Improving policy and practice in the prevention of pressure ulcers

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This article reports on a project to update policy and practice in pressure-ulcer prevention in a district general hospital. A literature review was undertaken on pressure-ulcer prevention to identify the best methods for use in a district general hospital and to bring practice in line with current evidence. The literature review covered evidence-based tools for risk assessment, treatment protocols, policy, and patient information. An analysis of the training and educational needs of staff within the trust was also undertaken.

A lack of conclusive evidence indicating which risk factors are important in the development of pressure ulcers means that prevention strategies in clinical practice vary (Vance, 2002). The Department of Health set an annual reduction target of five per cent for pressure ulcers (Whitfield et al, 2000) and The Essence of Care (NHS Modernisation Agency, 2001) established clinical standards of care for the prevention of pressure ulcers and their management.

In order to respond to the challenges presented by these two initiatives, it was decided to examine the policies on pressure-ulcer prevention used in Dorset County Hospital with a view to updating them. The risk assessment tool being used was the Waterlow score.

Literature review

A literature review was undertaken to look at prevention and risk assessment of pressure ulcers. It was hoped that this would inform the development of an updated policy on prevention in the hospital.

Whitfield et al (2000) reviewed the literature to identify prevention strategies. Overwhelmingly, risk assessment, education and protocols were found to have the greatest impact.

The National Institute for Clinical Excellence (NICE) guidelines on pressure-ulcer risk assessment and prevention (NICE, 2003) were obtained. These guidelines are logically presented in terms of layout and clearly written. However, the guidelines do not offer any suggestions on a risk-assessment tool. They recommend that such tools are used as an aide-memoire only and should not replace practitioners’ clinical judgement.

Vance (2002) says that some evidence suggests that standard risk-assessment scales have a predictive value for the development of pressure ulcers and advocates therefore that risk assessment be considered a key factor in pressure-ulcer prevention.

Braden (2000) suggests that pencil-and-paper rating scales have the best reliability and validity in relation to risk for pressure-ulcer development.

Local practice

To gain an overview of the local situation, 12 hospitals were telephoned and asked about their prevention policies. Nine used the Waterlow (1985) score but those using other systems forwarded relevant documentation. One used the Braden (1988) system, the other two had developed their own systems.

The literature was examined on various pressure-ulcer risk-assessment scoring scales. Braden’s (1988) scale appeared to be well supported by current clinical evidence. The scale considers four factors known to contribute to the development of pressure ulcers as part of the risk-assessment process:

- Pressure;
- Friction;
- Shear;
- Moisture.

Ayello (2003) suggests the scale’s ability to predict the development of pressure ulcers has been tested extensively, supporting its validity.

Pang and Wong (1998) found Braden the most reliable scales have the best reliability and validity in relation to risk for pressure-ulcer development.

REFERENCES


BOX 1. ANALYSIS FOR STAFF TRAINING NEEDS

a) What are the factors that predispose patients to pressure injury?
b) What risk assessment tools are you familiar with?
c) Who do you assess for risk of pressure ulcers?
d) What areas of the body are most susceptible to pressure injury?
e) How often do you assess patients’ pressure areas?
f) Typically, what signs on the skin can indicate pressure-ulcer development?
g) If you notice a patient is developing a pressure injury what do you do?
h) Under what situations would you select a thermo contour mattress?
i) Under what situations would you select a low-air-loss mattress?
j) How often should you change the position of a patient who is unable to move him or herself?
risk calculator — it achieved a better balance between sensitivity and specificity than the Norton (1962) or Waterlow (1985) scales and had good predictive power.

This was supported by Ovington (1998), who found that no combination of variables gave a higher specificity and sensitivity than Braden. The study concluded that while it may not be perfect, Braden remains the best available tool for predicting pressure ulcers on heels.


Key benchmarks

To meet the challenges of The Essence of Care (NHS Modernisation Agency, 2001) it is important to examine the best-practice benchmarks to ensure clinical policy and treatment protocols are directed at achieving the appropriate standard of patient care. The key benchmarks in this area are:

● Patients and carers have ongoing access to information and the opportunity to discuss its relevance to their individual needs with a registered practitioner;

● Individualised documented plans are agreed with the multidisciplinary team in partnership with patients and carers, with evidence of ongoing reassessment;

● Patients at risk of pressure ulcers are cared for on pressure-redistributing support surfaces that meet their individual needs including comfort;

● Patients have all the equipment they require to meet their individual needs;

● The plan is fully implemented in partnership with the multidisciplinary team, patients and carers;

● An evaluation is documented that incorporates patients’ and carers’ participation in forward planning.

Prevention of pressure ulcers

The literature highlights the use of barrier products for protection against skin moisture, and friction and shear forces. However, there are limited studies on the effectiveness of individual creams and there appears to be no consensus on which is the best barrier dressing to use.

