

**Learning
Byte**

**Postural care –
protection of body shape**



NHS Education for Scotland would like to acknowledge Tess Ellis, Physiotherapist, and Simple Stuff Works as authors of the material provided for this resource.

Contents

Welcome to this Learning Byte!	4
What has postural care got to do with me?	5
24-hour postural care	19
Risk of body shape changes in different populations	31
What are the consequences of failing to provide postural care?	35
How do we know if therapeutic positioning is working?	39
Summary and conclusion	41
References and further reading	42



Welcome to this Learning Byte!

This learning byte has drawn on:

- stories from people who have altered body shape due to lack of postural care
- stories from people who have been supported successfully to protect and improve their body shape
- the experience and knowledge of families, paid carers, therapists and equipment suppliers who support people needing postural care.

What is a Learning Byte?

It's an alternative to a traditional, structured, beginning-to-end course that is available in bite-sized chunks in the workplace. You can access it in different ways – on a PC or a mobile device, for instance – and at any time.

Who is it for?

We've developed this Learning Byte for students from all four fields of nursing – adult, mental health, learning disability and children's. It will also be relevant for other clinicians (such as therapists) and paid carers working with people who need postural care as well as family carers and self-advocates.

What will I get from this Learning Byte?

The Learning Byte provides you with a brief guide to postural care. By the time you have completed it, you will:

- understand that protection of body shape is a consideration for everyone in the general population, not only those with additional healthcare needs
- know how and why the body changes shape with time
- have an awareness of, and be able to identify, common postural difficulties
- have an awareness of the impact of postural difficulties on a person's health and wellbeing
- know how to identify people who have specific postural care needs
- have an awareness of the sort of equipment and techniques used to protect a person's body shape.

What has postural care got to do with me?

What is postural care?

The term postural care is used to describe any intervention intended to protect a person's body shape.

The best defence against body shape distortion (effectively a change in body shape) is movement. Most of us are lucky enough to experience typical movement and so are defended against the effects of gravity and inactivity. Other individuals are more reliant on support from others to change position.

Reduced mobility can be temporary, such as during the later stages of pregnancy or when recovering from an operation, or permanent due to, for example, illness or disability. The less movement a person has, the greater their risk of experiencing body shape distortion.

Postural care can be given in the form of:

- advice, teaching and training
- active movement
- therapeutic positioning
- the use of equipment such as appropriate seating (static and wheelchairs), night-time positioning equipment ('sleep systems', pillows and even teddy bears), profiling beds and standing frames.

The best and most effective postural care is the **prevention** of body shape changes. Knowing the early warning signs can give people an opportunity to alter their behaviour to prevent changes occurring. **Prevention** of body shape changes involves helping people to understand common risk factors and how to use simple common-sense approaches to protect themselves and the people they care for.

If you're working with people, you'll be familiar with techniques to protect yourself as you move, lift or reposition people, but you may not have considered how you can protect the actual body shape of the person you're caring for or, indeed, your own body shape.

If the body shape is not protected negative changes can occur.

1) Hip and knee flexion contractures

The hip and knees become 'stuck' in bent positions and cannot be straightened.

2) Changes in spinal curvature

i) Scoliosis

The spine when the person is standing with their back to you curves to the side instead of being straight.

ii) Increased thoracic kyphosis

When the person stands sideways on to you, you can see that the natural curve in the thoracic region is increased. They look more 'round shouldered' or more bent over.

iii) Increased lumbar lordosis

When the person stands sideways on to you, you can see that the natural curve or hollow in the lumbar region is increased.

iv) Decreased lumbar lordosis

When the person stands sideways on to you, you can see that the natural curve or hollow in the lumbar region is decreased or flatter. This is sometimes referred to as 'sway back'.

3) Pelvis

To describe changes in the position of the pelvis it is useful to make reference to the anterior superior iliac spines or ASISs. The ASISs are the bony bits that can be palpated or 'felt' at the front of your pelvis

When the pelvis is level (normally mid-way between posterior and anterior tilt) it is described as pelvis neutral.

i) Increased anterior tilt (*this happens with increased lordosis*)

The position of the pelvis when it has rocked forward from a neutral position. We talk about people being 'in anterior tilt'.

ii) Increased posterior tilt (*this happens with decreased lordosis*)

The position of the pelvis when it has rocked backward from a neutral position. We talk about people being 'in posterior' tilt.

iii) Rotation of pelvis

The pelvis is described as rotated when one side of the pelvis is further forward from the other than the other. We can describe the direction of rotation using the terms 'clockwise' and 'anticlockwise' rotation. We can also say 'right side forward' or 'left side forward'.

iv) Pelvic obliquity

The pelvis is described as oblique when one side of the pelvis is higher than the other. We can describe the obliquity by saying 'right side up' or 'left side up'.

