Guideline: Prevention of Skin Breakdown due to Pressure, Friction/Shear and Moisture in Adults & Children

Practice Level

- Nurses in accordance with health authority / agency policy.
- Clients at risk for developing pressure ulcers and moisture associated skin damage require an interprofessional approach to provide comprehensive, evidence-based assessment and treatment. This clinical practice guideline focuses solely on the role of the nurse, as one member of the interprofessional team providing care to these clients.

Background

- A literature review done in Canada in 2004 found that the overall prevalence of pressure ulcers across all institutions studied was 26%. Although 50% of these were Stage 1 ulcers, this data is still disturbing.
- Heel ulcers are the second most common type of pressure ulcer; the incidence of all heel ulcers is 19 – 32% in the US, with higher incidence in acute care.
- A US multi-site study found that the overall prevalence of skin breakdown in pediatric settings was 18%, of which 4% was attributed to pressure ulcers.
- Moisture associated skin damage is also prevalent; one study found that of 976 acute care clients surveyed, 27% had incontinence associated dermatitis.
- Research shows that pressure ulcers occur most often in susceptible clients soon after admission, therefore completing an initial comprehensive and risk assessment on admission is important.
- Historically, pressure ulcer prevention has not been a focus for areas such as the operating room but studies indicate that the incidence of pressure ulcers that originate in the operating room range from 12 to 66%. Determining risk status preoperatively is based on the Braden Scale score and surgery-related risk factors such as procedures lasting more than 4 hours, specific surgeries (cardiac, vascular, trauma, transplant or bariatric), positioning during surgery (sitting), weight or nutritional extremes, age over 62, albumin less than 3.5 and an ASA score 3 or greater.
- The client’s level of risk for developing pressure ulcers is determined using a combination of assessment data, clinical judgement and a reliable and valid risk assessment tool, such as the Braden Scale for adults and the Braden Q Scale for children.
- Numerous risk factors increase the risk for pressure ulcers. These include:
  - Extremes of age (prematurity/advanced age), obesity, smoking, malnutrition, dehydration, immobility, impaired sensory perception and incontinence.
  - The presence of shearing force, friction, trauma and / or moisture.
  - Chronic illness such as peripheral vascular disease, motor or sensory deficits, diabetes, renal failure, sepsis, neuromuscular conditions (SCI) and/or cardiovascular problems.
  - Clients who are immune compromised, critically ill or at the end of life.
  - Those undergoing interventional and diagnostic radiological procedures or prolonged surgery.
- Preventive management encompasses the modification or elimination of risk factors that predispose clients to breakdown as well as addressing pressure, shearing force, moisture and friction. Although it may not be possible to prevent all skin breakdown, most can be avoided through evidence based preventive interventions.

Indications

For use with clients who are at risk for developing or who currently have skin breakdown associated with pressure, shear, friction, and / or moisture.

Definitions

Active Support Surface – An externally powered therapeutic support surface that can change its load – distribution properties with or without applied load. These surfaces reduce the pressure against the client’s skin regardless of

---

1 Clients are considered to be children if they are 18 years of age and under.
2 The term client includes recipients of care in the community (client), residential care (resident) and acute care (patient).

Note: This is a controlled document. A printed copy may not reflect the current, electronic version on the CL’C’K Intranet (www.clwk.ca). Any document appearing in paper form should always be checked against the electronic version prior to use; the electronic version is always the current version. This DST has been developed as a guide to support nursing practice in British Columbia, however it is not a substitute for education, experience & the use of clinical judgment.

December 2014
whether they move. Examples include alternating pressure mattress and lateral rotation mattresses.

Blanchable erythema – A reddened area that pales or blanches when pressure is applied and returns to pink within a few seconds after pressure is removed.

“Bottoming out” – A term used to indicate that the support surface is not providing sufficient pressure redistribution; can be assessed by placing the hand between the bony prominences and support surface to determine if there is adequate cushioning.

Braden Scale – Risk assessment scale that gathers information on 6 subscales: sensory perception, skin exposure to moisture, the client’s level of activity, the client’s ability to change positions, nutritional intake and presence of friction/shearing force. Total Braden Scale scores range from 6 to 23; a score of less than or equal to 18 indicates some degree of risk unless preventative measures are implemented; lower scores indicate greater risk.

