G40	Standard	Tissue viability relating to moving and handling (M&H)

Systems are in place

a) to promote/ protect tissue viability when moving and handling people.
b) for the assessment, prevention and management of pressure ulcers (PMPUs)/ moving and handling (M&H) needs.

Justification

Rationale

Some patients and service users are at risk of developing pressure ulcers. Appropriate measures, including correct handling techniques and equipment need to be implemented following assessment of person's needs.

Authorising Evidence

HSWA (1974); MHSAWR (2000); MHOR (as amended 2004); LOLER (1998); PUWER (1998)

Links to other published standards and guidelines

DH (1993); DH (2010) Essence of Care; DH (2010) NHS choices European Pressure Ulcer Advisory Panel (2009); HSE (2007) SIM/ 7/2007/10; MHRA (2010); MDA/2010/002; NPSA (2008); NPSA (2010); National Pressure Ulcer Advisory Panel (2009); NICE (2005[1]); NICE (2005[2,]); NICE (2005[3]); NICE (2003); RCN (1999); RCN (2005); Ruszala et al (2010)

Cross reference to other standards in this document

D6,7; G2-6,9-11,14-18,21,23-26,30,36,37,39; I1,3,5,6,9; K1,2

Appendices

5, 17, 18, 27, 28

Verification evidence

- requirements for compliance to achieve and maintain this standard

- Both prevention and management of pressure ulcers (PMPUs) and moving and handling (M&H) assessments are carried out as indicated by local policies. Training records demonstrate that staff are trained to the level of competence required regarding assessment as well as the use of available equipment, with suitable and sufficient local supervision

- Audit identifies the use of alternating pressure/ continuous low pressure mattresses where the PMPU assessment indicated it as well as the use of M&H equipment as described in the M&H assessment

- Results of audits of assessments/ mattresses/ equipment are minuted and monitored for relevant action. The minutes contain evidence that relevant action has been carried out and monitored at regular intervals

G40 Protocol - Tissue viability relating to M&H

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1. Introduction

This protocol describes the relationships between moving and handling (M&H) and tissue viability (TV) and how tissue damage which may contribute to the development of pressure ulcers (PUs) can be reduced if M&H is carried out with due regard to good evidence-based care.

According to the Disabled Living Foundation (DLF) cited by Hall in 2001, moving and handling is "*facilitating the movement of an individual from one position to another and this will depend on the individual's condition from independent to totally dependent on others"*.
The National Pressure Ulcer Advisory Panel (2009) described a PU as an area of "*localized injury to the skin and/ or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear*".

The cost of treating PUs in the UK has been estimated as £1.4 - £2.1 billion annually, equivalent to 4% of the total NHS expenditure (Bennett et al, 2004; Clark, 2007). Added to that are litigation costs (Guy, 2007). Hibbs (1988) suggested that 95% of PUs that occur are preventable. In 2001, the DLF stated that many PUs could, and should, be prevented. Clark et al (2002) estimated that 18% of hospital patients may have a PU at any one time. The DH (1993) identified PUs as key quality indicators.

NICE (2005[1]) recommended that all PUs of grade 2 or above should be documented as a local clinical incident. In 2010, the National Patient Safety Agency (NPSA) issued a notice "NHS to Adopt Zero Tolerance Approach to Pressure Ulcers" introducing a patient safety investigation of all grade 3 and grade 4 pressure ulcers to identify a route cause.

1.1 Causes of Pressure Ulcers (intrinsic and extrinsic risk factors)

A PU (also called a decubitus ulcer) may form on any part of the body that is pressing against a hard surface and where blood is unable to circulate freely - either a high pressure for a short period of time or lower static pressure for a longer period. If the pressure continues, capillaries under the skin will collapse and eventually the cells in the area will die. The most common places where a PU may occur are heels, ankles, sacrum, hip, elbow, scapula, shoulder, lobe of ear and occiput. An atypical PU is not located over a bony prominence, but can occur at the site of a device/ tube compressed against the skin, or where skin is broken/ exposed to excessive heat, cold or damp (Hall, 2001).

PUs occur in people who are acutely ill, the older person or the very young, the malnourished/ incontinent and anyone who is unable or unwilling to move/ reposition themselves or has an inability to move a part of their body without assistance e.g. brain or spinal injury/ multiple sclerosis. Pregnant women are

also at risk as are those who use equipment such as seating or beds which do not provide appropriate pressure relief (NICE, 2005[2]).