4) Ribcage shape

The shape of the ribcage is particularly important as the vital organs are located in this space.

i) Altered depth : width ratio

The normal depth : width ratio is 0.65-0.85, in other words most people have ribcages that are slightly wider than they are deep.

ii) Ribcage rotation

This is best described in the supine position (i.e. when the person is lying on their back). If the sternum is not directly over the spine the ribcage is rotated. We can describe the direction of rotation using the terms 'clockwise' and 'anticlockwise' rotation.

5) Legs

If the person has hip and knee contractions it is impossible for them to lie with their legs flat and extended on the bed. The legs will then either fall together and to one side (this is described as wind sweeping) or fall outwards into abduction or fall inwards into adduction.

6) Head position

The head may be positioned in a number of different postures. The neck may extend backwards taking head behind midline, or flex forward taking the head in front of midline or it may side flex and rotate taking the head to the side of midline. The position of the head is particularly important when considering the ability to eat and drink and for the person to be able to communicate.

7) Arm position

Many asymmetries can be seen in the upper limbs. People with body shape changes often have arms held in a very flexed (bent) or extended (straightened positions).

Activity



Ask a friend to lie down in any position they choose. **Can you describe your friend's body shape, using some of the descriptions above?**

Changes in body shape rarely happen in isolation. When one body part changes position or shape, it affects other body parts. Assessing or trying to describe a person's body shape means looking at the whole body in all three planes and in different positions.

Activity



Sit upright in a chair without any back support. Now lift the weight off your right buttock. You now have a temporary pelvic obliquity. Hold this position.

- **What is happening to your legs and feet?**
- **What is happening to your spine and ribcage?**
- **What is happening to your head and neck?**

Now imagine you have become very stiff and are unable to change this position. **How would this affect you:**

- **effort levels as you continue to keep upright without support?**
- **ability to carry out tasks in the sitting position?**
- **ability to lie?**
- **ability to stand?**

What do you think would happen to your body shape if you had to sit like this all day every day for a month?

Activity



Lie on your tummy with your hands resting either side of your head, palms down. Hold this position.

- **What is happening to your legs and feet?**
- **What is happening to your pelvis?**
- **What is happening to your spine and ribcage?**
- **What is happening to your head?**

Now imagine you have become very stiff and are unable to change this position. **How would this affect:**

- **your ability to sit?**
- **your ability to stand?**

What do you think would happen to your body shape if you had to sit like this all day every day for a month?

How do body shape changes happen?

Changes in body shape are caused by:

- **soft-tissue shortening (contractures)**
- **the 'squashing' effect of gravity.**

Soft tissue shortening or '**contractures**' occur when all or part of your body remains in a fixed position for a long period of time. Soft tissues lose their elasticity and restrict the body part from moving. These fixed positions are often the result of sustained habitual postures.

Soft tissue shortening or 'contractures'

Colin's story:



Colin has a sedentary lifestyle and works long hours in an office sitting hunched up over a computer or driving. His back has started to take on a rounded shape and he finds it difficult to stand tall and straight. This is because his back flexors are tightening up in this shortened position. He finds it hard to sit on the floor with his legs straight in front of him and play with his young children. This is because his hips and knees are in a flexed position for long periods of time at work.

Alison's story:



Alison always wears high heels. She finds it hard to walk with bare feet. This is because her calf muscles remain in a shortened position with high heels on. She needs more length in her calf muscles to strike the floor with her heel when walking barefoot.

We are continually holding ourselves up against gravity. Each time we change position, gravity acts differently on different parts of the body. If we stay in one position for a long period of time, the '**squashing' effect of gravity** will become more obvious and more long-lasting. If the position is asymmetrical, gravity will increase the asymmetry and perhaps make it permanent.

The 'squashing' effect of gravity



Akhtar's story:

Akhtar is unable to move by himself. He spends a lot of time in bed lying on his back. His mother has noticed that his ribcage is becoming wider and flatter. His sternum appears to be sunken.



Melanie's story:

Melanie can propel herself in her electric wheelchair. She tends to take more weight through her right buttock so that she can lean her right elbow on her arm rest and operate her hand control. She has spent all day in her wheelchair for the last 5 years. She has developed a scoliosis. The scoliosis is progressing rapidly.

We see fewer body shape distortions in the general population than in people with additional health problems. We need to think about the impact on body shape of people with:

- **changes in muscle tone**
- **pain or discomfort**
- **persistent primitive reflexes**
- **ageing and reduced muscle strength**
- **temperature-regulation difficulties**
- **sensory processing disorders**
- **proprioceptive difficulties**
- **sensory impairment such as visual disturbances.**

The impact of some of these additional health problems are described in the following stories.

