

Good positioning: the importance of posture

This is the second in a series of articles exploring how physical positioning can affect a resident's general physical function, level of abilities and wellbeing. In this article, the approaches that care staff can adopt to help reduce postural problems are also discussed.

Residents can develop bad postural habits, resulting in muscle imbalance and muscular strain that can add to the problems associated with ageing. This can impact severely on a person's movement patterns and affect the ability to cope with daily living activities. Care staff should be encouraged to notice and report changes in posture, and can help to reduce, even rectify, the resultant musculo-skeletal problems.

Good posture

For most residents, a typical day involves moving from lying to sitting, to standing, and to walking. During the day, postural sets are altered automatically, often without any conscious thought, using muscles and joints that are strong, flexible and have an adequate range of movement.

A person with 'good posture' rests and moves with the spinal column and adjoining parts of the body in correct alignment. It is essential to have adequate sensory feedback, including the ability to know where the limbs are in relation to each other (joint position sense) and a sense of equilibrium to provide good balanced posture. When the body is used effectively, less energy is used and fatigue can thus be reduced. Good posture provides balance to the body and helps to provide support for the body and inner organs.

Causes of postural problems

The way we sit, stand and walk has a long-term effect on our musculo-skeletal system. Poor posture can simply be a result of the adoption of bad movement habits over many

The way we sit, stand and walk has a long-term effect on our musculo-skeletal system. Julie Swann discusses the effects of bad posture, and offers advice on assisting residents with posture and positioning.

years. When a joint works in an abnormal pattern, the ligaments can be stretched and the efficiency of the joint will be reduced. As the surfaces of the joint are not aligned correctly, this produces abnormal load-bearing on both joint and ligaments.

Prolonged poor sitting and standing postures are linked to many orthopaedic problems, including back pain. Poor posture can cause muscular and joint pain, particularly in the neck, shoulders and lower back. *Table 1* provides examples of physical activities and bad practice that can lead to postural back strain and pain. Fatigue and back pain can

be produced from all of these activities. This can be prevented by learning how to sit and stand correctly. Remaining in one position (static posture) for prolonged periods is also considered to be bad posture.

Poor posture can shorten muscle fibres and result in an imbalance of the skeletal system, with adverse effects to the structure of joints, particularly in the spine and knees. A previous orthopaedic condition or injury may alter the joint alignment. This can hasten degenerative changes to the joint's surfaces and result in osteoarthritis. Osteophytes (excess bone) can develop at the joint ends and cause pain. As a result of calcification, some joints, including those in the spine, can become fused in abnormal positions. Many orthopaedic conditions can be exacerbated by poor posture and abnormal walking patterns.

Postural problems can also be caused by medical conditions, as well as intoxication from alcohol and substance abuse. Medical problems include neurodegenerative conditions such as multiple sclerosis and Parkinson's disease. A cardinal symptom of Parkinson's disease is unsteadiness when standing or walking that can threaten mobility and independence, and which increases the risk of serious injury from a fall (Roberts and Overstall, 2008).

Table 1.

EXAMPLES OF BAD POSTURE

- Slouching with hunched shoulders
- Increased inward curve in the lower back (Lordosis or 'Swayback')
- Carrying heavy objects on one side of your body
- Cradling a phone between your neck and shoulder
- Wearing high-heeled shoes or very tight clothes
- Keeping the head held too high or looking down too much
- Sleeping on a mattress that does not provide adequate support
- Slumping forward while sitting on a chair
- Not using lumbar back support while sitting
- Sliding forward while sitting on a chair

Adapted from: <http://www.healthsuperstore.com/health/v-bad-posture-back-pain.htm>

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Image 1. Posture has an influence on emotions and contributes to a person's appearance.

Psychological factors

Posture has an influence on emotions and contributes to a person's appearance (Image 1). People who have good posture tend to be viewed as confident and outgoing, while hunched posture is deemed to indicate insecurity and depression.