1.1.1 Intrinsic risk factors

Intrinsic risk factors for development of PUs are person specific factors, unique to the person. These include reduced mobility/ sensory impairment/ acute illness/ extremes of age/ vascular disease/ severe chronic or terminal illness/ malnutrition/ dehydration and incontinence (NICE, 2005[2]).

1.1.2 Extrinsic risk factors

Extrinsic risk factors which are external to the body and can be influenced are pressure, friction, shear (Collier and Moore, 2006) or 'stiction'.

1.1.2.a *Pressure, friction, shear and 'stiction'*

Pressure damage occurs (as mentioned above) when sustained pressure is placed on a particular part of body, soft tissues (most commonly the skin) are distorted and blood supply is interrupted.
The pressure could be from the weight of the body that presses skin onto a firm surface of a bed or chair (NICE, 2003[1]), or because something is pressing into the body, such as a shoe, surgical appliance or clothing (Gebhardt, 2002).

Friction is the result of the movement of our skin against another surface. This causes scuffing or grazing to the top layer of the skin (Huntleigh Healthcare, 2005).

Shearing occurs when the skin remains in the same position, whilst the underlying body structures are moving in a downward movement (Collins and Shipperley, 1999). Shearing can occur when a person slides down or is pulled up out of a bed or wheelchair (Gebhardt, 2002).

These forces (friction and shearing) can cause a significant reduction in blood flow as vessels stretch, kink or tear. Distortion of blood vessels can also disrupt the endothelium and activate the intrinsic clotting mechanism, leading to platelet aggregation (clotting), which can occlude the affected vessel leading to ischaemic necrosis of dependent tissue (Huntleigh Healthcare, 2005).

'Stiction' is the increased force that is needed to overcome the tendency of skin to stick to a surface before sliding (Invista, 2010). 'Stiction' ("static friction") can be explained as the force needed to overcome the grip between an inert object and the surface beneath it. In terms of M&H, it relates to the difficulty of getting the object (patient's skin) to start moving when skeleton and muscles have already succumbed to gravity and moved down the bed. 'Stiction' is a threshold, not a continuous force, it builds up and results in a tug or jerk to the skin and at this point there is a high risk of shear (Smith and Ingram, 2010).

1.1.3 A healthy person avoids tissue trauma by means of frequent spontaneous movement even during sleep, or as soon as they feel uncomfortable. Somebody who is unable or unwilling to move or reposition themselves must be encouraged to do so if capable, to maintain skin integrity. If unable to move or heavily

sedated, the person will need assistance to turn and reposition frequently (NICE, 2005[3]) every 2 to 3 hours (Huntleigh Healthcare, 2005).
However, whilst assisting or facilitating a person to move, all care must be taken to avoid tissue damage which may be caused by pressure, friction, shearing, 'stiction' or a combination of these.

1.1.4 *Obese people*

Obese people have an increased risk of pressure ulcer development and their wounds take longer to heal. A heavier person may have immobility problems and breathing difficulties that inhibit their ability to lie flat, supine or prone. Without movement incurred in repositioning, the person can sustain friction and shear damage. Also, atypical PUs can form in the skin folds, particularly if the skin remains moist and the person has difficulty in reaching the skin folds to wash and dry properly.
Pressure damage may also occur if a chair is too small or from bed rails if the bed is too narrow. PU prevention must be a part of the holistic care management for the heavier person and equipment must be fit for purpose (Rush, 2009).

1.1.5 *Diabetes*

Type 2 diabetes is increasing, often as a side effect of being overweight. Diabetic people have increased risk of PUs, particularly leg ulcers, which can lead to the amputation of a lower limb. 50% of non-traumatic lower limb amputations occur in people with diabetes; 85% of which would previously have had foot ulceration (Bennett et al, 2004).

1.1.6 *Awareness by handlers*

According to Hall (2001) it is essential that all handlers are aware of the M&H practices or techniques that may assist in the prevention of PU formation. The handlers must also be mindful of any practices that may lead to tissue damage, albeit unwittingly. Some examples of inappropriate M&H practices are:

- Leaving an immobile person lying or sitting in the same position for a long period.
- Poor support of a person in a bed or chair and allowing them to slip or slump down.
- Dragging the person up a bed or chair.