Ageing and decreased muscle strength



Mrs Reynolds' story

Mrs Reynolds is an 82-year-old who lives in her own home with her husband. She has become less mobile and more prone to falls. She is becoming fearful of walking and, as her activity levels reduce, so does her muscle strength. She spends increasing amounts of time in bed or sitting in a limited number of destructive positions (positions in which we stand, sit and lie that will lead to body shape changes). The causal link between contractures and immobility goes unrecognised by Mrs Reynolds, her family and the healthcare practitioners they come into contact with.

A GP referral to the physiotherapist reports that Mrs Reynolds has 'gone off her feet'. She now finds it almost impossible to sit comfortably, and is restricted to bed. Secondary complications arise. Her arthritic knees become more painful, she is dependent on her husband to bring her food and drink, and the position of her head makes it difficult to swallow. She becomes dehydrated and contracts a chest infection.

Social services set up a care package as her husband can no longer cope alone. Although she is still continent, it is too painful and requires too much effort for Mrs Reynolds to get to the bedside commode provided by the occupational therapist, and the carers are never there when she has the urge to 'go'. So she begins to use continence pads. The carers become concerned about her pressure areas.

Mrs Reynolds' medical condition declines and she is admitted to hospital. The level of care she now needs makes it difficult to discharge her. It is decided that institutional care is the only viable option, due to the complexity of her needs.

Temperature-regulating difficulties



Carly's story

Carly lives in a small group home supported by care assistants. She is an adult with Profound and Multiple Learning Disabilities (PMLD), very low tone and is described as being 'like a rag doll'. She also has epilepsy: her seizures can be triggered by overheating.

Carly is unable to say if she is getting too hot or too cold (it is not clear whether she is aware of the sensation of being hot or cold). She has very little active movement and is dependent on other people to dress her and adjust her blankets in bed. It has also been noted that Carly neither sweats nor shivers.

The physiotherapist who visits the home is very concerned about Carly's posture, particularly her ribcage shape and the number of chest infections she has had over the last six months. He has worked with wheelchair services to get her a moulded wheelchair. The nurse, however, says that her epilepsy management must take priority – her seizures are severe and she is concerned that the moulded wheelchair will make her hot. Increased core temperature triggers Carly's seizures. The manager of the care agency has said that Carly must not be in her chair any longer than necessary, so she is placed on a beanbag whenever she is at home.

The role of nurses in postural care

Nurses working in general adult, mental health, learning disability and children's services come across people who are at risk of body shape changes. Sadly, you may also see people with established body shape changes. You will be able to apply your common sense, knowledge about postural care and expertise in your field to:

- identify people at risk of body shape changes and advise how to prevent them
- work with people who have established body shape changes to prevent further changes from happening and improve their body shape.

Depending on the expertise within your multidisciplinary team, you may take the lead on postural care for an individual or play an important contributing role.

Activity



Which of the following could be described as form of postural care? (tick the appropriate boxes)

Teaching the mother of a child with cerebral palsy about the effects of contractures

Taking a short walk after every 40 minutes working at the computer

Using pillows to help you lie straight in bed

Changing position regularly

Doing stretches every morning

Training the staff in a residential home how to choose the right chair for each resident

Can you think of any other examples?

Activity



Peter Bagshaw's story

Peter Bagshaw is a tall, 71-year-old resident of a nursing home. He has type II diabetes, chronic obstructive pulmonary disease and sleep apnoea. Three months ago, he could stand and transfer from chair to chair with a walking frame, but he has been hoist-dependent since he has come back to the nursing home following admission to hospital after a myocardial infarction: he detests the process of being hoisted.

His doctors say his cardiovascular state is now stable, and he would love to be able to do standing transfers again. The ward physiotherapist has referred him to the community physiotherapy team to help him regain his previous levels of mobility.

Peter has to sleep with the bed-head raised and his non-invasive positive pressure ventilation (NIPPV) mask on. You have been on early shifts for the last four mornings and each morning have discovered that Peter has slipped down the bed. The night staff try to prop him up by inserting more pillows behind his back, but his trunk always falls forward and to his left and pushes him further down the bed. Peter's long legs are bent up, with his feet pressing against the foot of the bed.

What body shape changes is Peter at risk of, and how could this impact on his day-to-day life?

If you were a nurse working in the nursing home, what could you do to help Peter?

You may have mentioned that Peter is at risk of a number of body shape changes including:

- hip and knee contractures leading to either legs wind sweeping to right or left
- pelvic asymmetries
- changes in spine and rib cage
- increased spinal kyphosis, possibly scoliosis.

These changes could impact on his day-to-day life in a number of ways.

