Palliative Care
for Pharmacy Technicians

NHS Education for Scotland
Introduction to palliative care

Palliative care

The World Health Organisation (WHO) definition of Palliative Care is "an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual." (1)

Palliative care:

- provides relief from pain and other distressing symptoms
- affirms life and regards dying as a normal process
- intends neither to hasten nor postpone death
- integrates the psychological and spiritual aspects of patient care
- offers a support system to help patients live as actively as possible until death
- offers a support system to help the family cope during the patient's illness and in their own bereavement
- uses a team approach to address the needs of patients and their families, including bereavement counselling, if indicated
- will enhance quality of life, and may also positively influence the course of illness
- is applicable early in the course of illness, in conjunction with other therapies that are intended to prolong life, such as chemotherapy or radiation therapy, and includes those investigations needed to better understand and manage distressing clinical complications (1)."

Palliative care includes the care of patients with any advanced, incurable disease for example; heart failure, COPD, dementia and cancer. The Gold Standards Framework (2) is a framework for implementing palliative care services, initially developed for the care of patients with cancer, and now being further developed to support the care of patients with other incurable conditions.
Activity 1

Produce a list of palliative care contacts in your Board area, which could be used as a reference source for you and your colleagues in the future. You may wish to include the following information:

- Out of hours (OOH) contacts e.g. NHS24 Professional to Professional, OOH District Nurses
- Hospices (including the pharmacy supplying the hospice)
- Hospital palliative care teams
- Home care/clinical nurse specialists for palliative care
- Hospice/palliative care pharmacists
- Community pharmacy palliative care networks
- District nurse
- Local community dietician
- Speech and language therapist
- Clinical nurse specialists e.g. multiple sclerosis, Parkinson’s disease, heart failure, renal failure etc.
Patient and carer support

Good communication is vital in order to ensure that good palliative care is provided. It is important that the communication is a two way process. Listening and recognising information communicated is as important as giving information. Patients or carers attending the community pharmacy with an urgent palliative care prescription will be anxious and want to return home with the medicines as soon as possible. Identifying palliative care prescriptions and establishing the urgency will help to reduce some of this anxiety.

In hospital pharmacies if a patient is being discharged to die at home, have the ‘just in case’ items been prescribed?

Are these prescriptions identified as urgent within your hospital?

The family will be very anxious so it is important that the process runs smoothly and doesn’t add any unnecessary stress to the patient and/or carers. If the pharmacy does not have the medicine in stock or there is a delay in dispensing the prescription it is important to communicate this to the carer and to ensure that the pharmacy staff resolve the issue in the pharmacy.

A recent example told of a daughter who spent four hours in the last 48 hours of her father’s life visiting around four community pharmacies before she finally managed to get a prescription for midazolam and oxycodone dispensed. One prescription had been written for a strength of midazolam not used in palliative care (10mg/2ml is the ONLY strength used). The first pharmacy receiving the prescription should have resolved this. How would you have felt if you were the carer in this situation...

Pharmacy services: some pharmacies offer collection and delivery services for patients. Remember that carers do not want to leave the home for any length of time and an offer to deliver the medicines will be of great benefit, but ensure an opportunity to give advice or answer questions remains.

Minor Ailments Service (MAS): if the patient is eligible to apply for MAS they will be able to receive medicines for many of the common symptoms seen in palliative care patients, e.g. dry mouth, constipation without having to go to their GP or paying for over the counter medicines.
Activity 2

Make a list of relevant websites and local carers support groups. Check in your pharmacy to see what patient information you have. These could be condition specific leaflets e.g. cancer, heart failure, or leaflets for local support groups, e.g. Alzheimer Scotland, Maggie’s Cancer Caring Centres, British Heart Foundation.

Activity 3

Go to the NHS inform website
www.nhsinform.co.uk/palliativecare

Have a look at the information available to patients and carers in the palliative care zone. There is a support services directory, which gives information for local and national support groups.
Communicating within the multidisciplinary team

On admission and discharge

- Check if patient is on a monitored dosage system (MDS). Contact the community pharmacy when admitted so they don’t make up or deliver MDS whilst in hospital and notify them of any changes on discharge.

- Advise the GP, district nurse and pharmacy staff of any unusual or unlicensed medicines or devices on discharge.

- Know who your local district nurses are and how to contact them especially out of hours.

- Record on patient medication record (PMR) if the patient has palliative care needs and any other relevant information so staff are aware.

- The majority of GP practices will record palliative patients on a Palliative/Supportive care register. Ask your local practice if they would be willing to share this information (with patient consent).

- Know how to access specialist advice - have contact details.

- Check who the hospital/local hospice palliative care team are and how to contact them.
Community pharmacy palliative care networks

Most Board areas in Scotland have a network of community pharmacies which stock a range of medicines commonly used in palliative care; this list is different in each Board area. The networks were set up to ensure palliative care medicines could be accessed over a 24-hour period. These pharmacies will have received extra training and will usually have extra resources such as the Palliative Care Formulary and/or Syringe Driver Textbook. We would still encourage patients/carers to access their regular community pharmacy and that the network pharmacies are accessed by the regular pharmacy if medicines or advice is needed urgently. Hospital pharmacies may need to access medicines urgently on discharge and may also need this information.

