RED FRAMES: an introduction to pressure education and memory aids

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Abstract

The prevention and management of pressure injuries (ulcers) is a major concern to those involved in healthcare. Improving knowledge about pressure injuries, including the correct use of a pressure risk tool, is one way to improve overall patient care and decrease the number of hospital-acquired injuries. A staff survey identified gaps in nursing staff knowledge and so an education programme incorporating a newly devised mnemonic 'RED FRAMES' was introduced. RED FRAMES reminds the clinician of various risk factors associated with pressure injury and prompts appropriate action.

Education was designed as small informal sessions held on the wards which allowed for active interaction. Sessions were reinforced by an education board which was also accessible to patients and their carers. A lanyard was produced for staff which included RED FRAMES and a description of the different pressure ulcer stages. After the introduction of these initiatives a pressure ulcer point prevalence survey conducted by the hospital showed that the number of hospital-acquired pressure ulcers had dramatically decreased. These findings may be due to factors other than the intervention and so further research is needed, including the use of RED FRAMES at other health facilities.

This article describes the events and rationale which led to the development of the memory aid RED FRAMES as well as the associated education sessions.

Introduction

An area of localised tissue damage which has been caused by pressure, shear or friction is known as a pressure ulcer [1]. Even though the term 'ulcer' may be used to describe an open wound, in the case of pressure ulcers, a Stage I pressure ulcer can be an area of intact skin. In this article the terms 'pressure damage' or 'pressure injury' are also used to denote any level of pressure ulcer.

The Victorian state government, in the 2006 Pressure Ulcer Point Prevalence Survey (PUPPS) Report, recommends that health services focus on pressure ulcer prevention [2]. This means that every effort must be made to identify causes of pressure ulcers and implement changes which will prevent further occurrence. Current consensus is that the intensity and duration of pressure, along with tolerance of the skin and supporting structures, are the major determinants of pressure damage and so patients are regularly screened for factors which can increase their risk of pressure injury [3-5].

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At one metropolitan hospital, it was noted that patients who were reported with pressure ulcers, either on admission or during their hospital stay, were often assessed as having a low or no risk according to the Braden scale. In other words, at this particular hospital the Braden scale did not seem to be accurately identifying or predicting the patients likely to have a pressure injury. What was the cause of this discrepancy? Was the Braden scale inaccurate or were there other factors at work?

The Braden scale was developed in 1986 and individually scores the risk factors of mobility, activity, nutrition, sensory perception, moisture, shear and friction, with a patient scoring lower than 16 considered 'at-risk' [3, 6]. Each patient is scored on admission, postoperatively, at any change in condition or weekly. The Braden risk tool used at this facility also has a suggested minimum preventative intervention attached to each risk category. All beds in this particular hospital have the minimum intervention of a high-density foam mattress which is suggested for a low scoring patient. The addition of a turning schedule, heel protection and/or elevation is suggested for a moderate-risk patient, with an air mattress added for the high-risk patients (score less than 12). An extra caution suggests appropriate protection for the diabetic and neuropathic patient. The risk tool also includes a range of clinical interventions such as skin assessment and care,

continence care and referrals to allied health professionals as outlined in other clinical practice guidelines [1-4, 7, 8].

To say that a risk assessment tool has been validated means that it has been shown to accurately predict a pressure injury [5]. The validity of the Braden scale has been well documented in many studies [3, 9], but the reliability (the ability of different users to acquire the same score), can depend on several variables, a major variable being staff knowledge [3, 6, 10]. It has been shown that good reliability is usually achieved with registered nurses but decreases with less qualified staff [3]. Knowledge of the patient also influences reliability of the tool and it has been suggested that another assessment be undertaken 48-72 hours after admission [3, 6]. Even though it may take as little as 2 hours for a pressure injury to develop [2], the ward staff need some knowledge of the patient's condition to accurately assess the pressure risk. Further, Bergstrom *et al.* also suggested results can vary between healthcare facilities and that institutions should conduct their own studies to ensure accuracy [3, 6, 7].

Some writers believe that pressure risk scales should "assist rather than replace clinical judgement" [3, 8], but can we assume that knowledge of risk factors and pressure prevention is intuitive to the registered nurse? There are over 120 documented risk factors associated with pressure ulcer development [11] and it would be unreasonable to expect staff members to accurately gauge pressure risk by incorporating all these factors. Even though many risk factors may more accurately predict pressure injury, it would "involve calculations too complex to be clinically useful" [6]. The clinicians on the ward, while using a validated and reliable tool, still need to have knowledge of the factors which can affect each individual patient's pressure risk. Occasionally a staff member will state that even though the patient has been scored as a low risk, by using clinical judgement they believe that the patient should be nursed as a moderate- or high-risk. Who is more accurate – the tool or the clinician? One study in 2005 which looked at four different pressure risk assessment tools concluded that current tools do not accurately predict pressure ulcer development [12] and that clinical judgement does play a role.