Peter's inability to extend his legs and stand would mean that he would continue to be hoist dependent. This in turn would lead to further muscle weakness and in turn further body shape changes.

Changes in his torso may result in him having to be in a hunched over position affecting his ability to look up, communicate and take part in activities. His ability to eat and drink and breathe are likely to be affected resulting in increased risk of chest infections, worsening apnoea, decreasing quality of sleep, poor nutritional and immunological status.

All of this could lead to a possible decline in Peter's overall physical and mental health.

If you were working in the nursing home you could find a way of positioning Peter so that he can lie in bed with his legs as extended as possible and his body supported in midline. He may need a pillow under his knees if his legs cannot fully extend. The bed could be profiled to accommodate his bent knees and keep his legs in alignment.

Also it is important to make sure that when he is lowered by hoist into bed that his bottom is far enough up the bed so that there is room for his legs to straighten out. It is better to avoid putting pillows behind back but pillows can be used on either side of his body.

You should talk to Peter about what you are trying to achieve and why so that he understands and is able to take an active role in protecting his own body shape.

You should also continue to monitor Peter and ensure deterioration in body shape does not occur.

24-hour postural care

What does this mean?

Twenty-four hour postural care ensures that appropriate support is provided to help the person to adopt positions that are as therapeutic as possible throughout the day and night.

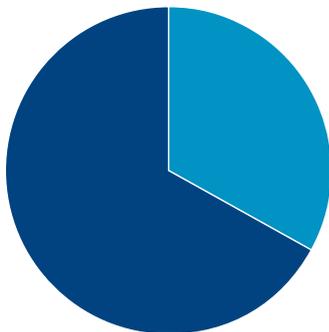
Historically, more focus has been placed on people's daytime and sitting postures. We have been familiar with specialist seating for longer than we have been familiar with night-time positioning equipment. It is now recognised, however, that night-time and lying postures need to be addressed if postural care is to be effective.

Why is this important?

Careful consideration needs to be given to the positions in which we spend most of our time.

There are 24 hours in a day and 365 days in a year. This gives us a total of 8760 hours a year. If we manage to get eight hours sleep a night, we are looking at 2920 hours a year in the lying position – or a third of our time.

Hours in a year



■ hours spent in lying positions

■ hours spent in sitting or standing positions



People who find it hard to move during the day often spend most of the night in one position. This is often referred to as the habitual or preferred position. Over time, it can become an obligatory position, as the person's body shape may make it even harder to move or difficult to adopt alternative positions.

Here is something else to consider: many people with the additional kinds of problems we have been discussing may spend more than eight hours in bed at night. They may also have naps or spend time being positioned on mats on the floor.

Activity



Read Mrs Reynold's story again.

Consider the pie chart on page 19 showing the amount of time people typically spend lying and sitting or standing. Draw two pie charts for Mrs Reynolds – one reflecting her positioning at the start of her story, and one at the end.

How could night-time positioning have helped her?

At what stage could the provision of effective night-time positioning have disrupted this scenario?

How could you help all those involved to understand the causal link between contractures and immobility?

The second pie chart should show how all her time is now spent in lying positions. Night-time positioning could have supported Mrs Reynolds in a therapeutic position so that body shape changes were avoided. Night-time positioning could also have helped her to preserve body shape so that she maintained function, mobility and physical and mental well-being. Specifically the secondary health problems listed could have been avoided.

She and her husband may have coped better with less need for help from social services. She may have avoided hospital admission.

As soon as she became less mobile therapeutic positioning should have been considered as she was beginning to spend prolonged periods of time in certain postures – hence putting her at risk of soft tissue shortening and the squashing effects of gravity. The increasing amounts of time she spent in bed could have been used from the beginning as a window of opportunity to keep soft tissue length, avoid contractures and the effects of gravity through the use of night-time positioning.

You could help all those involved to understand the causal link between contractures and immobility by encouraging colleagues to reflect on what happened. It is important to point out how timely interventions lead to better outcomes for the person and to cost savings for services.

Activity



Read Carly's story again. You are doing a routine visit to her at home and find out that no one has ever assessed her posture in bed or considered her sleeping habits. Back at team base, you ask if Carly's postural care needs have been met. A senior health care practitioner tells you that Carly's postural care needs have been met because she has been seen by wheelchair services recently and has a wheelchair that is meeting her needs.

- **What do you do?**

- **Who do you speak to?**

Initially you should speak to the practitioner involved. Use your own knowledge to invite him/her to reflect on his/her practice. Make sure your conversation covers the need for 24-hour postural care (you could ask how long Carly spends in her chair, what positions and equipment she typically uses over a 24-hour period). This should reveal that Carly spends very little time in her wheelchair and the rest of the time unsupported in her beanbag and in her bed. (Think about the pie chart again!)