Activity 4

Check if you have a network in your Board area and how to access it.

If you work in a network pharmacy ensure you have the required resources and familiarise yourself and other members of staff with them.

Why not contact other pharmacies in your area and ensure they know you are a network pharmacy and the support you can offer.
Pain

Pain is what the patient says hurts.

Pain is an individual experience. It has been clearly shown that healthcare professionals underestimate the severity of a patient’s pain whilst family and friends overestimate the suffering involved. For this reason assessment must be based where possible, on the patient’s description of the pain. Pain usually arises as a result of damage to tissues (visceral or somatic pain), but can also be caused by either damage to, or interference in, the normal functioning of nerves (neuropathic pain).

Pain should be initially assessed to ensure the correct dose and type of medication is prescribed, and needs to be regularly reassessed. The type and cause of pain should be investigated as this will determine which class of medication may be most effective. The aim of treatment is for the patient to be pain free and to minimise potential side effects.

Treatment should follow the WHO analgesic ladder:

- **Step 1** non-opioid + adjuvant
- **Step 2** opioid for mild to moderate pain + non-opioid + adjuvant
- **Step 3** opioid for moderate to severe pain + non-opioid + adjuvant.

Stress and anxiety can increase the perception of pain so these needs should also be addressed.
Breakthrough pain
Breakthrough pain is the term used to describe a transient flare of pain that is moderate to severe in intensity, arising on a background of controlled pain.

Patients receiving a maintenance regimen of opioid should have a rescue dose of immediate release opioid prescribed for breakthrough pain. This is usually one sixth of the total daily dose of maintenance opioid although the proportion may vary, some patients requiring less and some more.

Incident pain
Incident pain is a transient pain precipitated by a voluntary action e.g. dressing change or movement such as personal care.

- Anticipate incident pain with use of breakthrough doses of analgesia before an activity such as changing a dressing or washing.
- Opioids used for incident pain should not be added to the total daily dose when calculating a new dose for background pain relief.

Neuropathic pain
Neuropathic pain arises from damaged nervous tissue and may be caused by:

- tumour infiltrating or compressing nervous tissue either centrally or peripherally
- surgery
- radiotherapy
- chemotherapy
- non-cancer causes e.g. viral infection
- diabetic peripheral neuropathy

Patients describe this type of pain as burning, tingling, shooting or ‘pins and needles’. Treatment involves:

- optimising opioids initially with careful assessment, noting that an increase of background opioid is not always indicated as it may not improve pain control and may lead to opioid toxicity
- trial of adjuvant analgesics (neuropathic pain is not always responsive to opioids)
- non drug methods (e.g. TENS, acupuncture).

For more information on how to assess pain, the principles of pain management and pharmacological and non-pharmacological treatment see SIGN 106: Control of pain in adults with cancer, November 2008.

Access online at www.sign.ac.uk/pdf/SIGN106.pdf
Medicines used for pain control

Non-opioids such as paracetamol 1g four times a day taken regularly, can be very effective at controlling pain. Recent guidance suggests patients <50kg should have their dose reduced to 500mg four times daily.\(^{(4&5)}\)

Opioids for mild to moderate pain include codeine and dihydrocodeine, usually in combination with paracetamol as co-codamol and co-dydramol.

Opioids for moderate to severe pain include morphine, diamorphine, oxycodone, fentanyl, hydromorphone and alfentanil.

Adjuvant analgesics

These are medicines with a primary indication other than pain but are analgesic in some painful conditions. A wide range of drugs are used in clinical practice including tricyclic antidepressants, anticonvulsants, steroids, NSAIDs and COX II inhibitors, bisphosphonates, antispasmodics, muscle relaxants and NMDA receptor antagonists. The most commonly used adjuvants for neuropathic pain are amitriptyline and gabapentin. Starting with low doses and titrating very slowly improves tolerability.

Patients and carers will need advice on using adjuvant analgesics as the patient information leaflet (PIL) will only give information on licensed indications such as epilepsy or antidepressant treatment and this may affect compliance if use as an analgesic is not explained. The PIL should still be provided as it gives relevant information on side effects and cautions. Titration of these medications is usually required so this must be explained clearly.
**Opioids**

**Morphine** is the first line, strong opioid used. It comes in oral, solid (immediate and modified release) and liquid, parenteral and rectal preparations. MST® is the most commonly used modified release preparation and should be taken 12 hourly and Sevredol® the commonest immediate release preparation taken for breakthrough pain or during dose titration. When a parenteral route is indicated, the subcutaneous route is recommended, with morphine or diamorphine both being appropriate first line choices.

**Diamorphine** is only available in parenteral form and is administered subcutaneously in palliative care. It is more potent than morphine and its main advantage is it dissolves in a very small volume of water so large doses only take up small volumes in a syringe pump.

In some Board areas, subcutaneous morphine is preferred in the hospital setting, whereas diamorphine tends to be preferred in the community setting. A patient whose pain is not controlled on morphine or diamorphine without persistent intolerable side effects may be changed to a different opioid. This is called ‘opioid switching’.