All these will either result in pressure over a sustained period of time (Barbanel, 1990) or cause shearing and tearing of underlying tissues and/ or result in friction/ static friction.
The use of inappropriate equipment may also result in tissue damage through pressure, friction, shearing or even tearing, particularly where a bony area covered by a thin layer of tissue is in contact with a hard surface (Waterlow, 2008).

1.1.7 *The difficulty in treating PUs*

Once PUs occur, these can be difficult to treat. The presence of PUs will have implications for how the person is moved and positioned as well as on their rehabilitation management (Hall, 2001). PUs will also affect the person's quality of life and can contribute to the person's death (Guy, 2007).

2. Management, organisation, supervision and support

2.1 *Responsibility and advice for safer M&H and TV*

Management's responsibility is to ensure specialist advice is available.
All handlers are responsible for safer handling of a person and their tissue viability. It is important that everybody involved in the handling of an individual (e.g. the person, their relatives or their handlers) reports any concerns, and advice is sought from the appropriate person, policy or evidence-based material where necessary.

- Specialist advice about tissue viability (support and supervision) should be given by a Tissue Viability Adviser/ Nurse (TVN).
- A Manual Handling Advisor (MHA) or a Back Care Advisor (BCA) should be available for all complicated handling issues.

2.2 *The need to collaborate*

As M&H and TV are closely linked, these two advisors should work closely together as poor and inappropriate practice in person handling will lead to

- Pressure ulcers and discomfort to the person.
- Longer hospital stays.
- More costly treatments.
- May contribute to the person's death (Guy, 2007).

2.3 *Meeting individual and holistic needs*

In order to meet the needs of an individual person with PUs, it is vital that they are screened and assessed for the prevention and management of pressure ulcers (PMPUs) and for M&H before any moving or repositioning is carried out and that correct equipment and practises are identified, prescribed and utilised (Hall, 2001).

2.4 *The need for management to provide the necessary resources and supervision*

Every ward, department or nursing home should have suitable and sufficient handling equipment available as well as that needed for tissue viability. Staff must be aware how to access the equipment at short notice, 24 hours a day (NICE, 2005[3]). Management must ensure that all staff have clinical supervision which includes issues of M&H and TV.

3. Staffing levels

3.1 *Sufficient staffing levels*

Staffing levels should be based on a generic risk assessment. Sufficient handlers and resources are required to ensure that the assessments for PMPUs, M&H, care and repositioning take place in a timely fashion.

3.2. *The immobile person*

If a person is completely immobile then at least 2 handlers should work together to carry out risk assessments both for PMPUs and M&H and to provide care.

3.3 *Repositioning*

To reposition, turn/ roll or wash a person in bed who is immobile or unable to assist themselves, there must be at least two handlers (for the purpose of PMPUs and good M&H). However if the person is already on a special in-situ turning device such as a Wendylet or other bedding that reduces friction/ 'stiction' then the amount of input by handlers may be reduced.

3.4 *Using a hoist sling*

If a person is unable to assist with the positioning of a hoist sling; then the task of hoisting is likely to require a minimum of 2 handlers.

3.5 *The heavier person*

A heavier person will need 4 to 6 handlers to roll them. If the heavier person is unable to assist (immobile), the use of special equipment must be considered, for example a turning bed or an appropriate size sliding/ turning device.

4. **Staffing competencies** (after Benner, cited in Ruszala et al, 2010)

4.1 Novice

These include new handlers, students, health care assistants, and porters with little or no knowledge of tissue viability in the context of the safer M&H of people.

4.2 *Advanced beginner*

This term is applied to handlers and students with limited knowledge of TV/ PMPUs, but with some prior experience of the safer M&H of people. They have been taught to assess pressure areas and how to handle a person, contribute to the evaluation of the findings and what action should be taken. They generally lack experience.

4.3 *Competent*

These are handlers who have received training in TV and safer person handling. They can demonstrate the maintenance of skin integrity when assisting in safer moving and handling tasks including repositioning a person. The competent practitioner is able to follow the local policy, identify at risk individuals, ensure that full risk assessments are carried out (initial and on-going risk assessment in the first episode of care - within 6 hours for PMPUs [NICE, 2005]) for PMPUs and M&H and take appropriate actions to reduce risks both for PUs and for M&H as well as manage the care.

4.4 *Proficient*

Proficient practitioners are staff who have received additional evidence-based information and training concerning PMPUs and M&H such as link workers/ key workers. They can demonstrate this by the use of appropriate equipment e.g. beds, mattresses, armchairs, the use of equipment for TV and M&H and appropriate techniques. They can also lead and supervise other staff.