Braden Q Scale – Assesses each pediatric client according to 7 scales: sensory perception, skin exposure to moisture, the client’s level of activity, the client’s ability to change positions, nutritional intake, the presence of friction and shearing force and tissue perfusion/oxygenation. The total Braden Q score ranges from 7 to 28 indicating risk to very high risk. Lower scores indicate higher risk. The cut off score indicating risk is 16. There is not a range of scores indicating gradations of risk.

Dysreflexia – A syndrome affecting persons with a spinal cord lesion above the mid-thoracic level. Is characterized by hypertension, bradycardia, severe headaches, pallor below and flushing above the cord lesions, and convulsions; may occur as a result of bowel or bladder distension, pain or pressure ulcers.

Fricion – A mechanical force that results in the loss of protective layers of skin when repeated movements occur over surfaces such as bedding, causing friction with localized heat and abrasions.

Hemodynamic instability – A state requiring pharmacologic or mechanical support to maintain a normal blood pressure or adequate cardiac output.

Incontinence associated dermatitis – Occurs when the skin comes in contact with urine and/or feces. It presents as a diffuse area of erythema, maceration, intertrigo, itching and possibly secondary bacterial and/or fungal infections.

Intertrigo – Itching, burning, redness and possibly open areas where opposing skin surfaces touch and rub, such as the groin, axilla, breasts (especially if large and pendulous) and between the toes. It is more common in those with diabetes; caused by yeast or bacteria.

Knee gatch – A bed that has an adjustable joint under the knees allowing the legs to be flexed and raised. The legs are fully supported by the bed when raised.

Malnutrition - Insufficient, excessive or unbalanced consumption of nutrients and/or impaired nutrient absorption/utilization, which may result in micronutrient deficiencies and/or loss of fat and muscles stores.

Moisture associated skin damage (MASD) – Inflammation, erosion, and/or secondary infection associated with excessive exposure to body effluent, e.g. perspiration, urine, stool, wound exudate, drainage from an ostomy or fistula.

Mucosal pressure ulcer (MPrU) – An ulcer occurring on mucous membranes as a result of pressure caused by a medical device. The pressure ulcer staging system is not used to stage mucosal pressure ulcers; these injuries are simply labeled as ‘mucosal pressure ulcers’.

Neonatal / Infant Braden Q Scale - A modification of the adult Braden Scale designed for use with those less than 1 year. Assessment parameters are the same as the Modified Braden Q scale with the addition of the gestation age. Scores range from 8 to 32 with lower scores indicating greater risk.

Non-blanchable erythema – A reddened area that does not blanche when pressed. This is the first sign that tissue damage has occurred and leads to breakdown if not treated. Non-blanchable erythema is harder to assess in clients with dark skin → assess for areas over bony prominences that appear different from normal skin tones or that feel swollen or warm to touch.

“Offloading” – The elimination of pressure from an area of the foot that is at risk for skin breakdown or has existing skin breakdown. Examples of offloading devices include therapeutic orthotics, heel protective devices, removable casts, pillows and foam wedges.

Pressure – Interferes with blood flow when tissue is compressed between a bony prominence and an external surface. When tissue pressure exceeds capillary-closing pressure cell death occurs leading to skin breakdown.

Pressure redistribution – The ability of a support surface to distribute load over the contact areas of the body.

Therapeutic Support Surfaces – A device for pressure redistribution that is used to manage pressure loads in order to prevent or promote healing of pressure ulcers; includes mattresses, integrated bed systems, overlays, seating cushions, pillows and seating cushion overlays and offloading devices such as foam supports and heel boots.

Reactive hyperemia - The transient increase in organ blood flow that occurs following a brief period of ischemia. This compensates for the shortage of oxygen and a build-up of metabolic waste when blood flow is occluded.
Shear – Mechanical force that moves bony structures in an opposite direction to overlying tissue; can lead to tissue ischemia and ulceration or tunneling and deep sinus tracts beneath an ulcer.

Suspected deep tissue injury (SDTI) – A localized purple or maroon area of intact skin or a blood filled blister that occur when underlying soft tissue is damaged from friction, shear and/or pressure. SDTI may start as an area that is painful, firm or mushy / boggy and warmer or cooler that surrounding tissue but can deteriorate into a thin blister over a dark wound bed or a wound covered thin eschar. Deterioration of SDTI may be rapid, exposing additional layers of tissue even with optimal treatment and may be difficult to detect in individuals with dark skin tones.

