Early mobilisation 1: risk factors, complications and costs of immobility

Supporting patients to mobilise as soon as possible after an acute illness is a fundamental part of recovery and a pivotal role of the nurse. It is vital to prevent complications associated with bedrest, such as:

- Muscle loss and contractures;
- Pressure ulcers;
- Bladder and bowel dysfunction;
- Respiratory problems;
- Deep vein thrombosis (Walker et al, 2018; Wu et al, 2018; Stolbrink et al, 2014).

However, despite being associated with poorer outcomes, insufficient mobilisation of patients in hospital – particularly older people – remains a problem (Arias-Fernandez et al, 2018; Walker et al, 2018; English and Paddon-Jones, 2010).

Mobilisation is broadly defined as “the physical activity that, performed with the appropriate intensity, produces physiological benefits for the organism” (Arias-Fernández et al, 2018). Working definitions vary but, in this article, we will consider mobilisation as including:

- Actively moving or rolling in bed;
- Out-of-bed activities, such as sitting on the edge of the bed, transferring to a chair or walking (Arias-Fernandez et al, 2018).

Although out-of-bed activity should be the aim wherever possible, if the patient is unable to get up, mobilisation may start in bed. Even for a patient in critical care, movement and rehabilitation need to be considered (Arias-Fernandez et al, 2018; National Institute for Health and Care Excellence (NICE), 2009).

The effects of immobility
Older people in hospital who are confined to bed are at risk of losing physical condition, function and independence; this is known as deconditioning and is one of the most common reasons for delayed hospital discharge (Walker et al, 2018). Prolonged immobility is associated with loss of muscle strength and mass, as well as physical and cognitive function (Walker et al, 2018). These effects can increase the risk of falls, and lead to problems such as:

- Incontinence and constipation;
- Urinary tract infections;
- Swallowing difficulties;
- Pneumonia;
- Confusion;
- Loss of confidence;
- Depression (Walker et al, 2018; Wu et al, 2018; Ahmed et al, 2014; Stolbrink et al, 2014).
Complications due to patients being insufficiently mobile can also place an increased burden on family members and healthcare resources (Dermody and Kovach, 2018). Around three in five immobile, older patients in hospital have no medical reason for bedrest (Stephenson, 2018).

An NHS campaign to end ‘PJ paralysis’, by encouraging earlier mobilisation through simple interventions such as encouraging patients to get up and dressed, led to a reduction in falls and pressure ulcers, and shorter lengths of stay (Stephenson, 2018; Walker et al, 2018). Mobility level during and after acute illness has also been linked to risk of early hospital readmission. For example, older patients readmitted within 30 days were found to be walking about one third less than patients who were not readmitted (Fisher et al, 2010).

In other patient populations, the crucial role of early mobilisation to recovery is also well established; for example, time to ambulation after hip-fracture surgery is a predictor of complications, such as prolonged length of stay (Fisher et al, 2010).

A systematic review by Cortes et al, (2019) showed that encouraging adult medical inpatients to get out of bed and mobilise improved patients’ walking speed, reduced pulmonary embolism and lowered the average length of stay by two days, compared with usual care. The study highlighted the importance of targeted intervention programmes, such as moving from the bed to a sitting position, standing, walking and exercises.

“Nurses can also be under the misconception that mobilisation is not the nurse’s job”

The need to mobilise patients early is included in guidance on specific conditions, including recovery from stroke, critical illness and hip surgery (Ljungqvist et al, 2017; NICE, 2017; NICE, 2013; NICE, 2009). Patients in hospital are advised to keep mobile to avoid complications, but this may not be easy, particularly if their mobility is already impaired – for example, in people who are old and frail, obese, or have underlying long-term conditions.

Promoting mobility is crucial to recovery and should be embedded into ward culture and practice. Ambulation,

The cost of immobility

It is not surprising that prolonged bedrest is associated with poorer outcomes, particularly in older people, including:

- Longer length of hospital stay;
- Higher rates of readmission and institutionalisation;
- Reduced ability to perform activities of daily living;
- Lower quality of life;
- Higher mortality (Dermody and Kovach, 2018; Walker et al, 2018; English and Paddon-Jones, 2010).

Box 1. What makes patients immobile

- Physical factors – pain, critical illness, surgery, fractures (eg hip), breathlessness, frailty
- Psychological factors – low confidence or motivation, fear of falling (Brown et al, 2007)
- Physical hospital environment (Hales, 2018)
- Effects of medication, not eating or drinking enough (more likely if the patient is not able to move independently in bed), being attached to medical devices (Dermody and Kovach, 2018; Zinsberg and Syn-Hershko, 2016; Brown et al, 2007)
- Fear of bothering/overburdening staff, or seeing seeking/receiving help as negative (Hales, 2018; Walker et al, 2018)
- Concern about loss of dignity or the stigma attached to the use of specialist equipment (Hales, 2018)

This physical and mental decline can occur alarmingly quickly: reductions in muscle mass, bone mineral density and impairment in other body systems can be evident in the first week of bedrest (Parry et al, 2015) and is further exacerbated in individuals who are not mobilising. Prolonged bedrest also increases the risk of the skin breaking down because the patient is not moving (Walker et al, 2018).