4.5 *Expert*

These may well include 'Tissue Viability Advisors', champions/ link workers for TV and M&H Advisors with additional information, training, supervision and experience of assessment. These practitioners may well have had ten years or more experience in the field.

5. Environment

The usual considerations apply.

6. Communication and information systems regarding initial referral

Initial screening and follow-up assessments for TV and M&H should be carried out as instructed by local policy or national guidelines. Staff must refer to specialist staff (TVN, M&H/ BC Advisor, Physiotherapist, Occupational Therapist or District Nurse) where appropriate. Reassessments should be dynamic, recorded at least weekly (in hospital) or if there is any change. Good communication with everyone involved in the care or support of the person is vital to ensure that no tissue damage occurs whilst the person is turned and repositioned.

7. Treatment planning

The treatment planning and goals should comply with requirements of national guidance (NICE, 2005; EPUAP and NPUAP, 2009; MHOR, 2004) and local policies.

- All individuals should have an informal risk assessment, based on their clinical presentation and consideration of the risk factors for PMPUs as soon as possible, followed up by full assessments and completion of appropriate forms where indicated.
- Treatment and care should be administered as soon as possible to minimise the risks of complications and prevent further disability and/ or pain and discomfort.
- A PMPU assessment should be considered as a dynamic process of skin inspection and observation of the individual's needs.
- The frequency of turning and repositioning as a preventative strategy should be determined by the individual's needs and the pressure-redistributing qualities of the support surface in use and recorded e.g. on a turning/ repositioning chart.

- The individual should be repositioned alternating between right side, back, and left side using 30^0 tilted side lying positions. They should not be turned onto a body surface that is still reddened from the previous episode of pressure loading.
- If the individual with PUs has compromised mobility then passive movements should be provided.

Turning and repositioning should be carried out as indicated by the European Pressure Ulcer Advisory Panel & National Pressure Ulcer Advisory Panel (EPUAP & NPUAP) (2009).

8. Moving and handling assessment

This can be viewed in the context of the aims of TV and safer M&H of people.

8.1 *M&H assessment*

A sufficient/ comprehensive risk assessment is carried out of all M&H tasks to identify any hazards posed by the activity (Manual Handling Operations Regulations [MHOR] 1992 [as amended 2004]; Royal College of Nursing, 1999) and developed into generic protocols. Hazards may arise through the use of equipment and/ or techniques.

The assessment must be repeated when any change occurs.
MHOR require M&H risk assessments to be completed, but does not set a definite time limit. Therefore, the initial assessment should be carried out on the first contact and a more comprehensive assessment, if relevant - where a person is not independently mobile - as soon as possible after the person is admitted/ first contact or within an acceptable time frame as indicated by local policy.
Each person has their own handling plan based on the outcome of the assessments.

8.2 *Assessment for PMPUs*

The Essence of Care document (DH, 2010, p 8) states "*people are screened on initial contact and those identified at risk of developing pressure ulcers receive a full assessment of their risks. The screening is repeated if there are concerns. This is weekly in a hospital. The PMPU screening tools should be evidence based and include a manual handling, as well as a nutritional assessment"*.

NICE guideline 29 (2005[3]) also states that "*Patients should receive an initial and on-going risk assessment in the first episode of care within 6 hours (*of arrival to an A&E/ admission to a hospital/ nursing home*)* or "*within the first visit by the district nurse*" in the community.

8.3 *Assessment for equipment*

The Essence of Care (DH, 2010; p 15) mentions the need for specialist seating, beds, mattresses, electric profiling beds and hoists. Unfortunately, the use of slide/ glide sheets and slide/ transfer boards is not mentioned in this document, although it mentions peoples' comfort, which should be assessed and maintained. Therefore, in undertaking an assessment the practitioner needs to

be aware of available equipment both for M&H as well as for pressure relief, including the possible use of sliding sheets, hoists and special pressure reducing/ relieving surfaces.
Also, there must be systems in place for ordering, delivering, cleaning, maintenance and storage of any equipment as well as supervision and support for the handlers both in M&H and PMPUs.
The Essence of Care (DH; 2010; p 8) mentions some factors under the Benchmarking for Prevention and Management of Pressure Ulcers (PMPU) – much of that information is also relevant to M&H as stated in the MHOR: Screening and assessment; keeping information up to date; planning, implementation, evaluation and revision of care; staff training and competency and having resources and equipment to reduce risks.

