunction with family members, friends or acquaintances.

The Glasgow research team did not observe a single occasion during which the preparation surface was wiped before use, and the surface was visibly unclean in 15 out of 63 events. The majority of observed episodes involved the use of a cigarette lighter to heat the solution. Other sources included a cooker hob, a burning medi-swab and a burning candle. In the majority of cases, the powder was mixed with the aid of a stirrer: participants used the cap from a needle/syringe on 26 occasions, and the plunger end of a 1 ml syringe on 20. A penknife was used on four occasions, the front end of a 2 ml syringe on three, and a nail file and a paperclip were each used once.

Participants considered the drug ready to be drawn into the needle/syringe at the end of the preparation stage. In 38 of the 47 preparation episodes involving more than one injecting drug user, a single prepared drug solution was divided among the group.

There are multiple ways of ensuring an even divide of the drug solution in these circumstances. One method involves ‘frontloading’ and another ‘backloading’, terms used to describe the process of transferring liquid from one syringe to another. ‘Frontloading’ involves squirting the drug solution from one syringe through the needle attachment aperture on another syringe, the plunger of which has been drawn back to leave a void. ‘Backloading’ is the practice of transferring the solution from one syringe to another by removing the plunger from one syringe and squirting the solution through the needle attachment of another into the back of the syringe.
Another method involves drawing the whole amount into a syringe to measure the total volume of liquid in the ‘cooker’, and then squirting an agreed portion back on to the cooker to allow the other user(s) to draw up their portion into their needle/syringe. Within the study group, however, the preferred method was to pre-measure the water before adding it to the cooker. Once this had been done and the drug dissolved, participants drew up their portion of the solution and checked the syringes to ensure each had the same amount. Each individual’s share could be drawn up into his or her syringe consecutively or simultaneously.

**Activity 4.3**

In the procedures described above, how can an infective agent be transferred between users? What other risks are present? Our responses are at the end of the chapter.

Cohabitants and injecting drug users sharing the same accommodation who were featured in the Glasgow survey acknowledged that there was a potential mix-up of needles/syringes when they were stored loose in the same place. Only about a quarter of users had some method of distinguishing their own needles.

A total of 82 needles were used in the 103 injection episodes observed (some participants re-used their needle/syringe in more than one episode). The needles/syringes were disposed in various ways:

- 25 were disposed into a sharps bin obtained from a pharmacy needle exchange (these needles/syringes may still be used again; the research team witnessed participants retrieving and re-using needles/syringes from sharps bins on a number of occasions).
- 10 needles were placed into a plastic bag from the pharmacy, 10 into a drawer, seven into a spectacles case, four into a wallet, two into a rubbish bin, two into a cupboard and two into a plastic box.
- 20 needles were not disposed of during the time the researchers were present, but were left lying loose on the preparation surface.
Activity 4.4
The Effective Interventions Unit (EIU) survey of injecting drug-user behaviour in Glasgow cited in the main text questioned why risky behaviours are continuing despite safer injection messages and the availability of unused clean needles.

What do you think? Make some notes, then compare with our responses at the end of the chapter.

Most participants maintained that despite greater awareness of the consequences of unsafe injecting, they would still engage in risky practices in certain situations. Many said they would use or consider using another injecting drug user’s previously used needle/syringe if they were experiencing severe withdrawal effects or did not have a needle/syringe of their own.

The EIU report states:

‘Other factors shaping an individual’s injecting practices include naivety, bereavement, laziness, tendency towards short-term thinking and homelessness. Homelessness could lead to the practice of outdoor injecting. Those who inject outdoors have no access to running water, cannot stock up on sterile injecting equipment, and do not have the luxury of being able to take their time in the preparation process.’

One other important observation was that an injector might use the same finger to press on the injection sites of several injectors, consequently risking the transfer of blood.

Needle exchange schemes
Scottish community pharmacies have been less frequently involved in the development and provision of needle exchange schemes than those in England and Wales. This doesn’t represent a lack of interest, however; rather, it is largely due to the fact that before funded needle exchange schemes were officially launched in 1992, most Scottish pharmacies selling clean injecting equipment didn’t ‘exchange’ them for dirty equipment, and consequently didn’t fulfil the exact terms of the definition of a needle exchange scheme. The number of pharmacies now involved in official schemes is slowly growing (see below).5

Needle exchange schemes – some issues
People can share syringes and other injecting equipment for the sake of convenience (as between drug-using partners), out of sociability, or from a shortage of money. The difficulty of obtaining new needles and syringes at the required time of day or night is often a significant factor. Studies in Glasgow in relation to the spread of hepatitis C have found some evidence that needle exchanges reduced risk behaviours such as sharing needles and injecting equipment.
Activity 4.5
What might be the arguments against implementing a needle exchange service? Does providing clean needles encourage more drug injection? Make some notes on your thoughts now and return to them when you complete the chapter.

The aim of needle exchange schemes first set up in the 1980s was to prevent the spread of HIV among and from the injecting population. That aim still remains valid today, but there is an additional need to minimise the spread of hepatitis, especially HCV infection. Needle exchange schemes ‘serve to limit the spread of blood-borne infection’.6

There are significant differences in the amount of sterile needles distributed to injecting drug misusers by NHS Boards in Scotland, however. Figures for 2004-05 show that in Fife, 1,124 injectors received, on average, 479 needles per year each – slightly more than one needle per day per injector. In NHS Argyll & Clyde (as was), each of the 2,199 injectors received an average of 57 needles per year, which gives an average of one needle every 6.4 days.7

Harm reduction strategies recommend needle exchange as a means of encouraging safer injection processes, but are controversial among the public and health professionals. At a policy level, some people believe that making clean needles readily available will only encourage injecting drug users by making their dependency easier to maintain. Needle exchanges are also sometimes confused by the public and media with unsupervised ‘shooting galleries’, which have been tried in some countries as a means of reducing the public nuisance caused by street use of injectable drugs. The Scottish Advisory Committee on Drug Misuse’s working group on drug-related deaths favoured safer injecting rooms targeted at high-risk homeless individuals in a report issued in 2005.8

Reluctance by Scottish pharmacists to adopt needle exchange schemes has been put down to their concern about perceived effects on other customers. But research7 has shown that, contrary to pharmacists’ expressed concerns, customers were supportive of needle exchanges being provided in pharmacies. Respondents felt that exchanges would help to minimise the risk of used needles and syringes being discarded carelessly.

As we saw in Chapter 1, some governments and professionals believe that providing clean needles can encourage more drug injection. The US government, for example, is against needle exchanges and has pressurised United Nations bodies not to publicise or support needle exchange facilities. By contrast, both the UK government and the Scottish Executive are committed to the concept of harm reduction. Indeed, the Association of Chief Police Officers Scotland (ACPOS) promotes harm reduction in its drug misuse strategy.
The evidence for needle exchange schemes

The results of research into the effectiveness of needle exchange schemes have been encouraging, with reductions in infection and no consequent increase in drug use reported (see Box 4.1). Advances such as this may be due to:

- the provision of clean needles helping to stabilise injecting drug users
- the increase in health advice and support that goes with needle exchange.

Box 4.1 The evidence for needle exchange schemes

- Needle and syringe exchange schemes have been shown to be associated with lower risk-taking behaviour.¹
- Numerous reports point to reductions in syringe-sharing risk behaviour among injecting drug users.
- Pharmacy-based needle exchange schemes have contributed to the reduction of sharing of used injecting equipment, and to the lowering of injecting risk behaviours.²


But while some risk reduction has been reported, it cannot be claimed that it has been eliminated. Needle and syringe sharing still continues among sexual partners and close friends, and even occurs among HIV-positive injectors. The EIU survey reported earlier in the chapter shows that risky behaviour continues even among drug injectors who believe they are ‘non-sharing’. This is due to sharing other drug-use paraphernalia, rather than needles and syringes.

Needle exchanges - pharmacy or agency based?

Most of the early needle exchange schemes were agency based. Drug agency schemes may present more barriers in some respects, but they often offer a greater range of services. Most offer specialist advice about:

- drug use
- information and counselling for drug problems
- advice about safe sex
- counselling before and after HIV and HCV tests
- primary health care
- advice on safe injecting techniques
- wound management
- referral to secondary services.
But there are significant advantages in providing needle exchange schemes through community pharmacies. For instance:

- pharmacy-based schemes present fewer practical and psychological barriers to drug injectors
- community pharmacies are more numerous and are more likely to be sited close to where injecting drug users live
- pharmacies are a vital source of other items the user may require, from condoms to analgesics and prescription medicines
- pharmacies are open-door enterprises, widely accessible during full shopping hours
- staff costs are lower in pharmacy-based schemes (as comparisons with agency exchanges in Glasgow have shown).

Limited evening opening hours and non-opening on Saturday afternoons and Sundays can pose a barrier, but new ‘out-of-hours’ services under the Community Pharmacy Contract in Scotland should help overcome this.

The significance in the differences between pharmacy and drug agency needle exchanges is related to the perceived underlying aims of exchange and the service agreements with the NHS Board. From a public health perspective, ease of access to sterile injecting equipment is the priority, and the question of individual help in other areas may be seen as less important. From the drug agency’s point of view, the ability to offer clients more services to respond to their wider needs is seen to be the priority.

**Distribution of Scottish pharmacy needle exchanges**

Although pharmacy needle exchanges have been in existence in England since the mid to late 1980s, they were not set up in Scotland until 1992, when revised NHS Pharmaceutical and Medical Regulations allowed for their introduction. The regulations permitted health boards to contract community pharmacies to provide free needle exchange services, provided the service was shown to be necessary or desirable. It has also been permissible for pharmacists to sell clean injecting equipment.

The need for the expansion of needle exchange provision came from the Scottish Needs Assessment Programme (SNAP) report on HCV and the Health Promotion Strategy Review Group Report on HIV. Subsequent Scottish Executive advice to Drug and Alcohol Action Teams required an increase in the number of outlets for needle exchange to reduce sharing of injecting equipment, including paraphernalia.

The number of needle exchange pharmacies has increased somewhat, but expansion has so far been limited by funding and the reluctance of pharmacies to take on this service. The number of community pharmacies offering the service in Scotland in March 2005 is shown in Table 4.1.
Establishing a needle exchange scheme

A number of issues affect you and your staff when considering setting up a needle exchange scheme. We will now look at these issues in turn, considering the practical points, legislative concerns and ethical dilemmas which may arise.

It should be remembered, though, that access to treatment in a pharmacy, including accessing pharmacy needle exchange facilities and harm reduction initiatives, is voluntary, and patients have a right to choose the pharmacy they use. Self referral is the most common route of access, but referrals are also accepted from a wide variety of other sources. You should be prepared to organise onward referral to specialist drug treatment services when necessary. Guidance should be available within each NHS Board.

Aims and objectives of a needle exchange scheme

Pharmacy needle exchanges aim to reduce injecting equipment sharing and other high-risk behaviours by providing sterile injecting equipment and other support and ensuring the safe disposal of used injecting equipment.

Table 4.1 Pharmacy-based needle exchanges schemes by NHS Board, March 2005

<table>
<thead>
<tr>
<th>NHS Board</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argyll &amp; Clyde (as was)</td>
<td>4</td>
</tr>
<tr>
<td>Ayrshire &amp; Arran</td>
<td>7</td>
</tr>
<tr>
<td>Borders</td>
<td>2</td>
</tr>
<tr>
<td>Dumfries &amp; Galloway</td>
<td>3</td>
</tr>
<tr>
<td>Fife</td>
<td>12</td>
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<tr>
<td>Forth Valley</td>
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<tr>
<td>Grampian</td>
<td>11</td>
</tr>
<tr>
<td>Greater Glasgow</td>
<td>26</td>
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<tr>
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<td>Tayside</td>
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<td>Western Isles</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>136</strong></td>
</tr>
</tbody>
</table>
Needle exchange schemes are now generally regarded as an essential part of strategies aimed at preventing the transmission of blood-borne viruses, particularly HIV/AIDS and hepatitis. Ideally, pharmacy needle exchanges should be able to provide:

- clean injecting equipment to injecting drug users, free of charge
- a safe disposal system for returned and used injecting equipment
- new needles and syringes in exchange for used equipment
- written information about HIV, hepatitis A, B, C and other blood-borne diseases
- written information and advice on safe sex
- written information about agencies giving confidential advice on drug use
- advice and care for injection-related injuries
- written information on safer injecting techniques
- written information on overdose

You need to think about the following issues to ensure the scheme is as safe as possible for pharmacy staff and the public:

- all pharmacy staff should agree to, and understand the operation of, the scheme
- the scheme should be acceptable and accessible to injecting drug users
- training and education should be provided for pharmacy staff in drug misuse, hepatitis A, B, C, HIV and blood-borne diseases
- there should be a contact point for pharmacists to discuss problems in operating the scheme
- pharmacists and staff should be encouraged to be immunised against hepatitis B.

**Practical and legal issues**

The Royal Pharmaceutical Society of Great Britain (RPSGB) produces guidance for pharmacists involved in needle exchange within the Medicines, Ethics and Practice Guide (current). The key elements from this are the following.

**General advice**

Pharmacists not participating in a needle exchange scheme may be asked to supply injecting equipment to drug misusers. Needles and syringes may be sold in these circumstances, but pharmacies should have a properly designed sharps container on the premises to facilitate the disposal of used injecting equipment. Purchasers of needles and syringes should be advised of the availability of disposal facilities at the pharmacy and should be encouraged to dispose of used equipment safely. They should also provide information on the availability of local needle exchanges, both by pharmacies and other agencies.
Standards for pharmacists
These are set out in Paragraph 17 of the guidance, and state:

- the pharmacist must be aware of local facilities for drug misusers and have established contacts with other health care professionals involved in the care of drug misusers
- all staff must be made aware that the pharmacy provides a needle exchange service and must be informed of the risk of infection, with precautionary measures being taken
- only appropriately trained staff should be permitted to be involved in a needle exchange scheme
- supplies of needles and syringes must be made by the pharmacist or appropriately trained staff
- clients must be encouraged to return used contaminated equipment, but clean equipment must not be refused if they omit to do so
- used equipment must be disposed of, normally by the client, in a properly designed sharps container available in the pharmacy
- suitable arrangements must be made for the disposal of full sharps containers.

The Scottish Executive Health Department (SEHD) also provides guidance and updates legislation from time to time. The key document for pharmacists is the Prevention and Treatment of Substance Misuse - Delivering the Right Medicine: a Strategy for Pharmaceutical Care in Scotland strategy, published in 2005.12

An example of a Standard Operating Procedure (SOP) for community pharmacy needle exchange services is shown as an example at Appendix 1 (based on one developed by Lloyds Pharmacy). More guidance is available from the National Pharmaceutical Association (NPA).

Supplies of equipment
This includes not only the supply of injecting equipment, but also measures to ensure that the most appropriate sizes of needle and syringes are supplied for the patient’s needs. People who inject heroin intravenously will need a different size of barrel and needle to those required by users of anabolic steroids. Tact and a non-judgmental attitude will be required to identify the relevant information swiftly and in as much privacy as possible.

Sets of needles and syringes are now commonly supplied in packs. An injecting drug user might use up to five syringes a day, and you may be asked for a week’s supply at a time. The Lord Advocate’s guidance (which updates the previous guidance in MEL (1998) 55) on quantities that can be supplied is now:

- 20 sets on the first visit
- 60 sets on subsequent visits
- an exceptional upper limit of 120 for holiday periods when facilities are closed or where facilities are difficult to access.
The precise supplies permitted in a needle exchange scheme will depend on your NHS Board’s policy. Typically it may include:

- 1 ml fixed syringes (insulin type)
- 2 ml barrels with either short or long blue needles
- swabs
- personal sharps containers.
- citric acid sachets
- information sheet

**Activity 4.6**
Can you think of other supplies your pharmacy would need if it was to operate a needle exchange scheme for injecting drug users? Our response is at the end of the chapter.

The Lord Advocate’s guidance states that pharmacies will not be prosecuted for reckless conduct, provided they operate within the limits of his guidance.

**Safe custody**
Supply and collection of equipment should be carried out by the pharmacist or a trained member of staff. Packs should be kept out of view of the patient but within easy reach of the supply point.

You should always supply an individual sharps container. You cannot expect injecting drug users to return used equipment in a sharps container if you have not supplied one in the first place. The safety of your staff and yourself is dependent on safe operation of the exchange process.
Exchanges

Both Scottish Executive Health Department (SEHD) guidance and RPSGB Standards and Practice Advice require that, whenever possible, an exchange of new for old should take place. It is essential to recognise, however, that there will be occasions when it would be counterproductive to oblige injecting drug users to meet this ‘one-for-one’ requirement. You should nevertheless still remind the user that an exchange is operating and that used equipment should be disposed of safely, preferably by returning it to the pharmacy or to a drug service exchange.

One reason for encouraging needle exchanges is to reduce the irresponsible dumping of needles and syringes in public places, and to reduce risks at home. While this is an important function, the main point of needle exchanges is to reduce the amount of harm occurring to injectors. It is always possible that unreturned equipment may be re-used.

The actual exchange should take place as quickly and discreetly as possible to avoid the attention of other customers and embarrassment to the patient. Ideally it should take place in an area of the shop that is private or is screened from full customer view, but this may be unrealistic for some premises. The Scottish Executive Health Department has made grant funding available to support the development of private areas in pharmacies. Your local specialist pharmacist in substance misuse or the Director of Pharmacy in your area will be able to advise you on how to apply for locally negotiated funding.

Activity 4.7

A new user asks for supplies of injecting equipment for the first time. How would you encourage her to return the used items?

When she next comes in for supplies, she does not have any returns with her. What action should you take?

Make some notes, then compare to our responses at the end of the chapter.
Safe disposal and destruction of returned waste

Whether your pharmacy is part of a formal needle exchange scheme or not, it is important for the safety of your staff, your customers and yourself that you have in place a well-understood written policy for the safe and secure handling of sharps waste.

All your staff should be aware of the sharps policy and comply with its requirements. A sharps policy is likely to include the following elements.

- Normally, returned ‘works’ should be accepted only if they are presented in a personal sharps container. You can encourage this process by ensuring that every client is always given a clean container with each supply of clean equipment.
- Any returns not in sharps containers should always be placed in the pharmacy bin by the injecting drug user.
- Handling of used equipment by pharmacy staff should be discouraged. There should never be any need for the pharmacist or a member of staff to handle returned injecting equipment, but if, under extreme circumstances, equipment has to be handled, the appropriate British Standard stout protective gloves should be worn. The use of tweezers or forceps may be appropriate.
- Surfaces should be cleaned either with a strong hypochlorite solution or, if this is inappropriate for the surface concerned, other recommended disinfectants. The top of the sharps container should not be left loose to make it easier to ‘pop’ returns into the container. Such a practice can be a hazard to both you and your staff.
- If the container supplied by the NHS Board has an entry hole that is too small to take returned personal sharps containers, this should be reported to your local co-ordinator who should be able to arrange for you to have one with a larger entry port.
- Needle exchange clients should be encouraged to deposit full individual sharps containers in the larger pharmacy bin themselves.

Your sharps policy should also include arrangements for transporting containers from their storage point within the pharmacy to the point from which Environmental Health Department personnel will make their collection. An NHS Board may grant contracts to pharmacies to provide this locally negotiated additional service where it is satisfied that the service is necessary or desirable. You need to contact your local NHS Board to be involved in the scheme. Guidance is awaited on this in relation to the new Community Pharmacy Contract and the recommendations from the Shipman Inquiry.

An example of a Standard Operating Procedure (SOP) for dealing with discarded sharps, body fluid spillage and abusive clients is shown as an example at Appendix 2, based on one developed by Lloyds Pharmacy. More guidance is available from the NPA and from the RPSGB Medicines, Ethics and Practice Guide (current).

Advertising pharmacy needle exchanges

Stickers advertising the availability of needle exchange can be placed in pharmacy windows. The most widely used is a ‘national’ logo that was developed in the North West of England. Although pharmacists are under no obligation to display the logo and advertise their participation in a local scheme, potential users may have difficulty accessing the scheme if no form of advertisement is available.
Advising injecting drug users

In spite of the increasingly widespread availability of clean injecting equipment, there will still be occasions when injecting drug users find themselves in a situation where they need to reuse injecting equipment. You can help these people by providing advice and information about safer injecting practices.

Selling injecting paraphernalia

A proportion of Scotland’s pharmacies that do not participate in needle exchange schemes are nevertheless willing to sell injecting paraphernalia. The RPSGB Standard requires them to have in place facilities for safe disposal of sharps returns and to encourage returns to be made.

Pharmacists who participate in needle exchange schemes may be asked within their contract to sell citric acid. Citric acid is used to help dissolve some types of street heroin in water. Until 2003, Section 9A of the Misuse of Drugs Act made it an offence for anyone to supply anything that could be used for the preparation and administration of a ‘controlled substance’. The Home Office changed the law in 2003, and since then it is no longer an offence for doctors, pharmacists and drug workers to supply swabs, filters, sterile water (up to 2ml), certain mixing utensils (such as spoons, bowls, cups and dishes) and citric acid to injecting drug users who have obtained controlled drugs such as heroin and cocaine without prescription. Some needle exchange pre-packs now contain 100 mg sachets of citric acid. In November 2005, ascorbic acid, which is preferred by ‘crack’ injectors, was added to the list of paraphernalia that is exempt from Section 9A.

People attempting to make purchases of items such as these provide you with an excellent opportunity to offer counselling on safer drug injection practices.

Advice on safer injection practices

Jamie is a problem drug user. He is sometimes homeless and has previously refused both methadone treatment and HIV tests. He shares needles and equipment and uses a mixture of drugs, often obtained from unreliable sources.

Jamie does not care greatly about health issues and he and his co-users engage in risky practices, sharing needles and equipment. One of Jamie’s friends says he likes to ‘flush back’ to ensure he’s taken the whole dose. This means back loading the syringe with blood after the injection and re-injecting it, guaranteeing that blood will be in the syringe and making it a possible source of infection.