**Oxycodone** is usually used second line, and orally is about double the potency of oral morphine. It comes in oral (solid and liquid) and parenteral preparations. There are two solid oral formulations: OxyContin® tablets which are modified release and should be taken 12 hours apart and OxyNorm® capsules which are immediate release and are taken four to six hourly or as required for breakthrough pain. There are several branded generics now available of both the immediate release and modified release e.g. Shortec® and Longtec®. Check which brand is the formulary choice for your area. There have been a number of incidents in hospital and community of confusion between Oxycontin® and Oxynorm® during prescribing, dispensing and administration. The launch of these new products may initially cause more confusion so it is essential patients/carers are counselled on these products.

**Fentanyl** is approximately 100 times more potent than morphine. It is administered as a transdermal patch for certain patients with controlled pain and is changed every 72 hours. It has been shown to be less constipating than other opioids. More information is available on page 13. Currently fentanyl is also available in two sublingual/buccal preparations (Abstral® and Effentora®), a lozenge (Actiq®) and two nasal sprays (Instanyl® and Pecfent®). These are licensed for breakthrough pain as they are absorbed quickly and have a short duration of action. They are significantly more expensive than using morphine solution for example. Their place in therapy is still being established and specialist advice should be sought before prescribing. For more information see SPC for products and BNF.

**Hydromorphone** is usually the third or fourth line opioid. The oral formulation is about 7.5 times more potent than oral morphine. It is available as oral capsules called Palladone® (immediate release) and Palladone SR® (modified release). Several strengths of injections and oral liquid are available as unlicensed preparations.

The range of opioid formulations may lead to confusion for patients and carers between modified release preparations for background pain and immediate release preparations for breakthrough pain. Confirm with patient that they know which preparation is for what use.

Some liquid opioids have concentrated formulations so always double check the strength is appropriate. (Oramorph® oral solution 10mg/5ml & Oramorph® concentrated oral solution 100mg/5ml).

Check dose prescribed, particularly for high dose opioids. If opioid previously prescribed, change in dose should be no more than 50% greater than previous dose. (6)

Brand name prescribing and dispensing of modified release opioid preparations is recommended for patient safety.

Ensure patient has been prescribed medication for breakthrough pain; usually the same opioid will be prescribed in an immediate release formulation at approximately 1/6th the total 24-hour dose given for background pain.

It is recommended to avoid using decimal points when prescribing opioids as this can lead to confusion and risk of incorrect doses being given.

If a patient switches opioid, double check they know not to take both opioids. There was a recent near miss when a patient had been switched from MST® to OxyContin® and the pharmacy had a balance for the MST®. Staff nearly gave both medications to the carer.
Side effects from opioids

- Opioid induced constipation; regular laxatives should be prescribed and dose adjusted as necessary. Explain to patients the laxatives are to prevent constipation as often patients won’t take laxatives until they are already constipated.
- Nausea and/or vomiting following opioid initiation; anti-emetic should be prescribed, to be used if required, for up to two weeks after opioid started and, if needed when dose is increased. **This should be REVIEWED AFTER 2 WEEKS!!**
- Dry mouth; counselling point - good mouth care and saliva replacement products may help
- Sedation; counselling point - not to drive on initiation and after dose increase.

Patient information leaflets covering different opioids and side effects can be downloaded from [www.palliativecareguidelines.scot.nhs.uk](http://www.palliativecareguidelines.scot.nhs.uk)

Opioid toxicity

Patients can show signs of opioid toxicity with any opioid. Signs include agitation, confusion, sedation, auditory and visual hallucinations, seeing shadows at the periphery of the visual field, vivid dreams and myoclonus (contraction of muscles seen as jerking). Severe toxicity leads to reduced consciousness and respiratory depression. Patients on opioids for moderate to severe pain should be monitored closely for signs of opioid toxicity.

Causes of opioid toxicity include deteriorating renal function, inadequate hydration (simply not drinking sufficient fluid) and using an opioid for an “opioid poorly responsive” pain, in addition to commencing on too high a dose or titrating the dose up too quickly.

Opioid toxicity should be managed by:

- reducing the dose of opioid
- ensuring the patient is adequately hydrated
- treating the agitation and confusion with haloperidol
- a thorough holistic reassessment of the person’s pain and its management.
Fentanyl patches

There are two different formulations of fentanyl patches:

- a reservoir patch, where the drug is contained within a reservoir, and a rate-limiting membrane controls delivery of the drug
- a matrix patch with the medicine distributed through an adhesive drug matrix.

The two formulations of patches, and different brands, vary in appearance and to avoid patient confusion, patients should not be switched between brands without explanation.

These are available in five patch sizes (12 micrograms/hour, 25 micrograms/hour, 50 micrograms/hour, 75 micrograms/hour, and 100 micrograms/hour). The 12 microgram/hour patch (matrix formulation) is only licensed for escalation between doses and is not licensed as a starting dose for titration. Several patches can be applied at one time to provide the required dose.