Bastable [13] tells us that "staff nurses who must have a greater scope of knowledge to deliver quality care to patients deserve to have an assessment done by the nurse educator so that the needs of the learner are appropriately addressed". Assessment is important to not only establish the 'known information' of participants, but to also build a trusting relationship between staff and educators [13].

To further identify what was occurring at a ward level, it was decided to investigate the correlation of pressure ulcer development and risk assessment score, as well as the general knowledge of ward staff in relation to pressure ulcer prevention and management.

Method

Pressure risk score

Files of patients within a 12-month period identified as having either a pre-existing or hospital-acquired pressure injury were located and their pressure risk score noted. Patient pressure risk scores were categorised as either no or low-risk (of developing a pressure injury), moderate-risk or high-risk.

Figure 1. Pressure questionnaire.

Please take a few moments to answer questions

1. What is a pressure ulcer and is its development important / significant in relation to patient care.

Answer true or false

2. Pressure ulcers will not heal if the source of pressure is not relieved [true].

3. Individuals at risk of developing pressure ulcers should have a comprehensive skin inspection at least daily for signs of impaired integrity [true].

4. Blisters are classified as a Stage II pressure ulcer [true].

5. An incident report is completed only if the pressure ulcer is hospital-acquired [false].

6. When sitting up in bed, to reduce the effects of shearing forces on underlying tissues over the sacrum and heels, the foot of the bed can be elevated by 10-20 degrees [true].

7. Any broken skin over a bony prominence is classed as a pressure ulcer [false].

8. Pressure-relieving strategies are carried out only when a pressure injury has developed [false].

Answers are to reflect YOUR current practice

9. What are the major risk factors associated with pressure ulcer development?

10. When is a pressure risk assessment to be performed?

11. What do you do when you find a pressure ulcer?

12. What are the causes of reduced sensation?

13. What practical things can be done to prevent pressure injuries?

Staff survey

Five members of staff from each ward were interviewed individually using a custom-made survey tool (Figure 1). Participants were chosen to represent a variety of seniority and knowledge base – the nurse unit manager, an associate unit manager, a senior division 1 nurse, a junior/graduate division 1 nurse, and a division 2 nurse.

A total of 30 nurses were interviewed. Questions were chosen to reflect knowledge about definitions, assessment, staging of ulcers, risk factors and prevention/management. All participants were assured anonymity to encourage honest answers.

Results

Pressure risk score

When reviewing the pressure risk scores of patients with pressure ulcers reported over a 12-month period (Figure 2), we can see that of those patients who developed ulcers, just over half the number were assessed as having either no or a low pressure risk.

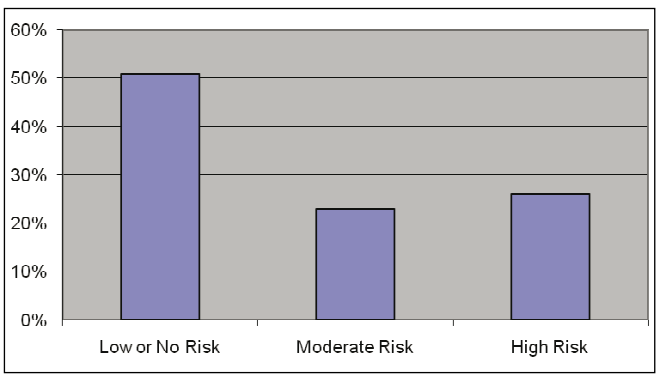


Figure 2. Pressure risk assessment scores (of patients developing pressure ulcers over a 12-month period).

Staff survey

The responses (Figures 3a & 3b) showed a good understanding of the definitions but a few inconsistencies were seen. A total of 96% agreed that a daily skin assessment was important to prevent pressure injuries, and yet only 14% mentioned it as a prevention activity. A total of 77% stated that they would file an incident report if a pressure ulcer was found and yet 41% thought to file a report on all injuries, not just those acquired in hospital. There was also a good response in identifying poor mobility, and yet there was a poor response in identifying poor activity (4%) and sensation (18%) as risk factors. Overall, it seems that there was a poor understanding of the link between postoperative patients and increased pressure risk as well as the importance of education and the risk factors of continence, activity, sensation and illness.