8.4 *Mobility*

Some people are independently mobile (no need for a full handling assessment, but may need an assessment for PMPUs) whilst others are at varying degrees of ability. Some are unconscious or lack sensation and are fully dependent on the handlers. Importantly all cases of M&H require good team-work, but in some emergency situations procedures have to be undertaken urgently and expert communication techniques are vital.
People are always encouraged to move by themselves where possible.

8.5 *Conclusions about assessments*

Where possible, both initial screenings (assessments) – M&H and PMPUs - should be carried out at the same time. These should be followed by specific assessments and the completion of assessment forms where indicated (using the Waterlow, Braden, Norton or Walsall assessment form for the PMPUs [Anthony et al, 2008; Chaloner and Franks, 2000] and a patient/ person handling assessment form for the M&H assessment).

Staff who conduct the screening and assessment must be competent to do so (Essence of Care, 2010; MHOR, 2004). They should have had effective training and achieved the required ability and experience.

The NPUAP (2009, p 8) states "*a PMPU assessment needs to include function capacity, particularly in regard to positioning, posture and the need for assistive equipment and personnel. The information must be available for staff".* This information should always be included in a patient/ person handling assessment form.

9. Moving & handling tasks where tissue damage may occur – plus Methods, techniques and approaches

Mobility has a significant role to play in the prevention of PUs. By facilitation of a person's movement the handler will reduce the likelihood of tissue damage (Hall, 2001).
The Disabled Living Foundation (2001) defined handling as a term in which assistance is provided by others to enable a person to move.

The trust's/ employer's safe system of work (SSOW) and protocols will inform the methods and techniques used to handle patients/ people.

9.1 *Bed moves - re-positioning, rolling or turning in bed*

Re-positioning relieves pressure, promotes circulation, allows investigation of skin condition, and allows air to reach the skin to reduce temperature and humidity; thereby avoiding problems with the collection of moisture. Sometimes it may be necessary to ensure the natal cleft is separated.
Rolling or turning is used for washing and dressing, treating (wound dressings) and for bed linen change.
Factors to be considered include the person's ability to undertake the task, whether the person is independent, requires assistance from 1 or 2 handlers or the use of equipment with or without assistance.
A person unable to turn by themselves is repositioned frequently, every 2 to 3 hours, alternating between right side, back, and left side, using 30^0 tilted side lying positions. Postures that increase pressure on bony prominences such as 90^0 side lying or semi-recumbent positions are avoided (the EPUAP and NPUAP, 2009). This will require at least two staff, unless special equipment is in-situ.

9.1.1 *The risks*

9.1.1.a *Damage to the skin integrity*

The person's skin integrity may be damaged if the handlers hold the patient incorrectly by gripping. As a result, bruising may occur or skin may tear. Therefore, handlers should keep their palms flat when handling a person rather than use their fingertips.

9.1.1.b *Shearing*

'Flip turn', where the person's hips are 'lifted through' and they are turned at the same time can cause shearing of the buttocks (Ruszala in Smith [ed], HOP5, 2005, page 279). The use of low friction slide sheets/ turning systems allows this task to be completed without lifting.

9.2 *Bed moves – up the bed*

This is used to move a person nearer the pillows for sitting up to eat, read or help to breathe easier. Factors for consideration include the person's ability to undertake or help in the task of moving up the bed, or use of equipment/ profiling bed.

9.2.1 *'Underarm drag lift' - up the bed*

The use of an 'underarm drag lift' up the bed compromises a person's tissue viability. There is a risk of shearing and friction forces causing bruising and tearing to the person's sacral area, buttocks and heels, particularly if the person is unable to bend their knees and push. A 'drag lift' could also compromise the person's musculoskeletal health as a pull under the axilla and/ or grasp of the forearm could cause shoulder damage.

9.2.2 *Orthodox lift (cradle, traditional, armchair lift) - up the bed*

Lifting a person up the bed with handlers' arms (or equipment) positioned under the person's trunk and thighs can result in pain and skin damage. Skin shear may occur when introducing the arms or equipment. If the person is unable to lift their own head and hold it up or if the buttocks and heels are not lifted high enough these may drag on the bed and contribute to the development of PUs (Ruszala in Smith [ed], HOP5, 2005, page 278).