After some difficulty, a friend has persuaded Jamie to visit your pharmacy to ask for needles and syringes. Jamie and his co-users are clearly at risk. Enquiries about whether he has any health or injury concerns or problems would be appropriate at this point.

Jamie is unlikely to take positive steps towards less risky practices and harm reduction until his lifestyle has become stabilised. If possible, he should be helped by other agencies to stabilise his lifestyle.Supplying injecting equipment may be part of this process. Jamie’s GP arrangements – assuming he has one – may need clarifying. Advising him to contact drug support workers would be a positive step. But perhaps the most useful thing for Jamie at this point may simply be assuring him that he can always get pressure-free help and advice from the pharmacy.
Activity 4.8
Chaotic injecting drug users like Jamie may genuinely want clean equipment to lessen their risks, or may be seeking the equipment for someone else. Make some notes on the kinds of issues you would need to take into account when Jamie presents his request to you, then read our thoughts, which are presented at the end of the chapter.

Generally, you can take the opportunity afforded when an injecting drug user requests needles or other paraphernalia to offer counselling on safer injecting practices, covering the following points:

- keep the needles and syringes safe and clean
- if using barrels with removable needles, use one clean needle for drawing up the liquid and another clean needle for the injection.

When injecting:

- find a vein
- use an arm, not the groin; there are arteries and nerves near the femoral vein in the groin which can easily be hit - if necessary, explain the difference between veins and arteries and the risks involved in hitting an artery.

An injector can be helped to find a vein by:

- clenching and releasing the fist
- rubbing and gently slapping the skin above the vein
- soaking the arm in warm water
- squeezing the biceps with the other hand
- if this doesn’t work, a tourniquet may help – but not made too tight.
The injection should be carried out slowly and with care to avoid damage:

- clean the site with a swab and make yourself comfortable; rest the arm so that it doesn’t move around while injecting
- insert the needle at around 45° in the direction of blood-flow to the heart (not against the blood flow)
- pull back to ensure the needle is in the vein
- remove the tourniquet if using one
- inject slowly and remove the needle when finished
- apply pressure to the site to halt any bleeding (a clean swab or new cotton wool)
- dispose of the equipment in a sharps bin.

Veins deteriorate with repeated injection, and trying to ‘dig around’ to find a vein risks hitting an artery and local infection which can cause cellulitis and abscesses. Useful advice to any injector is to:

- change the injection site: the longer you leave a vein before re-using it, the longer the vein will last
- always use the smallest possible needle
- spend time trying to locate a good vein rather than ‘digging around’ for one
- don’t use alcohol or other drugs at the same time
- if you are unsure about the strength and nature of a new supply, divide it into two and inject twice with an interval between them
- inject when others are present and not in a place where you won’t be found if you overdose.

**Activity 4.9**

Much is made in the advice given to injectors about the dangers of hitting an artery, but what exactly are the dangers? Jot down some thoughts and compare to ours, which are set out at the end of the chapter.
Thinking of taking on needle exchange?

Whether you currently operate a needle exchange scheme, sell injecting equipment or are considering offering such services, it is important to keep your staff informed. Some staff will be concerned at the thought of injecting drug users coming into the shop on a regular basis. Others may see the exchange of clean injecting equipment for old as a valuable and necessary service to the local community. Whatever their views, they should be taken into consideration. Your staff should be offered the facts and be given an opportunity to discuss the benefits and risks of the service, how it will operate and what impact it will have on them.

If your pharmacy doesn’t provide a needle exchange service, this may be a good time to consider the possibilities.

Activity 4.10
Write down all the reasons in favour of providing a needle exchange scheme.

Now write down all the reasons for not doing so.

Who will you consult?

Which direction will you take?

Our suggestions are at the end of the chapter.
**Activity 4.11**
Return to the notes you made on the activity on arguments against implementing a needle exchange service, and whether providing clean needles encourage more drug injection. Have your views changed since completing the chapter. If so, how?

**Key points**
- The provision of clean syringe and needles and a higher standard of cleanliness with other injecting paraphernalia are of crucial importance in reducing the harm suffered by injecting drug users from infection by blood-borne viruses and other types of injury.
- Discarded needles present a risk to drug users, to their families and friends, and to the public.
- Workers in the health service can also be at risk from needles and other paraphernalia, and pharmacy staff need to be trained in safe disposal of exchanged equipment and the precautions they must take when infected blood may be present.
- There is a significant health advantage in needle exchanges being operated in pharmacies, which can provide a vehicle for regular, confidential and non-threatening overviews of the patient’s health.

In Chapter 5, we go on to review the medical treatment of drug misusers.
Activity responses

Activity 4.2
Response
For home use, clean water can simply be tap water which has been boiled and allowed to cool.

The supply of sterile water for injection was initially banned under the Misuse of Drugs Act 1971 as being "an article used for preparation or administration of a controlled drug". A change in the law in 2005 allowed ‘people engaged in the provision of lawful drug treatment services to supply Water for Injection (WFI) to drug misusers’. The change was made on harm-reduction grounds in recognition of the fact that the use of non-sterile water represented a risk to injecting drug users. Only ampoules of WFI of 2ml are licensed for supply as part of Needle Exchange.

Activity 4.3
Responses
The sharing of paraphernalia, which is seldom fully cleaned, can distribute infection. The cooker, water and filter may be suspect. Acidifiers may be uninfected, but commercially prepared lemon juice carries a risk of candida infection. Frontloading and backloading to divide liquid can transfer infection if the first syringe is contaminated. Dirty preparation surfaces and inefficient syringe use can allow unwanted small solids into the solution, creating a risk of vein damage and possible embolism.

Further risks exist from the process of injection: damage to blood vessels and tissues, and ingress of miscellaneous pathogens and emboli. The general advice to heroin-injecting drug users is to move from drug injection to the use of prescribed methadone.

Activity 4.4
Response
The EIU researchers believe that despite safer injection messages, harm reduction is only one competing factor among many considerations that contribute to an individual’s decision-making process during any injecting event. Contracting a blood-borne virus is considered a serious consequence by most injecting drug users, but is also viewed by many as a long-term risk in comparison with more pressing short-term concerns (such as the next ‘hit’). Injecting users were also heard to dismiss hepatitis risks on the lines of ‘well, 90% of junkies have got it anyway’.
Activity 4.6
Response

Some exchange schemes also dispense citric acid, filters and condoms.

Activity 4.7
Responses

Since you are contracted by your NHS Board to operate an exchange scheme and not just a supply scheme, you would be right to be concerned by the lack of returns from this patient. Safe destruction of used equipment is almost as important as the supply of clean needles and syringes. It may not be easy to persuade patients to return used ‘works’, but you should try to explain and encourage them of the need to return the used needles and syringes. You could do this by stressing:

- the danger of needles and syringes being found, especially by children, in the street, in rubbish bins, or in parks
- the likelihood of associated dangers of ‘works’ being used or shared by others
- the need to avoid poor publicity for the exchange service, which may ultimately result in closure if used equipment is not returned to the pharmacy
- the positive aspects of returning used equipment to the pharmacy (the increased number of new needles that can then be offered to the patient, for instance, which is dependent on the number of used items returned)
- the reduced likelihood of others, including her own children and visitors, receiving a needlestick injury from needles at home or outside
- the location of other needle and syringe exchanges and their opening times (since safe disposal may take place somewhere else).
Activity 4.8
Response
Jamie may be seeking needle and syringe sets for someone else, in which case you should make the supply. It is acceptable to collect on behalf of another person, particularly in cases such as this, where the individual is using in a group situation (a common practice). You should take the opportunity (when appropriate) to reinforce harm-reduction messages and the dangers of sharing equipment and paraphernalia. The essential message is the use of clean equipment by anyone who is injecting drugs.

If our patient Chrissy, who occasionally injects heroin as a social 'treat', comes in to request needles and syringes, it might indicate that her methadone dose is currently too low and she feels the need to 'top up' with heroin. This is a very dangerous practice, so the opportunity should be taken to discuss the methadone prescription and any other issues Chrissy may have.

Needle exchange is a confidential service, and there would be no question of you 'reporting' Chrissy as a possible injector to her methadone prescriber. But if you have concerns that the methadone dose is too low – for whatever reason – it would be appropriate for you to act as an intermediary or advocate with the prescriber.

Activity 4.9
Response
Injecting into an artery (which the injector may notice if high-pressure arterial blood pushes back into the syringe) can be serious:

- the artery can go into spasm and interrupt the supply of oxygenated blood to the tissues
- the injected substance can block the artery, interrupting the blood supply to the tissues the drug can be transported into and block capillaries in the tissue, causing their breakdown
- gangrene can result, with potential loss of a limb.

For those who hit an artery by mistake or otherwise, advice should be to:

- immediately withdraw the needle
- do not complete the injection
- put strong pressure on the site for at least 15 minutes
- raise the affected limb if possible
- seek medical advice.
Activity 4.10

Response

You might have written down quite a lot under both headings! Perhaps the best idea at this stage if you are interested in pursuing a needle exchange service is to contact your NHS Board or talk to your local pharmacy needle exchange co-ordinator about the practicalities of running the scheme.
A Standard Operating Procedure (SOP) for community pharmacy needle exchange services.

### PHARMACEUTICAL CARE FOR DRUG USERS

**Standard Operating Procedure**

<table>
<thead>
<tr>
<th><strong>Title</strong></th>
<th>Community Pharmacy Needle and Syringe Exchange Services</th>
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<tbody>
<tr>
<td><strong>SOP Number</strong></td>
<td></td>
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<tr>
<td><strong>Issue Date</strong></td>
<td></td>
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<tr>
<td><strong>Purpose</strong></td>
<td>To define the procedure of a needle and syringe exchange service (the service) provided in order to ensure that the service is conducted in a consistent, discreet, professional and safe manner.</td>
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<tr>
<td><strong>Scope</strong></td>
<td>The procedure applies to all employees participating in the provision of the service of the Pharmacy Procedure Manual.</td>
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<th><strong>Title</strong></th>
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Standard Operating Procedure

1 Local Contacts
1.1 The pharmacist on duty and trained members of staff involved in the provision of the Service (the Operators) must establish good working relationships with the service co-ordinator of the Drug Action Team (DAT) or any other drug misuse commissioning authority, drug addiction clinics and other workers involved in the care of drug users in the local area.

1.2 The Operators must be aware of the availability and contact details of similar facilities and all drug service agencies in the local area.

2 Operator Training
2.1 All service Operators must have read, understood and be familiar with this standard operating procedure and also undertake any other training required by the commissioning authority.

2.2 All employees must be briefed to treat all users of the Service (the Clients) with respect and courtesy.

2.3 All employees must be aware of and understand the Safe Use and Disposal of Sharps within a pharmacy.

2.4 Once the Service is in operation, any new employees should be briefed of its existence on their first day of employment. Appropriate training (as stated above) should be started within the first month.

2.5 The pharmacist should ensure there is always a trained employee available to provide the service during opening hours.

3 Vaccination
3.1 All Operators should be offered Hepatitis B vaccination and should sign a declaration form.

3.2 All Operators should have read and understood this procedure before carrying out the service.

3.3 Any new members of staff who join the pharmacy after the service has been introduced should be advised to acquire Hepatitis B vaccination.

3.4 Hepatitis B vaccination is normally available from individual general practitioners (GPs). If appropriate, contact your Line Manager for the funding procedure if the local commissioning organisation does not pay for the vaccination.

4 Service Advertisement
4.1 A logo recognised by the Clients regarding the availability of the service should be displayed in the window or main entrance door of the pharmacy. This is usually provided by the service commissioning organisation.

4.2 It is not a requirement to include information about the service in the practice leaflet “Our Services”. The pharmacist should discuss and agree with their Manager (if appropriate), whether such information will be included or not.

4.3 No other signs or advertisements should be displayed without the agreement of the service commissioning organisation and Manager.
5 Facilities Required
5.1 The service should be offered in the consultation area or a quiet area of the pharmacy where the Clients can request the service and seek advice from the Operator without being easily overheard by other customers.

5.2 A sharps container for the scheme should be safely located so that the Clients themselves can dispose of their used equipment, in personal small sharps containers, under the supervision of an Operator. The container should not be easily seen nor accessed by other customers.

5.3 A clinical waste collection service must be in place to collect the sharps containers from the pharmacy regularly. The frequency of this will depend on the uptake of the Service (normally once every two weeks), and will need to be agreed and regularly reviewed with the commissioning organisation. The commissioning organisation or collection contractor should be contacted for any problems with storage and collection. Any unresolved problems should be reported. The paperwork from the collection must be retained in the pharmacy for three years.

5.4 Replacement containers should be available when the full containers are collected. An emergency telephone number must be available to cover any instance where all sharps containers are full.

5.5 A sufficient quantity of clean injecting equipment and any other items for the provision of the service should be in stock at all times. The contents of which should be agreed with the commissioning authority.

5.6 The necessary records must be kept in the format specified by the commissioning authority. These records must be secured for data protection.

5.7 The needs of installing security cameras, video or mirrors, or employing a security officer should be discussed with the Manager, whilst making sure the confidentiality of the Client is maintained.

5.8 Additional items specified should also be stocked in pharmacy for providing the service and dealing with contaminated waste.

6 The Exchange Procedure
6.1 The service should only be carried out by the Operators as specified in Sections 1, 2 and 3.

6.2 Clients must be treated with due respect and courtesy. The service should be delivered in a friendly, informal and non-judgemental manner.

6.3 Stocks of equipment for the service should be stored in such a manner as to facilitate a speedy and discreet transaction.

6.4 All Clients will be required to provide a minimal amount of information, e.g. their initials or the first part of their postcode when presenting. (The exact information required should be confirmed with the commissioning organisation.)

6.5 Used needles and syringes must be contained in a personal sharps container before presenting to the Operator. Clients must seal the personal container and place it in the pharmacy sharp container themselves. Under no circumstances should the Operator handle the personal sharps container due to the risk of Hepatitis B and C.
6.6 If a Client would like to return used needles or syringes without a personal sharps container, the Operator must hand over a clean personal sharps container to the Client who must then put all the used equipment in the container, seal it and place it in the pharmacy sharps container. Loose needles or syringes must not be accepted.

6.7 If a Client does not have anything to return, the Operator should ask how the used equipment has been disposed of. The Client should be strongly encouraged to make returns in the future.

6.8 An encouragement system should be set up, rather than a ‘penalty system’, for example, Clients could be provided with leaflets and information relating to other services and safer injecting practices. These are supplied from the commissioning authority and should be stored with the packs.

6.9 Clean equipment and any other items provided in the Service should be issued discreetly.

6.10 A personal sharps container should be provided at each transaction. If a Client refuses to receive the personal sharps container, the Operator should encourage the Client to use one by explaining that no loose equipment will be accepted and stressing the advantages of using such containers, e.g. quicker transaction at the next exchange, etc. Some Clients may not wish to take a sharps container because of the fear that they could be identified as drug users by their friends or family. This is especially common when a bright-coloured or bulky container is offered. Depending on local agreement, these Clients could be issued with a dark-coloured, smaller or more discreet container. Refusal to use a personal sharps container should not necessitate refusal to accept the equipment as long as the Client agrees to place them in a personal container at the point of exchange.

6.11 Any necessary paperwork or electronic recording should be completed immediately after the exchange.

6.12 At the end of each month or the locally agreed period, all relevant paperwork must be sent to the service commissioning organisation for payment and the value claimed for should be recorded on the Monthly Returns Sheet (MRS).

6.13 If all the sharps containers are full and no empty container is available, no used equipment should be accepted until such time as replacement sharps containers are received. All Clients should be referred to the nearest alternative needle exchange or sharps disposal service. The Operator should contact the commissioning authority for dealing with such an instance.

7 Changing the Sharps Container

7.1 Once the sharps container is three-quarters full, it should be sealed and stored safely to await collection and replacement by a clinical waste collector.

7.2 Every collection of sharps containers requires the completion of a waste transfer note and/or a special waste consignment note. All the paperwork must be kept for three years, as a statutory requirement.

7.3 The sharps container should only be changed by an appropriately trained Operator.

7.4 Cuts and abrasions on any area of exposed skin should be covered with a waterproof and breathable dressing.
7.5 Disposable gloves must be worn when changing the sharps container to minimise risks relating to viral permeability. The gloves must then be disposed of in the sharps container.

7.6 The container should be sealed before moving. It should only be transported by the handle.

7.7 If any loose needles or syringes or spillage are found, procedures stated in Section 8 or 9 should be followed.

8 Dealing with Discarded Sharps and Needle Stick Injury
8.1 Please follow the procedure stated in the Standard Operating Procedure on how to Deal with Discarded Sharps, Body Fluid Spillage and Abusive Clients.

9 Body Fluid Spillage, Spillage Contact to Skin, Eyes or Mouth and Abusive Clients
9.1 Please follow the procedure stated in the Standard Operating Procedure on how to Deal with Discarded Sharps, Body Fluid Spillage and Abusive Clients.

10 Client Confidentiality
10.1 Client confidentiality is of paramount importance, as with any other pharmaceutical services we offer. Please refer to the Medicines, Ethics and Practice (Section 2, Part 2) for further information.

10.2 The service must be confidential. All employees must respect and protect the confidentiality of the Client. This duty extends to any information relating to a Client acquired in the course of providing the Service.

10.3 Confidential information includes any personal details and drugs used, both prescribed and non-prescribed.

10.4 Clients who access the service may also be prescribed methadone. Many prescribers regularly test the urine of Clients for other concomitant illicit drug use and it should be through this mechanism that any breach of treatment contract is detected. Unless it is pre-agreed otherwise, the Operator must not report such incidents to the prescribers as this is breaking the confidentiality of the Client concerned.
Appendix 2

A Standard Operating Procedure (SOP) for dealing with discarded sharps, body fluid spillage and abusive clients.

PHARMACEUTICAL CARE FOR DRUG USERS

Standard Operating Procedure

Title: Dealing with Discarded Sharps, Body Fluid Spillage and Abusive Clients

SOP Number:

Issue Date:

Purpose: To define the procedure for dealing with discarded sharps, body fluid spillages and abusive Clients in order to minimise the health and safety risk to the employees and customers of Pharmacy.

Scope: The procedure applies to all employees and contractors working in the pharmacy.

Written by

Approved by

Authorised by

Implementation Date

Review Date
Standard Operating Procedure

1. Dealing with Discarded Sharps

1.1 If any discarded needles, syringes or any other contaminated sharps are found, the pharmacist on duty must be informed immediately.

1.2 The following procedure is only applicable to removing sharps on the premises. Discarded contaminated sharps found external to the premises (e.g. in the rear garden) should be reported immediately. Do not attempt to touch or remove the sharps yourself.

1.3 Persons clearing up the sharp must have read this procedure and signed a Hepatitis B declaration form.

1.4 Customers and all other employees must be warned not to touch or attempt to move such items and should stay well clear from the affected area.

1.5 Any cuts or abrasions on the skin must be covered with a waterproof and breathable dressing.

1.6 When dealing with an incident, ensure appropriate protective disposable gloves are worn.

1.7 The area where the sharp is located should be cordoned off and a sharps bin taken to the area. The sharp should only be removed with a long reacher to the sharps container. The area should then be wiped with an appropriate disinfectant or a solution of bleach.

1.8 Ensure that manufacturers’ guidelines are followed when using disinfectant or household bleach. Also ensure that the area is well ventilated whilst doing this. It may also be necessary to test the products on a small area of surface to ensure that the floor or work surface is not damaged in any way. The bleach should be diluted 1:10 with water and left in contact with surface for at least 2 minutes.

1.9 Once the area has been adequately cleaned, any swabs or wipes used should be treated as contaminated clinical waste, and disposed of into a waste container.

1.10 Personal protective equipment should only be removed at the end of the procedure and must also be disposed of as contaminated clinical waste into a waste container or cleaned with disinfectant or bleach according to manufacturers guidelines.

1.11 After removal of all personal protective equipment the hands should be thoroughly washed with bactericidal soap and water.

1.12 Finally the incident should be recorded within an Accident Report Book and the Internal Accident Report Form, if available in your organisation/pharmacy.

1.13 If for any reason this procedure cannot be followed, all staff must be kept well away from the affected area. Contact your manager for further assistance.

1.14 Sharps containers should be collected for disposal in accordance with the arrangements made by the local service commissioning organisation. If there are any problems regarding storage and collection of these containers, e.g. supply of containers or collection frequency, the commissioning organisation or the collection contractor should be contacted.
2. Dealing with Body Fluid Spillage
2.1 If a spillage kit is provided by the local Health Board, this kit and the relevant procedures should be used.
2.2 On discovery of any kind of body fluid spillage, e.g. blood, vomit etc., the pharmacist on duty must be informed immediately.
2.3 Persons clearing up the spillage must have read this procedure and signed a Hepatitis B declaration form. Customers must stay clear from the affected area.
2.4 Any cuts or abrasions on the skin must be covered with a waterproof breathable dressing.
2.5 When dealing with these incidents, ensure you wear appropriate protective disposable gloves.
2.6 A clinical waste container should be carried by the handle to the location of the spillage.
2.7 Soak up as much of the spillage as possible, using absorbent material, e.g. paper towels.
2.8 All used absorbent materials should be immediately ‘double bagged’ within two plastic bags and placed in a clinical waste container.
2.9 After collecting all the spillage, the area affected should be sprayed with disinfectant or wiped with a bleach solution (1 part household bleach to 10 parts water). Ensure that manufacturers’ guidelines are followed while using these products, and that the area is well ventilated.
2.10 Once the area has been adequately cleaned, any material or equipment used should be treated as contaminated clinical waste and be placed in the waste container.
2.11 Personal protective equipment should only be removed at the end of the procedure and must also be disposed of as contaminated clinical waste into the container or cleaned with bleach or disinfectant following manufacturers guidelines.
2.12 After removal of all personal protective equipment the hands should be thoroughly washed with bactericidal soap and water.
2.13 The incident should be recorded within the Accident Report Book, in your pharmacy and an Internal Accident Report Form, if available in your organisation/pharmacy.
2.14 If for any reason this procedure cannot be followed, ensure all employees and customers are kept well away from the affected area. Contact your Manager immediately for further assistance.