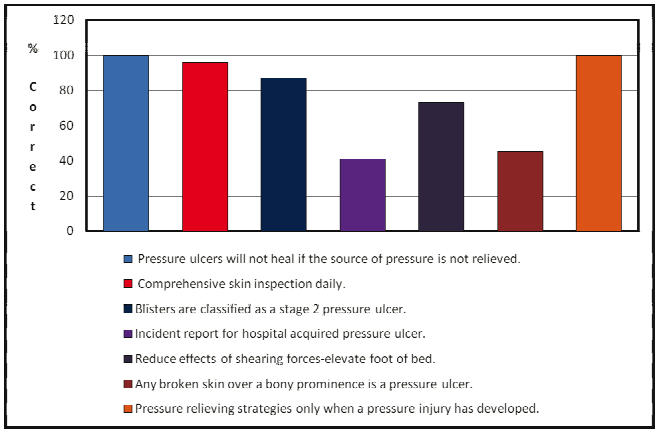


Figure 3a. Questions 2-8.

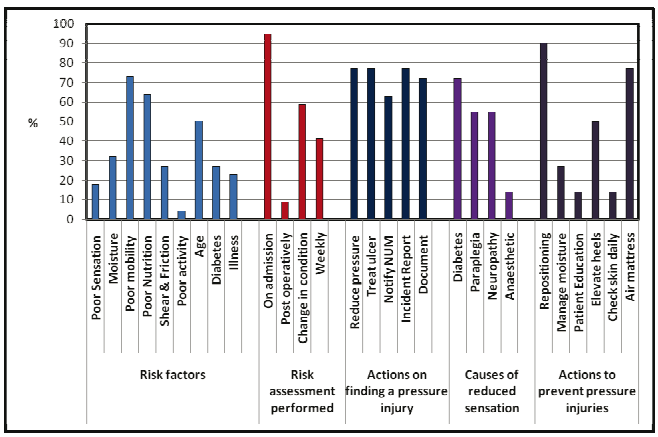


Figure 3b. Questions 9-13.

Discussion

With this information in mind, a pressure education programme was devised. Education had taken place in the past with some success, but a new way of presenting this topic was needed. What was needed was a tool to help staff identify risk factors and prompt the use of measures which minimise the effects of pressure. Also important was the education of patients and carers in pressure prevention, as well as the documentation of risk factors, pressure risk and management plans. What staff did not want was another form to fill in! As pressure ulcer prevention should be founded on research-based evidence rather than on clinical judgement, intuition or individual expert opinion [14], a fresh approach to increase accurate knowledge of pressure prevention and management was undertaken.

To prevent pressure injury from occurring, the clinician has to be proactive over a wide variety of areas. It involves not only accurate risk identification but also prompt referrals to appropriate members of the care team, and the application of equipment and preventative pressure management [15]. To

improve practice, staff education as well as the allocation of appropriate resources needs to be addressed [1]. Even though some writers agree that the use of clinical practice guidelines or reference guides will assist practice by linking research findings with clinical practice [1, 16], others do not agree and feel that it is more important to identify activities which will turn guidelines into actions [15]. These activities need to focus on ongoing education programmes which include annual in-services, assessments, newsletters and practical reference material, with the aim of enhancing both knowledge and skill [2, 14, 15]. Education of staff may actually be more important in pressure prevention and management than assessment tools [17], even though the documentation of pressure risk assessment is still needed as a guide to practice as well as an auditing tool.

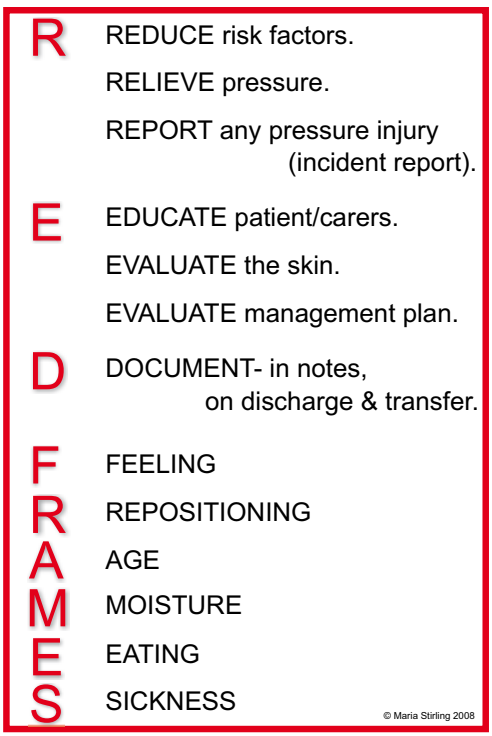
For an education programme to work there needs to be a hospital-wide culture that puts value and priority on pressure prevention. This means that the hospital's administration is willing to invest time and money in education and practical resources such as appropriate high-density foam or air mattresses, chairs with pressure-relieving surfaces, skin care products and a variety of other aids and equipment [15]. Even though these interventions may seem to be costly, they are far less than the costs involved in treating a pressure ulcer [1, 6, 9]. Other obstacles which may hinder education may lie with the staff themselves. There may be lack of time to participate in education or the staff may be resistant to change [13, 15]. The adult learner benefits from education sessions which are problem-centred and have an immediate application [13]. Their learning is improved if they can actively participate in the classes and the information is reinforced at other times [13, 15]. As hospitals are open for the whole 24 hours, it is also important to include the staff from all shifts in the education programme [14].