You should involve Carly from the start – determine how she communicates and find out who is aware of her communication methods and whether this knowledge is shared and used. Is Carly expressing pain or discomfort during her time spent in unsupported postures or as a result of unsupported postures (think about hip pain/back pain etc.)? Is she suffering any of the secondary complications associated with body shape changes?

You should also speak to the physiotherapist, the nurse and the home manager to help them understand that night time positioning is important and that everyone involved needs to find a way of using night-time positioning equipment safely in terms of her epilepsy and overheating – even if a compromise has to be reached some support at night is better than none. You also need to explain that the beanbag will not support her in therapeutic postures and suggest a static seating assessment – i.e. explore what static or ‘comfy’ seats could be used to support her when she is not in her wheelchair.

Remind everyone involved what we can predict will happen to people in the absence of postural care.

If people do not appear to want to follow your advice you may want to take this higher up in your team and also consider reporting this as an incident.

Why is night-time positioning so effective?

Length of time

We have considered the length of time that people spend in bed. This time presents an ideal opportunity for the person to be therapeutically positioned. People are more likely to be moving around (if they are able to move) during the day than at night, but it is not always so simple: some people like to move around a lot at night! The skills of the practitioner or carer come into play in these situations. Creativity, good communication and compromise may be needed.

Key message

Postural care is gentle and humane. Therapeutic positioning in lying does NOT involve holding people in positions against their will!



Gravity

Provision of support in bed allows people not only to be more comfortable, but also to minimise the impact of gravity on joints and soft tissues.

Activity



Picture a person with scoliosis. **In which position does gravity act to increase the spinal curvature that we see in scoliosis?**

- **Sitting upright?**

- **Lying down on their back?**

Remember – the weight of the head is carried by the spine in upright positions. This adds to compression on the spine.

The answer of course is sitting. In the sitting position gravity is acting vertically down through the length of the spine. This squashing affect and the weight of the head will increase the spinal curvature.

When lying down the weight of the spine is supported along its length and the weight of the head is not borne through the spine.

Tone

We have a better chance of lowering increased muscle tone that is contributing to body shape changes in a lying position, as the body is more supported when lying than when sitting or standing. As our base of support becomes larger, our muscles relax and tone lowers.

Activity



Consider how hard your muscles are working as you move through the following positions:

- standing on tip-toes on one foot
- standing on one flat foot
- standing on two feet
- standing leaning against a wall
- sitting on a stool
- sitting back in an arm chair
- lying on your back.

What did you discover?

Our tone may lower even further when we fall asleep. It is often possible to support a sleeping person to achieve therapeutic positions with no harm or distress, which is something they can't achieve during the day.

When therapeutic lying positions have been achieved, you will notice that the person's weight has been distributed over a larger area. You may hear the term 'spreading the load'. This means that the person's pressure care is also improved, as they are no longer taking a lot of weight through bony prominences.

Key message



Good postural care also provides good pressure area care.

What does therapeutic positioning at night look like?



Robert in an Unsupported Lying Posture



Robert in a Therapeutic Supported Posture

Activity



Find Tommy's Story in the downloads on the Simple Stuff Works website [www.simplestuffworks.co.uk/resources]. Look at how he was positioned when lying. Read the story to find out how his sitting posture was improved.

Ideally, the person should sleep on their back, knees to the ceiling, pelvis level, sternum central and with their head in the midline. Some people may be able to do this just by following advice and instruction. Others may need pillows or more specialised equipment. Others still, particularly those with Profound and Multiple Learning Disabilities, may find it too difficult and/or unsafe. In this case, the person should be supported to get as near as possible to lying on their back, as described above. If they cannot lie flat (for respiratory reasons, for example), we could look at raising the bedhead or making side-lying positions as therapeutic as possible.

In order to work out a positioning plan for an individual time must be spent listening to the individual and their supporters. We need to understand what is important to them and what is going to work for them.

Key message



Postural care must be safe.

Most of us have established sleeping habits, and introducing different habits may be difficult for some. Remember how you feel when you do not get enough sleep! It's important to recognise the sleep requirements of the person and the families supporting them – we may need to take a long-term view and ensure people have time to adjust.

Some people take to lying on their back immediately and are happy to stay all night in the therapeutic position, but others, particularly those with Profound and Multiple Learning Disabilities, may require that we show patience, excellent communication skills, creative thinking and a degree of compromise on positioning.

How can we make sure therapeutic positioning is carried out safely?

The *Safety Planning Checklist*¹ considers whether the person is happy with the position and its safety in terms of epilepsy management, breathing, continence care, pressure care and circulation. The checklist can be used to assess risk and help the formulation of a safety plan.