For every 10 days spent in hospital, people aged over 80 years can expect to lose 10% of their muscle mass – the equivalent of 10 years of ageing – and recovering this may represent a ‘tipping point’ from which the person never fully recovers (Stephenson, 2018; Cummings, 2017). As older people already have less lean muscle mass and strength than younger people, this may represent a ‘tipping point’ from which the person never fully recovers (English and Paddon-Jones, 2010).

Box 2. Case study: complications associated with failure to mobilise

Mrs Earl, aged 70, was admitted to a surgical ward after a hip replacement, having broken her hip falling at home. Normally, she likes to keep fit by going on long walks and, due to her good health, is expected to be in hospital for 48 hours.

Following surgery Mrs Earl was nursed on a four-section profiling bed; she found it difficult to move herself up the bed due to the surgery and post-operative pain so called the nurse, who raised the backrest. However, this pushed Mrs Earl’s neck forward, so she was slumped over in the bed. Her poor posture affected her ability to breathe effectively and her routine vital signs showed a drop in oxygen saturation; oxygen was prescribed. The ward was extremely busy and short of staff and Mrs Earl did not want to bother the nurses when she felt uncomfortable, so she remained for long periods in one position.

After two days in bed, she developed a grade 2 pressure ulcer. Her two days in hospital turned into two weeks and, months later, she is still having physiotherapy.

Making change happen

Mrs Earl should have been moved up the bed and positioned so she could breathe effectively. Mobilising in bed can improve the range of motion of joints and muscles and help to improve posture. Putting two slide sheets under Mrs Earl’s surgical hip and leg would have allowed her to use her good leg to push herself up the bed. Being able to do this without assistance would have encouraged her to feel independent.

Mrs Earl needed to slide up so her head was near the headboard. Once she was in a good position, the nurse should have shown her how to use the bed controls to sit herself up, again encouraging Mrs Earl to move herself. With improved lung expansion from being positioned properly, she may not have needed oxygen therapy; she would also have been less tired and more likely to get out of bed and start mobilising.

Following her injury and surgery, Mrs Earl should have had a plan to prevent pressure ulcers and been given assistance and encouragement to reposition herself, enabling movement of her muscles and relieving pressure on her skin.

The patient’s name has been changed.
helping patients into a chair and activities aimed at improving joint function are critical, and should be part of routine nursing care (Dermody and Kovach, 2018).

**Why patients become immobile**

Patients in hospital may find it hard to mobilise due to ill health, the treatment they receive or the constraints of the hospital environment (Box 1). If patients do not receive early and appropriate support to mobilise, they can deteriorate rapidly and, once deterioration happens, further complications can arise (Box 2).

Nurses can encounter many barriers to mobilising patients, particularly older people; these can include interpersonal barriers (knowledge and attitude) and external barriers (patient, interdisciplinary and environmental) (Dermody and Kovach, 2018). Knowledge barriers can include lack of training and understanding of older patients’ needs for mobility (Dermody and Kovach, 2018). Attitudinal barriers may include unhelpful assumptions or stereotyping, such as believing obese patients are more incapacitated than they actually are (Hales, 2017), or linking patients’ lack of motivation to get out of bed to being old (Brown et al, 2007). Nurses can also be under the misconception that mobilisation is not the nurse’s job, is an extra burden on their time and they lack the staff to do it (Dermody and Kovach, 2018; Hoyer et al, 2015; Brown et al, 2007).

“Sometimes patients can be resistant to staff helping them, which highlights the importance of improving patient engagement in mobilisation activities”

However, some nurses involved in patient mobility initiatives report that it reduces their workload as patients become more independent (Hoyer et al, 2015). Other nursing barriers are difficulty in prioritising mobility over other tasks, and being unable to get extra assistance when it is needed for patients with impaired mobility or increased risk of falls (Dermody and Kovach, 2018).

Mobilisation can also be held back by a perceived lack of equipment and fear of patients falling or nurses injuring themselves (Dermody and Kovach, 2018; Brown et al, 2007). Sometimes patients can be resistant to staff helping them, which highlights the importance of improving patient engagement in mobilisation activities (Dermody and Kovach, 2018). However, while nurses cite lack of patient motivation as an attitudinal barrier, patients can perceive nurses as “not being interested in mobility or viewing it as important” (Brown et al, 2007).

There can be organisational barriers too, as often patients’ mobility needs are not properly assessed and documented. Without full and regular assessment, patients will not receive the right level of support or the equipment to mobilise safely. Nurses accessing the right equipment – or lacking the confidence or skills to use it – can also be a problem.

**Improving mobilisation**

As there is no legal requirement saying how often staff manual-handling skills need to be updated, staff training can quickly get out of date. Having appropriate equipment can make patients’ and nurses’ lives easier, as well as reducing the risk of injury – but it has to be accessible and ward staff have to be trained in how to use it.

Nurses spend 20% of their working time on patient mobility and handling tasks (Jäger et al, 2013). Equipment can reduce how many staff are needed; for example, it can take up to nine or 10 staff to prone a patient in intensive care but, with the appropriate hoist and repositioning sheet, this can be reduced to four. It can also mean the difference between nurses mobilising patients or not; for example, nurses caring for obese patients may see size as a barrier, not realising there is equipment to help.

All this depends on making sure manual handling advisers have the right knowledge and skills – if they lack the understanding, we cannot expect our nurses to have it. NT

● The second article in this series will look at how to assess risk and formulate an early mobilisation care plan

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