### Related Documents
- Guideline: Braden Scale for Predicting Pressure Ulcer Risk in Adults and Children / Infants
- Guideline: Assessment and Treatment of Pressure Ulcers in Adults & Children
- Flow Sheet: Braden Risk Assessment & Interventions
- Algorithm: Braden Risk Interventions

### Assessment and Determination of Prevention Strategies

**Assessment**

1. **Client Concerns:**
   a. Social and financial concerns and availability of support systems to address concerns.
   b. Emotional, cognitive, behavioural or mental health concerns and availability of support systems to address concerns, e.g. depression, dementia.
   c. Quality of life issues that could impact treatment.
   d. Impact of client’s current environment on client care.
   e. Client / family goals of care and preferences for treatment of risk factors.
   f. Client / family ability and motivation to comprehend, participate in and adhere to the preventive plan.

2. **Risk Factors for Skin Breakdown:**
   a. Medical conditions that increase the risk for breakdown, e.g. hemodynamic instability, peripheral vascular disease, cardiac disease (MI), renal disease, cancer, diabetes mellitus, hypotension, autoimmune disease and neuromuscular disorders (MS, Parkinson’s, spinal cord injury, CVA, Cerebral Palsy, Meningomyelocele).
   b. Impaired oxygenation status of skin and underlying tissues, e.g. COPD, HF, anemia.
   c. Iatrogenic conditions that increase risk for skin breakdown including radiation therapy, prolonged surgical procedures (4 hours or longer), lower extremity orthopaedic surgery and peri-operative analgesia.
   d. Medications that may predispose to breakdown, e.g. NSAIDS, anti neoplastics, systemic corticosteroids, anticoagulants and vasopressors.
   e. Clients who are at the palliative stage of an illness or at the end of life.
   f. Lifestyle factors such as smoking history (and motivation to quit) and substance use.
   g. History of previous skin breakdown.
   h. Extremes of age (prematurity / advanced age).
   i. Impaired activity / mobility:
      i. Need for assistance to transfer or mobilize; note if client is routinely immobile for 2 hours or longer.
      ii. Ability to shift position independently when sitting, lying & transferring; the need for assistive equipment and help to reposition.
   j. Impaired nutritional status:
      i. Overweight, low body weight, low serum albumin or pre-albumin³, edema, appetite changes, cachexia, restrictive diet and prolonged NPO.
      ii. Dehydration as evidenced by poor skin turgor and / or a decrease urinary output.
      iii. Inadequate nutritional intake of protein, calories or fluid as evidenced by % of intake at meals or calorie counts.

---

³ Wound healing is impaired in clients with an albumin of less than 35 g/l or a pre-albumin of less than 180 mg / L (female) or less than 215 mg / L (male); however, serum albumin and pre-albumin are negatively affected by acute illness (e.g. infection and inflammation) and therefore are poor indicators of nutrition status in these situations.

**Note:** This is a **controlled** document. A printed copy may not reflect the current, electronic version on the CL’cK Intranet (www.clwk.ca). Any document appearing in paper form should always be checked against the electronic version prior to use; the electronic version is always the current version. This DST has been developed as a guide to support nursing practice in British Columbia, however it is not a substitute for education, experience & the use of clinical judgment.

December 2014
iv. Possible causes of poor intake, e.g. poor dentition, difficulty swallowing, positioning, inability to self-feed, GI symptoms and pain.

v. Assess renal function if increased protein intake is indicated for the client.

k. Moisture / Incontinence

i. Fecal and/or urinary incontinence.

ii. Areas of excessive perspiration and evidence of moisture / maceration in skin folds.

iii. Heavily exuding skin conditions or wound exudate.

iv. Excessive edema causing weeping skin.

v. Excessive drooling with evidence of moisture/maceration of the skin.

vi. Limited ability to manage own hygiene needs.

l. Impaired sensation

i. Assess the feet for diminished sensation:
   1. Test diabetic adults and children who have passed puberty using monofilament testing over 10 points on the foot (Link to Monofilament Testing DST).
   2. For clients with neurological problems such as SCI or CVA test areas other than the foot with a cotton ball or pin prick.

m. Presence of pressure, shear, friction:

i. Note circumstances that may be contributing to friction and shear, such as HOB greater than 30° or sliding when lying or sitting.

ii. Presence and effectiveness of pressure redistribution equipment & devices in use.