If you decide you need to make changes to a person's sleeping position, work with everyone involved (the person, family, carers and other members of the multidisciplinary team) to introduce the changes gently and carefully.

Activity



Find the Safety Planning Checklist on the Simple Stuff Works website [www.simplestuffworks.co.uk/resources]. Think of someone you know who needs night-time positioning as part of their 24-hour postural care. Use the checklist to consider the risks and devise a strategy to make sure their postural care at night is safe.

Key message



Postural care must be safe, gentle and humane.

How do I know if the person I support needs postural care?

From what you have learnt so far, you'll be able to appreciate some of the factors that predispose people to body shape changes.

Activity



Write down as many factors as you can think of that put a person at risk of body shape changes.

You may have noted:

- decreased mobility (risk increases with decreasing levels of mobility – i.e. sedentary lifestyle there is some risk, complete dependency on others to move you: higher level of risk)
- prolonged positioning – particularly in asymmetric or destructive positions
- altered muscle tone.

The *Mansfield Checklist*¹ is a tool we can use to determine whether someone needs postural care (you can access it at www.simplestuffworks.co.uk/resources). It is a list of six Yes/No questions that can be answered quickly. If the answer to one or more is 'Yes', it can be concluded that the person needs postural care.

Activity



Think of someone you supported on a student placement. Use the Mansfield Checklist to determine whether the person needs postural care. You could also think about family members or friends.

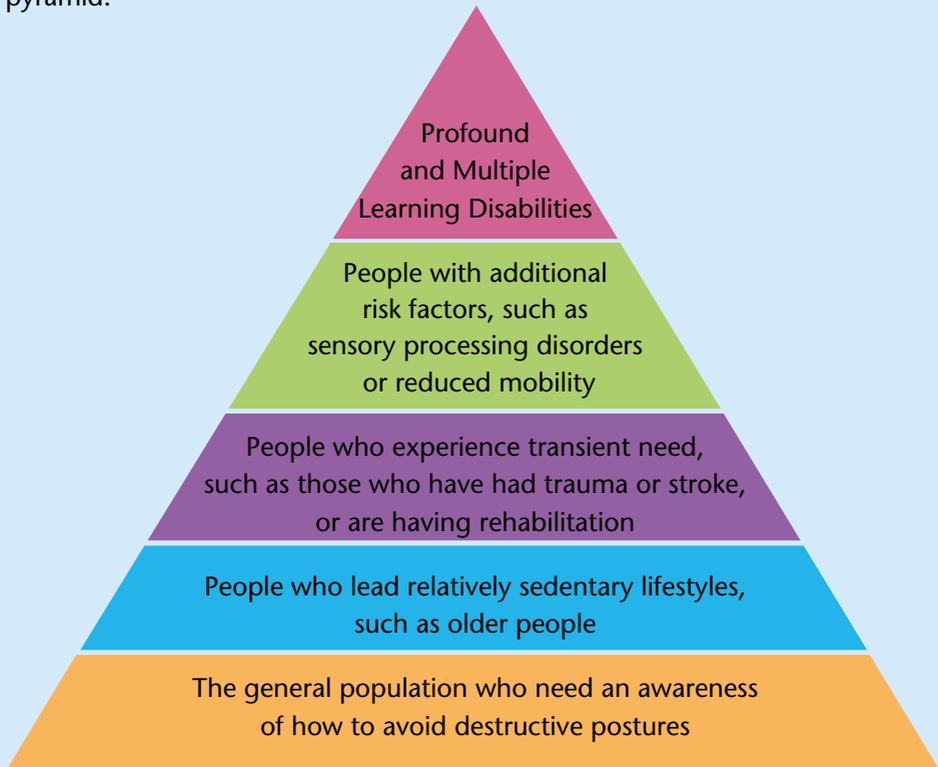
Key message



Postural care needs to be person centred.

Risk of body shape changes in different populations

Study the diagram below. Postural care is likely to become more complex and require a higher level of skill for people towards the top, but the numbers of people in the defined groups are likely to become smaller as you ascend the pyramid.



We will now consider each of these populations.

The general population

Some people have very active jobs and don't sit down all day; others will struggle to find opportunities to get away from their desk. Most people are able to adopt lots of different seated postures and will make small adjustments to their position as they become uncomfortable.

Activity

The amount of exercise we are advised to take each week varies depending on our age. Go to www.nhs.uk and look up:

- physical activity guidelines for somebody your age
- physical activity guidelines for a 7-year-old child.



People often forget about those long hours during the night, however. As we've seen, we tend to have a preferred lying position in which we will fall asleep, but we then move a number of times during the night to minimise the effect of gravity.