The RED FRAME mnemonic

In many areas of art and science we use mnemonics. They are a group of words or a poem which are used as a memory/learning aid to remember lists or facts [17]. Most nurses know DR ABC when remembering basic life support. This mnemonic helps to remember **D**anger **R**esponse **A**irway **B**reathing **C**irculation in a code blue situation. Another useful mnemonic is **C**anned **T**una **L**ooks **S**o **C**ramped, which helps remember the vertebrae – **C**ervical **T**horacic, **L**umbar, **S**acrum and **C**occyx.

Over a period of time a mnemonic was devised that would help both trained and untrained carers in pressure risk assessment and prevention. The words used needed to be easy to understand by both carers and patients, regardless of educational standard and cultural background. Words were chosen to also include as many of the various risk factors as possible. It would also be helpful if the words themselves had some reference to a pressure injury or remind the user to prevent their occurrence. Hence the term RED FRAMES was devised (Figure 4).

Figure 4. The RED FRAMES mnemonic.



RED

The word RED helps to remember the actions needed when a risk factor or pressure ulcer is identified. Reddened skin would be one of the first alerts to the clinician that an area had been subjected to pressure (on a fair skinned individual), so should be easy to remember. A red light can also mean danger or stop! A red area may be in danger of breaking down and the carer needs to stop the damage occurring. The letters themselves also have meaning:

R – Reduce risk factors

Once a risk factor or cause of a pressure injury has been identified it needs to be either removed or at least reduced [1]. The effect of a risk factor such shearing can be reduced with the use of lifting machines and slide sheets rather than dragging the patient [7]. Other risk factors may also need a multidisciplinary approach [16], with the nurse acting as coordinator of preventative pressure care. The patient with poor nutrition should be referred to the dietician, while those with ongoing activity and mobility problems could be referred to either the physiotherapy and/or occupational therapy departments.

R – Relieve pressure

Sometimes you need to state the obvious! Avoiding direct contact with bony prominences as well as regular repositioning and mobilisation are all essential measures to relieve pressure [7, 15]. The offloading of pressure by elevating the heel is still one of the most effective ways of preventing heel injury, as it allows greater tissue perfusion [7, 8, 10, 14, 15]. Some researchers advocate the use of air mattresses, pressure-relieving cushions and overlays as well as specialised fibre-filled or lambs-wool boots [7, 14]. However, care should be taken that these aids are in fact providing pressure relief rather than just decreasing shear and friction [8].

R – Report any pressure injury (incident report)

Whenever an ulcer or wound is found on a patient, part of normal management is to assess the wound, record it in the progress notes, treat the area appropriately and reassess progress on a regular basis [3]. Pressure ulcers are not just 'any wound'. They are serious adverse events which are preventable in most cases [3]. They inflict pain and suffering on patients and their families as well as a financial burden on our hospital systems [2, 3, 10, 14, 15]. A pressure ulcer can increase length of stay by an average of 4-7 days [15].

As government departments now demand monitoring of prevalence and incidence data, hospital staff are required to report a pressure injury as an incident [3]. They are also seen as an "indicator of sub-optimal care" [1] so it is important that *all* pressure ulcers are recorded as an incident so that a differentiation can be made between pre-existing and hospital-acquired injuries. Preventative strategies should be able to reduce the number of hospital-acquired ulcers, whereas we may need to focus on education to patients, carers and the community to decrease the number of pressure ulcers being admitted into our facilities.

E – Educate patients and carers

It is surprising to find that few patients are aware of how pressure ulcers are caused [11]. A quick literature search shows that there are no studies recording pressure prevention knowledge among carers in the home and yet, when practising 'patient-centred care', we expect the patient to be an active participant [3]. By teaching patients about pressure prevention, skin care and skin assessment they can become experts in their own care [3, 18]. If they have a pressure ulcer, they need to know that it may contribute to them developing another injury at a later date [4, 7, 8].

Pressure care may also need to continue after discharge. A paraplegic person, who has a high risk of skin damage due to shear and friction when transferring from bed to wheelchair, could be given preventative pressure education along with a mirror to evaluate the condition of their skin. A person with double incontinence needs to be taught about maintenance of skin integrity and may benefit from information about pelvic floor exercises.