3 Required In-Store Equipment
3.1 The items specified for dealing with contaminated waste should be available in all pharmacies. Ordering details should be made available.


4 Needle Stick Injury
4.1 In the unlikely event of a needle stick injury, the following procedure should be followed.
4.2 The wound should be encouraged to bleed immediately.
4.3 The affected area should be washed thoroughly with bactericidal soap and water.
4.4 Contact the nearest Accident and Emergency (A&E) Department immediately for further advice and necessary treatment.
4.5 The incident should be recorded within an Accident Report Book and an Internal Accident Report Form, if available in your organisation/pharmacy.
4.6 Your manager should be informed immediately.

5 Spillage Contact to Skin, Eyes or Mouth
5.1 In the unlikely event of blood or other body fluid spillage getting in the eyes or mouth, or in contact with the skin, this procedure should be followed.
5.2 The affected area should be irrigated with copious amount of water.
5.3 If the skin is affected, it should be washed with bactericidal soap and water.
5.4 Contact the nearest A & E Department immediately for further advice and any necessary treatment.
5.5 The incident should be recorded within an Accident Report Book and an Internal Accident Report Form, if available in your organisation/pharmacy.
5.6 Your manager should be informed immediately.

6 Dealing with Abusive Clients
6.1 Inviting drug users into the pharmacy does not necessarily increase the risk of disturbance or violence. Past experience shows that such risk can be minimised by treating all Clients with due respect and courtesy.
6.2 In the unlikely event of a Client threatening or actually becoming violent, the procedures for dealing with this should be followed. These are summarised in the following subsections.
6.3 As an employee you have a responsibility never to place yourself, your colleagues or members of the public at risk.
6.4 Your workplace should be an environment where discussions about fear and other problems are not to be seen as marks of failure but as part of good practice.
6.5 Develop your own communication technique. It will help you to deal with verbal abuse without causing further aggression. Talk yourself out of problems.
6.6 Pacify rather than provoke the Clients who are focusing their aggression on you.
6.7 Stop and assess the situation. Think before you speak - consider the consequence of what you are about to say.
6.8 Consider whether the hostility is directed at you, the organisation or the individual themselves and try to react accordingly.

6.9 If you are in danger decide whether it is possible to leave the situation without further endangering yourself.

6.10 Consider whether another employee could handle the situation more effectively.

6.11 Never underestimate a threat of any kind and do not respond aggressively.

6.12 Stay calm, speak gently, slowly and clearly. Do not argue or be enticed into further argument. Avoid taking an aggressive stance (e.g. hands on hips or leaning forward).

6.13 Do not hide behind your authority, status or jargon. Tell them who you are, ask the person’s name and attempt to discuss the problem with them as reasonable adults.

6.14 Keep your distance and try to avoid looking down on the aggressor.

6.15 Never touch an aggressor unless in self-defence. Remember the law – you are allowed to use reasonable force to defend yourself, or to make a citizens arrest.

6.16 Encourage the person to move - to go for a walk and think about the problem or offer to compromise and talk through it.

6.17 If the threat of violence is imminent, try to keep away from potentially dangerous locations or articles.

6.18 If you have a CCTV System attempt to stand where it is filming.

6.19 Make a mental note of potential escape routes. Keep yourself between the aggressor and a door or barrier, such as a desk or counter.

6.20 Never turn your back – move gradually backwards if you need to escape.

6.21 If you manage to calm a situation down – do not let it flare up again. Choose your words and actions carefully, making a cautious but confident approach.

6.22 Go to the assistance of a colleague, but stay in the background.

6.23 Any such event should be reported to your Manager, who will advise as to what further action should be taken.
References and footnotes

1. For simplicity, the term ‘needle exchange scheme’ is used throughout, but schemes usually also involve the exchange of other paraphernalia, such as syringes.

2. Heroin in the form in which it is commonly available in Scotland requires an acidifier, while cocaine does not.


4. A training DVD based on the research is available from Exchange Supplies (01305 262244). See also: http://www.scotland.gov.uk/library5/health/eiuipus-00.asp.


11. This can be found in the Medicines, Ethics and Practice Guide.


13. Anabolic steroid users will require larger gauge needles and 2 ml, 5 ml or 10 ml barrels for use with oily depot steroid injections.
Chapter 5 Treatment Options

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Chapter 5 focuses on methods to deal with drug misuse such as substitute prescribing - particular emphasis on supervised methadone administration schemes, treatments available for withdrawal, measures to overcome relapse and how to deal with overdose situations.

People who misuse drugs are likely to cause damage to themselves and others. The mortality for a heroin user is 13 times that for the general population and, as we have already seen, they face numerous other dangers such as impure supplies, the potential of overdose, risks from the injecting process and hepatitis and HIV infection.

The aim of treatment and care is to:

- reduce the harm of taking drugs
- encourage a move away from injection
- encourage a reduction in the misuse of drugs
- move from the use of illegal to legal drugs
- help the patient to achieve a more stable life
- encourage a dose reduction of legal drugs without a resultant increase in the use of illegal drugs or alcohol
- help the patient to move towards abstinence, where this is possible.

**Activity 5.1**

What harms from drug misuse would you emphasise when you are advising and training pharmacy staff? See how your thoughts correspond with ours, set out at the end of the chapter.
Objectives

When you have completed this chapter, you should be able to:

- explain the role of methadone and buprenorphine in substitute prescribing
- organise and supervise methadone and buprenorphine consumption (self-administration)
- describe the withdrawal experience and the treatments that can help control it
- explain the extent of relapse and measures that can be taken to help overcome it
- explain to drug misusers how to react on encountering an overdose.

Treatment options

Activity 5.2
Take our three patients, Tom, Jamie and Chrissy.

Are they likely to move towards abstinence? What aspects of harm in their lives might you usefully address?

Our responses are at the end of the chapter.

A key response to dependency on heroin or other opioids is to provide a substitute that will maintain the drug misuser on a lower level of risk. Maintenance treatment should enable patients to achieve stability, reduce their drug misuse and criminal activity and improve health.

Treatment options in fact break down into seven categories (Figure 5.1).
Substitute prescribing is used because of the difficulty of achieving long-term abstinence from heroin and the high relapse rates of detoxified patients. The substitute opioids are methadone and buprenorphine, both of which are less risky to misusers than the illegal opioids they have been taking, especially as neither is administered by injection.

The broader benefits of substitute prescribing are seen as:

- reducing the spread of blood-borne viruses and other harmful consequences of drug injection
- reducing crime by reducing the misuser’s need to purchase illegal heroin and to find funds to finance the habit
- helping stabilise the misuser’s lifestyle and behaviour; this will open the door to better health and social care and, in some cases, to detoxification.
- more accurately determines the level of addiction since patients now receive a known quantity and strength of drug

Substitute prescribing should only occur where there is clear evidence of current opioid misuse. Patients who have stopped injecting opioids and are now taking them orally or by inhalation are also in a good position to benefit.

Methadone

The main drug used for maintenance in Scotland is methadone, though buprenorphine (buprenorphine hydrochloride as Subutex®) has recently become more widely used in England and Wales, and is also increasing in Scotland.

Methadone hydrochloride is a synthetic orally-active opioid with properties similar to those of morphine. It was first synthesised in Germany during World War II as an analgesic to replace natural opium.
Methadone has similar effects to heroin and other morphine derivatives. Users may seem euphoric (or apathetic), have slurred speech, clumsy behaviour, impaired attention and itching (especially in the nose).²

Methadone mimics the effects of heroin, but with three advantages:

- it does not produce the initial ‘high’ or ‘rush’ and consequently produces less dependency
- the euphoric and sedative effects last longer and a single daily dose is possible
- it works well for the user when taken orally, reducing the need for heroin injection.

In other respects, methadone closely resembles heroin in that it can:

- create dependency
- be subject to overdose
- be obtained and used illegally by a proportion of drug misusers.

A move from heroin to methadone, it is believed, tends to bring more socially acceptable behaviour, better physical health and improved personal relationships. Methadone treatment has been conclusively shown to reduce the intake of illicit drugs, but it is not a harmless substance. People can, and do, overdose, particularly in the early stages of methadone use, and if they:

- mix methadone with alcohol or tranquillisers
- take a ‘normal’ dose when their tolerance is reduced
- take it when they have severe liver damage
- simply take too much.³

Methadone maintenance programmes

Prescriptions for methadone have increased sharply over the past five years, according to the Scottish Executive. There were 274,450 prescriptions, or 53 per 1,000 population, in 2000-01; by 2004-05 this had risen to 408,877 prescriptions, or 81 per 1,000 population.⁴

So who enters methadone maintenance programmes? Patients who have had at least one year of injecting drug misuse are likely to benefit most.

Reasons why misusers may enter a methadone programme:

- genuine desire to come off heroin (small proportion)
- safety net - difficult to fund habit, hence methadone prescribed will reduce the funds required
- impending court case (lawyers may recommend this as a defence)
- partner is on methadone/heroin - may allow them to access more for their partner.

It is important to understand a patient’s motivation.
Patients – like Tom – who have attempted withdrawal and relapsed may also be suitable candidates.

Because methadone is an opioid and may be used unlawfully or redistributed to other users, control over its use is essential. A structured approach has been adopted in the UK, with supervised methadone consumption in community pharmacies. Patients attend a community pharmacy every day and take their dose under the supervision of a suitably trained member of pharmacy staff, subject to agreement between the pharmacy and the patient (see pages 154 and 161).

RPSGB Practice Guidance 3.1.4, *Practice guidance for pharmacists providing instalment dispensing services to drug misusers*, points out that the aim of the service is to:

- ensure the safe and appropriate use of methadone and other drugs of misuse supplied by instalment
- ensure that the patient for whom the drug is prescribed is the patient who receives it and takes it
- reduce the risk of ‘leakage’ or ‘spillage’ of drugs liable to misuse into the community.

Supervised self-administration is preferred to a take-home self-administration policy. Patients who take a dose away from the pharmacy cannot always be relied on to consume it personally, and doses may be shared or sold on. Patients may also fail to comply with their schedule or save up doses to get more of an effect, consequently putting themselves at risk of overdose.

If supervised consumption on the pharmacy premises is requested, it will be indicated on the prescription and should have been agreed in advance with the prescriber. It will also be subject to availability of a suitable area within the pharmacy. If the prescription requests supervised consumption and the pharmacy does not provide this service, you should refer the patient to a pharmacy that does. You should not provide a take-home dose instead as this would not be in line with the prescription and would be unethical.

Supervision of self-administration of methadone is a voluntary activity on the part of pharmacists. If ‘supervision’ is requested on a prescription the pharmacist must either supervise or refer the patient to another pharmacy where supervision will take place. A pharmacist cannot supply methadone unsupervised, if ‘supervision’ is ordered.

Maintenance treatment may continue for as long as the patient needs it – this may be ten years or more. A standard operating procedure (SOP) is needed to ensure the continuity of the service and that locum pharmacists are fully aware of the system. The protocol will cover new patients and the arrangements for daily dosing. An example of a SOP for community pharmacy drug substitute supervised consumption services developed is shown in Appendix 1, based on one developed by Lloyds Pharmacy. Further guidance is also available from the NPA.

**Dealing with patients taking methadone**

It is important to deal promptly with methadone-taking patients accessing your pharmacy: delays may cause difficulties, as patients might suspect they are being deliberately delayed or are simply being ignored.

It is advisable to have daily doses prepared in advance so that time can be saved, especially if the pharmacy deals with large numbers of patients taking methadone.
Our patient Chrissy says: ‘It’s good that they have the prescription ready in advance – there’s only been one time it was late, when the usual pharmacist was away. I collect and take my methadone at 2.15 and then I have plenty of time to go and get the kids from school’.

Some patients like having to go to the pharmacy every day, but others, like Chrissy who has children to manage, may not always be able to meet a fixed schedule. Agreements on timing must be negotiable!

All measurements should be double checked, then packed and labelled in standard dispensing bottles and stored in the controlled drugs cabinet. Any take-home doses should have a child-resistant closure.

Supervised methadone self-administration schemes involve observing the patient taking the dose, and a drink of water should be offered afterwards - the patient may initially dislike the taste of methadone and a drink can help with this. It also ensures that he or she swallows the dose. If the patient doesn’t have a drink, you should talk with him or her to ensure swallowing. This also helps remove methadone from the mouth, which benefits oral health - methadone may be implicated in oral health problems. Methadone can cause caries and cause erosion of tooth enamel - whether the sugar or ‘sugar-free’ versions are used. Pharmacists should not give the impression that ‘sugar-free’ versions are any better.

There is also the concern that the ‘sugar-free’ version can be injected, if prescribed ‘unsupervised’, and as a result has a higher street value.

Patients should be greeted on entry to the shop, so that they are treated like all patients and this ensures a response from the patient which helps staff detect if they have hidden objects in their mouth to absorb the methadone eg. dental packaging, cotton wool, tampons.

You should also check the angle of their head on swallowing the methadone as they can create a ‘well’ under the tongue, to take doses away.

Activity 5.3
Supervised methadone self-administration may be interpreted by the user as saying ‘you don’t trust me’. Think about how you would respond to a patient who takes this view, and then read our response at the end of the chapter.

Policies on ‘take-home’ doses are likely to reflect local guidelines and you should check with your local NHS Board area.
Most patients starting methadone substitution will be supervised daily (with a take-home dose for Sundays) for the first 3-6 months. After this, if things go well, home administration can be started. This may be delayed – or halted – if there is evidence of:

- continuing criminal behaviour
- unsatisfactory urine sample
- potential complications from concurrent disease
- an unstable home environment
- evidence that the patient is selling the dose or part of the dose.

**Methadone doses – ‘start low, go slow’**

Because of the risk of respiratory depression with opioids and the possibility that the patient is still taking heroin, a typical approach is to start the methadone dose quite low – 10-40 mg daily. The dose is then built up weekly by 10 mg until the user and the prescriber can agree on a suitable level.

Research in the USA shows that higher doses (up to 100 mg) are more effective in preventing illicit opioid use, but the preference in the UK has been to opt for lower levels. A take-home dose can be provided on Saturday for use on Sunday.

The National Treatment Agency for Substance Misuse (England) states that:

‘In British methadone treatment, doses are on average less than 50 mg daily and only just over a quarter of service users receive over 60 mg. Higher doses have been consistently shown to encourage treatment retention and reductions in illicit drug use in methadone maintenance regimes. Lower dose levels may be undermining the provision of optimal services and compromising the therapeutic relationship between service user and key worker. Recent research shows that responsive and flexible individualised dosing can help foster the therapeutic relationship and may lead to improved outcomes and reductions in illicit drug use.’

Drug misusers are more likely to stay on methadone when their appropriate dose is reached and when a degree of flexibility can be achieved. They do not like being told what they can have – they want to agree it with their prescriber.


Some methadone users may continue to use heroin periodically until a suitable methadone dose is reached; this titration process can take some weeks or even months. Such patients may sometimes show signs of intoxication. This should end when the suitable methadone dose is reached.

The prescription of methadone in tablet form is discouraged because the tablets:

- can be crushed and injected
- have a higher illicit market value (because they cannot be diluted by a dealer)
- do not allow as much dose flexibility as a liquid preparation.
Some pharmacists believe that providing measures to drug misusers may enable them to sell methadone on the illicit market. A daily-dispensed prescription does not strictly need a measure because it should be taken as a single dose. Some drug misusers, however, like to split their methadone doses, for example keeping some methadone to take last thing at night because they believe it aids sleeping.

Not all drug misusers asking for a measure are intending to sell their methadone. Individuals who get a week’s supply at a time will need means to measure their dose - it is safer to dispense in individual bottles to minimise potential accidental child overdoses.

Dispensing pumps
The use of pumps in methadone dispensing has increased in popularity over the last few years. They are of particular use in busy pharmacies dispensing to large numbers of methadone patients.9

Two types of pump are available - manual and automatic. Choice will be influenced by a variety of factors, including pharmacy environment factors (patient numbers and space, for instance) and factors related to the pump (cost, reliability, ease of use).

The advantages of using a pump are:

- Increased accuracy:
  - most pumps will be accompanied with a certificate of performance detailing the serial number of the pump and the measured accuracy, usually 0.1% to 0.07%
  - by removing the requirement to ‘read’ a glass measure correctly, accuracy of dose production is increased as problems associated with reading the meniscus, inexperience and the viscosity of the liquid are removed
- increased speed of dispensing, freeing up time
- easy checking of volume control
- consistent dispensing – volumes dispensed are more consistent, especially where more than one person is responsible for dispensing
- frequency and volume of spillages is greatly reduced
- level of breakage of glass measures is reduced
- the cost of the pump is more than offset by the reduced dispensing time for dose preparation, replacement of glass measures and dealing with spillages
- the dead space volume in the pump is approx 7 ml per pump per day, compared with a possible 1 ml per ‘patient-measured’ dose per day; the overall volume ‘lost’ during a year is therefore greatly reduced.

Photograph courtesy of Stuart Notman.

Brand Dispensette 3 methadone pumps with green liquid (sugar) and brown (sugar free).
There are also disadvantages, however:

- some pumps need to be sent away to be serviced or recalibrated
- replacement parts for some models may be difficult and/or expensive to obtain
- 2.5 litre glass Winchester bottles are the preferred reservoir for manual pumps, since the weight of the pump will cause a plastic bottle to be top heavy and topple
- Winchester bottle reservoirs must be stored in the controlled drugs cabinet, which may place added pressure on restricted storage space
- bench space is required for the pump and associated equipment during dispensing
- some pumps are particularly difficult to dismantle to ensure appropriate cleaning.
- initial setup costs.

The choice between manual and automatic pumps may be determined by a simple cost equation – a manual pump costs around £300, while the automatic may be priced at nearer £6000. Pharmacies will require two pumps if they dispense both sugared and sugar-free methadone.

If cost is not an issue, then consideration should be given to the areas shown below.

For manual pumps, choice of volume range is important. Many pumps are available and you should opt for the most appropriate range – 10 ml to 100 ml with 1 ml increments will cover most doses. Other important issues are set out below.

**Ease of use:**
- Can the pump be operated with one hand?
- How easy is it to set a dose volume?
- Can the filling arm be isolated from the pump – this is of particular use when the reservoir is empty and requires refilling. A valve at this point allows the contents of the pump to be recycled into the reservoir and aids re-priming of the pump. The contents of the pump will otherwise have to be emptied into a container prior to refilling and during re-priming.

**Reliability:**
- Will the pump stand up to the level of dispensing undertaken? Many of these pumps were designed for use in the scientific lab, and so are not designed for intensive use in busy pharmacies.
- Are the various components of the pump robust – check with suppliers about the frequency that spare parts need to be re-ordered.
- Will fitting spare parts require the return of the pump to the manufacturer, and if so, what are the costs?

**Accuracy:**
- Is the pump supplied with an individual certificate relating to the serial number?
- How frequently will the pump need re-calibration?
- Will re-calibration require the pump to be returned to the manufacturer?
- How is the accuracy of the pump to be measured?
For automatic pumps, the actual pump mechanism should be considered. There are three main types:

- **Peristaltic pumps** – a tube runs through a rotating wheel which squeezes the fluid through the pump
- **Piston-type mechanism** – this style may require recalibration after each dose change and replacement of parts more frequently; the piston is often lined by ceramic facings which become damaged over time, changing the internal pump volume and so requiring recalibration
- **Inductive pumps** - a relatively new technology that utilises magnets

*Peristaltic pumps* are the most popular.

Consideration should be given to the following.

- The point in the dispensing process where the pump will be utilised. If the doses are prepared in advance of the patient arriving at the pharmacy (such as a day ahead), pumps operated by foot pedals or hand switches may be appropriate. If the intention is to automatically dispense to the patient, however, pumps controlled by a computer-based program utilising patient identification technology and medication records will be preferred. This will, of course, increase the cost and introduces another level of complexity and potential problems.
- Computer-controlled pumps tend to be able to manage only one pump at a time – this will cause problems if sugar-free and the normal sugared methadone are both being dispensed.
- The same considerations on ease of use, reliability and accuracy apply as for manual pumps. Additional servicing requirements may apply, which may be of particular importance if the pump is purchased from abroad.
- Pump delivery times - 50 mls per minute will not decrease dispensing times.
- Space required for the pump, reservoir and delivery system.
- Reservoir capacity.
- Time taken and the procedure for refilling the reservoir.
- Calibration – is this required after each dose change?
- Dead space volume.
- Cleaning.
- Storage of the reservoir in the controlled drugs cabinet at night – will elements of the pump or the entire pump require storage space?

*Cleaning*

Pumps are expensive, sensitive pieces of equipment and should be treated with care. Methadone is acidic and very sugary; it is therefore sensible to ensure pumps are cleaned each night after use and maintained to their original standard. Automatic pumps may require a specific cleaning routine to adhere to warranty/servicing agreements. Manual pumps should be cleaned with warm soapy water, flushed through and left immersed overnight. In the morning, they should be flushed with clean, soap-free water.
Calibration
Some pumps require regular servicing and recalibration, which may result in them being sent out of the pharmacy for a period of time. Others may be recalibrated within the shop using online help. The accuracy of all pumps should be checked and recorded on a regular basis using the glass conical measures.

Treatment of side effects of methadone
The treatment of minor ailments is no different in patients receiving methadone than it is for other patients in the pharmacy. There are certain requests that may be more common in methadone patients, however, and some OTC drugs may cause problems or be ineffective.

Constipation can be a common side-effect of methadone treatment (and any opioid), poor diet and lack of physical activity. Short-term use of a stimulant laxative such as senna or bisacodyl would be the preferred treatment of choice. You should offer the patient advice on diet, fluid intake and physical activity. Patients with more severe constipation should be referred to their GP.

Many people taking methadone complain about insomnia. The problem should improve as the patient becomes more stabilised. It is not advisable to offer any OTC preparations. In cases of severe insomnia, you should refer the patient to their GP. The Good Sleep Guide may be helpful.

Dyspepsia can be treated as with any patient. An interaction may occur with OTC cimetidine100 mg but is unlikely to be clinically significant at the low dose of cimetidine involved.