9.2.3 *Use of bed sheets - up the bed*

In the past and perhaps even now, in either a hospital or community environment, staff may have resorted to using bed sheets/ draw sheets (without slide sheets) to move patients up the bed; this is not recommended because there is a risk of the sheet tearing or causing friction burns to patients' skin (Thompson and Jevon, 2009).
Slide sheets should be used to avoid shearing/ friction action against the bed sheets.

9.2.4 *Use of an electric profiling bed (EPB)*

The HSE (2007) recommended that everybody who needs assistance to move in bed, particularly to sit up in a bed, should be cared for in an electric 4-section profiling bed with the 'knee break' being used before a person is sat up to prevent them sliding down.

A person sitting up in a non-profiling bed (e.g. 'Kings Fund bed'/ divan bed) tends to slide down the bed and can have difficulty adjusting their position without assistance. The ability to easily control a bed profile means that an EPB reduces the risk of a person slipping down the bed and thereby also reduces the shearing forces applied to their skin (HSE, 2007, SIM 7/2007/10).

Further, profiling beds promote bed mobility and independence as a person in an EPB is able to reposition themselves from lying to sitting and vice versa without the assistance of care staff. In addition, the ability to position an occupant with support under the knee and calf can contribute significantly to reducing pressure on the heels as well as friction and shear on the sacrum thus reducing the risk of pressure ulcer development (HSE, 2007, SIM 7/2007/10).

Therefore, care staff should remember that sitting a person up in a bed by raising the head of the bed to more than 30^0 without the use of knee break first, causes shearing forces to occur as a part of body tends to move downwards but surface skin remains fixed.

9.3 *Sitting to standing*

Sitting to standing is used to relieve sacral pressure, preparation for walking, dressing and changing incontinence pads. Factors for consideration include a person's ability to undertake a sit to stand task. Once again considerations include whether the person is independent, requires assistance from 1 or 2 handlers or the use of equipment with or without assistance.

9.3.1 *'Dragging'*

Dragging ('an under arm drag lift') from a sitting position can cause sacral skin shearing/ tear as well as shoulder damage and is uncomfortable for the person. This is to be avoided.

9.3.2 *Factors involved in successful sit to stand*

The following factors need to be considered (Alexander in Smith [ed], HOP5, 2005, page 159):

- The height of the chair/ bed.
- The person sitting in an optimal position - one foot back towards the seat and feet apart, siting closer to the front edge of the seat.
- Ability to push up on armrests.
- The person's motivation and their medical condition.
- Weight-bearing ability.
- Ability to maintain active sitting balance.

If the person is unable to move from side to side without losing balance then the person should not be assisted manually into standing (Thomas in Smith [ed], HOP5, 2005, page 123-139).

9.4 *Repositioning a person in a chair*

9.4.1 'Leg and arm' lift further back in a chair

Handlers lifting a person further back in a chair by holding the person's upper arms and thighs can cause discomfort and bruising on the person's thighs and is a high risk for the handlers - poor posture and twisting (Ruszala in Smith [ed], HOP5, 2005, page 276- 277).

9.4.2 *Use of one-way glide/ slide sheet*

The use of one-way glide needs to be carefully risk assessed. If it is used, it needs to be in situ before a person sits in a chair and would allow the person to push themselves back in a chair provided the glide does not 'crinkle' underneath causing tissue damage to the person.

To assist the movement further back in a chair a small slide sheet can be inserted under the person's buttocks and they may be able to push themselves back in a chair, or the handler may assist by pushing gently on the person's knees (Alexander in Smith [ed], HOP5, 2005, page 163) but the slide sheet must be removed as soon as the person is in a correct position, otherwise they will slide down.
NOTE: To manage a person vulnerable to PUs in a sitting position – even with appropriate pressure relief it may be necessary to restrict their sitting time to less than two hours (NICE, 2003).

9.5 *Lateral/ horizontal transfer of a supine person (transferring from trolley to a bed/ bed to trolley or another bed)*

Where possible, a person is encouraged to transfer independently - to get off the trolley and walk to the bed. Others can slide across from one surface to another

using a slide sheet once the gap between the two surfaces is bridged with a slide board.
Ill patients or people unable to weight bear must be transferred supine using a lateral transfer system and proper techniques. This may include an inflatable system, a bed length slide board and slide sheets or a hoist (preferably a stretcher hoist). Non weight bearing people who are able to transfer themselves in a seated position can do so using a sliding board.

10. Methods, techniques and approaches

Described under section 9.