3. Assess pressure ulcer risk status using the age appropriate Braden Scale

a. ICU / CCU: on admission.

b. Operating Room (OR): pre-operatively.

i. Risk status is based on the Braden Scale score and risk factors for surgery-related pressure ulcers⁴. OR staff must communicate client’s risk status, post-op skin assessment, the need for pressure distributing devices and other pertinent information to PARR / PACU staff following surgery.

c. Acute Care / Sub-Acute / Rehabilitation: on admission.

d. Community Care: on admission.

e. Residential Care: non-ambulatory residents on admission and ambulatory residents within 48 hours of admission in conjunction with the interRAI Pressure Ulcer Risk Score (PURS).

f. Acute Psychiatry / Geriatric Psychiatry: on admission.

g. Pediatrics: on admission.

4. Head- to-Toe Skin Assessment

a. Evidence of blanchable and non blanchable erythema, pressure ulcers or suspected deep tissue injury (SDTI) over bony prominences.

b. Evidence of healed wounds.

c. Evidence of candidiasis / bacterial infection.

d. Changes in skin texture / turgor (assess skin turgor in the abdominal area).

e. Changes in temperature compared to the surrounding skin (use back of fingers to test).

f. Consistency of any reddened areas, such as bogginess (soft) or induration (hard).

g. Pressure and moisture damage caused by medical devices such as tubes, masks, splints or braces; where able, lift or remove devices to assess underlying skin and mucosa (mucosa pressure ulcers).

h. Areas such as blisters, excoriation or rashes.

⁴ Surgery-related risk factors include procedures lasting more than 4 hours, specific surgeries (cardiac, vascular, trauma, transplant or bariatric), positioning during surgery (sitting), weight or nutritional extremes, age over 62, albumin less than 3.5 and an ASA score 3 or greater.

Note: This is a controlled document. A printed copy may not reflect the current, electronic version on the CL’cK Intranet (www.clwk.ca). Any document appearing in paper form should always be checked against the electronic version prior to use; the electronic version is always the current version. This DST has been developed as a guide to support nursing practice in British Columbia, however it is not a substitute for education, experience & the use of clinical judgment.

December 2014
5. Pain
   a. Type, location (especially over bony prominences and in skin folds), frequency and quality of pain.
   b. Pain associated with movement or repositioning.
   c. Pain severity using client self report, observation of non verbal cues and/or a pain scale, e.g. Wong Baker FACES Scale, Visual Analog Scale, Numerical Rating Scale or FLACC.
   d. Onset and duration of pain and precipitating / alleviating factors.
   e. Impact of pain on function, sleep and mood.
   f. Autonomic dysreflexia and/or increased spasticity in clients with a spinal cord injury.
   g. Current pharmacological and non pharmacological interventions for pain management and their effectiveness.

6. Lower Extremity Assessment (Link to Lower Limb DST and Basic Lower Limb Assessment Form)
   a. Palpable pedal pulses, capillary refill, colour, edema, and temperature and appearance of both extremities that might indicate arterial compromise or venous insufficiency.

7. Investigations, where these are available:
   a. Refer to a wound clinician or physician / NP for further assessment if the client exhibits signs and/or symptoms of venous insufficiency or arterial compromise.
   b. Referral for albumin or pre albumin testing if nutritional concerns are present and the client is not acutely ill.
   c. Referral for HgA1c and blood glucose if client has diabetes and test results are not recent or available.

Determine Prevention Strategies

1. Prevention strategies are determined based on:
   a. The client and family willingness and ability to participate in and adhere to the care plan.
   b. Overall assessment findings.
   c. The client’s level of risk for skin breakdown.
   d. Available resources and supplies.

2. Use assessment data and age appropriate Braden Scale score / subscale scores to interpret the client's level of risk for skin breakdown.

Interventions

Develop a plan of care in conjunction with the client / family that incorporates client care, wound management, if present, assessment, reassessment and treatment of risk factors (including pressure, shear, friction and moisture and malnutrition), client outcomes, client education and discharge plans. Refer to interdisciplinary team members such as OT, PT or RD as indicated in the next section.