Single-dose methadone does not provide much analgesia. Pain (from tooth decay, for example) is often prostaglandin mediated, and non-steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen may be of value.

Dental health problems can be an important issue for patients taking methadone. Some methadone mixtures contain 50% syrup, which promotes the growth of dental plaque (drinking water after taking the dose can reduce this effect). Methadone hydrochloride is also a strong acid which attacks tooth enamel, and methadone, like other opioids, reduces the production of saliva.

Some drug misusers blame methadone for the poor state of their teeth, but it is much more likely that a long period of poor self-care is the main cause. As we noted above, the single daily dose of methadone delivers less analgesia than the frequent injections typical of injecting drug users, meaning pain from tooth decay may be more keenly felt. Also, as their lives become more stabilised, patients on methadone may simply become more aware of the poor state of their teeth. Some misusers state that they have their own drink (bottle or can) to take following their dose, but they can then ‘spit out’ their methadone into this and sell it. Best to make sure they have a drink of water in the pharmacy which they finish and then ask them a few questions, to ensure they have swallowed everything.
Activity 5.4
A patient who is taking methadone complains to you about tooth pain and claims ‘this stuff is wrecking my teeth’. Another says that ‘methadone makes me feel ill’, and a third that ‘methadone is more dangerous than heroin – it causes more overdoses’.

As a pharmacist dispensing methadone, you are likely to hear these kinds of complaints and comments quite frequently. Make some notes on how you would respond, and what advice would you give to the three patients? Then check our responses at the end of the chapter.

Is methadone dangerous? As an opioid, it has its dangers, and is identified in the British National Formulary as being a special hazard for children, even in low doses. These dangers, however, are recognised to be significantly lower than are those associated with heroin dependency.

As Chapter 1 explained, methadone was involved in 72 of the 336 drug-related deaths in Scotland recorded in 2005. The lethal dose of methadone in a non-tolerant person is considered to be about 60 mg or even as low as 30 mg for opiate naive patients (it is much lower for children – 10 mg). A cumulative dose at a level such as 40 mg can also be fatal in cases where individuals have lost their tolerance. Care should be taken to keep doses low with people who may have low tolerance, such as those recently released from prison or police custody, although some patients get their methadone in prison.

Buprenorphine
Trials have shown that buprenorphine (Subutex®) works as well as methadone in the management of opioid dependency. It has both the properties of an opioid agonist and antagonist, appears safer in overdose than methadone, may have an easier withdrawal phase, and can be used for maintenance or in detoxification programmes (see overleaf). Only the Subutex® version of buprenorphine is licensed for this use.
The Royal College of General Practitioners’ (RCGP) guidance on the use of buprenorphine points out that while it has been licensed for use in opioid dependency in the UK since 1999, it has been used in other parts of the world such as France and Australia for longer.

A review of randomised clinical trials of buprenorphine maintenance versus either placebo or methadone maintenance for opioid dependence concluded that:

‘Buprenorphine is an effective intervention for use in the maintenance treatment of heroin dependence, but it is not more effective than methadone at adequate dosages.’

Buprenorphine is being prescribed for maintenance in some NHS Boards. The starting dose is 4 mg per day, increased by 4 mg until the patient is stabilised up to a maximum of 32 mg per day. Typical maintenance doses are in the range 12-24 mg. It has similar side-effects to methadone. Guidance on buprenorphine supervision is included in the Glasgow Addiction Services pharmacy standards. Contact Carole Hunter on 0141 276 6612 as the lead pharmacist for Glasgow Addiction Services.

The advantages of buprenorphine are:

- there is less danger of respiratory depression in overdose due to its partial antagonist effect
- at doses of 8-32 mg it greatly reduces effects of heroin or other opioids used ‘on top’
- withdrawal appears to be easier than with methadone and it may be better for those people who wish to detoxify
- it gives a ‘clearer head’ with less ‘clouding’ (though not all patients like this effect).

One significant disadvantage, however, is that buprenorphine is highly soluble, leading to the potential of conversion for injection. This growth of injection of Temgesic® led to a voluntary ban on its prescription in Glasgow in 1990.

Prescribing and supply
The only licensed product containing buprenorphine for use in the management of drug dependence is Subutex® sub-lingual tablets (buprenorphine taken orally is inactivated by gastric acid and a high first-pass metabolism). The product is indicated as substitution treatment for opioid dependence in adults and children aged 16 years and over.

Subutex® is available in three strengths – 400 micrograms, 2 mg and 8 mg and each strength is supplied in 7-tab packs. The dose is initially 0.8 – 4 mg as a single daily dose, adjusted according to response to a maximum of 32 mg daily.

When the initial instalment of buprenorphine is supplied to the patient, it is important that he or she is also provided with the correct patient information leaflet which will give advice about how to use the product, including any special warnings, precautions and drug interactions.

RPSGB Guidance for buprenorphine tablets
The RPSGB (supported by the NPA) have issued guidance on the crushing of buprenorphine sub-lingual tablets (Subutex®) prior to administration. See http://www.rpsgb.org/pdfs/pr050329a.pdf
Substitute prescribing and young people
According to the Scottish Executive Effective Interventions Unit (EIU),\(^{15}\) prescribing of substitutes for heroin to under 16s is very rare in Scotland. It recommends the following.

- Since a person under 16 is unlikely to fully understand the implications of being prescribed controlled drugs, doctors should avoid doing so unless they have first sought explicit consent from a person with parental responsibility for the young person.
- Even with consent, it is recommended that controlled drugs should only be prescribed to a young person after a full assessment and under the supervision of a specialist.
- Generalists, including child psychiatrists, should not prescribe substitute drugs without either specific training or formal liaison with a drug misuse treatment specialist.
- Longer-term or ‘maintenance’ prescribing is not recommended.

The pharmacist should be informed in writing if a parent or guardian is to supervise the consumption of the drug. This arrangement should be agreed by all parties prior to the commencement of the prescription.

If possible, where family supervision is not available, daily supervised consumption should be arranged with the community pharmacist, with clear dispensing instructions.

Practical and legal issues associated with the supply of substitute medication

Prescriptions
The storage and supply of methadone and other agents such as buprenorphine is subject to legal control, and there are also ethical issues to be considered in the treatment of people dependent on illegal drugs.

Registered medical practitioners can legally prescribe methadone for pain relief or for the treatment of drug dependence.\(^{16}\) The legal possession of methadone is restricted to:

- licensed manufacturers
- medical practitioners
- nurses or another person dispensing under the direction of a doctor
- pharmacists
- someone who has been legally prescribed methadone
- someone who has found methadone and is proceeding to a police station.
- drivers (in transit) on their way to deliver to a pharmacy
A patient must be in possession of a prescription to be legally supplied with a controlled drug. Only prescriptions that are completed legally can be legally dispensed. The following requirements are mandatory:

- the prescriber must sign the prescription (which can now be computer generated)
- unless it is an NHS or a local health authority prescription, it must contain the prescriber’s address (all prescriptions should have the prescriber’s telephone number so that the pharmacist can telephone if there is a problem)
- the ‘own handwriting’ exemption formerly given to some doctors has been repealed

Patients should not turn up with a prescription for supervised consumption of methadone unless the prescriber has phoned the pharmacy in advance. There are occasions, however, when this may happen, and efforts should be made to deal with the matter in a tactful manner, particularly as it may not be the fault of the patient.

There may also be the case when a patient wants to change pharmacy, for a variety of reasons, in which case the doctor should phone to advise the pharmacies involved.

It is generally accepted that pharmacists’ involvement in the process of providing medication to a patient acts as a safety check against error. Pharmacists are professionally required to supply ‘take home’ methadone in bottles with child-resistant caps, clearly labelled with the quantity of methadone they contain. All other labelling requirements for medicines within the Medicines Act apply.

Identification

As part of the follow up to the Shipman Inquiry, the RPSGB has issued guidance in anticipation of regulatory changes to be implemented. These include changes for the following areas:

- NHS and private prescriptions
- Record keeping
- Inspection and monitoring
- Additional changes - into supply of schedule 2 and 3 CDs (except temazepam) when prescriptions have a minor technical error

Guidance on the safer management of controlled drugs (CDs) has been issued by the SEHD and can be found at [http://www.sehd.scot.nhs.uk/mels/HDL2006_27.pdf](http://www.sehd.scot.nhs.uk/mels/HDL2006_27.pdf)

Some pharmacies have set up their own systems for patient identification, possibly containing photos and descriptions. Not all patients will agree to participate in such systems, however, and they may be liable to challenge under the Human Rights Act. However, it should be pointed out to patients that this is to protect someone else coming in to falsely obtain ‘their’ supply. Other regulatory changes in response to Shipman, are expected early 2007.
Agreements

Some pharmacists like to lay down ground rules about acceptable behaviour and times to collect prescriptions. Guidance about times to collect prescriptions are useful for pharmacists and patients, but they can create difficulties if no flexibility is built in.

Ground rules, or rather boundaries, specifically for drug misusers can be very contentious. Drug misusers want to be treated like other customers, and pharmacists like to think that they treat drug misusers equitably. Research suggests, however, that drug misusers who experience ‘fair’ rules do not appear to hold objections and both parties must adhere to these.

Pharmacists must be aware of the following issues that can arise:

- missed doses by patients and what to do
- tricks used by these patients - attempted switches, kissing accompanying friends
- following the start and finish dates exactly, for a patient
- phone calls from patients pretending to be a GP, to change a dose

A fair approach would be:

- treat all patients receiving substitution drugs the same
- provide all new patients with the rules – only once – and move on
- explain that the rules apply to all methadone patients.

There should be a protocol explaining standard operating procedures and a written agreement for use with patients. The agreement should ideally be written so that patients can take a copy away and show it to partners and friends. It may be necessary for the pharmacist to ‘talk through’ the agreement with patients in case he or she cannot read well. A sample patient/pharmacy agreement is shown at Appendix 2, there is also further guidance available from the NPA.

Some pharmacies use a four-way contract approach involving the pharmacist, the patient, the prescriber and the patient’s key worker, if appropriate, in agreement with the NHS Board. The patient should read and sign a service four-way service agreement prior to the commencement of their regular prescription instalments. Sample four-way agreements are shown in Appendix 3 as examples, based on one developed by Lloyds Pharmacy and one used by Glasgow Addiction Services.

Activity 5.5

Visit Appendices 2 and 3 to view the sample patient/pharmacy agreement and the four-way agreement. Do these offer useful models? If you wish to devise your own agreement, remember not to make the agreement too long, too complicated or too prescriptive.
Receipt of methadone at a pharmacy
Methadone must be received into pharmacy stock by a registered pharmacist and added to the running balance. On receipt, the quantity supplied should be checked and an entry made in the purchases section of the controlled drugs register. Electronic records can now be used. The methadone should then be placed in the controlled drugs cabinet.

Storage of methadone in the pharmacy
Methadone must be stored in a locked safe, cabinet or room which is so constructed and maintained as to prevent unauthorised access. When methadone is removed from storage, it must remain under the direct personal supervision of a pharmacist.

Professional indemnity
Pharmacists and their locums should check that they are properly covered for insurance purposes, particularly if they are supervising self-administration of methadone.

Supplementary prescribing
A change in the law in March 2005 allowed nurse and pharmacist supplementary prescribing of controlled drugs. Within pharmacy, the CMS/PMS regulations in Scotland were changed in July 2005 to allow prescribing by nurses and pharmacists within primary care.

Nurses and pharmacists who wish to become supplementary prescribers for drug misusing patients need to undergo further training such as the RCGP (Scotland) Certificate in the Management of Drug Misuse, within the speciality, in addition to completing the supplementary prescribing course. If you wish to offer such a service you should contact your local pharmacy substance misuse co-ordinator or contact the local NHS Board.

Detoxification
‘The term ‘detoxification’ is sometimes used to describe a programme in which the client is opiate-free from day one. However, withdrawal programmes in which opiates are the basis of treatment are often also described as detoxification. The important factor is that clients are opiate-free at the endpoint of the programme.’

Activity 5.6
What proportion of heroin users do you think will be able to achieve detoxification at the first attempt? Make a note of your answer, then check it out at the end of the chapter.
The physical process of detoxification can be relatively easy for some drug misusers to achieve. It can follow 12-step plans similar to those used for alcohol abuse by Alcoholics Anonymous. Several charitable organisations, such as Phoenix House (www.phoenixhouse.org.uk) and Detox 5 (www.detox5.co.uk) offer these services.

Many other drug users, however, find that coping with withdrawal symptoms and the loss of routines (and perhaps social contacts) is too hard to bear. Long-term abstinence from the use of opioids has proved very difficult to achieve. Many misusers of opioids will undergo detoxification several times before they achieve lasting periods opioid-free. As we emphasised in Chapter 1, this explains why drug dependency is considered a ‘chronic relapsing condition’.

Success rates for detoxification are not impressive. They depend greatly on the individual characteristics and history of the drug misuser and the range of support given to him or her. Abstinence from the misuse of opioids is hard to achieve. Many drug misusers feel unable to exert enough self-control, and relapse rates due to the experience of withdrawal symptoms during withdrawal are high. Some drug misusers also have inflated expectations of success: they may think that ‘if I can stop using heroin’, their other problems will also go away.

Social, economic and environmental factors following detoxification all play a role in relapse. If patients return to the same environment, surrounded by the same people, living the same life then they are more likely to relapse, than if they completely change their life in a new area etc.

These problems and barriers to detoxification are reflected in the research. In a study by Strang et al., patients dependent on heroin were randomised to either a specialist inpatient drug dependence unit (DDU) or a general (non-drug specialist) psychiatric ward. Of the 69 patients admitted to the DDU, 52 (75%) remained in treatment until at least their first drug-free day, compared with only 13 (43%) of the 30 admitted to the general ward. A wide range of community detoxification studies reviewed by the Effective Interventions Unit showed relapse rates ranging from 19% to 83%.

Management of detoxification

Detoxification is often managed by a progressive reduction of methadone or buprenorphine doses. Lofexidine can assist this process, as can psychosocial interventions.

Lofexidine

Lofexidine hydrochloride (Britlofex®) is not an opioid and does not mimic heroin or methadone. Its action is to reduce withdrawal symptoms resulting from the ‘noradrenaline storm’ (severe withdrawal symptoms caused by the release of excess noradrenaline at synapses in the central nervous system when opioids are reduced). It does not repress all opioid withdrawal symptoms, in particular tiredness and sleeplessness. The course can be administered either over five days (known as the 5-day detox) or as a longer, individually tailored programme.

Lofexidine can be used for control of severe withdrawal from opiate symptoms. The regimen usually starts at 1 tablet (200 micrograms) twice daily, increasing by 1 to 2 tablets daily to a maximum of 12 tablets (2.4 mg) daily by the end of a week if side-effects permit. The opioid should then be stopped or gradually reduced over 7-10 days. Once opioids are stopped completely, lofexidine should be continued at the maximum dose for seven days before being reduced gradually over 2-4 days to prevent rebound hypertension.
Alcohol and sedating antihistamines such as chlorphenamine should be avoided to reduce the possibility of hypotension and over-sedation. Tricyclic antidepressants such as amitriptyline may reduce the efficacy of lofexidine, but if a patient is already on a tricyclic it should not be stopped abruptly. Lofexidine may also increase the effects of anti-hypertensive drugs.

Treating withdrawal symptoms
Withdrawal from the use of opioids is unpleasant but generally not dangerous. Heroin has a short half-life of 3-6 hours, and consequently produces withdrawal symptoms after 6-12 hours. Symptoms may include:

- anxiety
- insomnia
- lacrimation
- rhinorrhea
- sweating
- fever
- piloerection (cold turkey)
- mydriasis
- diarrhoea
- severe back pain
- muscle spasms.

The symptoms mostly disappear within 5-10 days, though anxiety, insomnia and lethargy may continue much longer. The discomfort of withdrawal may lead the user to resume heroin use before the withdrawal is complete. Many users relapse after withdrawal, which suggests that the reasons for relapse are psychological and social rather than purely physical.

Withdrawal from methadone is a more prolonged process. Methadone’s half-life is 24-36 hours and withdrawal symptoms occur at 48-72 hours. The symptoms of withdrawal may be less serious, but they persist longer than with heroin and peak at around the sixth day of abstinence. Patients may complain that it is easier to withdraw from heroin than methadone, and do not want to start methadone for that reason.

Patients in withdrawal will be unhappy and perhaps incapacitated. They should not show signs of intoxication, which would indicate the presence of misuse of some other substance.

Insomnia
Post-withdrawal insomnia may be persistent, given that users are being deprived of their sedative drugs, and it is undesirable to introduce another sedative drug that may create dependency. Sedating antihistamines such as promethazine (Phenergan®, Somnex®) at 25 mg and diphenhydramine (Dramamine®, Nytol®) at 50-100 mg may be useful as hypnotics, but can be abused in high doses. Herbal sleeping aids such as Nytol Herbal may be helpful.
Non-pharmacological alternatives should be considered and advice on better sleeping offered. Physical and lifestyle factors work best with insomnia. Drug misusers can be advised to avoid smoking, drinking alcohol or taking caffeine-based drinks before bed time, and not to take afternoon naps that reduce tiredness. They should be encouraged to:

- eat a solid evening meal so that hunger doesn’t cause sleeplessness
- avoid extremes of noise and temperature
- drink herbal teas or water rather than sleep-reducing drinks
- engage in more physical activity during the day
- achieve a more regular lifestyle with standard waking and sleeping times

**Anxiety**

Non-pharmacological options may work better than the use of anxiolytics for anxiety. Anxiety management strategies can be developed with key workers. Benzodiazepines can be subject to abuse, and may replace one dependence problem with another.

**Diarrhoea and gastrointestinal pain**

Gastrointestinal hyperactivity may be controlled by the following drugs:

- dicycloverine (Merbentyl®), 10-20 mg three times daily (maximum 60 mg daily)
- mebeverine (Colofac®), 135 mg three times daily
- prochlorperazine (Stemetil®), 15-30 mg daily
- loperamide (Imodium®), 8-16 mg daily.

The dose should be reduced over a two-week period.

**Musculoskeletal pain**

NSAIDs are the drugs of choice. Methadone has an analgesic effect lasting about four hours, but this is considerably less than is found with heroin. Tolerance to the analgesia occurs in any case, and it is inappropriate to increase methadone (or other opioids) to the levels needed to overcome tolerance – it may be too difficult to get the dose down again. Partial agonists such as pentazocine and buprenorphine may precipitate opioid withdrawal when used in methadone-maintained patients.

**Relapse prevention**

Relapse is typical in detoxifying patients, and may be repeated many times before success.

*Activity 5.7*

Why do you think patients trying to give up opioid dependency so commonly relapse, or drop out of treatment? Our response is at the end of the chapter.
Pharmaceutically, naltrexone (Nalorex®) may help. It is the only drug currently licensed for use in preventing relapse. Naltrexone is an opioid antagonist which blocks the opioid receptors in the brain and consequently prevents heroin and other opioids from having their normal effects. It produces no euphoric effects, does not create dependency and has been shown to reduce craving and consumption for some patients who are alcohol dependent.

Naltrexone is orally active and produces blockade for around 24 hours. A dose of 100-150 mg three times per week provides almost continuous blockade. Naltrexone implants, which can have an effect for six months, are so far unlicensed in the UK.

Patients should be warned that trying to take sufficient opioids to overcome the block imposed by naltrexone can cause overdoses. If the patient decides to abandon naltrexone therapy and go back to using opioids, he or she should be warned that their tolerance for opioids will be lower after the break in use; again, they should take precautions against overdose.

Management of overdose

Overdose deaths among UK drug misusers rose from 100 in 1991 to 3,000 in 1999. We reported in Chapter 1 that there were 336 drug-related deaths in Scotland in 2005, though not all these were directly caused by drug misuse. Over half of injecting drug users have experienced an overdose, and more have seen one in others.

Overdose trends are still rising. All services in contact with opioid users should have prompt access to the injectable opioid antagonist naloxone, which may be administered intravenously, intramuscularly or subcutaneously, and can be life-saving in the event of an opioid overdose. Changes in the Medicines Act allow naloxone to be administered by anyone in an emergency for the purposes of saving lives (despite being a POM). There are currently pilots underway in Lanarkshire and Glasgow looking at the supply of naloxone to users and their families, using Patient Group Directions (PGDs) for supply.

Activity 5.8
You might like to view online a short video called Going Over which features four overdose stories told by the people who were there. It can be accessed at: http://www.exchangesupplies.org/overdose/overdose.html

The video aims to show users what action to take if someone overdoses. The producers also set out to remind users that they should not react by:

- walking people around
- inflicting pain to try to wake them up
- bathing or dousing them in cold water
- injecting salt
- running away.
Basic advice to users should be that action needs to be taken if:

- a user is snoring deeply (this is very important – deep snoring can be associated with breathing difficulties)
- the user’s skin is turning blue
- the user is unwakeable
- the user has stopped breathing.

The first actions to take are to unblock the individual’s airway, place him or her in the recovery position (Box 5.1), and raise the alarm by calling 999 or accessing help.

Box 5.1 The recovery position

An unconscious person who is breathing can be placed in the recovery position.

- turn the person onto his or her side
- lift the chin forward in the open airway position and adjust hand under the cheek as necessary
- check the person cannot roll forwards or backwards
- monitor breathing and pulse continuously
- turn the person on to the other side after 30 minutes.

Non-drug treatments

People sometimes ask if methadone maintenance is the key factor in harm reduction and in achieving detoxification, or whether success is determined by the extra attention and support drug users receive within integrated care systems. Methadone maintenance has certainly improved outcomes with additional psychosocial interventions.

That’s difficult to answer, but psychosocial interventions are undoubtedly important. Psychological issues and social pressures are often the key elements in patients deciding either to withdraw from drug misuse or to relapse. Any temptation on the part of professionals to be judgemental or morally critical of drug users and their habits may be extremely counter-productive and will reinforce any perceptions the individual may have that he or she is some kind of social outcast, deficient in self control and lacking in values.

