

Pressure ulcers prevention: mobility matters but does turning work?

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This debate on pressure ulceration focuses on pressure ulcers (PUs) and mobility or, more precisely, lack of patient mobility. Most, if not all risk assessment scores include a question on patient mobility, e.g. Braden uses a four-point 'completely immobile' through 'very limited' 'slightly limited' to 'excellent'. The Norton score is almost identical to this, whilst Waterlow and Medley are a little more specific; the point being that the patient's capacity to move unaided, and to what degree, is an important clinical factor in PU avoidance.

In the UK, the "Your Turn" and "Stop the Pressure" campaigns have been configured to help reduce pressure ulceration through prevention. Individuals who are mobile are encouraged to move independently whenever possible, while less mobile patients will need assistance to minimise pressure, friction and

shear (Your Turn, 2006; Doyle, 2007; James, 2013, NHS Improvement, 2016).

Assisted patient movement or repositioning (Defloor et al, 2006) has hitherto involved the so-called standard practice of turning, preferably every 2 hours. Pioneered in spinal injuries patients by Guttman nearly seventy years ago (Guttman, 1955), it has been advocated for many years as a key nursing measure in PU avoidance. The angle of turn or 'tilt' when turning patients has also become a topic of research and discussion (Woodhouse et al, 2019; Kapp et al, 2019).

The 2-hourly turn has been researched for its efficacy in PU avoidance. In his book on pressure sores, Torrance (1983) cites Lowthian (1979) and his 'turning clock' as well as a fascinating study by Fernie and Dorman (1976) involving turning that resulted in the healing of intractable ulcers attributed to regular repositioning. For decades now, aged care facility residents at risk of PU have been repositioned at 2-hourly intervals, 24 hours a day, 7 days a week, yet PUs still develop. Indeed, a Cochrane review (Gillespie et al, 2014) found that there was insufficient evidence for turning interval, or for the angular degree of turn.

In 2019, Sharp et al published a cross-sectional survey of 80 randomly selected medical records of residents aged ≥65 years from eight Australian Residential Aged Care Facilities to determine the number of residents at risk of PUs, the use of 2-hourly repositioning, and the presence of PUs in the last week of life. Despite 91 per cent (73/80) of residents identified as being at risk, and repositioned 2-hourly, 3% (25/73) died with one or more PUs. Concerns were noted in 72% (58/80) of residents, 38% (22/58) were restrained. Dementia was diagnosed in 70% (56/80). Two-hourly repositioning failed to

prevent PUs in a third of at-risk residents. Sharp et al (2019) argue that repositioning may breach the rights of all residents who were repositioned 2-hourly and restraining may be unlawful. Rather than only repositioning residents 2-hourly, they recommended that every care and nursing home resident be provided with an alternating pressure air mattress.

This article merits open discussion, clinical practice in Australia is, in general not much different from the UK. What happens here, what practices are in use, good or bad, irrespective of teaching? How are patients at risk of pressure ulceration being repositioned, if at all, in the various clinical settings in the UK? If high-level evidence is not forthcoming, can a clear consensus be achieved amongst experts?
Richard White

1. Are the findings of Sharp et al surprising, and if so, in what respect?

JS: I don't think they are a surprise given the methodology. This was a retrospective review of notes and documentation in a specific patient population with no way of validating the actual frequency of repositioning that took place. Several patients in the study were physically restrained which would prevent any effective self-repositioning which could have contributed to the PU that developed. There also appears to be a significant bias towards a specific-pressure relieving mattress. We must keep an open mind about studies that question accepted practice but we must also take care to critically analyse studies to ensure confidence in their findings.

FD: The Sharp et al (2019) study is a small retrospective cross-sectional analytical survey

of randomly selected medical records (n=80); with this methodology in mind, it is difficult to draw any firm conclusions from this paper. What is surprising in this paper is the fact that “residents displaying behaviours of concern” could be physically restrained.