Patients should be counselled regarding how to apply the transdermal fentanyl correctly. In addition, the following information may be useful:

- change the patch at the same time of day every three days
- hair can be clipped, not shaved
- apply to a different skin site after removal of previous patch
- do not use:
  - on irradiated or irritated skin areas, scar tissue or oedematous skin
  - for unstable pain
- Increase in temperature can increase the absorption of fentanyl so monitor closely
  - if patient has a fever beyond 39˚C
  - avoid direct contact with heat such as electric blankets and hot water bottles
- if adherence is poor, use micropore tape or an adhesive non-occlusive dressing. It is important to ensure that proper contact of the patch to the skin occurs and if adherence is poor, reconsideration of the suitability of the patch is required
- if adherence is poor, it can be useful to have a daily patch check on Kardex to ensure patch is still adhering properly
- fentanyl is less constipating than other opioids so laxatives should be reviewed on initiation
- used patches should be folded over and disposed of in the normal household waste. In hospital/hospice settings used patches are documented in the CD register as being destroyed, and put in a sharps bin for incineration.

Detailed guidance on the use of transdermal fentanyl is available in the NHSScotland Palliative Care Guidelines at: www.palliativecareguidelines.scot.nhs.uk. There is also a patient information leaflet about using fentanyl patches available.
Activity 5

Check the Controlled Drug cupboard and familiarise yourself with the different strengths and preparations of opioids you stock in your pharmacy.

Are the high strength preparations highlighted and separated?

Discuss with the pharmacist if this would be possible and how this could be achieved.

Refer to NPSA alert on high dose opioids (6)
Available online at:
www.nrls.npsa.nhs.uk/resources/type/alerts/?p=3

Case Study

Mrs Brown has been complaining of increased pain and her GP has increased her MST® dose to 30mg bd. What preparation would you suggest for breakthrough pain and at what dose? How would you counsel Mrs Brown?
Nausea and vomiting

Nausea is an unpleasant feeling of the need to vomit, often accompanied by cold sweats, salivation, tachycardia and diarrhoea. Vomiting is the forceful expulsion of the gastric contents through the mouth (1).

Nausea and vomiting result from stimulation of the chemoreceptor trigger zone (CTZ) and/or the vomiting centre in the brain. The choice of anti-emetic will depend on the cause of the nausea and 25% of patients require more than one anti-emetic.

The choice of route will depend on the severity and duration of the nausea and vomiting. If patients are vomiting they may not be absorbing their oral medication so another route such as parenteral or rectal administration may be recommended. When nausea and vomiting is prolonged, a continuous subcutaneous infusion delivered via a syringe pump may be the best option.

- Up to 60% of patients with advanced cancer suffer from nausea, vomiting or retching at some time.
- There is an increased risk of nausea and vomiting in those under 65 years, women and those with tumours of the breast or stomach.
- The causes of nausea and vomiting may be multifactorial, requiring combinations of drugs to treat.
- About 30% of patients who start taking morphine feel nauseated during the first week of treatment.
- Non-pharmacological methods of treating nausea and vomiting are important. These include avoidance of food smells or unpleasant odours, diversion and relaxation.

Activity 6

Download the patient information leaflet on nausea and vomiting from the NHSScotland guidelines website and have a look at the other leaflets available to give to patients.

www.palliativecareguidelines.scot.nhs.uk
## Commonly used anti-emetics

<table>
<thead>
<tr>
<th>Drug</th>
<th>Action</th>
<th>Practice point</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Metoclopramide</strong></td>
<td>Works centrally and peripherally and has a stimulatory action on the GI tract so helpful if nausea due to gastric stasis (gut contents not moving through).</td>
<td>Caution in use in under 20 year olds as risk of extrapyramidal side effects (Parkinson like symptoms). Effects blocked by anticholinergics such as cyclizine and hyoscine.</td>
</tr>
<tr>
<td>(tablets, liquid, injection)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Domperidone</strong></td>
<td>Has similar action to metoclopramide but less risk of central side effects (tremor and spasms).</td>
<td>Caution in elderly and history of cardiovascular disease. Effects blocked by anticholinergics such as cyclizine and hyoscine.</td>
</tr>
<tr>
<td>(tablets, liquid, suppository)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cyclizine</strong></td>
<td>Anticholinergic antihistamine. Acts directly on vomiting centre in brain and slows gut.</td>
<td>Side effects include dry mouth, blurred vision, drowsiness and hypotension.</td>
</tr>
<tr>
<td>(tablets, injection)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Haloperidol</strong></td>
<td>Antipsychotic, treats nausea and vomiting by blocking dopamine.</td>
<td>Causes sedation. Avoid in Parkinson’s disease. Long acting so can be given once daily, usually at night.</td>
</tr>
<tr>
<td>(tablets, liquid and injection)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ondansetron</strong></td>
<td>5HT₃ antagonist. Works on the vomiting centre and the chemoreceptor trigger zone (CTZ).</td>
<td>Usually used to treat nausea and vomiting caused by chemotherapy. Can cause constipation.</td>
</tr>
<tr>
<td>(tablets, liquid, injection and suppository)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Octreotide</strong></td>
<td>Reduces secretions in GI tract so reduces volume of vomit. Can be useful if there are signs of bowel obstruction.</td>
<td>It is stored in a refrigerator. Can cause pain/irritation at injection site. Expensive.</td>
</tr>
<tr>
<td>(injection)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Levomepromazine 6mg tablets</strong></td>
<td>Broad spectrum anti-emetic so can be used if not sure of cause of nausea and vomiting.</td>
<td>Unlicensed preparation. 6mg preparation not listed in the BNF except in the palliative care section at the front. The usual dose is 3 to 6mg once or twice daily. They are available as Levinan® tablets from IDIS Pharmaceuticals on a named patient basis. Check your local Community Pharmacy Palliative Care Network drug list to see if network pharmacies in your area keep this in stock. The 25mg (Nozinan®) tablets should not be used as this dose can cause severe hypotension.</td>
</tr>
<tr>
<td>(also 25mg/ml injection)</td>
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*For more information refer to BNF and Local Palliative Care Guidelines*
Constipation

Constipation is the passage of hard stools less frequently than the patient's own normal pattern. This condition provokes a wide range of concomitant symptoms including abdominal pain, bloating, flatulence, nausea, tiredness, headache and bad breath.