Postural instability causes unsteadiness when standing and walking. Residents who have postural instability or postural deficits have an increased risk—or even a history—of falling. This will reduce their confidence, and their gait (walking pattern) will be hesitant. This can develop into a negative cycle and physical activity will be gradually reduced and a person's independence slowly eroded.

How care staff can assist

As people move, several positions are adopted throughout the day (sitting, standing, bending, stooping, and lying down). When moving from one position to another, the ideal situation is that one's posture is adjusted smoothly and fluidly. Residents may be totally unaware of developing bad posture, but this should be brought to their attention. It is important to learn how to attain and

keep correct posture in each position for good back support, which will result in less back pain.

Unless encouraged to do so, residents rarely take their limbs through a full active range of movement. If the joint ligaments and surrounding muscle are underused, the range of movement can reduce. There are many ways that bad posture can be corrected, and activities can be incorporated into individual activities programmes designed to strengthen postural muscles.

Resting/lying down

Adequate sleep is important to avoid fatigue, and beds should be supportive yet comfortable. While noting that positioning is individual and not prescriptive, general principles on positioning in bed are outlined in Swann (2009).

Sitting

If poor sitting posture develops, it can have an adverse effect on chest capacity and respiration as well on a resident's musculo-skeletal structures. Methods of improving sitting posture are outlined in Swann (2009) in which care staff are encouraged to ensure that seating is supportive and of the right height. Recliners should have footrests that support the foot at an angle of 90° to the lower leg, which will prevent shortening of the Achilles tendon (Swann, 2009). Residents should be encouraged to change position frequently, otherwise pressure areas can develop (Swann, 2009). Crossing the legs over at the knee can have adverse effects on the circulatory system.

Sitting to standing

Care staff can help residents to rise from a chair independently by encouraging them to move forward and bring their body forwards in preparation for standing up. When rising from a chair a resident should be encouraged to put equal weight through both feet.

When attempting to stand, the soles of the resident's feet should be placed firmly on the floor. The resident's hands should be placed with the palms on the arms of the chair; he or she should then be encouraged to push up into a standing position. Assistance should never be given by pulling on a resident's arm or by using a walking aid for leverage such as a walking frame or a rollator. This is bad practise and should be discouraged, as it only serves to increase dependence on staff and can cause musculo-skeletal problems for care staff.

Sometimes the momentum is lost, and it can therefore help to encourage a rhythm before rising, for example, saying '1-2-3-rise'. This is particularly useful in residents with Parkinson's disease (Swann, 2005) who can have problems initiating movement (termed start hesitation).

Standing posture

During standing, a person's balance is maintained by keeping the person's centre of gravity over his or her feet. When a person is standing, it should be possible to draw a virtual vertical straight line from the earlobe, through the shoulder, hip, knee, and into the middle of the ankle.

A simple check on postural alignment can be carried out by asking a resident to stand

Table 2.

GOOD STANDING POSTURE

- Stand up straight with the feet about a 'shoulder-width' apart
- Weight should be taken mainly through the balls of the feet
- Avoid 'locking' the knees
- Look straight ahead, not at the ground
- The chin should be parallel to the ground to avoid neck and back strain
- Dipping the chin slightly downwards can help to stand straighter
- Stand, don't lean; leaning strains the back muscles
- Lift the shoulders up then relax them down
- Pull the shoulders slightly back (shoulders back, stomach in)
- Wear comfortable low-heeled shoes that are supportive (including the arch area)
- Avoid prolonged standing



Image 2. Heel-raisers can be inserted into slippers.

with their bottom and shoulders against a wall. The back of the head should touch the wall. If the head is carried too far forwards, forward curvature of the spine and a reduction of chest capacity will result. The distance between the resident's head and the wall can be measured to check for any deterioration or improvement. Good standing posture is outlined in *Table 2*. It should be possible to slide one's hand flat between the arch of the spine and the wall. Some residents may have structural changes in their spine and an erect posture may not be possible.