MC: Sharp and colleagues highlighted concerns around regular repositioning among patients with dementia and the apparent failure of the practice to prevent all PUs. These findings are not surprising; repositioning alone may not prevent pressure damage especially when approaching the end of life. The frequent use of restraints in Sharp et al’s cohort was surprising and this practice should be avoided.

AS: The Sharp et al survey certainly caused debate across the world due to its headlines and rapid sharing on social media, which was interpreted as turning is harmful to patients. In the study, it states one-third of patients with 2-hourly repositioning developed PUs; were these patients end of life? What risk factors were present? What support surfaces were in place? With regards to restricting of patients, should capacity not be taken in to account and a person’s best interests be discussed with the wider multidisciplinary team and patient’s family? Is it better to not reposition but let PUs develop or perform basic cares to prevent tissue damage? Ultimately, individualised assessment should take place for all and patient safety be upheld, common sense tells that a person’s sleep is vital to health and wellbeing and if sleep is disturbed then a review of the care plan is required. What surprised me was the reaction to this article, locally and nationally care homes and carer networks calling for stopping the action of repositioning without actually reviewing any evidence. We are awaiting the results of the Pressure 2 UK research to be released — a study on support surface and basics of care delivery such as repositioning.

2. With respect to turning, what is your advice on the practice, should it form part of routine care in PU avoidance?

JS: It should absolutely form part of routine care in PU prevention. There is an inextricable link between prolonged periods of immobility and the development of PUs. For those in our care who are unable to effectively move there must be a repositioning plan in place to ensure that pressure is relieved to prevent PU. Frequency of positioning should be based on individual assessment and wherever possible discussed and agreed with the patient. Whilst there is little evidence to suggest that 2-hourly turning in humans prevents PUs, I would still advocate 2–4-hourly turning regimens dependant on individual patient needs.

FD: Persons deemed at risk of PU development should have an individualised care plan based on their individual risks for the potential of developing a PU. During this individual assessment, which should include the contribution of the at risk person and their family (if appropriate), a consensus on how often to reposition should be decided. In complex scenarios, the repositioning schedule should be multidisciplinary (MD), e.g. include therapists, medical team etc.

MC: Regular repositioning should be performed wherever possible as one part of the overall package of preventive care. The frequency of repositioning is dependent upon the condition of the individual.

AS: I do not use the term ‘turning’ as it implies changing side-to-side, hip-to-hip which can cause further tissue damage, plus how do you turn a person in a chair? ‘Repositioning’ is much more suitable and can be incorporated into all aspects of a patient’s day. In the community, in a patient’s own home, it is impossible to have 24-hour, 2-hourly repositioning regimes. We pressure map and advise patients of routines to relieve or offload pressure. In care homes or acute care, National Institute of Health and Care Excellence (NICE, 2014) guidelines are followed, so patients at high to very high risk or with PUs present are repositioned 2 hourly, reduced overnight for sleep purposes to 4–6 hourly. I’m aware of

one patient with a category 4 PU who wished to return to home, so repositioning overnight was an issue; he was provided with a lateral-tilt mattress which provided that care. I believe early identification of risk and interventions is the key to prevention.

3. In your opinion, do pressure-relieving mattresses serve as an adequate alternative to turning?

JS: No, and I think it is a wide-spread myth that if a pressure relieving mattress is in situ that a patient doesn’t require repositioning as often. These mattresses are an important adjunct to the care we provide. They are used for patients who are at high risk of PU or already have a PU and therefore I see them as an additional strategy, not a replacement. Also, it should not be forgotten that turning patients is not just about prevention of PU. It is about patient comfort and preventing other problems such as chest infection for those bedbound patients.

FD: No, they are part of the package of care alongside repositioning. If repositioning is not possible due to the individuals’ condition, (e.g. haemodynamically unstable) then a high-specification pressure-reducing mattress may be the only alternative to repositioning. Of note in some scenarios, it is still possible to move head, heels etc.