Client Care Management

1. Client Concerns
   a. The plan of care should take into account client / family abilities, concerns, preferences and motivation for treatment.
   b. Develop strategies to address any lack of client and family participation in an ulcer prevention plan of care.
   c. Refer the client to the appropriate professionals to support improved health and wound healing, e.g. improved diet, pressure reduction, exercise plans.
   d. Refer to Social Work, if available for financial or psychosocial concerns and for emotional support and counselling as needed.

5 FLACC (Face, Legs, Arms, Cry and Consolability) is a pain scale used for clients from newborn to age 3 (based on nursing judgment).
6 Serum albumin and pre-albumin are poor indicators of nutritional status in acute illness as they are negative acute-phase reactants and are decreased during infection and inflammation.
2. Risk Factors
   a. Support the client to monitor any pre-existing illnesses such as stroke, neuromuscular conditions, diabetes mellitus, PVD, renal disease, or cardiac disease and consult a physician / NP if changes occur.
   b. Encourage clients to take medication as prescribed.
   c. Support clients to stop smoking and discuss referral to a smoking cessation program; refer for harm reduction / substance use management if client consents.

3. Reassess for pressure ulcer risk using the Braden Scale at regular intervals according to agency policy (Link to Braden Scale DST). If there is no agency policy in place, reassess clients who score less than or equal to 18 (Braden and / Braden Q Scales):
   a. ICU / CCU: at least every 48 hours.
   b. Acute Care: every 48 hours and post operatively.
   c. Sub-Acute & Rehabilitation Units: every 48 hours.
   d. Community Care: every week for 3 weeks then quarterly and following hospitalization.
   e. Residential Care: every week for 4 weeks, then monthly or quarterly (based on agency policy) and following hospitalization.
   f. Acute Psychiatry / Geriatric Psychiatry: every 48 hours.
   g. Pediatric Acute Care and PICU: every 12 hours. Other units: every week.
   h. Reassess all clients, irrespective of previous Braden Risk Score or of the care setting, whenever their condition changes.

4. Head-to-Toe Skin Reassessment to be done at the time of the Braden Risk reassessment and:
   a. For acute clients who are at moderate to high risk for skin breakdown, once or twice daily depending on client's degree of risk. For acute clients who are not at risk or at low risk to break down a reassessment can be done daily if supported by agency policy.
   b. For long term care clients who are not at risk or at low risk, the head-to-toe reassessment is done weekly when the client is bathed.
   c. When client arrives in the PARR / PACU.
   d. For clients at risk in the home, teach the family or caregiver to do a daily skin assessment.
   e. If the client wears compression stockings, remove them once daily and assess skin on the lower extremities and check peripheral pulses.
   f. Reassess all clients, irrespective of previous Braden Risk Score or of the care setting whenever their condition changes.

5. Pain Relief
   a. Encourage repositioning as a means to reduce pain. Work with client, family and OT and/or PT to achieve positioning that does not exacerbate pain.
   b. Use therapeutic support surfaces / devices as appropriate and available to redistribute pressure away from painful areas when lying or sitting.
   c. If client has pain, organize care to coordinate with analgesic administration allowing sufficient time for the analgesic to take effect; monitor for sedating side effects.
   d. Administer analgesic medication regularly and in the appropriate dose to control pain; refer the client to a physician / NP if pain is not well controlled.
   e. Reassess pain at regular intervals and note any increase in severity.

---

7 The recommended frequency of Braden Scale completion is outlined in the Braden Scale DST but frequency is ultimately determined by agency policy and standards, the location and risk status of the client and changes in client condition.

Note: This is a controlled document. A printed copy may not reflect the current, electronic version on the CL’cK Intranet (www.clwk.ca). Any document appearing in paper form should always be checked against the electronic version prior to use; the electronic version is always the current version. This DST has been developed as a guide to support nursing practice in British Columbia, however it is not a substitute for education, experience & the use of clinical judgment.

December 2014
6. General Skin Care
   a. Cleanse skin gently with pH balanced, non-sensitizing skin cleansers and moisturize skin with lotions or creams; avoid moisturizers with allergens such as perfume, lanolin, preservatives, emulsifiers and stabilizers.
   b. Avoid hot water and excessive scrubbing / friction during hygiene care; use a soft cleaning cloth and pat the skin dry.
   c. Inspect the skin for any new or additional damage each time the client is repositioned, toileted or assisted with activities of daily living (ADLs).
   d. Massaging over bony prominences is contraindicated.