11. Clinical equipment for moving and handling tasks to promote/ protect tissue viability

All equipment should be risk assessed for its suitability for use in the area where it is to be used and for its usefulness for an individual person. All handlers need to be trained and supervised in the risk assessment/ use of the M&H/ TV equipment to ensure it is used correctly and that it is the most appropriate equipment to use for the person at the time of need.

Staff must report any faulty/ damaged equipment, label it 'for repair' and immediately remove it from use.

"All M&H devices should be used correctly in order to minimise shear and friction damage. After manoeuvring slings, sleeves or other parts of handling equipment should not be left underneath the individual" (NICE, 2003).

11.1 *Low friction slide sheets*

Slide sheets protect vulnerable tissues from friction, shear and 'stiction' as well as prevent handlers lifting a person with the resulting danger of tissues been dragged against the bedding or static surfaces. Every person needing assistance to move in bed must be allocated their own low friction slide sheets long enough to cover all pressure points. These would be either disposable and discarded when no longer needed, or washable ones which are washed before allocation to another person.

Special slide sheet systems, turning sheets or turning beds are available and would reduce risks and increase the person's comfort.

11.2 *One way glides*

One way glides can reduce the sliding down action in a bed or sliding off from a chair. Frequent checks must be made to ensure that the glide has not 'wrinkled' under the person - as mentioned earlier.

11.3 *Lateral/ horizontal transfer systems*

A lateral transfer board, with slide sheets or preferably an inflatable transfer system will reduce skin damage and can make a transfer from one surface to

another more comfortable for the person being transferred and easier for the staff.
The use of a transfer system that has sliding properties will reduce static friction at the start of the transfer and shearing force during the transfer and therefore the risk of musculoskeletal injuries to the handlers will also be diminished.
NOTE: After a period of time the slide boards tend to lose their sliding properties.

11.4 *Small slide boards/ turning devices*

Small slide/ transfer boards for transfers from one sitting position to another (particularly where a bed and a chair are at the same height) will aid independence and prevent sacral skin damage if used correctly.

This can be used together with a turning device under a person's foot/ feet if the person is unable to move their foot/ feet to prevent them 'dragging' during the transfer. If the person is able to stand but not able to move their feet, a turning device with a handle will prevent joint injuries and also protect the person from skin/ joint damage.

11.5 *Hoist with appropriate slings*

A hoist should be used to transfer a non-weight bearing person. This can prevent handlers from lifting and dragging a person as long as no shearing, friction or 'stiction' is involved in the positioning of an appropriate size and type of sling. The use of a slide sheet to position a hoist sling will prevent tissue damage (skin shear and bruising) and avoid extra moves for the person, reducing risks of musculoskeletal injuries to the handlers. Inappropriately sized slings can cause pressure damage/ shear to the person's skin as well as being uncomfortable; if the sling is too large the person may fall through it.

NOTE: An active hoist (sit-to-stand) if used inappropriately may cause damage to the person's shoulders and compromise the person's tissue viability. Pressure from the sling can result in redness and/ or grazing of the surface of the skin over the person's chest – front and/ or back. Shearing may cause deep tissue damage which can be seen as bruising later on.

11.6 *Electric four section profiling bed*

An electric four-section profiling bed will assist in repositioning a person. The backrest of the bed should be 'flat' when the person is moved/ repositioned in bed with slide sheets. The use of the 'knee break' before sitting a person up in bed will reduce the amount of sliding down diminishing/ stopping the effect of the shearing, friction and 'stiction' and will also prevent the person's feet touching the foot board.

12. Other equipment and furniture

12.1 Mattresses

Good quality high-specification foam mattresses will redistribute pressure across the whole body whether the person is in a hospital or community setting. Taller people should have an appropriate mattress or additional mattress support – it should not be placed at the foot end of the bed as this may lead to pressure damage on the feet due to the gap between the mattress and the mattress squab. All mattresses must be checked at regular intervals - 6 monthly [Hampton and Collins, 2004, page 293] to ensure the mattress has not 'bottomed-out' (Hampton and Collins, 2004, page 292; Invacare, 2008). Checks are also carried out to ensure there is no damage or contamination as this would be an infection risk (MDA/2010/002). Mattresses should be turned monthly or as instructed by the manufacturer to lengthen the lifespan of the mattress (Hampton and Collins, 2004, page 294).

A person at high risk of PUs needs to be on a dynamic system – on an alternating pressure mattress or on a continuous low pressure system.