Although it is unlikely that residents will need to stand for a prolonged period of time, they should be encouraged to shift weight from one foot to the other, or rock from heels to toes. This also helps with circulation and balance.

A common habit is over-arching of the lumbar region (small of the back). To avoid this happening, the hips should be brought forwards slightly and the bottom tucked in.

Walking

Good posture is essential to enable residents to walk comfortably and easily. This will also help with chest expansion and breathing. Poor walking posture can develop in residents, particularly those who use a walking appliance. A postural set with rounding of the shoulders pushing the head forward will develop, altering the alignment of the spine and should be discouraged. Over-tensing the muscles when walking will also put the resident's body out of alignment. When walking, residents should be encouraged to keep their head up and to look straight ahead.

It is also important that walking appliances of the correct height are provided (Swann, 2007). Shortening of the Achilles tendon (tendon at the back of the heel) needs attention so that a normal gait can be achieved. A shoe insert can be provided by orthotists,

who can also arrange for shoes and slippers to have heel-raisers (*Image 2*). Slippers with a supportive front and back are preferable to open-backed types. Stretching exercises can help, and a referral to a physiotherapist may be required. Sometimes the tendon will need to be surgically lengthened.

Older people can develop what is termed a 'senile gait disorder'. Roberts and Overstall (2008) describe this gait, for which there is no apparent cause, as being characterized by 'caution and shorter and more frequent strides'. They state this is present in '15–24% of elderly people, but not due to age but underlying neurodegenerative syndromes and stroke'.

A resident's confidence when walking can be reduced for many reasons, including fear of falling and problems with way-finding. Many of the causes can be addressed. It is important to provide positive feedback, not just negative comments.

Providing feedback

Care staff can help residents to improve posture by providing verbal and tactile prompts, such as explaining what part of the body is out of alignment and gentle tactile (touch) to help to re-align their bodies. After initial correction of bad posture habits, these movements tend to become automatic and require very little effort to maintain.

Encouraging exercises

Posture can be improved and bad posture eliminated by re-training the body to stand, walk, sit and lie in positions that avoid straining supporting muscles and ligaments. The principle of exercise is to work muscles effectively. If correct movement patterns are followed, the muscles are used more efficiently, less energy is expended and fatigue will be reduced.

There are many exercises to help to stretch and relax the main muscle groups; these encourage good postural awareness and can be carried out in sitting and standing positions. Exercises may be provided by a physiotherapist or alternative therapist such as a Pilates, Alexander Technique, Tai Chi or Yoga instructor.

Activity programmes

Care staff can reinforce exercises. Activities encouraging regular breathing patterns and gentle stretching exercises whilst seated can

be included.

Other treatments

Some residents may be helped by meditation or other forms of relaxation. Treatments such as massage therapy, chiropractic or osteopathic manipulation can be of benefit.

Looking after yourself

Poor posture can also affect care staff, particularly those whose work involves sitting at a computer for hours, or prolonged periods of standing or lifting. By improving posture, the incidence of back and neck pain can be reduced and the development of serious back problems in later life can be prevented. Attention should be given to the work environment and the wearing of low-heeled supportive shoes. To encourage good posture, the work-place should be looked at to ensure that it is as ergonomic as possible. Good postural development can be encouraged by the provision of an ergonomic desk and chair. It is also essential to alter postural sets before stiffness and fatigue sets in. This can be achieved by taking frequent breaks to stretch the limbs.

Conclusion

Correct posture helps to maintain the body in alignment and balance with the other parts. It also helps to reduce fatigue and musculo-skeletal pain. The adoption of good posture will avoid exacerbations or an increase in musculo-skeletal problems in residents. Care staff can seek advice from traditional and alternative therapists to ensure that good posture is maintained, whilst at the same time appreciating that some residents may have permanent restriction in their joints.

As well as encouraging good posture in residents, it is important for care staff to look after their own posture to avoid the development of problems in later life. **NRC**

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