Prevention of constipation is paramount, and should be anticipated in all patients taking opioids or anticholinergics, those who are bed-bound, or those with reduced fluid or fibre intake. Patients with little or no food and fluid intake continue to produce waste in the bowel and can still become constipated.

Assessment is essential in patients with constipation to establish the nature of change of bowel habit. If the patient has become constipated sometimes the bowel may become blocked and laxatives may make the situation worse until the blockage can be removed. This will be causing the patient pain and discomfort and they should be referred to their doctor.

Commonly used drugs

<table>
<thead>
<tr>
<th>Drug</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Movicol/Laxido</td>
<td>Osmotic</td>
<td>Add sachet to 125ml of water and drink. Can add flavouring to drink to make more palatable.</td>
</tr>
<tr>
<td>Senna</td>
<td>Stimulant</td>
<td>Can cause stomach cramping.</td>
</tr>
<tr>
<td>Lactulose</td>
<td>Osmotic</td>
<td>Need to drink a lot of fluid to be effective. Use can be limited by bloating and flatulence.</td>
</tr>
<tr>
<td>Docusate</td>
<td>Softener</td>
<td>The liquid preparation tastes horrible.</td>
</tr>
<tr>
<td>Co-danthramer (Danthron/Polaxamer 188)</td>
<td>Combined stimulant/softener</td>
<td>Can turn the urine red. Avoid in incontinent patients as danthron can cause burning of the skin.</td>
</tr>
</tbody>
</table>

Most patients with opioid induced constipation will need a combination of a stimulant and osmotic/softener laxative.
Dyspnoea

Dyspnoea is the term used to describe when people have difficulty in breathing easily. This can involve a physical impediment such as increased airways resistance with asthma or COPD or a non-physical trigger such as anxiety.

The role of relaxation, correct positioning and breathing exercises are therefore important in the control of this symptom. Dyspnoea can be a very complex symptom as the underlying causes are numerous and patients often have pre-existing lung disease. Treatment will involve identifying the causes of breathlessness and treating those that are reversible, then giving palliative treatments to alleviate remaining symptoms. Where previously diagnosed lung disease is present, it is important to ensure that treatment of this is optimised and ensure inhaler technique is correct.

Opioids, anxiolytics and oxygen all have a place in the therapy of breathlessness. If used inappropriately, opioids can induce respiratory depression. However, low dose oral opioids can improve breathlessness, especially at rest, although the precise mechanism of action is unknown.

Benzodiazepines probably relieve breathlessness through anxiolytic and sedative effects and, possibly, muscle relaxation.

Lorazepam 500μg sublingually (under the tongue) can be very effective. There is no preparation licensed for sublingual use. The 1mg tablet is used and halved but it has to be the blue, oblong, scored tablet made by GENUS, TEVA or PVL as other preparations don’t dissolve under the tongue and may be more difficult to halve.

Only a small number of patients should require continuous oxygen. For others, explanation and reassurance combined with medication such as anxiolytics, and non-drug measures such as opening a window or bedside or hand-held fans can have a good effect.
Skin care

Preventing problems occurring is usually far easier than treating skin which has become damaged. Pharmacy staff are ideally placed to provide advice on basic skin care to patients and carers (the latter often find this is an area of care where they can assist, and feel they are contributing something useful).

Skin can become damaged after chemotherapy and particularly radiotherapy and can be very sensitive. In these cases advice from specialist staff within the chemo or radiotherapy teams may be needed.

Chemotherapy can cause dry, sensitive skin and may cause brittle nails. This may be aggravated in harsh environments such as chlorinated swimming pool water. The use of regular bland moisturisers is especially helpful to avoid dehydration and minimise itching. Patients should advise their doctor if rashes appear as this may be medicine related e.g. fluorouracil or capecitabine. The risk of cuts is greater with wet shaving than with electric razors and so may be best avoided.

Some chemotherapy leads to photosensitivity and ensuring sun protection i.e. avoidance, covering up with natural fibres, wearing head protection and high factor sunscreen is essential.

Radiotherapy may cause the development of a reaction similar to sunburn. This often occurs a few weeks after treatment and may become sore and itchy. Skin may remain sensitive to sun exposure and should have additional protection for at least a year. Patients may be asked to avoid washing the area, using cool water, not to soak too long and to pat dry and avoid using drying agents such as talcs, soaps, deodorant or perfumes.

Pruritis (itch) may be caused by dry, irritable skin, skin infections (occasionally nail infections), some medicines e.g. morphine, jaundice or the condition itself e.g. lymphomas. Where possible the underlying cause should be identified and treated appropriately.
Practice points

Hair loss may cause distress to patients and families. Practical advice and reassurance may be required.