E – Evaluate the skin/management plan

Skin assessment should be a basic and fundamental part of admitting a new patient to the care facility, especially if there are associated risk factors for pressure ulcer development [2-4]. The evaluation of the skin should be at least daily or more often, depending on the patient risk factors [4, 7]. For example, the incontinent patient should be assessed at every pad change. If the patient needs to be turned, evaluation of skin integrity, especially over the bony prominences, should occur when being repositioned [3].

Maintaining skin integrity involves not only frequent skin assessment but also an evaluation of the interventions in place [1, 6, 19]. If a patient is admitted with a Stage II pressure ulcer which quickly develops into a Stage III ulcer, the risk factors as well as the management plan need to be revaluated. Evaluation is also an important part in monitoring the success or otherwise of interventions, education and resources so that management plans can continually be improved [3]. It is also a way to demonstrate the need of additional resources.

D – Document in notes, on discharge and transfer

Communication is an area that is vital in most areas of our society. In healthcare particularly, it is important that we have clear communication between clinicians, hospitals, aged care facility and/or home to ensure ongoing care [2]. To evaluate adequately the level of pressure risk on admission, the clinician needs information not only from the patient but from patient notes. Poor documentation can lead to omissions in important information which may in turn lead to an inaccurate risk assessment and inappropriate or sub-optimal care [14]. Pressure risk should be recorded on handover sheets to ensure that pressure management continues over the entire 24-hour period.

A patient admitted through the emergency department or via a hospital transfer is more likely to be of a high pressure risk compared to a patient admitted from home, therefore clear transfer documentation is even more important [5, 7]. Information such as description of skin integrity/pressure areas/wounds, pressure risk factors or care plans needs to be documented in the patient's notes as well as discharge or transfer records [2, 3]. When a high-risk patient is discharged from hospital, an accompanying letter should be sent to the general practitioner outlining treatment given and ongoing care needed.

Clear documentation is also needed for the accurate evaluation of care plans. When there are changes in the patient's condition, care plans need to be updated. Descriptions and measurements of wounds need to be accurately documented to assess effectiveness of wound management and pressure prevention plans [3]. A question that should be asked is – why are pressure ulcers not recorded as a patient past history, when we know that this will increase their chances of subsequent pressure damage [4, 7, 8, 12]?

FRAMES

The word FRAMES can mean a border surrounding a picture or door as well as a complete image on a film [17]. This is what we want to do to the patient – we want to have a complete picture of them and their past history so as to identify any risk factor which could lead to a pressure injury.

F – Feeling

Ask/look at your patient – are they able to feel their feet, legs or arms? Risk factors include neuropathy and decreased sensation. Causes of decreased feeling include spinal injury, diabetes, impaired level of consciousness and surgery (general or spinal anaesthetics).

A sensory deficit means that the person has an altered perception of pain and so tends not to reposition as frequently [7]. It may not always be obvious or easy to discover impaired sensation. The person involved may not even be aware (as in the diabetic patient) that there is a problem. A monofilament can test for peripheral neuropathy, otherwise use the sharp and blunt end of a paperclip on the base of the foot to assess the amount of feeling present.

Specific risk reduction includes turning regimes and assessing patient position/environment for dangers and leg elevation to offload heel pressure [3, 8, 10].

R – Repositioning

Ask/look at your patient – can they reposition themselves in bed or in the chair? Are they able to mobilise? Can they move well or do they drag the skin? Risk factors include activity, mobility, shear and friction. Causes of inability to reposition include decreased conscious state, surgery, trauma, pain, sedation, poor physical condition, fatigue, age, obesity, hemiplegia, leg oedema – cellulitis, lymphoedema, thrombosis – and cardiac failure.

Immobility and decreased activity are major risk factors which can lead to pressure injury over bony prominences [3, 7, 16]. Studies have shown that prevalence can be 2.6 times higher in

patients unable to reposition [5]. Friction, which is the movement of one surface against the other, and shearing forces caused by the movement of bone over subcutaneous tissue, can both increase the amount of damage caused by pressure alone [7]. A person may not be able to move and reposition their body for a variety of reasons. After an operation the patient may be in too much pain to move their body and so would rather remain in the one position. Some people may move poorly and drag their body to change positions rather than lifting clearly off the bed. A person may only move when you remind them.

Specific risk reduction includes assessing and monitoring patient movement. Walking or turning regimes [2], slide sheets for manual handling, nutritional support, physiotherapy/occupational therapy referrals, and appropriate medical treatment are also part of comprehensive management plan. Padding or protective dressings can guard against shear and friction, while elevating the leg will relieve pressure on the heels [3].

