Positioning and early mobilisation in stroke

In this article...

- How to help stroke patients to mobilise early
- Preventing complications related to immobility
- Interdisciplinary working in stroke units

5 key points

1. NICE guidance recommends early mobilisation and optimum positioning of people with acute stroke

2. Early mobilisation and good positioning can help patients regain function and reduce complications

3. Nurses have a vital role in early mobilisation as they are present 24 hours a day

4. Patients benefit if nurses share working practices with the rest of the stroke unit team

5. Specialist equipment should be used in collaboration with the therapy team

Patients should be given individualised positioning and early mobilisation management plans as soon as possible after a stroke to prevent complications and to regain function.
beyond the confines of their professional knowledge. This interdisciplinary working (rather than just multidisciplinary team-working where all the team may be present but not necessarily working cooperatively) ensures that therapy continues 24 hours a day; it also avoids patients waiting for the physiotherapist to mobilise them (Askim et al, 2012; Indredavik, 1999).

To develop the expertise to provide this gold-standard care in their stroke service, nurses need specialist knowledge and skills as defined in the stroke-specific education framework, and therefore need appropriate training (Watkins et al, 2011; DH, 2007). They should acquire this in formal training sessions and in practice, by working with physiotherapy and occupational therapy staff to learn safe and correct ways to move and handle individual patients (ICSWP, 2010; Jones et al, 1998).

Nurses must recognise their own level of skill, and work within the limits of their knowledge and expertise, as reflected in the UK Stroke Forum’s role profiles. For example, they may use standing aids and hoists to assist with mobilisation soon after a stroke, but physiotherapists may help patients practise standing/transferring immediately as they may be more skilled in rehabilitation techniques (Kilbride and Kneafsey, 2010; ICSWP, 2008).

Preventing complications of stroke
‘Early’ mobilisation takes place within the first week after a stroke while ‘very early’ mobilisation takes place within the first 24 hours (Bernhardt, 2008).

In the first 24 hours, patients often have problems such as reduced levels of consciousness and awareness, weakness and/or reduced coordination of one or more limbs, and sensory and visual loss. These symptoms may make it difficult, and in some cases unsafe, to get out of bed. However, it is thought that the benefits of early mobilisation, when patients’ clinical condition allows, are greater than the risks when it is delivered by appropriately trained staff using a management programme on a stroke unit (Skarin, 2011; ICSWP, 2008).

An estimated 85% of patients develop complications following a stroke, and up to 51% of deaths in the first 30 days after stroke are due to immobility (Bernhardt, 2008). Positioning patients correctly, and assisting them to sit up in bed early in their stroke care helps to prevent complications such as those listed in Box 1. Sitting up also helps with maintaining nutrition and hydration and patients feel it has psychological benefits (NICE, 2008; Thornton, and Kilbride, 2004).

**BOX 1. COMPLICATIONS OF POOR POSITIONING**
- Pressure damage
- Poor blood oxygen saturation
- Chest infections
- Pulmonary embolism
- Urinary tract infections
- Constipation
- Decreased range of movements
- Muscle atrophy
- Joint contractures
- Orthostatic blood pressure problems
- Oedema
- Psychological problems

Sources: Askim et al (2012); Kilbride and Kneafsey (2010); Indredavik (1999)

**BOX 2. RECOMMENDED POSITIONS AND MOVEMENTS**
- Sitting supported in bed
- Sitting supported out of bed
- Transferring with hoist
- Rolling to sit up
- Sitting with no support
- Transferring with feet on the floor
- Standing

Source: Askim et al (2012)

**Developing individualised management plans**
After patients have been assessed, they should be given an individualised positioning plan, developed by the appropriate therapists (Scottish Intercollegiate Guidelines Network, 2010).

The plan should show a variety of recommended positions that can be easily recognised by the nurses, such as those listed in Box 2, and provide a timetable showing when the patient should be on bed rest or sitting up. This will ensure the patient is up for only several short periods during the day, avoiding fatigue (Askim et al, 2012); these periods may benefit patients even more if they coincide with functional tasks such as eating, self-care tasks or interaction with family and visitors.

Patients may have a range of deficits and problems resulting from stroke, such as those listed in Box 3, and benefit from practising tasks and activities that have become difficult because of the stroke. Nurses are ideally placed to enable patients to do this, for example when washing and dressing. It is important that all team members use the same agreed therapeutic practices for each problem, so that patients are given the same advice, and are taught the same techniques to improve or overcome their difficulties (ICSWP, 2008).

**BOX 3. POSSIBLE DEFICITS AND PROBLEMS**
- Weakness
- Low or high muscle tone
- Contractures
- Movement disorders, such as ataxia
- Sensory, perceptual or cognitive deficits
- Reduced balance in sitting/standing
- Reduced ability to weight bear
- Difficulty communicating
- Falls

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Patients with severe and complex problems may need planned support throughout their rehabilitation, and long-term support in the community.

Aids to mobilising and positioning
The national stroke strategy (DH, 2007) states that stroke units should provide an appropriate environment for rehabilitation, or recovery can be delayed and patients’ final level of independence may be limited.

Patients should be assessed on their need for equipment that provides postural support and pressure relief; many also need specialist equipment to assist with early mobilisation and 24-hour positioning. This could include specialist seating, splinting, orthoses, and specialist positioning accessories.

Nurses have a critical role in mobilisation, which can begin immediately on admission with use of a profiling bed for severely affected patients. Nurses can work with the therapy team to use the profiling bed to support upright seating and other positions for patients who are too medically unstable to tolerate sitting out of bed (SIGN, 2010). An upright chair position can be simulated by use of the backrest, knee break and downward tilt of the bed.

Patients should be assessed by an occupational therapist and physiotherapist to establish their need for equipment to support positioning and mobilisation. This equipment will need to be incorporated into the individualised positioning plan. When they can begin to sit out of bed, the occupational therapist and physiotherapist will assess their sitting balance and determine what type of seating is suitable. Many patients only require a bedside chair of suitable dimensions (such as one with a seat height that allows them to place their feet flat on the floor), is comfortable and facilitates normal movement and good posture.

Stroke units should also have a variety of specialist seating available to support patients of varying abilities.

This should include tilt-in-space seating systems, both chairs and wheelchairs (Fig 1). This type of system allows for changes of position and redistribution of pressure through small adjustments to the position of the chair; it may also incorporate a back recline. Chairs that allow adjustment in seat depth, width and accessories can be adapted to patients’ size, shape, height and weight.

It is essential that nursing staff have the training and competence to use specialist seating and other equipment correctly, and know who to contact if problems develop with it (ICSWF, 2008). They can then ensure safe comfortable positioning and early mobilisation for their patients.

Conclusion
Nurses who develop expert skills by working as part of an integrated stroke team play a crucial role in improving patient outcomes.

By applying individualised positioning and early mobilisation management plans, and by using appropriate equipment, nurses can improve survival, promote patients’ functional recovery, and reduce the risk of secondary complications.

References
Indredavik B (2009) Stroke unit care is beneficial both for the patient and for the health service and should be widely implemented. Stroke; 40: 1-2.
Indredavik B et al (1999) Treatment in a combined acute and rehabilitation stroke unit: which aspects are most important? Stroke; 30: 9, 17-23.

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