Counselling and cognitive behaviour therapy (CBT) have been shown to help ‘crack’ users in the USA. The Scottish Advisory Committee on Drug Misuse: Psychostimulant Working Group has reported that:

“Psychological and psychosocial interventions are widely used with psychostimulant users, sometimes as a stand alone intervention, and sometimes in conjunction with a pharmacological intervention. These include cognitive behavioural therapy (CBT) which is currently used with psychostimulant users in Scotland. (CBT refers to therapies that aim to alter thinking patterns and behaviour.) As with pharmacological treatments, the research evidence on the effectiveness of psychosocial interventions is limited, but promising.” 22
Counselling

Structured care-planned counselling is a skilled activity which must be provided by competent and accredited counsellors. Service providers will utilise counselling skills within their practice, but this should not be equated with the provision of structured care-planned counselling, which is generally accessible from specialists in drug treatment centres.

Counselling is based on listening to the patient and helping him or her to make a positive decision. It is not about setting out to persuade him or her into a specific course of action. Few patients react well to ‘moralising’ or being told what to do.

Cognitive behavioural therapy (CBT)

CBT is described by the Royal College of Psychiatrists as:

‘A way of talking about how you think about yourself, the world and other people, how what you do affects your thoughts and feelings.

CBT can help you to change how you think (“Cognitive”) and what you do (“Behavioural”). These changes can help you to feel better. Unlike some of the other talking treatments, it focuses on the “here and now” problems and difficulties. Instead of focusing on the causes of your distress or symptoms in the past, it looks for ways to improve your state of mind now.’

Motivational Interviewing

Motivational Interviewing may also be of use to those providing support for patients with drug or alcohol problems. Motivational interviewing is described as ‘a client-centred counselling style that aims to work with ambivalence and effectively mobilise an individual’s ability to change’. The motivation for change is ‘elicited from the client’ rather than being imposed from outside.

Scottish Training on Drugs and Alcohol (STRADA) offers a course in which:

‘Participants are given the opportunity to practice a number of the early strategies employed in supporting individuals to make or maintain changes in behaviour. The course also allows participants to look at the use of Motivational Interviewing in the context of practice settings and explore the benefits of a motivational approach to drug and alcohol issues.’

Complementary therapies

Interest in the potential of complementary therapies in the care of drug misusers is growing. Numerous therapies have been tried, from acupuncture to reflexology. Many will help the patient to feel happier, particularly if he or she is sceptical or suspicious about conventional medical approaches, but so far, the evidence for any impact on drug misuse is weak.
There is some limited evidence from the USA that acupuncture treatment may help reduce cocaine use. Auricular acupuncture is thought to be tied to the toxic elimination functions of the kidney and is related to secondary symptoms of opioid withdrawal. But the National Treatment Agency for Substance Misuse states that ‘the evidence base on the use of complementary therapies for drug misusers generally remains inconclusive or contradictory’. Larger-scale studies are required to identify the effectiveness of such therapies. A Cochrane review found insufficient evidence for auricular acupuncture.

The most useful role of complementary therapies may be in recruiting the support of family and friends around the drug misuser; this in itself may have a beneficial effect.

**Key points**

- Substitute prescribing of methadone or buprenorphine is of great value in reducing harm to opioid misusers.
- Methadone and Subutex® can be taken as a single daily oral dose to replace dependency on heroin.
- Substitute prescribing helps people with dependency stabilise their lives, removing them from the criminal nexus, and may open opportunities for them to cease drug use.
- Supervised consumption (self-administration) in the pharmacy also helps stability, and ensures that a regular dose is taken – and monitored.
- It can take a little time to establish the correct methadone dose.
- Neither buprenorphine nor methadone is risk free, but oral consumption allows users to cease the risky practice of injecting.
- Overdoses can occur with methadone, particularly with people who have been on reduced opiate intake.
- Some patients complain about methadone giving them bad teeth, insomnia, constipation and other ailments. As methadone does not provide as much analgesia as heroin, the pain of tooth decay may be more apparent to patients than before. All opioids reduce saliva production and consequently encourage the growth of plaque. Improved self care in relation to teeth should be encouraged. Lifestyle changes can also help with insomnia and constipation.

In Chapter 6, we move onto pharmaceutical care which, among other things, looks at the relationship between the pharmacy and the drug misuser or methadone patient.
Activity responses

Activity 5.1

Response

The harm done by drug misuse is summarised in Figures 1.1 and 1.2 in Chapter 1. It ranges from harm done to the user him- or herself to harm done to the family and wider society. You would probably want to emphasise the risks of:

- premature death from overdose
- illness associated with drug use
- poor injecting technique and sharing 'works'
- psychiatric illness
- dangers in pregnancy
- dangers from accidents and assault while intoxicated
- getting into trouble with the law.
Activity 5.2

Response

Tom has tried to detoxify in the past and is keen to end his drug habit. Since he has a reasonably stable home environment, the possibilities for detoxification ought to be good. He will need planned support and, given time and the supervised use of methadone, this should be successful.

Jamie is a long-term user and a veteran of the ‘drugs scene’. His lifestyle is poor and chaotic and he is barely on the margins of the health care system. The prospect of him opting to give up drugs are low, but several possibilities for harm reduction exist, provided he can be persuaded to co-operate. His previous experiences make him keen to avoid contact with treatment agencies, but contact with a pharmacist – who is not part of ‘the authorities’ – may be easier for him.

The main health care issue with Jamie is his poor self-care and extremely risky injection practices. He already has HCV and his status for other blood-borne viruses is unknown. He is at risk of overdoses from street heroin supplies and at risk from injuries associated with self-injection. Persuading him to obtain – and use – clean needles and syringes would be helpful. He should also be given advice (even if only in the form of leaflets) on safer injection practices. Needle exchange services would benefit Jamie, and he is also the type of user who might find health benefits from safe injection rooms (see Chapter 7).

Chrissy’s problems are also hard to solve. She has poor self-image, depression and numerous other problems such as unemployment, her imprisoned dealer partner and her young family. As she is HCV positive, there is also a potential risk that her children could become infected. In general, she seems to be floating between treatment and deterioration.

The immediate benefits for her would be to stabilise her methadone treatment and manage the side-effects while encouraging her to stop using other drugs and injecting heroin as an occasional ‘treat’. Some of these matters are issues for others involved in her integrated care, but as a pharmacist, you could help greatly by concentrating on ensuring that her methadone, anti-depressant and constipation medication are working appropriately.

Activity 5.3

Response

The first point to make is that supervision is not a policy designed exclusively for that particular patient, but is a general policy that applies to everyone, governed by prescription. Also, observing the dose will help you ensure safety for the user.

It is reasonable to be frank about other possible wider benefits. Supervised consumption prevents medication being sold, stolen, lost or given to others, providing additional safety for the community. It also reduces medication from being stored in people’s homes where the risk of accidents – particularly for children – is greatest. All these things taken together ensure that everybody benefits, provided you make sure the methadone is swallowed.
Activity 5.4

Responses

The first stage is to explain why single-dose methadone may result in the patient noticing tooth decay more than before (see the main text for an explanation). Then you could explain how oral hygiene can be improved by rinsing the mouth with water then swallowing this after the self-administered dose. Sugar-free methadone, drinking it through a straw, rinsing the mouth with water and chewing sugar-free gum after administration should reduce plaque development (chewing gum reduces the time the drug and the syrup are in contact with the teeth, and also generates more saliva). Eating cheese also helps neutralise acid and increases saliva.

More generally, patients should be encouraged to practise good dental hygiene as much as possible. Tooth cleaning is an important aspect of self-care. They could also take a look at their diet: sweets and fizzy drinks contribute to decay. Using sugar-free gum may help.

Patients with tooth decay will need to seek dental treatment.

The constipation and insomnia that may occur with methadone can make patients feel generally ‘ill’, but are likely to be short-term problems. Some reassurance and advice on treating symptoms will be helpful.

Your third patient’s comment about overdosing has more than a grain of truth to it. Patients can and do overdose with methadone, as many of them did with heroin pre-treatment programme, but overdose related to methadone occurs in only a few cases when patients with low tolerance have taken too much or have injudiciously used it on top of heroin or other drugs. Most fatal overdoses involving methadone occur when users have lost tolerance, however overdoses due to methadone are still lower than the number of heroin overdoses.

As you will have gathered by now, there are many myths about methadone! One example is that ‘methadone gets into your bones’. There is evidence that, probably as a result of poor diet and nutritional status, injecting drug users have a higher than average prevalence of osteoporosis, but this is not caused by methadone.

Some drug misusers may also complain that ‘methadone isn’t as good as the real stuff’. The response to this is that methadone is for people who want to give up ‘the real stuff’ and reduce the amount of harm it causes them. Methadone reduces the ‘high’ heroin gives and also cuts down the number of drug-taking episodes; it may be that, despite the risky nature of injecting, patients may in some ways look forward to these events.

Drug misusers’ objections to methadone are primarily concerns about the whole process of moving away from heroin dependence. Perhaps they form their views as a reaction to what they see as an attack on them and their way of life by ‘authority figures’ who, almost by definition, ‘know nothing of what it is like to be like us.’
Activity 5.6
Response
Effective Interventions Unit studies have shown relapse rates ranging from 19% to 83%. But these figures relate to patients who were already stabilised on methadone or buprenorphine, who have been given additional drugs to help with withdrawal, and who have had a good deal of additional support. People who are heroin dependent and do not receive psycho-social or pharmaceutical support will find it extremely difficult to detoxify themselves. And relapse from detoxification is common.

Activity 5.7
Response
The principal cause is the chronic relapsing nature of opioid dependency. There is a mix of factors: some users are reluctant to give up the positive feelings they derive from the drugs, while others may be deterred by their withdrawal symptoms. It is also common for users to feel they have lost a range of friendships, habits and routines that were a central part of their lives. Losing the drug-taking milieu is crucial to their recovery, but there is always likely to be some ‘friend’ urging them to go back to ‘using’, although some withdrawal effects pass quickly, others such as depression and anxiety may persist for months. In these circumstances, support and encouragement – including from the community pharmacy – can be crucial. Another deeper reason may be that official and scientific attention has been focused too closely on the processes of detoxification and not enough on the overall position of the patient and the relapse risk. Patients’ ability to persist with abstinence is likely to depend on a wide variety of issues including social, family and institutional factors.

Patients also often lose the support network offered by substance misuse clinics following detoxification, when they are deemed ‘drug-free’. 
Appendix 1

A SOP for community pharmacy drug substitute supervised consumption services.

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Operating Procedure

1 Local Contacts and Inter-Professional Relationships
1.1 The pharmacist on duty and trained employees involved in the provision of the service (the Operators) must establish good working relationships with the scheme co-ordinator of the Drug Action Team (DAT), the prescribers or any other drug misuse service commissioning authority, drug addiction clinics and other workers involved in the care of drug users in the local area.
1.2 The Operators must be aware of the availability and contact details of similar facilities and all drug service agencies in the local area.

2 Operator Training
2.1 All Operators must have read and understood this standard operating procedure and also undertake any other training required by the commissioning organisation.
2.2 The professional responsibilities of the prescribers and the pharmacists must be clarified at the outset.
2.3 All employees must be briefed to treat all users of the Service (the Clients) with respect and courtesy.
2.4 Once the Service is in operation, any new employees should be briefed of its existence on their first day of service. Appropriate training (as stated above) should be started within the first month.

3 Vaccination
3.1 All Operators should be offered Hepatitis B vaccination and should sign a declaration form.
3.2 Any new employees who joined the pharmacy after the scheme has been in place should be advised to acquire Hepatitis B vaccination.
3.3 Hepatitis B vaccination is normally available from individual general practitioners (GPs). The commissioning organisation should meet the costs depending on local agreements. Contact your Manager for the funding procedure if the local commissioning organisation does not pay for the vaccination.
3.4 If an employee decides not to have the vaccination, the pharmacist should ensure that the employees concerned are fully aware of the risk. A signed and dated declaration stating the reason(s) for not having the vaccination should be retained.

4 Service Advertisement
4.1 It is not a requirement to include information about the service in the practice leaflet, “Our Services”. The Pharmacist should discuss and agree with the Manager whether such information is to be included.
4.2 No signs or advertisements should be displayed without the agreement of the commissioning organisation and Manager.

5 Facilities Required
5.1 The service should be offered in the consultation area or a quiet area of the pharmacy when there is no consultation area, so the Client can seek advice from the Operator without being easily overheard by other customers.
5.2 A clinical waste container should be safely located so that the Client can dispose of their used medicine bottle or cup themselves under the supervision of an Operator.

5.3 Plastic disposable cups are required for pouring methadone solution from the dispensing bottle, and buprenorphine tablets should be placed from the strips into plastic cups before self-administration.

5.4 A jug of water should be available for the Clients.

5.5 Sufficient amount of the required drug substitute(s) and any other items for the provision of the Service should be in stock at all times.

5.6 Necessary records must be kept in the format specified by the commissioning authority and must also comply with the provisions of the Misuse of Drugs Act 1971. These records must be kept secure.

5.7 The needs of installing security cameras, video or mirrors, or employing a security officer should be considered whilst making sure the confidentiality of the Client is maintained.

5.8 The items specified for providing the service and dealing with contaminated waste should also be made available.

6 New Clients

6.1 All new Clients should be referred directly by the prescriber or drug treatment agency, either personally or via the telephone.

6.2 If the pharmacy does not have the capacity to take on a new Client, the prescriber should refer the Client to another pharmacy before the Client presents him/herself at the pharmacy.

6.3 The Client's details and a brief description of appearance should be obtained from the prescriber or drug treatment agency.

6.4 If a new Client presents for the service him/herself, the prescriber, or drug services, should be contacted to confirm the validity of the prescription and the identity of the patient. Unless the pharmacist is familiar with the prescriber, the prescriber's telephone number should be obtained from the telephone directory. If the pharmacy does not have the capacity to take on a new Client, the pharmacist should refer the Client back to the prescriber or drug treatment agency.

7 Client Contract

7.1 It is best practice for every Client to read and sign a service contract (4-way contract) prior to the commencement of their regular prescription instalments. This is, as a minimum, an agreement between pharmacist and Client but should include the prescriber and key worker in agreement with the local commissioning organisation.

7.2 Unless the commissioning organisation provides a locally agreed Client contract, a standard contract as specified in Appendix 3 should be used.

7.3 The provisions of the contract should be read out discreetly to the Client if the Client is unable to read it him/herself.
7.4 Unless otherwise agreed with the commissioning authority, this should be a four-way contract, i.e. between the Client, the pharmacy, the prescriber and the commissioning organisation.

7.5 The Client and the pharmacy should each keep a copy of the contract. Depending on local agreement, the prescriber and the commissioning organisation should also keep a copy of the contract.

8 Prescription and Daily Doses
8.1 The pharmacist should ensure that the prescription complies with the provisions of the Medicines Act 1968 and the Misuse of Drugs Act 1971. Refer to the latest Medicines, Ethics and Practice for more information.

8.2 The reverse section (Exemption Declaration and Prescription Charges) of the prescription should be filled in by the Client properly, and all prescription charges collected if applicable.

8.3 If applicable, the prescription should be clearly marked with ‘supervised consumption’, the instalments and intervals.

8.4 Instructions given on the prescription must be adhered to strictly. Sugar-free and/or colour-free products have a greater potential for abuse than syrup based and coloured products. These must not be dispensed unless specifically prescribed.

8.5 All details required by Misuse of Drugs Act 1971 should still be specified and the prescribers must still sign the prescriptions by hand and a date is required. If the pharmacist is unsure of a prescriber they should contact their local NHS Board.

8.6 The daily dose should be prepared in advance to prevent undue delay when the Client presents in the pharmacy.

8.7 All measurements or counting should be double-checked.

8.8 The daily dose should be packed and labelled in the usual manner in the dispensing bottle or carton, and locked in the Controlled Drugs cabinet. Dispensing from bulk supply straight into cups and presenting to the Client is in contrary to the Medicines Act 1968.

8.9 A plastic bottle can be used for a daily methadone dose consumed on pharmacy premises.

8.10 Take-home methadone should be dispensed in a child-resistant, dispensing bottle.

8.11 Unless it is previously agreed with the prescriber and the drug treatment agency, daily doses must not be issued to a representative. MDA allows patients to authorise an agent to collect the dose on their behalf. The authorisation must be in writing to the pharmacist. Compare the signature of the Client, to the one on the reverse of the form and retain the authorisation note in the CD register.

9 Supervision Procedure - Methadone
9.1 The supervision should only be carried out by the specified Operators in a quiet, semi-private or private area (the consultation area). It should not take place in the dispensary or staff room.
9.2 Clients must be treated with due respect and courtesy. The Service should be delivered in a friendly, informal and non-judgemental manner.

9.3 If the Operator considers the Client’s behaviour unacceptable, or if the Client appears intoxicated with drugs and/or alcohol, or if the Operator has any other concerns, the dose should be withheld and the prescriber should be contacted immediately.

9.4 The Client’s identity must be confirmed using name, address and date of birth prior to the dose being issued.

9.5 Clients should remove any chewing gum from the mouth before taking the dose. If the Client wishes to dispose of their gum it needs to go in the clinical waste bin. It should NOT be placed on any surfaces and should be treated as clinical waste.

9.6 The Client should check the name, quantity and dose on the label, then pour the daily dose into a disposable plastic cup before self-administration. If the Client prefers, they may take the daily dose straight from the labeled bottle.

9.7 The Operator must be satisfied that the dose has actually been swallowed, by offering the Client a drink of water (using same cup as before) after taking the dose. If the Client does not want a drink, the Operator should ask questions that need a spoken answer.

9.8 The dispensing cup should be disposed of by the Client into a clinical waste bin immediately after self-administration. The bottle, if not drunk from, can be reused for up to one week.

9.9 The Operator must ensure that the instalment section of the prescription, the Controlled Drugs Register and any other necessary paperwork or electronic recording specified by the commissioning organisation are completed immediately after the supervision.

9.10 The clinical waste container should be sealed and changed when it is three-quarters full.

10 Supervision Procedure - Buprenorphine

10.1 The supervision should only be carried out by the specified Operators in a quiet, semi-private or private area (the consultation area). It should not take place in the dispensary.

10.2 Clients must be treated with due respect and courtesy. The service should be delivered in a friendly, informal and non-judgemental manner.

10.3 If the Operator considers the Client’s behaviour unacceptable, or if the Client appears intoxicated with drugs and/or alcohol, or if the Operator has any other concerns, the dose should be withheld and the prescriber should be contacted immediately.

10.4 The Client’s identity must be confirmed using name, address and date of birth prior to the dose being issued.

10.5 Clients should remove any chewing gum from the mouth before taking the dose. If the Client wishes to dispose of their gum it needs to go in the clinical waste bin. It should NOT be placed on any surfaces and should be treated as clinical waste.

10.6 The Client should check the name, quantity and dose on the label.

10.7 The Client should have a drink of water to moisten the mouth.
10.8 The Operator should pop all the tablets out, place in a disposable plastic cup and hand over the cup to the Client.

10.9 The Client should place the tablets under the tongue and leave to dissolve. They should not be swallowed. For Clients who are on high doses, it may be necessary to take a few tablets at a time.

10.10 The Client should be observed for 5 minutes or until all the tablets are dissolved. Once dissolved, the active ingredient will pass through the buccal mucosa and what remains is actually chalky residue that can be swallowed.

10.11 It is not necessary for the Operator to watch the Client continuously for 5 minutes. The Operator should ensure that the tablets are placed into the mouth, under the tongue, and confirm that the tablets have been absorbed.

10.12 The Operator must be satisfied that the tablets are not concealed in the mouth, by offering the Client a drink of water afterwards, using the same cup as before. If the Client does not want a drink, the Operator should ask questions that need a spoken answer.

10.13 The disposable plastic cup should be discarded into a clinical waste bin immediately after the supervision.

10.14 Buprenorphine is a Schedule 3 Controlled Drug and therefore does not require entry into the Controlled Drugs Register. However, the instalment section of the prescription and other locally specified paperwork or electronic record must still be completed immediately after the supervision.

11 Uncollected Doses

11.1 Uncollected doses must not be supplied at a later date as such supply will be classed as dispensing Controlled Drugs without a valid prescription. Patients should be aware of this at the start.

11.2 The prescriber or drug treatment team should be informed of any missed doses. If two or more doses are missed, the prescriber will have to reassess the patient and review the prescription before reinstatement.

11.3 Before the end of business each day, the PMR must be updated to indicate any uncollected doses. The instalment section of the prescription must be noted with the date and the words ‘Not Collected’. Any other locally specified documentation must be noted too.

11.4 The uncollected drug must be marked as uncollected and the batch and expiry date written on the bottle. It must be stored in the Controlled Drugs cabinet. The drug can be reused provided that it has not expired. If the product goes out of date before use, contact your manager.

12 Remuneration

12.1 All the completed prescriptions should be endorsed, stamped and double-checked.

12.2 Completed prescriptions should be sent to the appropriate pricing authority for payments at the end of each month.
12.3 All other necessary documentation should be completed, double-checked and sent for
remuneration at the end of each month, or other length of time as agreed locally.

13 Dealing with Discarded Sharps and Needle Stick Injury
13.1 Follow the procedure stated in the standard operating procedure for Dealing with
Discarded Sharps, Body Fluid Spillage and Abusive Clients.

14 Body Fluid Spillage, Spillage Contact to Skin, Eyes or Mouth and Abusive Clients
14.1 Follow the procedure stated in the standard operating procedure for Dealing with
Discarded Sharps, Body Fluid Spillage and Abusive Clients.

15 Client Confidentiality
15.1 Client confidentiality is of paramount importance, as with any other pharmaceutical
services we are offering. Refer to the Medicines, Ethics and Practice (Section 2 Part 2) for
further information.

15.2 All employees must respect and protect the confidentiality of the Client. This duty
extends to any information relating to a Client acquired in the course of providing the
service.

15.3 Confidential information includes any personal details and drugs used, both prescribed
and non-prescribed.

15.4 Clients who are on regular drug substitute treatment may also use the needle exchange
service. Many prescribers regularly test the urine of Clients for other concomitant illicit
drug use and it should be through this mechanism that any breach of treatment
contract is detected. Unless it is pre-agreed otherwise, the Operator must not
report such incidents to the prescribers as this is breaking the confidentiality of
the Clients concerned.