A – Age

Ask/look at your patient – are they old or are they frail? Being elderly reduces the amount of elastin in the skin. This means that the older person is at a higher risk of damage due to pressure and shear factors [3, 7]. In Victorian public hospitals who participated in the 2006 PUPP survey, 80.8% of patients with a pressure injury were 60 years of age or older [5]. Being elderly also means there is an increased chance of other pressure-related risk factors such hip fractures, incontinence, dry skin, chronic systemic conditions, terminal illness and being confined to bed [6, 7].

Specific risk reduction includes use of soap alternatives, moisturising and protection of skin and bony prominences as well as the maintenance of mobility, continence and minimising the effects of chronic conditions.

M – Moisture

Ask/look at your patient – are they incontinent of urine or faeces? Are they sweaty and does their skin stick to the sheets? Risk factors include continence and moisture.

Moisture can include perspiration, urinary/faecal incontinence or excessive wound drainage [3]. Maceration of the skin can increase the effect of pressure, shear and friction, sometimes up to as much as five-fold [3, 7]. Skin affected by incontinence, especially if it is undergoing frequent washing, may deteriorate and become more vulnerable to shear, friction and infection [20]. Moist skin is also more likely to stick to the sheets or bed surface, thereby increasing the likelihood of shear damage [20]. It has also been found that a person with urinary and faecal incontinence combined, has a pressure injury incidence of 17%, compared with 9.9% in those with urinary incontinence alone [9].

Specific risk reduction includes skin protection, for example the use of soap alternatives for hygiene, barrier creams, continence aids and pelvic floor exercises as appropriate.

E – Eating

Ask/look at your patient – have they been eating adequate amounts of food and fluid? What have they been eating? Carers need to be aware of the following issues – Have they an adequate protein and energy intake? Do blood results show hypoalbuminemia? Have they been losing weight? Are they able to feed themselves? Have they been fasting (nil orally) for 5 days or longer?

Poor nutrition is one of the major risk factors leading to pressure ulcer development [3, 7] and nutritional status can easily be influenced by patient and practitioner interventions [16]. Remember that body size may not be an indicator of nutritional status.

Specific risk reduction includes referral to dietician. If there is an issue with swallowing and independence at meal times, referral to speech and/or occupational therapist may also be appropriate.

S – Sickness

Ask/look at your patient – have they been sick? Have they had an operation or been in intensive care? Do they have a chronic illness? Of particular concern would be people with recent history of severe illness or with a recent intensive care admission [3, 4, 7]. Other indicators might be a spinal cord injury [3, 7], poor oxygen saturation [3], intraoperative time over 3 hours [3, 4], anaemia [3], low blood pressure [3, 6], poor circulation [3, 7], skin temperature elevation [3, 6], orthopaedic conditions [4, 7], chronic illness [3, 4], past history of pressure ulcers [4, 7, 8, 12] or malignancy [3, 7].

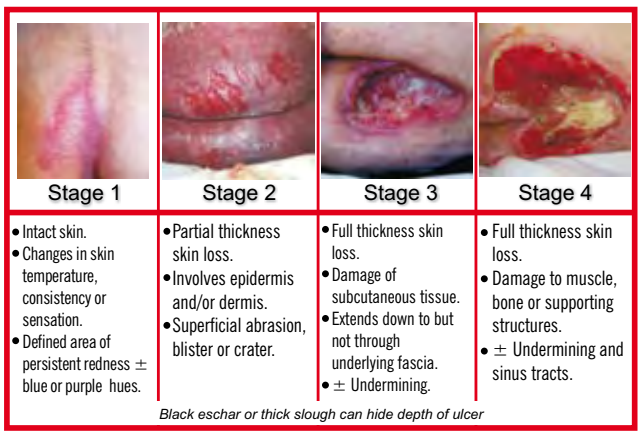
All these risk factors are inter-related. The buttocks, sacrum trochanters and heels are of particular concern when the person is haemodynamically instable as there may be an inadequate supply of oxygen and nutrients to these areas [21]. Heels in particular are prone to pressure injury compared to other bony prominences [22]. One Danish study found that a haemodynamically unstable patient has a higher risk of pressure-related damage, especially on the heels. They used a modified risk scale which included factors such as level of consciousness, peripheral vascular status, hypotension, shock, sepsis, neurological deficits and the use of inotropic drugs [16]. In the situation where a person has multiple co-morbidities, the overall pressure risk is increased greatly [5]. This is also reflected in the situation where pressure is repeated over a period of time. A 'load history' occurs where, eventually, any degree of pressure

may cause injury to the skin and underlying tissue [23]. This may be why some patients will develop a pressure injury having been assessed as a low risk. Their recent intensive care stay or major operation may not be taken into account when assessed on transfer to the normal general ward or rehabilitation facility.