Look Good….feel Better is a programme run by some hospitals and support groups that gives expert advice on make-up and skin care. It also has a website which deals with general skin problems during cancer treatment as well as hair loss, wigs and hints on how to make the best of your appearance, which in itself can provide a psychological boost to some patients. It is well worth signposting patients to www.lookgoodfeelbetter.co.uk
Cancer related fatigue is defined by the National Comprehensive Cancer Network as “a persistent, subjective sense of tiredness related to cancer or cancer treatment that interferes with usual functioning”. Cancer related fatigue is possibly the most important untreated symptom of cancer; it is rarely discussed and very often goes untreated. Symptoms include:

- low energy levels
- poor concentration
- confusion
- reduced mobility, independence and self-esteem.

Some causes of fatigue are reversible such as opioid induced, anaemia, infection, depression or metabolic causes. Many chronic conditions such as heart failure and COPD can cause fatigue and management would be similar.

There are different ways to treat fatigue including:

- planning activities to reduce boredom
- energy conservation to prioritise activities
- emotional support
- nutritional support (dexamethasone low dose or megestrol acetate may be considered, but limited efficacy and risk of side effects)
- practical support including discussion of expectations, with multidisciplinary teams and social work input.

The Fatigue in Palliative Care guideline is available at [www.palliativecareguidelines.scot.nhs.uk](http://www.palliativecareguidelines.scot.nhs.uk)
Activity 7

Access the Macmillan Cancer Support website:

www.macmillan.org.uk

and have a look at the information provided for patients and carers about living with cancer.

Create a log on to access the www.be.macmillan.org.uk site and browse the information resources you can order from Macmillan.

Also find out about websites for other chronic disease such as heart failure, chronic obstructive pulmonary disease (COPD), motor neurone disease and dementia and have a look at resources for patients and carers.
Common oral problems

- dry mouth - can be due to medication such as opioids or tricyclic antidepressants e.g. amitriptyline or anti-cholinergics e.g. hyoscine
- painful mouth, causes of which include: ulceration, viral and fungal infection, radiation therapy, chemotherapy
- inflammation due to infections such as oral candidiasis (thrush) and mucositis
- halitosis
- alteration in taste.

Activity 8

Oxetacaine and antacid liquid is used in the management of oesophageal mucositis, usually in patients who have had radiotherapy for head and neck cancers. Find out:

1. How and where it can be obtained in your pharmacy and what are the implications when discharging a patient home on this unlicensed medication (ULM)?
2. What counselling the patient may require if they are advised to use this product?

Activity 9

Read the Mouth Care guideline at:
www.palliativecareguidelines.scot.nhs.uk
Enteral route

There are four main types of tubes used for enteral feeding:

- Nasogastric tube (NGT)
- Percutaneous endoscopic gastrostomy tube (PEG)
- Radiologically inserted gastrostomy (RIG)
- Percutaneous endoscopic jejunostomy (PEJ).

In all patients who are unable to take oral preparations, there is a need to review medication before considering an alternative formulation, route or medication. When other routes are unsuitable (e.g. rectal), medication may be administered via enteral feeding tubes in patients on enteral nutrition although careful consideration is required. The addition of medicines to the enteral feed is not recommended.

Administration of a medicine via an enteral feeding tube, and crushing tablets or opening capsules to facilitate administration by this route, are almost always unlicensed methods of administration. The prescriber should specifically indicate on the prescription that this route is to be used, and whilst the prescriber is responsible for prescribing out with license, others involved e.g. pharmacist and person administering, share responsibility for use of medicines in this way.

Choice of formulation

Factors to be considered when administering medicines through an enteral feeding tube:

- choice of formulation
- tube type
- medicine/feed interactions
- site of tube and medicine absorption.
A thorough review of all medication is appropriate when enteral feeding is commenced. When changing formulations, medicines may require dosage or frequency adjustments e.g. digoxin, phenytoin - due to differences in absorption.

Also consider whether there is an alternative formulation of the medicine which can be given via an alternative (and licensed) route, or a different medicine would be more suitable e.g. changing isosorbide mononitrate to a glyceryl trinitrate patch.

Factors to consider when choosing a suitable formulation for administration through an enteral feeding tube include:

- Will the medication bypass the treatment target if administered via tube? e.g. antacid and oxetacaine suspension.
- The preferred and easiest way is to use a liquid preparation. However, many liquid preparations are sweetened with sorbitol, which is a laxative and can cause abdominal cramps and diarrhoea when the daily dose is 7.5g or more. Sorbitol containing preparations should be diluted with water immediately before administration. Further dilution may also be required for some other liquids e.g. thick suspensions.
- Dispersible or soluble tablets are preferable to crushing tablets, but the sodium content in dispersible and effervescent tablets may need to be considered.
- It is necessary to consider granule size when administering granular formulations e.g. Omeprazole MUPS as large granules may block fine bore feeding tubes.
- The health and safety risk of crushing tablets or opening capsules should be considered. Generally, cytotoxics, corticosteroids, hormones, hormone antagonists, antiretrovirals, aspirin, NSAIDs, antibiotics and prostaglandin analogues are not to be crushed.