7. Manage Moisture Associated Skin Damage
   a. Establish bowel and/or bladder retraining and toileting programs for clients who are incontinent. Support clients to toilet as frequently as necessary to maintain continence.
   b. Avoid using incontinent briefs / pads unless the client is unable to toilet successfully; if using incontinent briefs / pads check them when repositioning (every 2 - 4 hours) or if client positions independently, check every 4 hours and change briefs / pads when soiled or wet.\(^8\)
   c. Do not “double pad” the client. If the client voids large amounts use a more absorbent product, change the continence product more frequently or use a condom catheter for males.
   d. Do not use soaker pads if the client is wearing continence briefs.
   e. Do not use multiple layers of bedding or padding, especially ‘soaker pads’. For therapeutic support surfaces, use only those coverings/pads that are air-permeable and recommended for therapeutic support mattresses or seating surfaces.
   f. Gently cleanse skin folds and perineal area after each incontinent episode with a no-rinse skin cleanser; do not rub the skin and pat dry when finished.
   g. Apply a skin protectant / barrier product to protect skin from urine, feces and perspiration.
   h. If skin care is not sufficient to protect the skin from feces and infected urine, use a fecal collector bag, condom catheter or indwelling catheter if appropriate until the incontinence problem has been addressed.
   i. To prevent / treat intertrigo in groins, axillas and under breasts, separate skin folds with wicking material or moisture transfer dressings to reduce friction and absorb moisture.
   j. If possible, remove transfer boards, slider sheets or lifting slings from under clients after use if they could potentially cause areas of moisture.
   k. During surgical procedures, avoid pooling of all surgical solutions and body fluids under the client.
   l. Avoid the use of powders and talc to reduce moisture.
   m. Consider use of a low air loss therapeutic support surface if appropriate.
   n. Consult a wound clinician or physician / NP for unresolved intertrigo, incontinence associated dermatitis or if a yeast or bacterial skin infection is suspected.

8. Nutritional Therapy
   a. Maximize the client’s nutritional status based on client need through adequate protein\(^9\) and calorie intake if compatible with goals of care.
   b. Encourage a minimum 1500 – 2000mL of fluid daily (offer fluids every 2 hours) for all adult clients \(^10\) but especially those with dehydration, fever, vomiting, profuse sweating, diarrhea unless contraindicated, e.g. heart failure, renal failure.
   c. Offer fluid for pediatric clients based on an appropriate weight based calculation (100 mL/kg for 1\(^{st}\) 10 kg, 50 mL/kg for 2\(^{nd}\) 10 kg, 20 mL/kg for remainder)
   d. Document the % intake during meals and record issues with poor intake and dietary intolerances.
   e. Refer to a RD, if available if the following are present:

\(^8\) Refer to the manufacturer’s guidelines for correct brief usage.
\(^9\) Assess for renal dysfunction if increased protein intake is indicated
\(^10\) Assess for renal or liver dysfunction and HF if increased fluid intake is indicated.

\textbf{Note:} This is a controlled document. A printed copy may not reflect the current, electronic version on the CL’ck Intranet (www.clwk.ca). Any document appearing in paper form should always be checked against the electronic version prior to use; the electronic version is always the current version. This DST has been developed as a guide to support nursing practice in British Columbia, however it is not a substitute for education, experience & the use of clinical judgment.

December 2014
9. Reduce or Eliminate Shear & Friction
a. When sitting, ensure client’s feet are supported directly on the floor, on a foot stool or a foot rest so that the hips and knees are at 90 degrees to prevent sliding down in the chair.
b. If the resident is sitting in a tilting wheelchair then use the tilt feature regularly to alleviate pressure. The chair must be tilted at least 30 degrees to alleviate pressure over the sitting surface. Consult with an OT for tilt schedule as necessary.
c. Elevating the head of the bed (HOB):
   i. Limit head-of-bed elevation to 30 degrees unless contraindicated by a medical condition or dysphagia.
   ii. For clients on bed rest limit HOB elevation (30° or less) to short periods of time (45 minutes or less if the client has an ischial or sacral ulcer unless the client is eating, has an enteral feed, is at risk for aspiration pneumonia or this is contraindicated by a medical condition.
   iii. Ensure the bed is flat when moving the client up in bed, then raised the knee gatch 10 – 20 degrees before the HOB is raised. 11 Ensure the client’s hip bones are aligned 10 cm above the point where the bed flexes.
d. Elevating the heels off the surface of the bed – See Redistributing Pressure #11(f) on page 9.
e. Use a lift or transfer sheet to minimize friction and/or shear when repositioning; do not drag the client.
f. For lateral transfers (bed to stretcher or stretcher to operating table) use sliding boards, roll boards or transfer sheets to minimize shearing.
g. Consider the use of patient handling equipment, such as, positioning slings with ceiling lifts, to avoid shear and friction when repositioning.
h. Use products such as elbow & heel protectors to minimize contact between the skin and bed linen; synthetic sheepskin does not reduce friction / shear.