Implementation of RED FRAMES

The use of RED FRAMES was not designed to replace the use of a validated risk assessment tool. It is to be used as an adjunct to the risk assessment tool; something to prompt action and make the clinician more familiar with a range of risk factors. RED FRAMES is laminated and made to hang on the clinician's lanyard. On the reverse side is a series of pictures and definitions of the four pressure ulcer stages which aid the clinician to grade the pressure injury (Figure 5).

Figure 5. Pressure ulcer staging.



The introduction of RED FRAMES was pre-empted by statements such as "RED FRAMES are coming"! This attempted to instil a feeling of expectation and interest among staff members. Statements to encourage a culture of clinical excellence were made. A positive attitude towards pressure prevention was encouraged by highlighting success in other clinical areas.

Small education sessions were held on the wards (including the emergency department). They were short (approximately 30 minutes) and allowed for interaction between educator and staff. The sessions were informal, allowing staff to contribute their own experiences of pressure prevention and management. Education focused on definition and stages of pressure injury, causes of injury, RED FRAMES, prevention strategies and proactive pressure care. Night staff sessions were presented in the evenings prior to the commencement of their shift and small 10 minute sessions were presented at staff orientation. Education was provided to physiotherapy, occupational therapy and medical staff. Most unit managers have made pressure education a clinical competency with all staff expected to attend. An education board was also displayed on the wards and in the hospital foyer for staff, patients and relatives. This reinforced the information presented at the education sessions.

All pressure ulcer reports are directed to the wound manager who monitors the number of pressure injuries within the hospital. Initially all reports were followed up personally and management strategies discussed with ward staff. Over time, with increased knowledge at the ward level, only hospital-acquired and Stage III-IV ulcers are reviewed. Initially, all staff who filled in a pressure ulcer report received a small reward (a chocolate frog). In the emergency department a similar reward was given to staff who documented a pressure injury or a high pressure risk patient. The use of a reward system may seem unprofessional but it does seem to work!

A representative for each ward is delegated to attend a monthly working group. At these meetings the previous month's pressure injury reports are reviewed and discussed. Case studies are presented and other skin integrity issues are discussed. Guest speakers are invited to talk about wound products etc. Items of concern are discussed, with information relayed back to the wards. This group acts as a forum for ongoing education. Questions are put forward and answers are filtered back to the wards. A newsletter is produced from information and topics presented at the meeting. The ward representatives become the pressure champion of the ward. These meetings are sometimes hard to maintain due to the work commitments of the nursing staff. They need support from administration as well as the ward unit managers. Great effort is put in to make them interesting and worthwhile to all staff who attend.

Results

This education programme, including the memory aid, was introduced to improve staff knowledge and the accurate filling in of the Braden scale. What occurred in the first year of its introduction was quite unexpected.

The Victorian Department of Human Services (DHS) have conducted a series of PUPP surveys since 2003 which record the number of pressure injuries in public hospitals. In the last survey held in May 2006 there was a mean prevalence across the state of 17.6% and, of those pressure ulcers identified, approximately 75% were hospital-acquired [2]. The prevalence in 2006 at this particular hospital was lower than the state average and, of those ulcers identified, 56.3% were hospital-acquired. Another PUPP survey was conducted in October 2007. This survey was conducted approximately 8 months

after the introduction of RED FRAMES and associated education programme. There was a slight decrease in the prevalence but what was surprising was that, of these pressure ulcers identified, only 18.2% were hospital-acquired.

Was the decrease in hospital-acquired pressure ulcers due to the new interventions in place or rather just good luck on the day? All staff working in clinical areas will know that the acuity of patients can vary from week to week, so was the hospital fortunate that there were fewer high-risk patients on that particular day? Can we attribute such a dramatic decrease to good luck alone, or was the decrease due to the intensive education programme, the introduction of RED FRAMES or a combination of both?

Another consequence of increased pressure education could be an increase in the reporting of pressure ulcers. Health services are now expecting public hospitals to report all hospital-acquired pressure ulcers on a quarterly basis. We must be cautious that the hospital which is diligent at reporting their pressure injuries is not seen as providing poor care. Enthusiastic ward staff may report skin damage due to other causes as a pressure injury. Tissue damage caused by incontinence can easily be misinterpreted as a Stage I or II pressure injury [20], especially as incontinence is a major risk factor in pressure ulcer development. It can also be difficult, especially for the junior clinician, to differentiate between a vascular ulcer and a pressure injury as, once again, both can be inter-related. This is why ongoing education is needed as knowledge and skills in identifying pressure damage needs to be updated and reinforced [13].