Formulations unsuitable for crushing and hence for administration through enteral tubes include:

- Enteric coated tablets - the gastro protective coating will be destroyed and the tablets are difficult to crush and may block the tube.
- Buccal and sublingual tablets (but the patient may still be able to take these by the buccal or sublingual route).
- Chewable tablets - these are designed so some drug is absorbed from the mouth so if crushed and administered down a tube less drug will be absorbed.
- Modified release preparations (some capsules containing modified release granules can be opened and the contents given through the tube, but others cannot – seek guidance for each specific product). If these are crushed the whole dose may be released at one time instead of over a period of hours. This may lead to increased risk of side effects and medication being effective over a shorter period of time.


The advice would be similar if the patient had swallowing difficulties.
Practice points

When dispensing a prescription for oral liquids check whether the patient has been provided with appropriate sizes of oral syringes to measure liquid medicines, and ensure that they are given the necessary bottle bungs for use with these. A range of sizes may be needed.

Advice on appropriate measurement of oral liquids is available from NPSA Promoting safer measurement and administration of liquid medicines via oral and other enteral routes. 28th March 2007.

www.nrls.npsa.nhs.uk/resources/?entryid45=59808
Syringe pumps

Medicine administration by the intravenous route is normally avoided in palliative care patients because it is invasive and no more effective than the subcutaneous route. The intramuscular route should also be avoided in patients who have reduced muscle mass such as cachexic patients as it is painful.

The subcutaneous route should not be reserved only for use in a dying patient but should be considered early in the management plan if symptoms are problematic.

The subcutaneous parenteral route is used when the oral route is not available or if it becomes impractical due to:

- inability to swallow
- nausea and/or vomiting
- intestinal obstruction
- poor absorption e.g. ileostomy
- patients who are very drowsy, comatose or semi-comatose
- patients whose analgesic requirements would involve the use of an excessive number of tablets (although this is unusual).

The oral route should be reinstated if or whenever possible.

The subcutaneous route is the parenteral route of choice in palliative care patients. Continuous subcutaneous infusions are preferred for the following reasons:

- avoids the need for frequent injections
- easily administered especially in patients with poor veins or little muscle bulk
- avoids the risks of infection with prolonged intravenous administration
- can be used for prolonged periods of time. Cannula can remain in place for up to 7 days if there is no evidence of redness or inflammation at the site
- more comfortable for the patient.

The infusion is run over 24 hours and a fresh infusion should be prepared by nursing staff every 24 hours.
The CME T34 syringe pump is now commonly used in Scotland. This pump is calibrated in mls per hour. 20ml (containing max 17ml) or 30ml (containing max 22ml) luer lock syringes can be used with the lockbox which is supplied with each pump. Fine bore lines with a small priming volume should be used. The Medicines Device Agency recommends that the lines have anti-syphon valves. The device should be placed lower than or at the same level as the infusion site.

**Sites of administration**

The subcutaneous tissues of the pectoral region and anterior abdominal wall are most frequently chosen, but a change of site may be necessary in the event of a local reaction, seen as small areas of redness and swelling at the injection site.
Compatibility/Stability of drug combination for subcutaneous infusion

In the United Kingdom, it is common practice to administer one, two or three different medicines mixed in the same syringe. Combinations with four or five medicines are generally discouraged and only used when there are no other treatment options available and only under specialist advice and if local policies allow.

The stability and compatibility of combinations of medicines should always be confirmed, particularly as the small infusion volume means that the medicines delivered may be very concentrated.

It is important to ascertain if the compatibility data available is relevant to the situation of intended use:

A combination may be compatible but if the dose (and therefore concentration) increases it may no longer be compatible. The concentration of each item within the combination should be checked to ensure stability.

The diluent used and the time period for the infusion should also be checked because different diluents and longer infusion periods may also cause compatibility problems. Water for injection (WFI) or sodium chloride 0.9% are generally used as diluents in the UK. WFI is the preferred first line for combinations of two or more medicines in one syringe. Some commonly used medicines such as cyclizine are incompatible with sodium chloride.

pH is one of the main predictors of whether two or more medicines to be mixed are likely to be compatible. Most of the medicines used by subcutaneous infusion are acidic, but a few are alkaline (e.g. diclofenac) and the latter therefore usually need to be given via a separate infusion.

For more information refer to the NES T34 McKinley Guidelines. Available online at: www.nes.scot.nhs.uk/media/347814/mckinley_20t34_20syringe_20pump_20guidelines_20final.pdf
Travelling abroad with a life limiting condition

There is a useful booklet on the guidelines website about going on holiday if you have a terminal condition.


Macmillan also has several good leaflets on getting travel insurance.

Controlled Drugs should be in their original packaging and carried in hand luggage. A letter from the patient’s GP and/or export licence from Home Office may be required depending on the country visiting and quantity of medication. It is advisable to contact BAA and the Airline regarding their regulations.

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Activity 10

Have you ever seen a syringe pump? Ask a district nurse or staff nurse if it would be possible to see a pump or access local training events.

Have a look at local guidelines and find the section on syringe pump compatibilities.

Create a log on at [www.palliativedrugs.com](http://www.palliativedrugs.com) and access the syringe driver survey database (SDSD).

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Case Study

Mr Edwards has been started on a syringe pump. His pump has to contain morphine 30mg and midazolam 10mg.