15.5 Clients should be made aware that they are responsible for the behaviour of whoever
accompanies them in the pharmacy, hence they may be better to come in on their own.
Appendix 2

Sample patient/pharmacy agreement

This agreement has been prepared to explain clearly what is involved in the provision of daily methadone, so that there is no misunderstanding on either side.

All doses of methadone will be dispensed daily.

If a day is missed, you cannot collect an extra dose on the following day.

If you miss 3 consecutive days, all future doses will be cancelled until we contact your doctor, who will be notified of your missing doses.

If your doctor requests that the dose is supervised, then you must take each daily dose in the pharmacy under the supervision of the pharmacist.

Doses can only be taken away to cover days when the pharmacy is closed. Information about services and opening hours is provided on the pharmacy leaflet.

You may collect your dose at any time during our normal working hours. It is recommended, however, that you come at least 20 minutes before closing time, because, once closed, the pharmacist will not reopen the shop under any circumstances.

When you come to collect your prescription, please let one of the assistants know. You will be dealt with promptly.

While waiting for your methadone, please take a seat or remain in the middle of the pharmacy, i.e. no browsing, please. If you wish to buy something, please ask the assistant to serve you.

If your methadone is supervised, you will be given your daily dose in a quiet area of the pharmacy. Your methadone will be prepared in a closed bottle with your name and dose clearly marked for you to check.

The empty bottle must be handed back to the pharmacist. You will be given some water to drink afterwards.

No shouting, swearing or shoplifting.

You are responsible for your friends’ behaviour in the pharmacy.

Do not loiter outside the shop.

If you have been taking alcohol, or considered to have taken some other intoxicating substance, your dose will be refused for your own safety.

Signed/dated.
Appendix 3

Sample four-way agreement

1. the Client named below, understand and agree to the following conditions of treatment:

1. I will collect my prescription in person from the pharmacy named below on specified days, between...... and...... (specify time). If I fail to collect a dose on the specified day and time, I will not be able to collect that dose at a later time.

2. If I fail to collect my dose for three days or more, my subsequent doses will be withheld and my treatment will be reassessed.

3. I will not have my prescriptions dispensed by any other pharmacy without renegotiating my Four-Way agreement with the drug treatment agency, doctor and another pharmacy.

4. If it is instructed in my prescription, I will consume my daily doses (except bank holidays and Sundays) at the pharmacy named below, under the supervision of the pharmacist or a pharmacy assistant.

5. My doctor/drug treatment agency will be notified in the event of non-attendance.

6. I will keep my appointments with my doctor/drug treatment agency named below.

7. The doctor, drug treatment agency and pharmacist named below, have the right to discuss my case and may see me individually and together if appropriate.

8. If my doctor or the pharmacist consider that I am not in a fit state, my dose will be withheld.

9. I will not be a nuisance, abusive or violent to the general practice, agency or pharmacy employees.

10. I will not take any drugs other than those prescribed to me and I will provide a urine sample for analysis when requested.

11. I am responsible for any drugs which I am prescribed, and if I should lose them or take them other than as directed, they will not be replaced.

12. I will abide by any other conditions which my doctor and pharmacist may wish to make.

13. I understand that I can only obtain prescriptions from the doctor named in this agreement unless alternative arrangements are made.

<table>
<thead>
<tr>
<th>Name</th>
<th>Signature</th>
<th>Contact No.</th>
<th>Date</th>
<th>Copy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client</td>
<td></td>
<td></td>
<td></td>
<td>Blue</td>
</tr>
<tr>
<td>Key Worker</td>
<td></td>
<td></td>
<td></td>
<td>Yellow</td>
</tr>
<tr>
<td>Doctor</td>
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<td></td>
<td></td>
<td>Pink</td>
</tr>
</tbody>
</table>

Surgery Address

| Pharmacist    |             |             | Green |

Pharmacy Address
Glasgow Addiction Service four-way agreement

Please take time to read all sections of this agreement before signing it

**Patient**

I agree

To treat with respect all people I have contact with in connection with my treatment
To keep my appointments promptly and, unless absolutely necessary, unaccompanied
To accept responsibility for my prescription and medication, as they cannot be replaced
To my prescription being reduced/withheld if I am intoxicated or have missed more than two daily doses
To provide samples for drugs of abuse screening
To allow sharing of relevant information by all professionals involved in my treatment
To participate in periodic reviews as necessary

**Doctor**

I agree

To ensure that I and other surgery staff treat the above named service user with respect
To provide high quality primary health care, as for any other service user
To provide adequate substitute drug treatment for the above named service user
To provide a clear and legible prescription that meets legal requirements for controlled drugs
To contact a community pharmacist and arrange dispensing
To share relevant information with all professionals involved in the treatment
To participate in periodic reviews as necessary

**Drug Worker**

I agree

To treat the above named service user with respect
To give the service user a regular counselling support session at the Shared Care Clinic
To facilitate access to other social work services as appropriate for the service user
To facilitate access to other external services as appropriate for the service user
To share relevant information with all professionals involved in the treatment
To participate in periodic reviews as necessary

**Pharmacist**

I agree

To ensure that I and other pharmacy staff treat the above named service user with respect
To provide the service user with information about medications
To ensure that GP requested supervised dispensing takes place in a private/‘quiet’ area of the pharmacy
To explain protocols for missed doses
To provide a pharmacy practice leaflet giving information about the service
To share relevant information with all professionals involved in the treatment
To participate in periodic reviews as necessary

**Signatures**

Patient ___________________________  Doctor ___________________________
Drug Worker ________________________  Pharmacist ______________________

Warning: Methadone can be dangerous, especially when taken with benzodiazepines and/or alcohol or by anyone who has no tolerance to it.
References and footnotes


2 For a full description of side effects, see: http://www.exchangesupplies.org/publications/methadonehbk/effects.html

3 See Methadone Handbook, produced by exchangesupplies.org


8 Research into Practice. May 2004

9 www.pharmj.com/Editorial/20040124/vision/vision.html

10 Sleep disturbance is a common complaint with methadone and one that is difficult to treat. It’s useful to have a non-pharmacological option to offer – the Good Sleep Guide will support you in providing this. It can be found at Appendix 1 of the Pharmaceutical Aspects of Methadone Prescribing produced by NES Pharmacy.


14 For more information, see: http://www.rcgp.org.uk/default.aspx?page=659


16 The only exceptions are doctors who have had their licence to prescribe controlled drugs revoked by the Home Secretary.


164
18 See: http://www.rpsgb.org/pdfs/cdmanagechguid.pdf


24 See: http://www.projectstrada.org/website/sc17.html
Chapter 6 Pharmaceutical Care

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Chapter 6 introduces the process and delivery of pharmaceutical care as part of an integrated care plan package for drug misusers

The relationship between a pharmacist and a drug misuser may be very brief, or it may develop and last for months or even years. Establishing and keeping the relationship going can be a considerable challenge, whether the aim is detoxification or maintenance with a view to eventual abstinence.

In this chapter, we look at what research has established as good practice in the service provided to drug misusers, which aims to achieve:

- a good relationship between pharmacists, their staff and patients
- satisfied patients
- pharmacists being confident that they are fulfilling a professional role within the developing field of integrated care.

Objectives

After completing this chapter, you should be able to:

- explain the importance of building a good relationship with the drug misusers to whom you provide a service
- understand how to build helpful and positive relationships with patients who misuse drugs
- operate a service to patients within an integrated care plan.

The relationship between the pharmacist and the patient who is misusing drugs

You should strive to form a relationship with patients who are drug misusers right from the beginning. Understanding where they are coming from will play a big part in helping you achieve this. Look at the following quotation from a book on drug misuse and community pharmacy, which will give you a glimpse of what it feels like for the patient’s viewpoint.

‘In general, drug users felt stigmatised. Use of a pharmacy in relation to their drug use was seen as aggravating that stigma, because of the visibility of requesting injecting equipment, consuming methadone on the premises and even collecting prescriptions to take away… If a client has a very poor self-image which is subsequently reinforced by what they perceive to be negative handling in the pharmacy, they may be more likely to react negatively by shoplifting, being rude or even aggressive.

The way a pharmacist treats a drug misuser can strongly affect the way the drug misuser behaves. And similarly, the drug misuser’s behaviour can affect the way pharmacists and the pharmacy staff behave.

Illicit drug use can carry social and personal stigma, and drug misusers are fully aware of this – especially when they find themselves outside the drug-taking milieu and among ‘ordinary people’. In addition, they often have a poor self-image which may make them suspicious of how the pharmacy will react and all too ready to expect – or imagine – they will be given a negative reception. This can encourage them to display negative behaviour.
We can learn a lot from fellow pharmacists who have dealt with a high number of drug misusers as patients and who manage to develop good relationships with them. Almost all of them will tell you that maintaining a positive and respectful attitude is a key factor.

Take our patient Chrissy, for instance. She knows women who go into pharmacies and shoplift. She has sometimes shoplifted in some other places, but, in her words, ‘not at my chemist - I used to, but not any more - I just couldn’t do it.’

She sees the shop as ‘my chemist, where I get my stuff and they’re good to me so I’m good to them, basically’. Contrast this with how one drug misuser reacted to a pharmacy whose approach was negative:

‘It would be different if it was sort of [pharmacy name] and things like that lowering their nose at you so like you lower them even more, and maybe you steal from them and laugh at them.’

Drug misusers like to be treated like any other customers. They don’t want to be singled out as a drug misuser and methadone recipient. We must be perceived as treating them like all other customers, while being aware of their ‘special’ situation.

Communicating with drug misusing patients

A patient new to methadone treatment, like our patient Tom, may feel self-conscious, ashamed and at his most vulnerable when coming to the pharmacy for the first time. He may be asking himself what do the pharmacy staff know about him and what do they think about him?

He might not want to show his vulnerabilities, however, and may compensate by seeming flippant, rude or even aggressive. Pharmacy staff should understand this kind of reaction and make best efforts to put Tom at ease, making him feel welcome and secure that he and his confidentiality will be respected.

As we emphasised in the Dealing with patients taking methadone section of Chapter 5, it is important to try to deal with patients such as Tom promptly and discreetly, whether dispensing a prescription, supplying needles or giving advice. Taking a methadone dose, for example, should always be done out of sight of other customers.

Activity 6.1

If you were advising a pharmacy assistant on how to provide a discrete and friendly service to drug misusers, what would you say? Make some notes and compare to ours, which are presented at the end of the chapter.
Promoting health

Communicating with drug misusing patients can be difficult. Injecting drug misusers can be among the most difficult to communicate with, even though their health problems are likely to be the greatest.

**Activity 6.2**

Some patients tend to resist having conversations with health professionals. They want to take their methadone and get out of the shop. How might you get health promotion messages across in such a situation? Again, our ideas are set out at the end of the chapter.

It would be worth talking to fellow pharmacists about how they go about striking up meaningful health promotion conversations with their patients. A cursory ‘now, let’s talk about you health’ approach is unlikely to work.

Picking up physical or emotional cues from a patient and opening a line of enquiry might be welcomed, particularly if you show you may be able to help him or her with the problem. For instance, you might notice an injury or dressed wound and ask: ‘Would you like me to check that out for you?’ Note that the enquiry is about how you can help the patient, and not about how the wound or injury occurred, which may have involved poor injection technique, an accident while under the influence of drugs or an injury sustained in a fight. Enquiries along those lines might be interpreted as intrusive and unwarranted.

You can pursue a similar ‘can I help you with this?’ line of enquiry with a patient who looks tired and may be troubled by insomnia, or appears to be having abdominal discomfort and may be constipated, or who is in pain.

Patients are likely to expect pharmacists to ask about drug treatment, as they see this as your primary role. Openers to discussion can include:

- asking how they are getting on with a new dose
- asking about any side-effects of methadone, which may also lead on to other health issues.

But it is now understood by the public and professionals that pharmaceutical care involves more than managing and dispensing medicines. Pharmacists’ health promoting role has only fairly recently come to receive the recognition it deserves. NHS Health Scotland states:
‘Pharmacy health promotion is essential and no one can doubt the importance of pharmacists in primary disease prevention and health promotion. They possess a wealth of skills and knowledge which enables them to provide information to patients where, when and how they want it. ’

Information received from pharmacists and drug misusers has indicated that only a small proportion of the advice transmitted by pharmacists in the past dealt with health promotion issues. That is now changing, particularly with the launch of the new Community Pharmacy Contract (see Chapter 7), and pharmacists are now positioning themselves to deliver health promotion and health improvement messages to all patients, including those who misuse drugs.

Pharmacists supervising patients’ methadone consumption are in an ideal position to exercise their health promotion skills and keep a day-to-day eye on patients’ health. Unlike GPs and most drug workers, community pharmacists involved in supervised methadone self-administration have daily contact with the patient. You will have the opportunity to offer advice and to observe the patient’s condition over a period. As your relationship develops, you will get opportunities to talk about health-related issues such as:

- diet
- physical activity
- oral hygiene
- general hygiene and cleanliness
- smoking and drinking.

Our patient Tom, who was rather extravagantly untidy and favoured a striking form of dress, was annoyed when a pharmacist talked about hygiene and ‘standards’. ‘I’m not dirty’, he said. However, advice about his oral hygiene had an effect on him. He had a drug misuser friend who had to have extensive dental treatment, and he wishes to avoid that.

Community pharmacies provide an invaluable community-based source of health care advice and services that help to promote health and avoid illness. Pharmacists are actively involved in delivering health improvement messages to all patients. For those who are drug misusers, some of the issues below have special significance.

Alcohol and tobacco
Patients on a methadone maintenance programme may increase their use of alcohol and tobacco. Advice and help on reducing or stopping excessive cigarette and alcohol consumption would be beneficial to health, but the timing of an intervention needs to be carefully judged. We have to remember that attempting to cut out smoking or reducing alcohol intake while making major changes in drug habits might be counter-productive.

Alcohol Focus Scotland provide a leaflet which warns about the dangers of excess alcohol consumption and draws attention to the risks of drinking alcohol with methadone and other drugs. This can be accessed at: http://www.alcohol-focus-scotland.org.uk/iportalfilelibrary/1/Alcoholandmethadone.pdf
Longer-term health problems
Many drug misusers, particularly those who inject, have developed longer-term health problems as a direct consequence of their drug-related behaviours. You may not have the opportunity to take a thorough history from patients, but frequent, friendly interactions and enquiries may generate the information you need.

Nutritional problems may be evident and lack of physical activity is a common contributor to poor health status which not only exacerbates long-term health problems, but also underpins many acute ailments such as constipation and insomnia. The patient may also have HBV and HCV infection. You could raise this subject by saying something like: ‘These days we all have to be careful of hepatitis infection…’ and pointing out that pharmacy staff are recommended to be immunised against HBV. You could then explain that local testing services will provide anonymity and pre- and post-test counselling. There are information leaflets available from HIV specialist centres indicating where help is available.

Treating side effects of methadone
You must constantly be on the lookout for health problems related to the prescription of methadone. As we explained when we explored the treatment of side effects of methadone in Chapter 5, some patients are quick to ascribe any ‘unwell’ feelings to the use of methadone. However, there are some issues which frequently arise with methadone users, including pain, insomnia, constipation and poor dental health.

Activity 6.3
Return to Chapter 5, Treatment of side effects of methadone (page 135) and revise what responses can be offered to the common side-effects of methadone treatment.

Reproductive health in women drug misusers
Women with problem drug and/or alcohol use have potentially high-risk pregnancies with low birthweight babies, but some women are reluctant to approach services, thinking that they will receive a hostile and judgmental response.

Few of the drugs commonly misused directly affect pregnancy, and foetal abnormalities caused by drug misuse are uncommon. Problems are raised, however, by the effects of deprivation that commonly accompany drug misuse combined with factors such as smoking, poor diet, stress and chaotic lifestyle.
Using heroin in addition to prescribed methadone by women at or near term can precipitate labour, and some babies suffer withdrawal symptoms after birth, especially when the mother has been using combinations of opioids and benzodiazepines. Breastfeeding can mitigate the effects, and is advisable for pre-term and low birthweight babies. Opiate-using mothers should be advised to have their babies in hospital so that neonatal problems and drug withdrawal can be managed immediately.

Providing health promotion leaflets
Leaflets will not help you reach all patients, but reaching some is better than reaching none.

Keeping stocks of leaflets on safe injecting would be an obvious benefit for some patients, but leaflets about diet would be helpful for many drug misusers, whose nutritional status is often poor. Women are more likely to respond to health advice than men, and material on reproductive health would be relevant. You should use health promotion information and materials pro-actively with this patient group: take the initiative and don’t sit back and wait to be asked. And there are many useful leaflets produced by NHS Health Scotland, ASH (Action on Smoking and Health) and others that focus on safe alcohol use and smoking cessation.

Managing requests for a service you do not provide
If a drug misuser requests a service you do not provide – or are not prepared to provide – refusing the service may provoke a negative response.

The most helpful response is to suggest an alternative option for the patient. For example, if he or she asks to buy needles and you do not sell them, you can tell the patient where he or she can obtain them locally. If someone arrives with a prescription for supervised methadone and you do not provide a supervised service, you should contact an alternative pharmacy to check if they would undertake the service.

From shared care to integrated care
A partnership approach to the treatment of people who misuse drugs in Scotland was introduced in 1994. This was initially seen as a form of shared care, with guidelines which emphasised the need for collaboration across a range of services. It was seen as ‘a model that can be applied to any close co-operative teamwork between agencies or services which directly improves the treatment of the individual drug misuser’.

The vision had two significant interlocking elements:

- working for the treatment, care and support of individuals (an all-round, person-centred approach)
- involving a wider range of services and agencies.

Recent years have seen a move from shared care to integrated care. This is defined by the Scottish Executive in the following way.
Integrated care

Evidence suggests that people who have drug misuse problems will often have a number of other difficulties in their lives – especially problems with housing, family relationships, employment, offending behaviour and debt. A wide range of responses and support is needed to address those problems.

Service users (and indeed providers) often feel there is little or no communication among the various agencies and services, leading to frustration and disappointment. Lack of relevant information about patients and ignorance of the roles of other agencies inhibits the delivery of effective services. It is these kinds of problems that integrated care seeks to avoid.

Integrated care for drug misusers is an approach that aims to combine and co-ordinate all the services required to meet the assessed needs of the individual. As Prevention and Treatment of Substance Misuse points out:

‘Pharmacists are already involved in many aspects of the planning and implementation of services for substance misusers, but such involvement is patchy, and the profession’s contribution is constrained because it is often not included at the early stages of development. The adoption of an integrated approach, that seeks to combine and co-ordinate all the services required to meet the needs of an individual, will enable pharmacists, as equal members of a team, to become fully engaged in the development and provision of services for substance misusers according to local need.’

The EIU publication Integrated Care for Drug Users - Principles and Practice sets out how an integrated care service for drug misusers can be implemented. The following agencies and service providers need to be involved in planning and delivering integrated services to people with drug problems:

• drug workers
• GPs and primary care teams
• education services
• social services
• health services
• specialist drug misuse services
• police
• child protection committees and children’s reporters and panels
• community based services.
Integrated care is also about how things are done. It requires:

- treatment, care and support to be person-centred, inclusive and holistic to address the wide-ranging needs of drug misusers
- the service response must be needs led and not limited by organisational or administrative practices
- collaborative working among agencies and services.

**Activity 6.4**

To what extent are you and your pharmacy involved in integrated care of drug misusers?

- (a) Not at all
- (b) Slightly
- (c) Moderately
- (d) Substantially.

In you answered (b) to (d), make some notes on what this integrated care involves.

To what extent are you involved in integrated care of other groups of patients?

An integrated care approach depends on a willingness of agencies and services to communicate with each other and plan and deliver services jointly. If you were providing pharmaceutical care for our three patients, Tom, Jamie and Chrissy, for instance, you should be in touch with their GPs, probably their specialist nurses, and perhaps their social workers on a regular basis to ensure your services take their place as part of a co-ordinated, cohesive, multi-disciplinary, multi-agency approach to care. You can produce a pharmaceutical care plan for each of your drug misusing patients.

Information sharing is also a key issue in an integrated care approach. Information provided in confidence by patients to one service (such as the pharmacist) should, in normal circumstances, only be disclosed to other services and agencies with the consent of the individual concerned, unless sharing is clearly in the best interests of the patient. There must be clear and shared understanding of how information will be protected and used among members of the integrated care team.

Participation in integrated care schemes will help place pharmacists in a more prominent position in the planning, design and delivery of services for drug misusers and will help to promote the training and mutual understanding of all involved. It encourages sharing of information and joint working between agencies, areas in which there have sometimes been problems in the past.

The collective goals of the various agencies offering integrated care services to drug misusers are summarised in Box 6.1.
Box 6.1 Collective goals of integrated care services

Reduce illicit drug use by stabilising the person on substitute medication or detoxifying (where appropriate), by reducing the range of different substances being used by the individual, by reducing the frequency of drug use, and by minimising the risk of future relapse. The ultimate goal may be to help the individual to stabilise or to become drug free.

Reduce the risk of the spread of blood-borne viruses, in particular the risk of HIV, hepatitis B and C, and other blood-borne infections from injecting and sharing injecting equipment. This may be achieved through a reduction or cessation of sharing injecting equipment and injecting paraphernalia, a reduction or cessation of injecting and by the reduction or cessation of risky sexual practices. It may also involve the supply of free condoms.

Improve all aspects of health by assisting the individual to reach and maintain a state of good physical and psychological health. This will be partly achieved by the goals above, but drug misusers may also have a number of other physical health problems to address. Mental health problems are a serious problem amongst this population, particularly depression and anxiety.

Reduce involvement in criminal activity, in particular to reduce the need for criminal activity to support or finance drug use, including prostitution, theft and offences regarding the supply of drugs.

Improve personal, social and family functioning by assisting the individuals to maximise their ability to make clear and rational decisions and enable them to develop a level of social and family interaction with which they feel comfortable. This may include an improvement in family relationships and the development of new social networks.