10. Promote Activity / Mobility
a. Avoid the use of physical and chemical restraints to restrict mobility unless required to manage a medical condition (refer to Health Authority’s Least Restraint policy)
b. Monitor the impact of sedating medications on activity and mobility and offer assistance as necessary.
c. If the client can ambulate with assistance, provide assistance at regular intervals; consult with a PT or OT as required to develop an appropriate mobility & exercise plan for the client.
d. Provide equipment and aids for safe transferring and mobilization.

11. Promote Pressure Redistribution
Working in collaboration with an OT or PT (where possible), consider client goals of care and quality of life when choosing strategies for pressure redistribution.
   a. Avoid multiple layers of bedding or padding, especially “soaker pads”. For therapeutic support surfaces; use only those coverings / pads that are recommended for therapeutic mattresses or seating surfaces.
   b. Ensure that bed linens beneath the client are smooth and unwrinkled.
   c. For the client undergoing a surgical procedure greater than 90 minutes in length, consider a therapeutic support surface on the OR table; heels should be elevated off the operating table at all times.

11 Clients post hip and knee arthroscopy should not have the knee gatch raised to avoid flexion of these joints.

Note: This is a controlled document. A printed copy may not reflect the current, electronic version on the CL’cK Intranet (www.clwk.ca). Any document appearing in paper form should always be checked against the electronic version prior to use; the electronic version is always the current version. This DST has been developed as a guide to support nursing practice in British Columbia, however it is not a substitute for education, experience & the use of clinical judgment.

December 2014
d. Consult with an OT, PT or Wound Clinician (as per agency policy) if the client is on bed rest, is chair bound or has a pressure ulcer affecting more than one turning surface to determine if a therapeutic support surface is required for bed and/or chair. Decisions regarding the use and type of support surface is based on the client’s needs for moisture control, the presence of friction and shear, bed positioning (lying and sitting), transfers, the impact on caregivers, ease of use and the cost / benefits of the surface.

e. Reassess the effectiveness of therapeutic support surfaces / devices and monitor the surface daily or with each home visit to ensure that it is properly inflated and is not “bottoming out”.

f. Elevating heels:
   i. Elevate heels off the surface of the bed at all times even when using a therapeutic support surface; Use pillows, therapeutic pressure offloading devices or devices specifically designed for the client.
   ii. Support the knees to avoid hyperextension when heels are elevated.
   iii. Heel elevation in bed is especially important for clients with diabetes mellitus, peripheral vascular disease, neuropathy and surgery.
   iv. Collaborate with an OT, PT or Wound Clinician to determine the most appropriate heel off-loading device if necessary. Do not use rolled blankets, towels, or pillow cases, incontinent pads or IV bags to elevate heels.
   v. Heel protectors provide protection from friction and shear but not from pressure as they do not elevate the heels off the bed.

12. Positioning / Repositioning for Pressure Redistribution (Positioning / repositioning for community–based clients requires the involvement of family caregivers and / or Home Support services)