Is this compatible? What size syringe would be needed? What diluent would be used?

Mr Edwards becomes very agitated and haloperidol is added to the pump at a dose of 6mg.

Is this still compatible and what syringe size would be needed?

[View suggested answer/s](#)
Last days of life

Symptom management

It has been shown that it is almost impossible to accurately predict when patients are going to die even when they have existing advanced, progressive disease.\(^{(1)}\). Patients can decline gradually over a period of weeks or months, or their condition can progress rapidly over hours or days.

This makes the management of this stage of progressive disease difficult; however it is possible to anticipate some of the potential problems. In many areas initiatives such as ‘Just in Case Boxes’ and Anticipatory Care Plans have been introduced to ensure medication is available in a patient’s home and a treatment plan has been written up so that when/if a patient deteriorates their symptoms can be treated quickly and at home. This not only ensures the patient is receiving good care but it also reduces stress and anxiety to the patient’s family.

www.palliativecareguidelines.scot.nhs.uk/careplanning/

As disease progresses to the last few days, symptoms previously identified persist and new symptoms may arise.

The most common symptoms are anorexia, dry mouth, confusion, constipation, dyspnoea (breathlessness), dysphagia (inability to swallow), anxiety, respiratory secretions, terminal agitation and pain; all being found in more than 30% of patients with cancer. Similar symptoms are experienced in patients with non-malignant disease.\(^{(2)}\).

The Liverpool Care Pathway (LCP) is a multidisciplinary document and provides a framework and method of recording and measuring outcomes of care. However The LCP has been withdrawn from use in most care settings following a negative media campaign and Independent National Review ‘More Care Less Pathway – a review of the Liverpool Care Pathway’.


Guidance has been issued by the Scottish Government in response to the review.

www.scotland.gov.uk/Topics/Health/Quality-Improvement-Performance/Living-Dying-Well/Liverpool-Care-Pathway/NeubergerReviewGuidance
Midazolam is a benzodiazepine used to treat anxiety, agitation and distress. It is administered subcutaneously and in palliative care the only strength used is 10mg/2ml ampoules.

More dilute strengths can cause two potential problems:

- The bolus dose may be too large to give subcutaneously.
- The required volume may be too large to fit in a syringe pump, especially if mixed with other medicines.

Midazolam injection is a Schedule 3 controlled drug and the prescription has to be written correctly. Contact the prescriber if you receive a prescription for other strengths of midazolam for palliative care patients as delays in accessing other strengths can impact on patients and carers.
Return of medicines after death

Pharmacies may be contacted for advice regarding disposal of medicines after a patient has died, particularly where there may be concerns around potential for misuse of the medicines if they were to remain in the home. Pharmacists have an ethical responsibility to dispose of these medicines to prevent harm. The Waste Management Licensing (Scotland) Regulations 2011 allow registered pharmacies to accept returned medicines from patients or individuals and care services. Ensure that any patient identifiable information is destroyed or totally obscured. Patients should be advised that unused, unwanted medicines should be returned to a pharmacy for safe disposal.

See Royal Pharmaceutical Society, Medicines Ethics and Practice edition 37, July 2013, pg 50 & 51 return of medicines after death for more information.

Return of controlled drugs

If drugs are schedule 2, 3 or 4 (part1) they have to be denatured preferably using DOOP kits if available. An authorised witness is not required but it is good practice to have a witness and may be policy in hospitals. A record should not be made in the CD register but a separate book should be kept to record schedule 2 patient returned drugs and their destruction.

See Royal Pharmaceutical Society, Medicines Ethics and Practice edition 37, July 2013, pg 86-89 return of medicines after death for more information.

Bereavement

Pharmacy staff need to be aware of and sensitive to the needs of bereaved relatives at this time. It may be helpful for pharmacy staff to be aware of the Scottish Goverment Health Department (SGHD) publication What to do after a Death in Scotland. It is available to download at the following link: www.scotland.gov.uk/Resource/Doc/47133/0025575.pdf.

It can be difficult to talk to carers at this time but try your best to be sensitive and patient with them. If you aren't confident dealing with difficult conversations find out if there is any training available locally on communication skills.

Activity 11

Go to www.goodlifedeathgrief.org.uk
Watch the video “20 takes on Death and Dying” in the Resources section of the website.
References and Resources

References

Much of the information in this e-resource has been taken from the NES distance learning pack The Pharmacist in Palliative Care, 2009.

7. Royal Pharmaceutical Society, Medicines Ethics and Practice, edition 37, July 2013

Resources

www.palliativecareguidelines.scot.nhs.uk
www.palliativedrugs.com - Can be accessed via NHS Scotland Knowledge Network with an Athens password
www.knowledge.scot.nhs.uk/home/portals-and-topics/palliative-care.aspx
www.palliativecareggc.org.uk or other local websites

NHSScotland Palliative Care Guidelines and local palliative care guidelines
NES distance learning pack The Pharmacist in Palliative Care. Version 2009
Macmillan website www.macmillan.org.uk and resources www.be.macmillan.org.uk
Now that you have completed this learning resource you are ready to undertake the multiple choice questionnaire at: www.portal.scot.nhs.uk

This will allow you to formally check your knowledge and understanding of this learning module.