Improve education and employment prospects by assisting the individual to access existing opportunities to increase their employability and providing support to them while they are undertaking education or training, or beginning voluntary or paid employment.

Improve stability of housing / accommodation by assisting the individual to access opportunities for housing, or improvements in housing and to provide support while they are undertaking any change in housing.

Source: http://www.drugmisuse.isdscotland.org/eiu/intcare/Cha2.pdf

Integrated care planning

The Effective Interventions Unit’s Integrated Care Pathway Guide 1: Definitions and Concepts’ offers advice to agencies involved in commissioning, planning, developing, delivering and evaluating services for drug users. Its outline model (referring to a patient named ‘Harry’, who resembles our patient Jamie) is shown in Figure 6.1.
An integrated care pathway (ICP) is a multi-disciplinary outline of anticipated care, placed in an appropriate timeframe, to help a patient with a specific condition or set of symptoms move progressively through a clinical experience to positive outcomes. A patient such as Chrissy may be assessed as having the needs set out in Table 6.1.

Table 6.1 Assessment of Chrissy’s needs

<table>
<thead>
<tr>
<th>Assessed need</th>
<th>Action/service required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug use</td>
<td>Maintenance of substitution treatment. May sometimes benefit from needle exchange. Use of fluoxetine, anti-inflammatories, laxatives.</td>
</tr>
<tr>
<td>Living arrangements</td>
<td>Partner in prison. Support with childcare needed.</td>
</tr>
<tr>
<td>Disease prevention</td>
<td>Discussion re hep C deterioration and possible needle sharing.</td>
</tr>
<tr>
<td>Mental health</td>
<td>Depression.</td>
</tr>
<tr>
<td>Social functioning</td>
<td>Unemployed, no close contact with family.</td>
</tr>
<tr>
<td>Legal arrangements</td>
<td>Support in maintaining home.</td>
</tr>
<tr>
<td>Other information</td>
<td>Chrissy has a friend who encourages her to use heroin on top of methadone.</td>
</tr>
<tr>
<td>Readiness to change</td>
<td>Periodically expressed desire to reduce/detox, but previous attempts have so far failed.</td>
</tr>
<tr>
<td>Risk and safety</td>
<td>Welfare of children monitored and parenting skills supported. Chrissy does not appear aware of injecting risks - information required.</td>
</tr>
</tbody>
</table>
Activity 6.5
As the community pharmacist involved in Chrissy’s care, you will have a role in implementing her integrated care plan. Make a list of which other professionals would be likely to be involved, and compare with ours at the end of the chapter.

Integrated care plans should address the following issues:
- the individual’s needs, as identified from assessment
- the goals of treatment and milestones to be achieved
- the interventions and services planned to achieve the goal and the support required
- which service provider and/or professional is responsible for carrying out the interventions
- timing – when, how often, the frequency of attendance and expected duration
- explicit reference to risk management, risk management plans and contingency plans
- arrangements for information sharing between service providers
- arrangements for monitoring and review, with dates.

Activity 6.6
For a review of how a care plan can operate, go to: http://www.drugmisuse.isdscotland.org/eiu/intcare/Cha5.pdf which features Chapter 5 on ‘Planning and Delivery of Care’ from the EIU’s report, Integrated Care for Drug Users: Principles and Practice. A sample care plan is given at ‘Annex 5a’ in the document.

The Scottish Executive’s Joint Future agenda is a central initiative in joining together health and social care and is a key driver of integrated care approaches. It advocates joint planning, management and budgeting of services, and its key principles are set out in Box 6.2.
Box 6.2 Joint Future

The key principles underpinning the Joint Future agenda apply across the planning, design and management of integrated care services, and are as follows.

- **Joint management**, to ensure a more co-ordinated and effective approach to service planning, commissioning and operational management.
- **Joint resourcing**, operating a single focus for the planning, commissioning and delivery of services.
- **Single shared assessment** aims to create a single point of entry to community care services with a view to better use of resources and more effective outcomes for people in need. (See: [http://www.scotland.gov.uk/health/jointfutureunit/singshareass.asp](http://www.scotland.gov.uk/health/jointfutureunit/singshareass.asp))
- **Intensive care management** seeks to re-designate care management by concentrating on people with complex or frequently changing needs.
- **Information sharing** is being introduced as part of Joint Future. The key principle is that the information provided in confidence by service users to one agency should, in normal circumstances, only be disclosed to other agencies with the consent of the individual concerned.

Does integrated care work?

The principles and practice of integrated care arise from studies on the planning and delivery of care to drug users. These studies were commissioned by the Effective Interventions Unit through the Scottish Drugs Forum, with the Glasgow Street Intervention Group and the Tayside Street Intervention Group. The key findings were:

- users identified the best things about their experiences of care planning and delivery as: not having to pay for drugs; not mixing with other drug misusers; and having less debt
- users identified the most negative things as: reducing or cutting prescriptions without their consent
- a lack of trust between workers and service users was noted, leading to the conclusion that one person should be responsible for co-ordinating individual users’ care; one-person co-ordination would save time, avoid confusion, create better relationships between workers and service users and promote better communication among agencies
- users felt they had little say or control over decisions about their care, and they were mainly passive recipients.

Integrated care is designed to overcome some of these problems and barriers.
Activity 6.7
Consider some of the implications of drug misusers having a greater say in their care. Try to list some positives and negatives that would arise. Our responses are at the end of the chapter.

The research studies also demonstrated that drug misusers have realistic views about what services can offer and are prepared to co-operate with them. But the key issue for them is being provided with sufficient information so that they feel, and indeed are, involved in their care. The final report stated:

‘While the focus groups did highlight the frustration arising from unrealistic expectations (as a result of the assessment), it also indicated that there was an understanding among service users of the likely realities and a wish to be told about them. For the service users, the important factors seem to be:

• receiving good information about what local services can offer most suitable to meet their assessed needs and what is available to them at the time
• clear and open communication with the client and between service providers to choose the most appropriate type and level of services within existing opportunities and constraints
• full participation in deciding on the components of the care plan and how it will be delivered.’

[Integrated Care for Drug Users: principles and practice, Chapter 5]

Patient involvement in their own care calls for regular, clear and open communication. There should be openness and honesty about service constraints and good information about available services designed to meet individuals’ needs as part of an integrated care plan.

Some case challenges

Chrissy and her daughter

As we have seen, Chrissy does not ‘do shoplifting’, but after a brief row with a pharmacy assistant (she thought she was being asked to wait too long), she comes into the pharmacy one day with her eldest daughter, aged nine, who should be in school. The child wanders around in the shop while Chrissy is taking her methadone dose, and pockets a packet of cough sweets.
Activity 6.8
Some pharmacists might consider terminating dispensing to Chrissy if he or she feels she has allowed her daughter to shoplift. What would you do in this case? See what we would recommend at the end of the chapter.

Jamie
Jamie comes in to exchange needles and has a large dressing on one arm, and his hand looks swollen and bruised. An assistant asks him what had happened, and Jamie explained he had had an abscess from a ‘bad hit’. He had been to A&E but it was getting better now.

Activity 6.9
How might you help Jamie? See what we would recommend at the end of the chapter.

Tom
Tom is usually chatty with you. One day, he explains he is feeling ‘kinda poorly’ on account of having had a heavy night during which he drank a lot of alcohol and took some cocaine. He spent all his week’s allowance on this binge.

Activity 6.10
How would you respond to Tom’s story? See what we would recommend at the end of the chapter.
Drug misusers and patients taking substitute prescriptions will often have a poor self image and may have numerous other problems in their lives. It is important to treat them sensitively.

There may be an occasional ‘difficult’ patient, but most will come to value the service the pharmacy gives them.

The pharmacy’s part in the broader pattern of integrated care that brings together a range of medical and social agencies to help the patient achieve a healthier lifestyle role is being increasingly recognised.

The pharmacy can make important contributions towards health promotion with its methadone and needle exchange patients.

In the final Chapter, we look at some possible future developments in management of drug misuse, from the possible provision of safer injection facilities to the use of some newer therapeutic drugs. We will also consider how the new Community Pharmacy Contract may help you widen the scope of services to people who are – or have been – drug misusers.
Activity responses

Activity 6.1

Response

We would give the pharmacy assistant the following advice.

- If other people are waiting for prescriptions, you might explain that it will take a few minutes, but that you will be as quick as possible. An agitated drug misuser may think he or she is being deliberately kept waiting - it is probably worth making the extra effort to make him or her feel at ease. Would this perhaps feel like ‘overdoing it’ in terms of discretion? Possibly … but it may be better than risking a confrontation.

- It is often a pharmacy assistant who has first contact with a new patient. How the drug misuser is treated by the assistant is just as important as their first contact with the pharmacist. All the same principles apply. While pleasantness is appropriate for all customers, a first-time user may prefer a business-like to an over-friendly approach.

- In general, assistants are an important link with drug misusing patients and the general friendliness of assistants is crucial to how comfortable drug misusers will feel in the pharmacy. But if they have a query regarding their general health or a drug-related issue, they will want to see the pharmacist.

- All patients should be served in the order that they attend, then there are less problems. Issues tend to arise when two separate queues are in operation – one for ‘users’ and one for ‘normal’ customers.

Activity 6.2

Response

Supervised consumption of methadone takes a few minutes, so there is time for you to make some comments, even if the patient does not respond. It may be worth making a suggestion that he or she may think about and respond to on a later occasion: for example, ‘some people on methadone have trouble with their teeth. Let me know if that’s a problem, for you.’ If you are supplying syringes or some other medication to drug misusers, you can put informative leaflets on issues such as Dental Health and Safe Storage into the bag for them. Some will read them, even if most do not.
Activity 6.5
Response
The task with Chrissy, who seems capable of finding herself in deteriorating conditions, is to keep her stable and, if possible, to make some improvements in her lifestyle. Her ability to continue to function as an effective mother is central.

Chrissy will have a specialist drug worker, who is likely to be a nurse or social services employee. The GP will have an important role; social work and housing staff will need to support her, and there may also be a need for school and child support. She will probably have contact with the prison service (on account of her partner) and possibly the police as well.

Activity 6.7
Response
Some patients might:

- argue for higher doses
- argue for acceptance of erratic behaviour in collecting and using prescriptions
- demand additional supplies on occasions
- oppose supervised self-administration of methadone
- argue for more freedom of action. But drug misusers are more likely to adhere to a regime or policy if they have had a meaningful role in its formulation. Some freedom of action and choice is therefore inevitable, but this needs to be based inside a structure that is acceptable in terms of government policy on drug misuse and with the various professionals providing the service.
Activity 6.8

Response

A quiet word with Chrissy should suffice. She should perhaps not bring her children with her when taking methadone; or, if she does, she must make sure they know how to behave. The sanction might be to inform social services, an outcome Chrissy might fear more than calling the police, but such a move could well be counterproductive and destroy the relationship between Chrissy and you. Another option is to bring the child into the area where Chrissy is taking her dose, rather than leaving her unattended in the shop - as long as the dose is poured from the bottle into a cup and not consumed directly from the bottle. As the Prevention and Treatment of Substance Misuse strategy comments, ‘Taken in context, seeing a parent or guardian receive their daily dose of methadone is probably the least harmful thing that could happen to the child.’

Activity 6.9

Response

You could offer to check the condition of the arm and, if it had been bandaged ‘at home’, renew the dressing. In the longer term, it is important to ensure that Jamie continues to look after the injury and that he avoids harming himself through poor injection technique. A re-check of the arm on future visits is indicated. Jamie needs to understand how serious such injuries can be: people have lost their hands and arms in this way. You may want to refer him to a local harm reduction service that has a wound management clinic. This would be an additional step helping Jamie towards stability. There are useful leaflets on safe injecting, and you can also inform yourself by looking at websites such as Exchange Supplies (www.exchangesupplies.org) and Know the Score from the Scottish Executive (www.knowthescore.info). If Jamie has a blood-borne virus, he needs advice about avoiding transferring fluids from the wound to other people. An incident like this can be crucial in helping to develop a longer-term productive relationship with Jamie.

Activity 6.10

Response

You need to make a judgement on whether Tom is still intoxicated before giving him his methadone. He should be advised to contact his drug worker to explain the ‘binge’ and discuss problems.

See: http://www.hebs.com/healthservice/pharmacy/index.cfm

Mothers who are HIV positive are advised not to breastfeed. See Chapter 3, Transmission of HIV, page 184.

For a range of health promotion leaflets and other resources that might be useful for drug misusing patients, access: http://www.ash.org.uk

http://www.hebs.com/healthservice/pharmacy/index.cfm


References and footnotes


2 See: http://www.hebs.com/healthservice/pharmacy/index.cfm

3 Mothers who are HIV positive are advised not to breastfeed. See Chapter 3, Transmission of HIV, page 184.

4 For a range of health promotion leaflets and other resources that might be useful for drug misusing patients, access: http://www.ash.org.uk

5 http://www.hebs.com/healthservice/pharmacy/index.cfm


Chapter 7 Future Developments

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Chapter 7 provides an overview of arising issues in relation to substance misuse, such as new treatments, technologies and service delivery methods.

Efforts to ‘cure’ dependence on opioids and to detoxify patients have had limited success over the years. As we have emphasised throughout this pack, drug dependence is a ‘chronic relapsing condition’ and many of those who try to detoxify relapse.

It is partly this lack of success in ending drug misuse that has led to a repositioning in health service orientation towards harm reduction. As we are likely to have substantial numbers of drug misusers in Scotland for a very long time, we can at least try to minimise the harm they do to themselves (and society) by using harm-reduction measures.

Meanwhile, developments in pharmacy practice continue steadily. The use of electronic methods for transmitting prescriptions and dispensing methadone using robotics may soon be commonplace, and pharmacists will find themselves involved in increasingly broad areas of health care under the new Community Pharmacy Contract. This chapter looks at what some of these developments might be and considers the implications of the new contract.

Objectives

By the end of this chapter, you should be able to:

- explain the nature of possible new treatments and tests relating to drug misusers
- describe the pros and cons of new technological aids to pharmacy work
- describe the possible reasons for extending diamorphine prescriptions
- consider the possibility of developing your minor ailment service and pharmacy-based clinics
- outline concerns raised by the Shipman Inquiry and its recommendations relating to the handling of Controlled Drugs
- consider the implications of the new community pharmacy contract on pharmacy services to drug misusers.
Possible future treatments for drug misusers

Possible use of Suboxone®

Suboxone® is a new formulation of buprenorphine in combination with naloxone in the ratio of 4:1. Buprenorphine is a partial opioid agonist (see Chapter 5) and naloxone works by blocking the opioid receptors in the brain and therefore blocking the effects of heroin and other opioids. The tablets are taken sublingually, since buprenorphine is inactivated by swallowing; naloxone has no effect when taken sublingually, so if the tablets are dissolved and injected, opioid withdrawal would occur.

You should note that the naloxone is virtually inactive when swallowed. It is an unusual combination, in that the naloxone is not present for any therapeutic benefit to the patient (the only active ingredient is the buprenorphine). The naloxone is present to deter illicit street diversion and subsequent injection. The naloxone is active when injected, when it acts as an antagonist. This is aimed at reducing the street value of the drug, as there will be little or no effect if injected due to the naloxone's antagonist action.

Studies have shown that 16 mg of Suboxone® is a clinically effective dose compared with placebo and indicate that doses as low as 12 mg may be effective in some patients. The dosage should be progressively adjusted in increments/decrements of 2 mg or 4 mg to a level that holds the patient in treatment and suppresses opioid withdrawal effects. The final level is likely to be in the range of 4 mg to 24 mg per day, depending on the individual.

The USA, Europe and Australia have approved the use of this new formulation of buprenorphine plus naloxone as a treatment for opioid dependence. It has an EMCA licence and its use may be extended to the UK.

Naltrexone implants

The opioid antagonist naltrexone is licensed for use in preventing relapse in detoxified opioid-dependent patients. It is used in some specialised settings to aid abstinence from alcohol consumption, suggesting that it may also have an anti-craving effect. Studies show it is not a ‘magic bullet’ and works best as part of a comprehensive treatment and rehabilitation programme.

The use of implants of the drug may provide some additional benefits in aiding concordance with the treatment regimen in the future. Implants ensure delivery of a steady dose over the agreed period of treatment (six weeks or six months). The implants, which are about 9 mm in diameter and about 1.9 cm in length, can be inserted through a one-inch incision in the lower abdomen or at the back of the upper arm. They are currently used mainly within the independent sector in the UK. While naltrexone is licensed for use, the implant device is not.
Testing for the presence of drugs

Testing for use of and exposure to illegal drugs has advanced rapidly in recent years. New technologies mean that employers, social services, the legal system and concerned parents can now simply and accurately test for current and previous drug use.

Drug traces can be found in various bodily fluids – oral fluid, sweat, tears, urine and blood – and also in hair. Practical considerations include the reliability, convenience and invasiveness of the tests. Sweat testing is seldom used, as reliability is low.

Activity 7.1
Make some notes on the role drug testing may have in the community treatment of drug misusers, and compare to ours at the end of the chapter.

Oral fluid testing

Oral fluid testing is a non-invasive method of assessing whether licit or illicit substances have been consumed. The drug(s) are only detectable within the fluid for a short period after use –12-36 hours. This type of test is therefore suitable for judging a patient’s degree of impairment when presenting at the clinic or community pharmacy.

Oral fluid tests are based on monoclonal-antibody technology, meaning they are reliable when used within the appropriate context. Poly-drug use can be tested and various types of product are available, allowing for ease of use in clinic and community settings. Samples can be sent for laboratory verification in case of dispute or in legal situations.

The most appropriate place and time to use oral fluid testing is still being debated, but the approach has some practical advantages for random testing and does not require special toilet facilities.
Urine tests
Like oral fluid tests, urine tests use monoclonal-antibody technology and are reliable, accurate and simple to use. The main reason to test a sample of urine is to identify recent drug use, not to judge impairment. Drugs can be detected in the urine from four hours after use up to several days later, depending on the substance: cannabis, for instance, can be detected in regular users up to one month after the last use (Table 7.1).

Table 7.1 Urine test detection periods

<table>
<thead>
<tr>
<th>Substance</th>
<th>Detection Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>12 - 24 hours</td>
</tr>
<tr>
<td>Amphetamine</td>
<td>2 - 3 days</td>
</tr>
<tr>
<td>Buprenorphine</td>
<td>2 - 3 days</td>
</tr>
<tr>
<td>Cannabis</td>
<td>2 - 7 days but up to one month for regular users</td>
</tr>
<tr>
<td>Cocaine</td>
<td>12 hours - 3 days</td>
</tr>
<tr>
<td>Diazepam</td>
<td>1 - 2 days</td>
</tr>
<tr>
<td>Ecstasy</td>
<td>2 - 4 days</td>
</tr>
<tr>
<td>Heroin</td>
<td>1 - 2 days</td>
</tr>
<tr>
<td>LSD</td>
<td>2 - 3 days</td>
</tr>
<tr>
<td>Methadone</td>
<td>2 days</td>
</tr>
<tr>
<td>Temazepam</td>
<td>1 - 2 days (longer after injecting)</td>
</tr>
</tbody>
</table>

Source: //www.drugscope.org.uk/

Urine testing kits vary from simple single dip-test strips for one substance to multi-cassette dip-tests for up to ten substances. Drugs can be chosen to suit the needs of the service carrying out the testing. It is possible to define two levels of sensitivity in the case of opioid testing, which helps to exclude the likelihood of the patient having taken an OTC medication containing codeine.

If urine tests are to be sent for laboratory testing or for use in criminal justice proceedings, various paraphernalia are available to ensure ‘chain of custody’ and security. Information is readily available about the cross-sensitivity of medications with drug tests, adding to the reliability of the process.

Although urine testing is accurate and reliable, the collection of the specimen causes some procedural and health and safety challenges, such as:

- embarrassment during the collection process
- the potential for adulteration or contamination
- the availability of suitable facilities
- infection risk.

Some misusers may bring in another person’s sample, or they may use diuretics. Use of routine urine tests by GPs are likely to reduce since they are deemed of little value in determining future prescribing.
Hair testing

Although traces of most drug groups disappear quickly from blood, oral fluid and urine, they remain trapped in the stem shafts of hair as a permanent record. Hair analysis can provide a profile of drug use for between one week to three months or more. A centimetre of hair typically represents nearly a month of growth, although individual growth rates vary.

Testing involves dissolving the hair sample in a series of solvents that extract the drug metabolites, such as 6-monoacetylmorphine and morphine for heroin, benzoylcegonine for cocaine, and delta 9-tetrahydrocannabinol carboxylic by-product for cannabis.

The major advantages of hair testing are the ease of obtaining and handling samples and the fact that it can give a longer-term result rather than a record of recent or ‘one-off’ incidents. Hair testing is consequently the ‘gold standard’ in many ways, but given the expense and the length of time necessary to carry out this type of testing, it is more appropriate for use in employment or social services situations than in the community pharmacy.

It is important that the whole hair is used for testing, as the DNA is in the hair root.

Dispensing services

Dispensing Pumps

Detailed information on the use of manual and automatic pumps for methadone dispensing is available in Chapter 5. Its cost-benefits and practical utility depend at the moment on the number of prescriptions dispensed, but costs are decreasing. The benefits claimed by manufacturers (supported by data from some hospital pharmacies) include space savings, reductions in the time necessary to stock products and decreased time spent retrieving materials.

Community Pharmacy Contract

The New Community Pharmacy Contract in Scotland has been introduced to modernise NHS community pharmacy services by developing a new system of remuneration for community pharmacists, which provides incentives to improve and deliver quality care health services.

The outline framework of the New Contract consists of two main elements:

- Essential Pharmaceutical Care Services – centrally negotiated (terms of service and remuneration) consisting of the:
  - Public Health Service
  - Minor Ailment Service
  - Chronic Medication Service
  - Acute Medication Service

- Additional Services – these will be locally negotiated with a national framework and benchmark tariff available to support the process.