People who lead relatively sedentary lifestyles, such as older people

Changes in body shape begin to have an impact if a person's movement is reduced. The first risk factor to consider, therefore, is mobility.

People in this population would include Mrs Reynolds, whom we met earlier. We learnt that her risk of adopting destructive positions was greater than that of the general population.

People who experience transient need, such as those who have had trauma or stroke, or are having rehabilitation

Almost every individual will experience a time in which they cannot move as normal. This could be after an operation, an injury, a stroke or during pregnancy.

Activity



Think of a time in your life when you experienced a decreased ability to move.

How was your movement limited?

What postures or positions did you adopt for sustained periods?

How did this affect you?

What help did you need to become comfortable?

People with additional risk factors, such as sensory processing disorders or reduced mobility

People in this population may have one or more conditions that predispose to body shape changes, such as changes in tone, sensory impairment and muscle weakness. Such people are less able to defend themselves against gravity and are likely to rely on others for positioning and repositioning.

People with Profound and Multiple Learning Disabilities

This population includes people who may be receiving care from a number of professionals for different reasons (respiratory problems, pressure ulcers and swallowing problems that require percutaneous endoscopic gastrostomy (PEG) feeding, for instance).

When planning postural care, it is often necessary to compromise on what you would like to do to improve the body shape. Putting a person on their back, for example, may not be possible if their oxygen saturations deteriorate in this position.

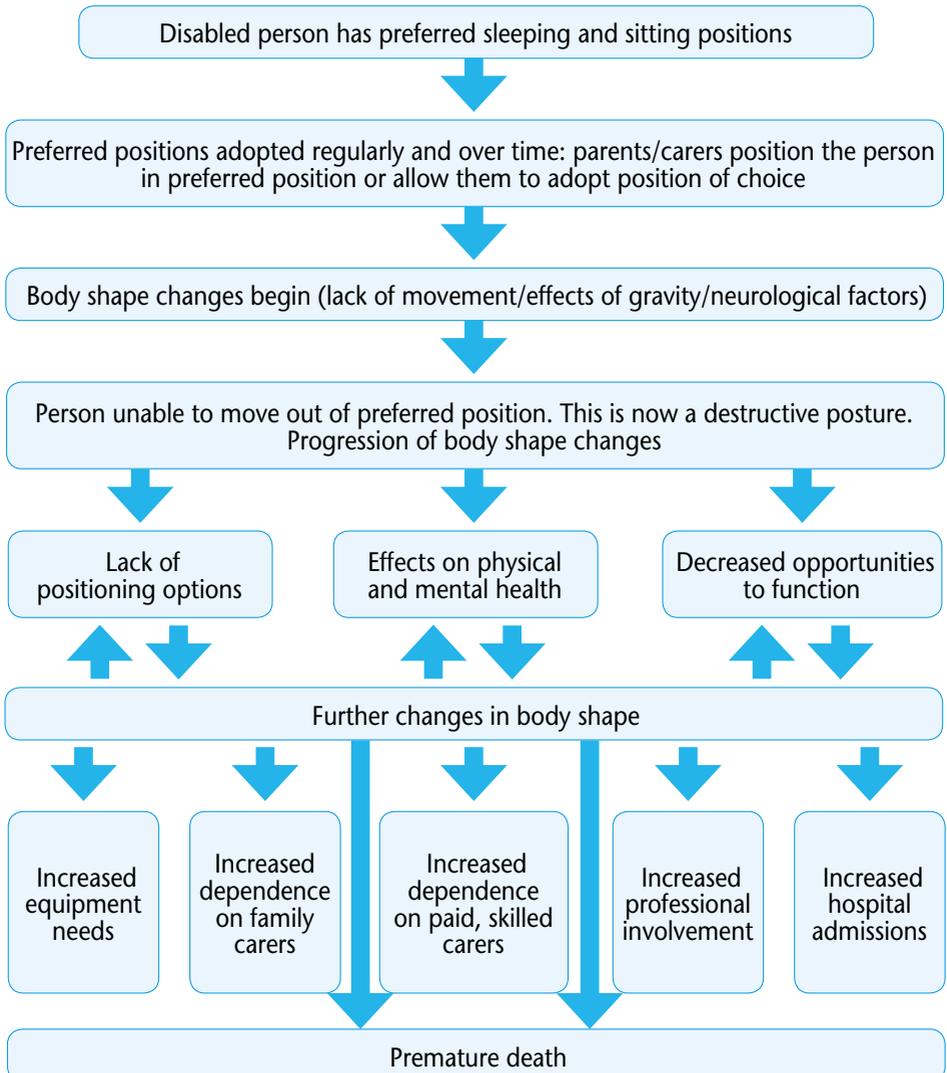
Children

Children and young people are not specified in the diagram, but they require careful consideration. They are at risk of developing changes to their body shape because they are growing. Puberty growth-spurts present particularly risky times in which any existing distortion can become exaggerated – this is often when professionals start to notice changes and may guide families towards drastic surgical interventions before considering therapeutic positioning.