Ovington (1999), Tymec et al (1997) and De Keyser (1994) suggested that studies indicate that the appropriate use of a standard hospital head pillow positioned beneath the legs so that the heels are suspended and not touching the bed surface is more effective at preventing pressure ulcers than many specialty products.

The European Pressure Ulcer Advisory Panel (2003) also suggests that correct positioning of devices such as pillows or foam wedges should be used to keep bony prominences (knees, heels or ankles) from direct contact with each other.

Mattress choice and chair protocols have been influenced by the NICE guidelines (2003). These guidelines state that individuals should restrict periods of chair sitting to less than two hours at a time.

The guidelines also state that consideration should be given to the use of alternating pressure or other high-tech pressure-relieving systems as a first-line preventative strategy for people identified as being at high risk of developing pressure ulcers. Shearing forces occur when the head of the bed is elevated in the range of 50–60 degrees (Sparks, 1993; Braden and Bryant, 1990). For patients whose condition requires constant head elevation, this should therefore be no more than 30 degrees (Bergstrom et al, 1992).

Colin et al (1996) indicated that when the 30 degree tilt positioning method is used, the contact pressure is transferred to a low-risk area, such as gluteal muscles, which can tolerate pressure up to three-and-a-half times higher than bony prominences.

Training needs analysis

A questionnaire was distributed to all wards at the beginning of the project to examine the knowledge base of nursing staff and therefore identify areas where training and education were needed (Box 1).

A total of 200 questionnaires were distributed and 28 responses were received (this represented a response rate of 14 per cent).

Of these respondents, one was a student, one was an A-grade nursing practitioner, seven were D grade, eight were E grade, five were F grade, three were G grade and three were operating department practitioners.
Undertaking the survey at the start of the project helped to influence its direction and identify which key elements of pressure-area care to focus on.

Results of survey

While the response rate from this survey was poor, the results indicate that there was a great deal of confusion about pressure-area care among the nurses and that an education programme was needed. It is possible that lack of confidence about the subject or lack of recognition of its importance affected the response rate.

A total of 24 factors were identified as predisposing patients to pressure injury. Most respondents (27) identified the major factor of immobility, one identified shearing forces and three identified friction. Most factors were identified by fewer than 10 respondents.

Only five respondents could identify risk-assessment tools other than Waterlow (1985) and a further four failed to identify Waterlow – even though it was the tool used in the hospital.

All but one respondent stated that all patients should be assessed for pressure-ulcer risk and most identified high-risk areas such as the heels and sacrum. However, while those using the phrase ‘bony prominences’ indicated an awareness of the pathology of pressure-ulcer development many missed out vulnerable anatomical sites, which raises the question of whether correct areas are being inspected during assessment. Only 10 stated that frequency of assessment should depend on the individual patient’s condition and circumstances (Fig 1).

While most respondents identified colour change as an indicator of pressure-ulcer development, fewer identified other early indicators. Some respondents described later symptoms or fully developed pressure ulcers and one suggested burns as an indicator.

All the actions taken on identifying a pressure ulcer were correct (Fig 2). However, there were gaps in respondents’ knowledge, as some actions were only identified by a few. There also appeared to be a failure to relate theory to practice. For example, 21 respondents connected nutritional status to pressure-ulcer development but only five mentioned the need to assess a patient’s nutritional status once a pressure injury is discovered. Only one respondent correctly identified that thermo contact mattresses were appropriate for patients who were at risk but able to move (Fig 3), only seven indicated that a low-air-loss mattress should be used when a patient is immobile (Fig 4), and only seven stated that the frequency of repositioning should depend on the individual patient (Fig 5).

Change in practice

Since the effectiveness of the Braden scale as a pressure-ulcer risk-assessment tool appears to be supported by research, it was decided that the next stage of the project was to pilot its use for one month. A medical ward caring for older people was selected as its nurses generally accepted that pressure-area care was a priority.

Nursing staff were informed of the pilot beforehand through ward meetings, visits to night staff, posters with suggested assessment questions and on an ad hoc basis. During the first week of the pilot the practice development nurse worked on the ward in order to be able to answer questions or solve problems as they arose.
Some nurses needed assistance with patient assessments mainly to gain confidence in using the tool, but working collaboratively gave them a sense of ownership of the tool. To evaluate how easy the Braden scale was to use and understand, three weeks after its introduction two nurses were asked to use it to assess the same 10 patients without seeing the other’s scores.

It was found that eight of the scores either matched or were within two points of each other. The fact that two scores had greater differences could be a reflection of the nurses’ lack of familiarity with the tool after only three weeks, or to individual interpretations and perceptions of the information received. The management protocol was formulated so that if a patient scored in a box on the Braden scale a corresponding treatment plan was given over the page. This enabled nurses to individualise the care given using evidenced-based practice to guide their interventions. The strategy also linked theory to practice, providing an educational tool.

