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Do clinical practice guidelines for the prevention of pressure ulcers really prevent pressure ulcers? An analysis of the guidelines

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ABSTRACT

This review article aims to analyze sections of the 2012 Australian Wound Management Association, Pan Pacific, Clinical Practice Guideline for the Prevention and Management of Pressure Injury, the "Guide," mandated for use in all Australian residential aged care facilities to explain why pressure ulcers still occur. I considered two sections of the "Guide:" a) "Assess all patients as soon as possible following admission to service and within a minimum of 8 h;" and b) "Implement a prevention plan – strategies for patients at high risk: Use a high specification foam reactive (constant low pressure) support surface OR consider using an (active alternate pressure) support surface." Nowhere in the "Guide" is there an explanation for a) "Assessing all patients as soon as possible following admission and within a minimum of 8 h." Similarly, there is no explanation for why b) "a high specification foam reactive (constant low pressure) support surface" is recommended to prevent pressure ulcers. The evidence for screening "within a minimum of 8 h," does not consider the speed at which pressure ulcers develop. If the resident is lying in one position for 30 min or more and a "constant low pressure" mattress is used, residents may still develop pressure ulcers because "constant low pressure" does not relieve pressure.

Key words: Guidelines; Risk assessment; Pressure ulcers

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INTRODUCTION

I congratulate the authors of the 2012 "Guide"[1] and acknowledge the collaboration between the Australian, New Zealand, Hong Kong, and Singaporean health-care staff, to produce this document. For many years, guidelines to prevent pressure ulcers (PUs) in hospitals, the community and residential aged care facilities (RACFs) have been developed and revised,[1-3] yet PUs still develop in all settings.[4] It is not known why the 2012 "Guide" is mandated for use in Australian RACFs when there have been revisions of the Guide since that time.

Amid the many controversies about PU risk, lies the question 'what causes PUs?" This has been a major topic at conferences around the world and in many publications. The first step in knowing what causes PUs is to question two important sections of the "Guide." Firstly, how to screen for PU risk and secondly how to prevent PUs.

The aim of this article is to examine the evidence in the "Guide" for the effectiveness of PU risk screening and prevention measures. As most preventative interventions are initiated because of a risk assessment with recommendations to implement skin protection strategies, use constant low-pressure redistribution support surfaces, regular repositioning, and patient education (either formal or the health professional's clinical judgment), indirect evidence suggests that use of a PU risk assessment tool reduces the risk of PU development.[1]

CURRENT KNOWLEDGE

A PU, also referred to as "pressure injury," decubitus ulcer, or "bedsore," is an area of "localized injury to the skin and/

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or underlying tissue usually over a bony prominence, as a result of pressure.[5]" The unrelieved pressure on any part of the body of an immobile resident is the main cause of PUs. Hence, when screening residents for PU risk, the greatest effort needs to focus on mobility. This can be done easily using "clinical judgment" which, though not defined in the "Guide" is asking the resident if they can lift their arms up, lift their legs up, and roll from side to side independently. If they cannot perform these simple movements, they must be considered at-risk of PUs.

Once deemed at-risk nurses must decide how to prevent PUs. A common PU prevention strategy is regular repositioning[6] which does not guarantee that the resident remains PU free. Complying with just two aspects of the "Guide," screening for risk and providing a constant low-pressure mattress will more likely than not fail to prevent PUs. Nonetheless, RACFs are required to demonstrate performance on an ongoing basis to meet Australian Government requirements, which may take action when providers do not comply.[7]

This begs the question "will the Australian Government take action and what will that action be, when providers do comply with the "Guide" and PUs still develop?

CRITICAL EVALUATION

Many Australian experts emphasize that preventing PUs is preferable to the treatment of painful PUs when they do develop and this is true. Treatment involves providing pain relief, expensive wound dressings, garbage disposal, and nursing time. To date, there is no evidence that using the "Guide"[1] prevents PUs.[4,8] The "Guide" does not mention the clinically significant outcome of sleep deprivation, my original contribution to knowledge[8] that may result when residents are repositioned many times during the 24 h. Residents may be woken unintentionally, may lie awake for hours, then fall asleep for just a few minutes before being repositioned, and woken, again and again.

Pressure ulcers are foreseeable and preventable with medico-legal implications.[9,10] The implications, ethically and legally, for not taking PUs, a very painful condition, seriously, are against all principles of the protective and caring function of nursing.

REPOSITIONING

The "Guide" defines repositioning as *"Changing a patient's body position to redistribute the pressure on the bony points that were in contact with the surface supporting the body. The frequency is determined by skin response, support surface in use, and patient's general condition"*[1].

However, if staff is looking at skin response to determine how often they should reposition a resident, it may well be too late to stop a full-thickness PU. Recommendations that the frequency of repositioning should be based on skin inspection are fraught with danger when a Stage 1 PU may hide deep pressure damage deteriorating to deeper Stages later. The pressure damage seen on the skin may appear bruised or discolored[11] but may not be recognized by nurses as a PU for 2–3 weeks[12,13]. By then, there may be a huge full thickness PU, a pus-filled malodourous cavity. The problem is that waiting for 8 h to screen for PU risk, then waiting for an alternating pressure air mattress (APAM), will more likely than not result in one or more PUs.

Screening "as soon as possible." is good advice knowing that PUs, an ischaemic process leading to deep tissue injury, can begin in as little as 30 min of unrelieved pressure.[14] However, the question is, how did the authors of the "Guide" decide that "8 h" was the minimum time in which it would be safe to screen for risk? And do they really mean "minimum?"