Within the Essential Services, the Public Health Service and the Minor Ailment Service were introduced in 2006, with the plan to introduce the other parts in 2007.
Additional Services will be subject to local NHS Board negotiation. Methadone services (supply and supervision) and needle exchange services will form part of the Additional Services in the new Contract and are likely to be introduced under this in 2007. You should contact your local NHS Board or substance misuse specialist pharmacist for details on how these services will be applied locally.

Public Health Service (PHS)
Pharmacies will be paid a fixed fee for delivering public health messages to communities as part of the Scottish Executive’s drive to use community pharmacies as ‘healthy living walk-in centres’. Health messages can be delivered through distributing information or providing public health window displays.

This part of the contract will be useful in getting across useful public health messages relevant to the problems possibly encountered by drug misusers.

Minor Ailment Service (MAS)
The service allows patients who are exempt from NHS prescription charges to receive a consultation and if appropriate a treatment for any presenting common clinical conditions from a community pharmacy, free of charge. There are considerable benefits for the patient, particularly in avoiding overcrowded hospital clinics or GP waiting times.

The advantages of MAS include:
- enhanced services to patients
- greater use of pharmacists’ skills
- enhancement of the pharmacist’s local primary care role and better integration with other members of the local primary health care team
- better access to NHS services for patients as no appointment is necessary to see a pharmacist

Conditions covered by the service typically include: athlete’s foot, bites and stings, back pain, diarrhoea, cough, fever, hay fever, headache/earache, head lice, mouth ulcers, soft tissue injury, sore throat, sprain/strain, teething, vaginal thrush, nasal congestion, constipation, and indigestion/heartburn/stomach upset. This service may be particularly useful for methadone patients (and their children) and pharmacists should be aware of the benefits of this service to these users.

Activity 7.2
What minor ailments do you feel are most likely to encourage drug misusers to attend your pharmacy? Compare your thoughts to ours at the end of the chapter.
MAS patients have to register with their pharmacy as part of a national registration scheme. Pharmacies are reimbursed on a capitation basis and refunded for products supplied.

**Chronic Medication Service (CMS)**

This service allows pharmacists to manage a patient’s medication for up to 12 months as part of a shared care arrangement with the patient and his or her GP. A patient’s medicines will be dispensed, monitored and reviewed. Patients involved in the service will need to register with the pharmacy.

Half of people with long-term conditions fail to take their medicines properly. Pharmacists have more contact than anyone else with patients who have long-term conditions and are in a central position to help improve the situation. CMS will undoubtedly provide benefits to people who have conditions such as arthritis, diabetes, epilepsy, heart disease and stroke.

**Acute Medication Service (AMS)**

This is essentially the pharmaceutical service as presently provided.

**Additional Services**

The following services, locally negotiated, can be provided under the new contract:

- extended hours provision
- out-of-hours services
- domiciliary oxygen services
- harm-reduction services
- advisory services to care homes.

A national framework and benchmark tariff will be developed for additional services.

**Clinics in community pharmacy**

Community pharmacists, particularly those with prescribing qualifications, may wish to develop clinics for people with long-term conditions. These will be based on the delivery of pharmaceutical services, but will also present the opportunity to effect wider health improvement initiatives that will be of benefit to patients who are misusing drugs. Several smoking cessation clinics have been set up in Scottish community pharmacies (see Chapter 2), for example, and services such as supervised methadone self-administration or needle exchange clinics can also be offered.

Other clinics relevant to drug misusers include the following.

**Wound care clinics**

Injection-site injuries are a major cause of ill-health and hospital admission for injecting drug users. They may be minor or major injuries, ranging from superficial cellulitis, abscess and deep vein thrombosis to extensive necrotising fasciitis. Some will require urgent hospital treatment.
Injuries and infections in frequently injected areas are common and may be perceived as ‘normal’ by some drug users. Offering treatment provides an opportunity for getting other healthcare messages across on, for example, safer injection practices and improved personal care (see Chapter 6).

As part of the eMAS scheme, the pharmacist may write a prescription for a new dressing/bandage for a patient who requires fresh supplies.

Drug misusers may suffer injury during periods of intoxication. They are most likely to go to accident and emergency departments for treatment, but pharmacy follow-up could be effected through the minor ailments service.

Another initiative being investigated is an ulcer clinic service within community pharmacy using Patient Group Directions (PGDs) for antibiotics and dressing supplies.

HBV vaccination clinics
The local blood-borne virus risk-reduction nurse at Uddingston, South Lanarkshire, provides a HBV vaccination service to injecting drug users and their partners from a community pharmacy. A total of 409 clients had received HBV vaccination by May 2003, with 310 completing the course. Eighteen were vaccinated in the community pharmacy. The scheme could be extended to more pharmacies in Lanarkshire and the harm-reduction team are currently looking at the possibility of setting up a Patient Group Direction (PGD) for vaccination by other health care professionals (possibly including community pharmacists).

Substitute prescribing clinics
Non-medical prescribing by pharmacists is discussed later in this chapter.

Implications of the Shipman inquiry
Lady Justice Smith’s Fourth Report for the Shipman Inquiry dealt with the regulation of controlled drugs in the community. Harold Shipman had secretly obtained large quantities of diamorphine over a period of 20 years and used it to kill many of his patients.

The Inquiry made recommendations to improve the management and use of controlled drugs and the Government’s response to the fourth report, the Safer Management of Controlled Drugs, sets out an action programme to improve and strengthen current systems. This includes new statutory duties introduced in the Health Act 2006 and which require certain healthcare bodies to appoint an Accountable Officer who will be responsible for the safe, appropriate and effective management and use of controlled drugs within that body. This responsibility extends to the safe destruction and disposal of unwanted controlled drugs.

Lady Justice Smith found that the extent of diversion of controlled drugs was ‘unknown’ but significant enough to warrant attention.
Recommendation 25 of the 4th Shipman Report states:

‘The keeping of a running balance in pharmacy CDRs should henceforth be regarded as good practice. The Home Office should make its view on this clear to pharmacists, and the Royal Pharmaceutical Society of Great Britain (RPSGB) should publicise the new position. When electronic CDRs have come into general use, the keeping of a balance should be made obligatory’.

The RPSGB points out in its response to the report that:

‘Allowance will need to be made for loss occurring due to the viscosity of certain liquids and the small (but not insignificant) overage/underage that will arise due to manual measurement. This will be a particular problem when pharmacies supply large volumes of methadone mixture. Measuring pumps may be of assistance for such pharmacists but a certain volume of liquid will still be lost.’

Destruction of controlled drugs
The dangers highlighted in the Shipman Inquiry also raise the issue of storage and destruction of unwanted controlled drugs.

The present situation depends on whether the drugs are stock (such as out-of-date stock) or are returns by customers. Any person required by the Misuse of Drugs Regulations 2001 to keep records of Schedule 1 or 2 Controlled Drugs may only destroy them in the presence of an authorised witness. The society’s inspectors, police chemist inspection officers and Home Office inspectors are authorised witnesses. Some members of the management of larger bodies’ corporate and pharmaceutical advisers have also been authorised by the Home Office. Particulars of the date of destruction and the quantity destroyed must be entered in the controlled drugs register and signed by the authorised person in whose presence the drug is destroyed.

A pharmacist or practitioner may destroy controlled drugs returned by a patient or a patient’s representative without the presence of an authorised person. Such controlled drugs should not be returned to stock, but must be kept under safe custody while awaiting destruction. As the quantity of controlled drugs being returned can often pose a storage problem as well as an increased security risk, pharmacists are encouraged to destroy patient-returned controlled drugs as soon as possible. Although there is no legal requirement to do so, pharmacists should document the destruction of patient-returned medication as good practice and have a member of staff witness it. The record of destruction should be made somewhere other than the controlled drugs register, such as at the back of the prescription register.
Activity 7.4
What are your own practices for the destruction of controlled drugs? Are there any aspects of this that ought to be tightened?

All controlled drugs must be rendered irretrievable before disposal. Details of how to do this can be found in Medicines, Ethics and Practice: a guide for pharmacists, 30th edition (July 2006).

Pharmacists are advised to use commercially available controlled drug denaturing kits whenever possible before disposing of the substances.9

Non-medical prescribing

We can expect to see more possibilities for supplementary prescribing as the role of the pharmacist in providing a wider range of primary health care services grows.

Supplementary prescribing is described in legislation as:

'A voluntary prescribing partnership between an independent prescriber and a supplementary prescriber, to implement an agreed patient-specific clinical management plan with the patient’s agreement.'10

Supplementary prescribers are able to prescribe from a range of medicines for a broad range of medical conditions under the terms of a clinical management plan. The plan will be drawn up, with the patient’s agreement, in consultation with an independent prescriber – a doctor or a dentist. The supplementary prescriber is either a registered nurse, registered midwife or registered pharmacist. More recently, Allied Health Care Professionals are now able to undertake supplementary prescribing and this list may increase.

Pharmacists wanting to become supplementary prescribers in Scotland must secure support from their NHS Board. They are required to take an accredited education and training course of the equivalent of 25 days, plus a minimum of 12 days learning in practice supervised by an independent prescriber.
Both Schools of Pharmacy in Scotland – the Robert Gordon University and the University of Strathclyde – have been accredited by the RPSGB to provide training for supplementary prescribing. The courses are deliberately very similar in content to ensure consistency of training throughout Scotland. By the end of March 2006, around 250 pharmacists had completed the supplementary prescribing course at one of the universities in Scotland. NES Pharmacy has produced a range of online education modules – Supplementary Prescribing for Pharmacists Online Resources and training (SUPPORT) – that provide education and information for pharmacists considering applying for the supplementary prescribing course.

In Scotland, some pharmacists who are supplementary prescribers and complete RCGP (Scotland) Part 2 certificate in the Management of drug misusers in primary care, which will give them the required competency, enter into supplementary prescribing arrangements within addictions. In terms of clinical governance, they will have to be able to demonstrate specific competency within addictions. Pharmacists wishing to commence supplementary prescribing clinics in this area, should contact their local NHS Board Specialist Pharmacist in Substance Misuse for guidance.

The definition of independent prescribing is “prescribing by a practitioner (eg doctor, nurse, pharmacist) responsible and accountable for the assessment of patients with undiagnosed or diagnosed conditions and for decisions about the clinical management required, including prescribing.”

The pharmacist independent prescriber can prescribe any licensed medicine (ie. products with a valid marketing authorisation in the UK) for any medical condition, with the exception of all controlled drugs, until such time as there are changes to the Home Office’s Misuse of Drugs Regulations. They should not prescribe any medicine if they feel that their knowledge of the medicine falls outside their competence.

**Key points**

- Lack of success in ending drug misuse has led to a repositioning in health service orientation towards harm reduction.
- Methadone dispensing pumps may soon be commonplace.
- Pharmacists will find themselves involved in increasingly broad areas of health care under the new Community Pharmacy Contract.
- New technologies mean that employers, social services, the legal system and concerned parents can now simply and accurately test for current and previous drug use.
- The new Community Pharmacy Contract will enable pharmacies to develop their role in supporting people with long-term conditions.
- We can expect to see more possibilities for prescribing as the role of the pharmacist in providing a wider range of primary health care services grows.
Activity responses

**Activity 7.1**

**Response**

Testing can:
- establish impairment at a specific time, such as a work-related risk
- establish recent drug use
- confirm drug-taking history
- establish concordance with the treatment plan
- confirm or refute abstinence from drug misuse
- inform treatment decisions
- provide evidence to inform legal or social service actions.

**Activity 7.2**

**Response**

Drug misusers suffer the same minor ailments as everybody else, but may also have particular problems with thrush, pain, constipation and anxiety or insomnia. Constipation is a particular problem, especially with methadone treatment (see Chapter 5). Wound care may also be an issue, and oral health problems are almost certain to be raised. The latter can partly be resolved by analgesia and advice on dental hygiene, but people may need to be directed to dentists for a specialist opinion. Drug injectors with persistent problems of needle injury may need hospital referral in some cases.
References and footnotes


7 Where there is no regular visit by the chemist inspection officer, the pharmacist may be able to telephone the local police station and ask for an officer to witness the destruction.

8 See: http://www.pjonline.com/Editorial/20040327/society/ethics.html

9 See http://www.rpsgb.org.uk/pdfs/hazwasteommphguid.pdf, which contains information for Scotland.


Multiple Choice Questionnaire

Congratulations – you have now made it to the end of the package. However, we require one more task of you – to complete the attached self-assessment questionnaire. This allows you to test your understanding of the package and to receive feedback on the answers.

Tick each answer as true or false. Detach the answer sheet on the last page along the dotted line and copy your choices onto this sheet. We would also really appreciate any of your comments about all aspects of the package, on the back of the answer sheet. Your comments allow us to improve future distance learning packages. Once completed with your name and address details, return it to:

NHS Education for Scotland (Pharmacy)
3rd floor, 2 Central Quay
89 Hydepark Street
Glasgow G3 8BW

Alternatively, you may wish to complete the MCQs online at the NES Pharmacy website. You will receive an instant score if you choose this method!

If you are not resident in Scotland, you should return your completed MCQ to the appropriate centre for pharmaceutical postgraduate education.

Please note there is no negative marking, so do attempt all the questions by ticking the appropriate true/false box.

1 In relation to substance misuse:
A Substance misuse is the term used overall to describe the illegal and inappropriate use of not only drugs but also other substances such as alcohol and tobacco.
B A recent National prevalence survey (2005) suggests that about 3% of the population in Scotland are drug misusers.
C Recent data shows that the majority of new drug misusers had started using illicit drugs while in their teens.
D Recent data shows that most newly reported drug misusers are female.

2 The following statements are concerned with the harm caused by drug misuse. Which are correct?
A Misuse of stimulant drugs such as amphetamines increases the risk of patients having heart attacks.
B Cannabis smoking is less likely to cause lung cancer in comparison with tobacco smoking.
C Within the drug misusing community, it is mainly methadone patients that are at risk of oral health problems.
D Most deaths associated with drug misuse are in people aged under 45
3 In relation to drugs commonly misused:
A Once the initial euphoric effects of heroin misuse wears off, the user feels drowsy and has both mental and physiological impairment.
B Cannabis use can worsen the symptoms of schizophrenia and lead to relapse in some patients.
C There have been 200 deaths related to ecstasy use in Scotland in recent years.
D A chronic user of cocaine or ‘crack’ will not become physically dependent, but their body will increase its tolerance to the drug.

4 The following statements are concerned with the use of depressants. Which are correct?
A Withdrawal symptoms that resemble those associated with alcohol use can occur.
B Benzodiazepines are Class B drugs under the Misuse of Drugs Act 1971.
C Temazepam ‘jellies’ are sometimes still available illicitly on the street.
D Ketamine which is an anaesthetic has been shown to have depressant effects.

5 In relation to other substances, other than drugs, that are misused:
A There are four times as many deaths due to excessive alcohol use as to illegal drugs in Scotland.
B People living in the most deprived areas are four times more likely to die of an alcohol-related death and three times more likely to be admitted to hospital with an alcohol-related illness.
C Alcohol dependency is strongly related to social and economic conditions.
D SIGN 54 covers the management of harmful drinking and alcohol dependence in primary care.

6 Substances of misuse:
A Around 70 – 100 young people die from solvent abuse each year in the UK.
B Alkyl nitrates are safe to take along with stimulants such as cocaine, amphetamines and ecstasy.
C Anabolic steroids are legal to possess with a doctor’s prescription, but illegal possession with intent to supply is an offence under the Misuse of Drugs Act.
D OTC products that are likely to be abused include those containing sedatives and antihistamines.

7 The following statements relate to hepatitis. Which of the following statements are correct?
A Hepatitis B and C are principally transmitted through infected blood and other body fluids.
B In Scotland, it is estimated that more people are infected with hepatitis B than hepatitis C.
C Drug injectors can be infected with Hepatitis A, due to lack of hygiene in preparing and injecting drugs.
D Symptoms of Hepatitis A infection do not appear until 3 months after contact.
8 In relation to Blood-Borne Viruses, which of the following are correct:
A People who are close family contacts of a patient with Hepatitis B are recommended to be immunised against the virus.  
B In Scotland, about 60% of people with Hepatitis C are known to have injected drugs.  
C There is currently no vaccine available for Hepatitis C.  
D A proportion of people with chronic hepatitis C will progress to cirrhosis, which may then progress to liver failure or primary liver cancer.

9 The following statements relate to HIV/AIDS. Which of the following statements are correct?
A More HIV is spread worldwide by homosexual activity than by heterosexual intercourse.  
B HIV infects immune system cells called T-helper lymphocytes.  
C The Antiretroviral drugs known as Reverse Transcriptase Inhibitors act by trying to prevent HIV from entering the host cell.  
D Methadone interacts with many of the anti-retrovirals, which may require alteration of the methadone dose.

10 There are various infectious problems that can arise as a result of drug injection
A Post-exposure prophylaxis with zidovudine in combination with other anti-retroviral drugs can further reduce the rate of transmission of HIV if given soon after a needlestick injury.  
B The risk of needlestick injury is greater for HIV than for Hepatitis B or C.  
C If offering methadone or needle exchange services, there is no need for your staff to be trained in dealing with blood spillages or universal precautions to avoid cross infection.  
D Drug injectors are prone to candida albicans infections when they use lemon juice to prepare brown 'freebase' heroin.

11 Needle exchange schemes are a method of harm reduction. Which of the following statements are correct?
A The supply of sterile water for injection is still banned under the Misuse of Drugs Act 1971.  
B ‘Backloading’ is the practice of transferring the solution from one syringe to another, by removing the plunger from one syringe and transferring the solution from the other syringe into the back of the first syringe.  
C The Lord Advocate’s guidance recommends that only 30 sets of equipment should be supplied on a patient’s first visit.  
D Some exchange schemes also dispense citric acid, filters and condoms.
12 In relation to the safe disposal and destruction of waste from needle exchange schemes:
A Any 'works' not returned in a sharps container should always be placed in the pharmacy sharps bin by the injecting drug user.
B In November 2005, ascorbic acid, which is preferred for the preparation of 'crack' for injection, was added to the list of paraphernalia exempt from section 9A of the Misuse of Drugs Act.
C A community pharmacy should have a Standard Operating Procedure in relation to the safe disposal and destruction of waste from needle exchange schemes.
D Supply and collection of needle exchange equipment can only be carried out by the pharmacist.

13 Substitute prescribing:
A Substitute prescribing can be used when patients find it difficult to achieve long-term abstinence from heroin.
B Buprenorphine (Subutex) is the most common opioid used for substitute prescribing.
C The euphoric and sedative effects of methadone do not last as long as heroin.
D A request for supervised consumption of methadone by a GP should be indicated on the prescription.

14 In relation to methadone use:
A The starting dose of methadone is usually 10 – 40mg daily.
B Diarrhoea is a common side-effect of methadone use.
C The lethal dose for a 'non-tolerant' adult taking methadone can be as low as 50mg.
D Dispensing pumps are of particular value for pharmacies who dispense to a large number of methadone patients.

15 Drug misuse can cause many problems:
A Lofexidine (Britlofex) which can be used for detoxification is an opioid.
B Withdrawal symptoms from heroin can occur 6 – 12 hours afterwards and can last 5 –10 days.
C Naltrexone (Nalorex) is a narcotic agonist which acts on the opioid receptors in the brain and can be used to prevent relapse from heroin misuse.
D Naloxone should be used by injection for patients who take an overdose of heroin.
16 Community pharmacists are dealing more and more with drug misusers. Which of the following statements are true?
A Drug misusers like to be treated like any other customer. [ ] [ ]
B Pharmacists offering a supervised consumption of methadone and/or needle exchange services are in an ideal position to offer public health advice, to these patients. [ ] [ ]
C Integrated care for drug misusers is an approach that aims to combine and coordinate all the services required to meet the assessed needs of the individual. [ ] [ ]
D Pharmacists offering supervised consumption of methadone should aim to develop a signed agreement between them and the patient. [ ] [ ]

17 Future treatments for substance misusers may involve:
A Safer injecting rooms/clinics may offer a harm reduction option for high-risk individuals who inject drugs of misuse. [ ] [ ]
B Prescribed heroin services may offer some benefits for high-risk patients who inject 'street' heroin. [ ] [ ]
C Naltrexone implant devices are currently available on the NHS. [ ] [ ]
D Registered supplementary prescribing pharmacists are able to prescribe methadone in accordance with a clinical management plan for a patient. [ ] [ ]

18 In relation to substance misuse:
A Methadone services will be locally negotiated under ‘Additional services’ of the New Community Pharmacy Contract. [ ] [ ]
B Oral fluid testing is a non-invasive method of assessing whether illicit substances have been consumed. [ ] [ ]
C Hair analysis can provide a profile of drug use for between one week to three months or more. [ ] [ ]
D Wound care clinics and Hepatitis B vaccination clinics may also be useful for drug misusers. [ ] [ ]

19 From the Shipman enquiry:
A ‘The keeping of a running balance in pharmacy CD records should be regarded as good practice’ was one of the recommendations. [ ] [ ]
B Pharmacists are required to record and have an authorised witness for the destruction of out-of-date or returned controlled drugs. [ ] [ ]
C Pharmacists are required to record and have an authorised witness for the destruction of returned patients’-own controlled drugs. [ ] [ ]
D A record of destruction of patient-returned controlled drugs could be kept in the back of the prescription register. [ ] [ ]

20 In relation to specific drugs of misuse:
A Ecstasy was apparently discovered by a chemist in the 1950s. [ ] [ ]
B Cannabis has been reported to have some benefit in the treatment of certain illnesses, but further clinical trials are recommended. [ ] [ ]
C Cocaine doesn’t cross the blood brain barrier and hence is safe to use during pregnancy. [ ] [ ]
D Some drug misusers take benzodiazepines to ‘bring them down’ after using stimulants such as ecstasy or cocaine. [ ] [ ]
### Multiple Choice Questionnaire Answer Sheet - Substance Misuse

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Send to the address opposite:

NHS Education for Scotland (Pharmacy)
3rd floor, 2 Central Quay
89 Hydepark Street
Glasgow G3 8BW
Pharmaceutical Care in Substance Misuse