NOTE: A heavier person on a dynamic mattress tends to become immobile and therefore it is often more beneficial if they are nursed on a foam mattress with appropriate Safe Working Load (Rush 2009).

12.2 Bedside arm chairs, wheelchairs, transport chairs

The seat cushions of these chairs should provide sufficient pressure reduction and relief. The cushions need to be checked regularly to ensure their quality. Hospitals and nursing/ residential homes should have various sizes of armchairs. Consideration should be given to the dimensions of a bedside arm chair as an incorrect seat size will cause a person to adopt a poor posture which can lead to PU development (Hampton and Collins, 2004, pages 320 – 322).
Positioning of an individual who spends substantial period of time in a chair/ wheelchair should take account of the distribution of weight, postural alignment and support of feet (NICE, 2003).

12.3 Mattresses on trolleys and theatre tables

Trolley and theatre table mattresses, as bed mattresses, should be inspected at regular intervals to ensure there is no 'bottoming out' (Hampton and Collins, 2004, page 292; Invacare, 2008) or contamination as instructed by MHRA (2010).

13. Risk rating

To carry out a 'suitable and sufficient' assessment, each task should be evaluated as part of the assessment process, so that the level of risk is quantified. Such assessments should be used, wherever possible, in the design of a safe system of work, and in highlighting any residual risks.

Various systems exist, but it is suggested that the NHS risk management 5x5 matrix, with 0-25 scale, is used for an overall evaluation of risk (NPSA, 2008) (see CD1, appendix 9 in folder 5). It is in common use, simple to use with 5 levels of risk, determined by a calculation of the likelihood or probability of an

adverse event occurring multiplied by the severity of consequences or impact should it occur.
Likelihood/Probability (0-5) x Severity of Consequences or Impact (0-5) = 0-25

The values below are based on this system. Calculations lead to the following possible scores or ratings: -

1 – 6 = Low; 8 – 12 = Medium; 15 – 16 = High; 20 = Very High; 25 = Extreme

These ratings can then be used to alert staff, to prioritise action and justify any necessary expenditure to make the situation safer, on the basis of reasonable practicability. Options can be evaluated by considering risks, costs, and actions planned or taken, to reduce the level of risk to the lowest level that is reasonably practicable, which can thus be demonstrated.

For more information on risk rating, please refer to Brooks, A and Orchard, S (2011).

14. Alerting the Moving & handling or the Tissue viability team

This will depend on the experience of staff on duty at the time, and on the availability of equipment required. Should any problem be envisaged or arise, staff must be aware of how to contact the appropriate advisor.

15. Referral to and involvement of other specialists

Usual considerations apply. For example, it may be appropriate for a referral to be sent to a dietician about the person's nutritional state; a surgeon if PUs need surgical intervention or to a person's own doctor/ social services for follow-up care/ treatment.

16. Transport (internal and external)

Any time a person at risk of, or with a PU, is transported, there must be appropriate pressure relief (e.g. wheelchair cushions or trolley mattresses).

17. Discharge and transfer planning

It is essential to include information about M&H and PMPU risk assessments, provision of equipment and also resources for the heavier patient when a person is discharged from a hospital or nursing home. In a referral to their GP or the relevant community team, information about the findings of the assessments and equipment necessary to treat and reduce risks must be included.

Sometimes the relevant agency will be asked to assess the person prior to discharge and at times the person may have to wait until the equipment is in place at home or in a nursing home before a discharge.

Conclusion

This protocol has demonstrated that standards in moving and handling need to be implemented alongside standards for tissue viability, when the individual is vulnerable to PU development.

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Summary/ Key Messages

- **The intention of the entire strategy and standards document is to contribute to the improvement of: -**
  - The quality of care - 'patient experience' (dignity, privacy and choice)
    - clinical outcomes
  - Patient/ person safety
  - Staff health, safety and wellbeing
  - Organisational performance – cost effectiveness and reputation, etc.

- **The standard for G40 is:**

Systems are in place
a) to promote/ protect tissue viability when moving and handling people
b) for the assessment, prevention and management of pressure ulcers (PMPUs)/ moving and handling (M&H) needs

- **Skilful M&H is key**

- **Special points for G40 are: -**

  - **Prevention is paramount**
  - **High quality and timely treatment is vital if ulcers do occur**
  - **Timely risk assessments for M&H and PMPUs that are 'suitable and sufficient' and repeated if any change or as per local policy**