A multidisciplinary approach

To ensure a multidisciplinary approach to preventative measures the chief dietician was consulted on where referrals should be documented or, if a referral was not required, whether nursing staff needed to undertake nutritional interventions anywhere else on the protocol. The pharmacist responsible for the trust’s wound care formulary was consulted regarding barrier products. She recommended Cavilon barrier film for vulnerable skin areas. This was selected because:

- It does not wrinkle after application;
- It remains in situ for 48 hours;
- The swabs are easy to use;
- It is cost-effective.

For skin moisture she stated that the formulary contained four barrier products, but gave no specific recommendation. It was decided that nurses should use their own clinical judgement when selecting these products. A senior physiotherapist outlined areas within the protocol where she believed patients would need referral. The specialist equipping nurse assisted with incorporating mattress and overlay selection into the protocol.

A new protocol

Once the necessary referral information was gathered, along with the evidence on best practice from the literature, the protocol was developed.

It was introduced on the pilot ward the month after the pilot of the Braden scale. Nurses were all given a copy of the fully referenced protocol a week before it was introduced. This was to give them time to become familiar with the tool, to ask questions and to make comments before the protocol came into use.

During the introduction of the protocol, the practice development nurse worked on the ward to support the staff, offer advice and to evaluate its progress. The introduction ran smoothly and the initial evaluation was positive. The protocol appears to be both achievable and user friendly.

Evaluation

In order to obtain an in-depth evaluation, meetings were set up with the multidisciplinary team to discuss referral rates, the appropriateness of referrals and any issues or necessary changes to the protocol. These meetings took place a week after the pilot so that the project was not delayed. The ward nurses were given questionnaires and feedback sheets were hung on the noticeboard. These asked them to evaluate the protocol’s user-friendly qualities, ease of use of the treatment regimens and their perceptions of the referrals. The results of feedback and questionnaires were positive. Comments included:

- ‘Simple and easy tool to work with, provides guidelines of what action to take after assessing patients;’
- ‘There are no negative aspects of the tool;’
- ‘Like the boxes, easy to follow;’
- ‘Understandable;’
- ‘Initially looked very complicated, but once I used it, quite easy to understand;’
- ‘Initially looks like a lot of writing and is a bit daunting, however, upon closer use and examination, is more user friendly and relevant to this practice setting;’
- ‘Braden appears less complicated and more descriptive, which would help with accurate scoring;’
- ‘Very thorough protocol, makes me think more about actions that should be taken.’

In the meetings with the multidisciplinary team it was agreed that the protocol was appropriate. At this stage the policy was documented incorporating the changes in

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practice and the NICE (2003) guidelines. Presentations about the project, to be given to the elected nurses’ council and the assistant directors of nursing, were organised. The appropriate documentation was submitted and approved, and all senior nurses were contacted to inform them that the practice development nurse would attend their departments for two days to explain the new policy to them and their teams. A poster campaign was launched to inform staff that the Braden scale was to be introduced, which included some assessment-question ideas and a copy of the scale.

The process of introducing the change in practice and explaining the policy throughout the hospital took six weeks. The support of the practice development nurse in explaining the policy, helping with patient care and being available to ward staff for two days appeared to help them to accept the policy’s introduction. This gave them time to ask questions, attempt a risk assessment and receive education regarding the best practice for pressure-ulcer prevention.

Conclusion
This practice-development project lasted five months. The highest priority was given to ensuring nursing staff’s acceptance of and enthusiasm for the change in practice and to providing education in light of the survey results.

Having seen the introduction of many ‘new bits of paper’ without explanation as to why a system had to change, it is understandable that some staff were initially suspicious and reluctant to accept change. Involving the nurses on the elderly care ward from the outset helped with the assessment of its practicalities and working alongside the nursing staff throughout the rest of the hospital, offering education and support, enabled the change to run smoothly. This collaborative approach gave nursing staff a sense of ownership of the project.

The multidisciplinary-team approach opened up communication on pressure-ulcer prevention, illustrating ways of working collaboratively to prevent such injuries.

This also assisted with meeting the benchmarks of The Essence of Care (2001).

Recommendations
It is recommended that the policy is reviewed annually following the Essence of Care audits.

The evidence base in pressure-ulcer prevention is continually evolving. It is important that we update our skills and knowledge in this field. However, the project has highlighted that not all nurses do keep up to date. The key to solving this problem in future may be by considering it as an area for mandatory training.

Alternatively, further research may be required to examine nurses’ knowledge in this field. This should take into consideration their nursing specialty, experience, educational background, further education on pressure-area care, and any other relevant influencing factors.

**REFERENCES**