MC: Like repositioning, pressure-redistributing mattresses will not prevent all pressure damage and it may be unwise to rely on mattress use alone to prevent PUs.

AS: There are many mattress types on the market: high-risk foam, hybrid, dynamic, tilting, immersion. The support surface has to be considered, but one size does not always suit all. Low-weight patients may get skin marks on firmer surfaces so require a particular air loss system. I don’t think putting dynamic mattresses in all care places, and not repositioning at all, is the only alternative. We also have to take into account

biomechanics and deformation as causes of pressure damage, shear and heel offloading. The financial implications for NHS Trusts purchasing and decontaminating all dynamic-only systems are high, but with staff shortages and struggles to complete timely intentional rounding, are we putting patients at greater risk by not repositioning?

4. To the best of your knowledge, what is 'standard practice' regarding turning as part of PU prevention in UK care homes?

JS: From the patients I see coming into hospital from care homes, the general standard would be 4-hourly repositioning; for some very high-risk patients, it's sometimes 2-hourly. However, I think there should also be a focus on the positions patients are being put into, rather than just how often they are turned. Are the positions patients are lying in consistently effective in relieving pressure over the bony prominences, particularly the sacral area? There has been a move away from full side-lying over recent years in favour of the 30° tilt. However, in my experience, if not done correctly and without quality pillows, patients tend to move out of position easily resulting in longer periods on their back.

FD: I have no experience of UK care homes, so would not be able to answer this question accurately.

MC: This is a difficult question to answer in the absence of appropriate data upon PU prevention practices within UK care homes. We know that the vast majority of care home residents are vulnerable to PU development so regular repositioning along with support surface use are key areas for attention.

AS: As part of my role as TVN in the community, we deliver education and care to care homes. With a React-to-Red team, we have close overview of PU incidence and practices. Since the development of this role in January 2019, PUs have reduced by 55% in this sector, early identification of risk and

skin changes with implementations correctly such as 30° tilts has been taught widely by the team. In the UK, the 2-hourly 'turn' is common practice.

5. Can you think of a scenario where turning patients might do harm?

JS: On the whole, I don't think turning *per se* can do harm, however, the techniques used, if inappropriate, could definitely do harm. Those undertaking the repositioning should employ effective manual handling techniques and use aids such as slide sheets to reduce friction and shearing forces. One potential scenario that could be detrimental is that of frequent repositioning causing sleep deprivation. Humphries (2008) suggests that a sleep cycle occurs around every 90 minutes and repositioning activities can cause sleep fragmentation in the hospitalised patient. In addition, Pilkington (2013) found that sleep deprivation can lead to longer recovery times, suppressed immune function and altered cognitive function leading to an increase in falls in the older patient. Staff need to balance the need for repositioning with a need for sleep.

FD: As described previously, the haemodynamically unstable patient in an intensive care unit (ITU) setting; in certain ITU scenarios repositioning may be detrimental to the individual. In such a scenario, the decision to not reposition would be MD, and generally physician led. Documentation surrounding this is essential, with constant evaluation/assessment of the individual's condition to facilitate repositioning as their general condition improves. There will, of course, be other speciality reasons why an individual might not be repositioned, e.g. spinal patients?

MC: Inappropriate manual handling may give rise to superficial injury to patients and presents risks for care givers in terms of back injury.

AS: Again, it is all down to individual patient care planning; if a patient has COPD, for

example, and may be more comfortable sitting upright or in a chair as s/he has become breathless lying down, repositioning is difficult. If turns are placed wrongly, onto hip bones for example, it could cause further damage. Education and hands-on demonstrations of how to use of slide sheets are very important, and best practice is not always witnessed. There is fear amongst carers and clinicians in causing pressure damage and patient harm, which can lead to safety incident investigation. However, 2-hourly repositioning has been in practice for so long, changes would not be easy to implement and further research is needed and should be encouraged.

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