Evidence on screening for PU risk and strategies to prevent PUs is deficient in the "Guide" and this may explain why thousands of PUs are reported every year in Australian RACFs.[4] Sacral and heel PUs are the most common.[15] Residents with sacral PUs may be unable to sit comfortably ever again. Residents with heel PUs often end up requiring lower limb amputations,[16] especially if they have diabetic peripheral neuropathy. Neuropathy prevents them from feeling the pain of pressure or the development of heel PUs.

The assertion, that 2-hourly repositioning will prevent PUs, is based on a decades-old nursing ritual. Repositioning is recommended in all clinical settings, though carrying out this difficult manual handling task is dependent on the staffing levels in each RACF. More recent clinical practice guidelines no longer advocate specific repositioning of residents every 2 h.[6] This is a good decision because repositioning residents every 2 h can disrupt sleep.[8,17]

However, it is the 2012 "Guide" that RACF staff must follow and repositioning to relieve pressure on all parts of the body is well accepted as a judicious safety practice for residents even though we have known for decades that it more likely than not will not prevent PUs.

The evidence for repositioning is lacking, whereas the evidence that repositioning may cause sleep deprivation and result in behavioral problems is now clear.[8]

In my experience, if busy staff is given the choice of doing a job later, rather than sooner, they are likely to

choose "later." Therefore, the 8 h screening window will not translate into good practice.[18] If staff does not screen residents for risk of PU within 8 h, it is more likely than not that PUs will develop. The crucial issue is whether 8 h lying in one position and waiting to be assessed for PU risk may influence PU development. No guarantee is given in the "Guide"[1] that this will not occur. Besides, the strength of evidence denoted "C," is not supported by any citation of supporting evidence.

The "Guide"[1] "*provides an indication to the health professional of the confidence one can have that the recommendation will do more good than harm, and can be used to assist in prioritizing PU-related interventions.*" If staff leave any resident in one position for 8 h before screening for PU risk and intervening, the consequences may be catastrophic even though the time for onset of a PU is not exact.[5] The authors of the "Guide" claim that "*an explicit scientific methodology was used to identify and critically appraise all available research. In the absence of definitive evidence, expert opinion (often supported by indirect evidence and other guidelines) was used to make recommendations.*"[1] There is no disputing their recommendation that screening should be carried out "*as soon as possible after admission*" but no references have been provided to support the recommendation that screening can be carried out up to "*a minimum of 8 h.*" Evidence and experience of caring for residents strongly suggests that assessment and appropriate intervention be conducted within the first 30 min. Further delay is more likely than not going to mean PU development in one or more body sites and possible death. Deaths due to infection and septicemia of PUs seem to be underdiagnosed and underreported, "*a fact ascribable to the major difficulty of physicians to differentiate between a cause of death attributable to an underlying disease process and the fatal outcome of pressure sore-associated complications.*"[9]

Recommendations

Screening residents on admission using rapid clinical judgment and focusing on immobility, the only evidence-based risk factor for PU development,[6] is the fastest way to determine risk. Questions to ask include: "*Is the resident fully ambulant requiring no assistance?*" If the answer is yes, no further assessment need be done at this time. The resident is clearly not at risk of PU when walking around. "*Can the resident move each limb, lift the pelvis off the bed and roll easily from lateral to supine, supine to lateral, and sit unaided?"* If the answer is yes, this resident is not "at risk" of PUs at this stage. This assessment of mobility involves the resident's cooperation.

If the answer is no, it could indicate a change in the level of consciousness, which is a recognized factor in the development of PUs in the "at risk" resident. If the resident cannot move any, or all, parts of the body at this time they are "at risk" of developing PUs. The "Guide" should support nurses and care staff, allow residents to sleep by providing APAMs which will, more likely than not, prevent PUs.[19]

Accordingly, reducing delays in screening for PU risk and providing pressure relief within the first "golden hour" must now be considered the foundation of PU prevention. It is unconscionable to delay risk screening for 8 h. Besides, it may be difficult to evaluate when interventions such as APAMs, which reduce the 2-hourly repositioning schedule, allowing residents to sleep for long periods because of its benefit of preventing sleep deprivation[8] and the impact of sleep loss.[8,20,21]

Uncertainty about the cause of PUs, risk screening, and interventions to prevent PUs may account for the continued high prevalence of PUs. In the 6 years between publication of the "Guide" in 2012 and endorsement by the Australian Commission on Safety and Quality in Health Care in 2018 around 4300 hospital-acquired PUs occur annually.[22] It may be that using the "Guide" fails quality standards designed to reduce PUs. *Substandard care is considered to include care that does not meet the relevant quality standards or other legislative obligations, or which otherwise does not meet community expectations.*[23] Preventing tissue ischemia may be impossible, so pressure relief will always be necessary to prevent PUs. Appropriate APAMs should be provided to those at risk of developing PUs. PU prevention in RACF residents is quite simple. Screening for PU risk can be done by clinical judgment. This is quick and easy for busy staff. If residents cannot move unaided, I recommend an APAM as first-line management to prevent PUs. This will allow residents to sleep for long periods. Residents can be repositioned when awake.[19]

Staff has the option of using "clinical judgment" which is mentioned several times in the "Guide" to decide who is at risk of PUs, but "clinical judgment" now needs to be defined.

I believe that there is adequate evidence that the "Guide" is not working because if it were there would be no PUs in hospitals or RACFs.

Pressure ulcer free RACFs will remain a dream forever if RACF staff continues to follow the 2012 "Guide." They will be punished for allowing PUs to develop and punished for being unable to prevent PUs.

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