Conclusion

RED FRAMES is a simple memory aid. It uses easy to understand language to prompt carers to remember the risk factors and encourage appropriate action. On a lanyard with a guide to pressure ulcers staging on the reverse side, it makes it easier for busy ward staff to think about pressure prevention and management. It is not to replace the risk assessment tool, rather as part of an ongoing education programme which is supported by both the hospital administration and the multidisciplinary care team.

This mnemonic and education package have been trialled at one metropolitan hospital. It has been well accepted and may be responsible for a decrease in the number of hospital-acquired pressure ulcers as recorded during a PUPP survey. Further investigation over a variety of sites is needed to show validity of the mnemonic RED FRAMES.

Every day, put your patient in their RED FRAMES to see if there is a pressure risk.

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References

1. Benbow M. Guidelines for the prevention and treatment of pressure ulcers. Nurs Stand 2006; **20(52)**:42-44.
2. Victorian Department of Human Services. PUPPS3 – Pressure ulcer point prevalence survey. Statewide report 2006. Quality and Safety Branch, Victorian Government Department of Human Services, Melbourne.
3. Australian Wound Management Association. Clinical Practice Guidelines for the Prediction and Prevention of Pressure Ulcers. Western Australia: Cambridge Publishing, 2001.
4. Royal College of Nursing. National Institute for Health and Clinical Excellence. The Prevention and Treatment of Pressure Ulcers. 2005; Clinical Guideline 29.
5. Gardner A, Dunk AM, Eggert M, Gardner G & Wellman D. Pressure injury: and exploration of the relationship between risk factors and interface pressure. Prim Intent 2006; **14(4)**:140-149.
6. Bergstrom N, Braden B, Kemp M, Champagne M & Ruby E. Predicting pressure ulcer risk: a multisite study of the predictive validity of the braden scale. Nursing 1998; **45(5)**:261-269.
7. Grey J, Enoch S & Harding K. Pressure ulcers. Br Med J 2006; **332**:472-5.
8. Donnelly J. Hospital-acquired heel ulcers: a common but neglected problem. J Wound Care 2001; **10(4)**:131-136.
9. Meaume S, Colin D, Barrois B, Bohbot S & Allaert FA. Preventing the occurrence of pressure ulceration in hospitalised elderly patients. J Wound Care 2005; **14(2)**:78-82.
10. Huber J, Reddy R, Pitham T & Huber D. Increasing heel skin perfusion by elevation. Adv Skin Wound Care 2008; **21(1)**:35-41.
11. Lyder C. Is pressure ulcer care evidence based or evidence linked? J Wound Care. Science of Surfaces 2005; **(suppl)**:2-3.
12. Schoonhoven L. A comparison of the predictive values of four risk assessment scales. J Wound Care. Science of Surfaces 2005; **(suppl)**:8-9.
13. Bastable S. Nurse as Educator: Principles of Teaching and Learning. Boston: Jones and Bartlett Publishers, 1997.
14. Gardiner L, Lampshire S, Biggins A *et al.* Evidence-based best practice in maintaining skin integrity. Wound Pract Res 2008; **16(2)**:5-13.
15. McElhinny ML & Hooper C. Reducing hospital acquired heel ulcer rates in an acute care facility: an evaluation of a nurse-driven performance improvement project. J WOCN 2008; **35(1)**:79-83.
16. Meijers JMM, Scols JMGA, Jackson PA, Langer G, Clarke M & Halfens RJG. Evaluation of the dissemination and implementation of a nutritional guideline for pressure ulcer care. J Wound Care 2007; **16(5)**:201-205.
17. Moore B (Ed). The Australian Pocket Oxford Dictionary: Oxford University Press, 2001.
18. Mulder G & Alfieri D. The diabetic foot: consideration for pressure reduction and off loading. Prim Intent 2007; **15(2)**:58-65.
19. Blaszczyk J, Majewski M & Sato F. Make a difference: standardise your heel practice. Ostomy Wound Manual 1998; **44(5)**:32-40.
20. Evans J & Stepgen-Hayes J. Identification of superficial pressure ulcers. J Wound Care 2007; **16(2)**:54-56.
21. Bots CM & Apothekar BFG. The prevention of heel pressure ulcers using a hydropolymer dressing in surgical patients. J Wound Care 2004; **13(9)**:375-378.
22. Goossens R & Rithalia S. Physiological response of the heel tissue on pressure relief between three alternating pressure air mattresses. J Tissue Viab 2007; **17**:10-14.
23. Bader D. The physiology of pressure injury. J Wound Care. Science of Surfaces 2005; **(suppl)**:6-7.