What are the consequences of failing to provide postural care?

The figure below describes how severe changes in body shape can come about and how this can lead to premature death.

Failure to provide postural care – the consequences





This is an X-ray of Fred at 10 years of age. You may be able to detect a small degree of rotation in his ribcage and will note that his spine is not completely straight. However, at this age Fred would probably have had room within his ribcage and abdomen for his heart, lungs, diaphragm and bowels to function well. He did not receive any help with postural care.



This is an X-ray of Fred at 23, shortly before he died. You may find it difficult to determine the location of his heart, lungs, diaphragm and bowels. It is easy to see why it would have been difficult for his lungs to function.

It is difficult to imagine how Fred was able to change position, have personal care, eat and drink or open his bowels. Would he have been able to leave his house, his bed?

It is heartbreaking to imagine the pain he must have suffered. What would his family have been feeling, and what would their caring role have been like?

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Activity

Read Mrs Reynolds' story again.

If Mrs Reynolds' posture had been supported in bed early on, what secondary complications could have been avoided?

How might Mr and Mrs Reynolds have been affected socially and psychologically during the course of events?

Had postural care in sitting and lying positions been carried out when Mrs Reynolds' first 'went off her feet', health and social services savings could have been made. List five savings:

It may be necessary to make a case for the person with postural care needs to get the equipment they need. Think about the cost of **NOT** providing equipment: these are associated with surgical intervention, complex equipment for mobility and moving and handling, pressure care, adaptations to the home should hoists be required, enteral feeding, pain management and an increased need for medications. The human cost to the person and their family of experiencing avoidable secondary complications must not be forgotten.

Ultimately, changes in body shape lead to a loss of internal capacity. The internal organs are compromised as there is not enough room for them: for some people, this will lead to premature death. These arguments can be used to clinically justify the need for equipment and training costs.

How do we know if therapeutic positioning is working?

Subjective and objective information can be gathered to determine whether postural care is working. Most important is what the person is telling us. They may tell you about:

- reduction or elimination of pain
- improved sleep
- improved mobility
- improved function
- improved general health (less constipated, fewer chest infections, absence of pressure sores, less depressed).

Ideally, the professional taking the lead in the person's postural care will work with the individual to set person-centred outcomes they hope to achieve. An outcome may be very specific – read Peter Bagshaw's story again, for example. His desired outcome may have been: *"To be able to get from my bed to my wheelchair without having to be hoisted."*

Activity



Read Carly's story again. What do you think she would want to gain from her postural care? Try to think of at least one outcome you might set her if you were supporting her.

Similarly, family carers may report:

- less stress
- increased ease of caring/less time spent in the caring role
- improved sleep.

Photographs, observations and descriptions are useful in evidencing postural care, but to be completely objective in reporting changes in body shape, we need to use standardised, reliable and validated measures. The Goldsmith Indices of Body Symmetry (GIOBS) can be used for this. This simple, non-invasive and statistically validated measure has been available since 1992¹.

Families and individuals can be reassured when the GIOBS measurements are used in the following ways.

- When GIOBS readings show that a person's body shape has stayed the same or improved, they know that the postural care they have in place is working. This may be particularly reassuring if, for example, a mother knows her daughter will only use her sleep system for three hours in the night.
- When GIOBS readings show that a person's body shape is starting to deteriorate, we can take action. GIOBS helps us to pick up small changes in body shape that observation alone cannot. GIOBS, then, helps us to deliver preventive rather than reactive postural care.

Summary and conclusion

Changes in body shape are caused by:

- soft tissue shortening (contractures)
- the 'squashing' effect of gravity.

People requiring postural care range from healthy people in the general population to people with complex needs.

People most at risk of body shape changes are those who are dependent on others to change position and who have additional challenges to their mobility. But body shape changes are preventable, and body shape can be protected through safe, gentle humane care in the form of early identification of who is at risk, advice, exercise and therapeutic positioning.

Activity. Paper to practice



Well done for completing the Learning Byte!

Reflect on your learning. Identify five key areas in which your knowledge has developed, then write one objective for each, outlining how you can implement some of what you've learned in practice. It might be about developing yourself or your service to provide good care and support. Discuss it with your lecturer, supervisor, mentor or manager.

Key learning – I have learned about:	To develop this area of practice, I will:
1.	
2.	
3.	
4.	
5.	

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