   a. For clients who are side laying, use foam wedges or pillows to support a lateral position with a 15 - 30 degree tilt and to avoid contact between bony prominences such as knees and ankles.
   b. Provide clients with devices that will enable independent positioning and transfers, such as trapeze bars, transfer boards and bed rails.
   c. Consult with an OT or PT as necessary to assess and recommend positioning techniques, patient handling equipment, seating adaptations, devices for independent positioning and treatment for fixed or flexion deformities.
   d. Clients on a therapeutic support surface are repositioned every 2- 4 hours; the frequency depends upon their overall risk status / Braden Scale score, ability to reposition independently, the severity of the pressure ulcer, if present, and the characteristics of the support surface.
   e. Clients who are not on a therapeutic support surface are repositioned at least every 2 hours.
   f. High risk and bedfast clients with poor tissue tolerance may require 1-2 hourly turns and small frequent repositioning shifts between full position changes to assist with pressure redistribution.
   g. Avoid repositioning high risk and bedfast clients on a reddened area or limit the time in this position less than one hour if this is impossible to avoid. Assess the skin for any further damage.
   h. Consider the use of patient handling equipment, such as positioning slings with ceiling lifts, to reduce shear and friction with repositioning.
   i. If the client is chair bound or has an ulcer on a sitting surface, use a pressure redistribution surface on the chair and consider limiting chair sitting to 1-2 hour intervals and reduce to two 45-minute sessions / day if the wound deteriorates. Reposition chair bound clients who cannot move themselves q1h when sitting.
   j. If the resident is sitting in a tilting wheelchair then use the tilt feature regularly to alleviate pressure. The chair must be tilted at least 30 degrees to alleviate pressure over the sitting surface. Consult with an OT for tilt schedule as necessary.
   k. Instruct clients who can move independently in their chair to shift weight every 15 minutes.

Note: This is a controlled document. A printed copy may not reflect the current, electronic version on the CL’cK Intranet (www.clwk.ca). Any document appearing in paper form should always be checked against the electronic version prior to use; the electronic version is always the current version. This DST has been developed as a guide to support nursing practice in British Columbia, however it is not a substitute for education, experience & the use of clinical judgment.

December 2014
I. Inspect the skin for any new or additional damage each time the client is repositioned, toileted or assisted with ADLs.

13. Notify a wound clinician or physician / NP if the following are evident:
   a. New or worsening skin breakdown.
   b. Peripheral neuropathy.
   c. Arterial compromise or venous insufficiency.

Client Education and Resources

1. Teach client and/or family about:
   a. Signs of skin breakdown.
   b. The importance of proper positioning and strategies for pressure redistribution, including regular examination of the skin, especially over bony prominences.
   c. Strategies for reducing or eliminating friction and shear, if indicated.
   d. The need to:
      i. Cleanse the skin with warm water and a mild, unscented soap.
      ii. Apply a moisturizer after cleansing.
      iii. Use a skin protectant/barrier on irritated skin.
      iv. Apply wicking materials in skin folds to manage moisture.
   e. Strategies for improving nutrition, if indicated.
   f. Pain management strategies, if indicated.
   g. The use of pressure redistribution devices, if indicated.
   h. When to seek assistance from healthcare personnel.
   i. Community support for rental equipment and supplies and meal preparation.
   j. Relevant risk factors for skin breakdown, their likely consequences and strategies to mitigate the risk.
   k. The benefits of smoking cessation.

2. Teach client / family about the roles of the interdisciplinary health team members in preventing skin breakdown.

3. Provide written materials that support and reinforce teaching.

Discharge Planning

1. When a client who is at risk for or currently experiencing skin breakdown is being transferred to another unit (PARR / PACU to a surgical unit) or to another care setting (acute care, community care or residential care) ensure the receiving unit / facility is provided with a care plan that outlines the current client care including strategies for reducing risk status and preventing skin breakdown.

2. Advance notice should be given when transferring clients who need specialized pressure redistribution equipment to ensure it is in place at the time of transfer.

3. Discharge planning, if discharge is anticipated, should be started during the initial client encounter and should support timely discharge and optimal client independence.

Client / Family Outcomes

1. Intended
   a. Intact skin or early recognition of skin changes or pressure ulcer development.
   b. Clients and families are aware of and carry out strategies to monitor and care for skin and minimize risk factors.

2. Unintended
   a. The presence of a pressure ulcer, incontinence associated dermatitis, skin tears or a lower extremity ulcer.
   b. Family and clients are not unaware of or do not carry out strategies to monitor and care for skin and minimize risk factors thereby increasing their risk of developing skin breakdown.

Note: This is a controlled document. A printed copy may not reflect the current, electronic version on the CL’cK Intranet (www.clwk.ca). Any document appearing in paper form should always be checked against the electronic version prior to use; the electronic version is always the current version. This DST has been developed as a guide to support nursing practice in British Columbia, however it is not a substitute for education, experience & the use of clinical judgment.

December 2014
Documentation

1. Document initial and ongoing assessments, care plans, clinical outcomes and care plan revisions, as necessary as per agency guidelines.

2. If the client develops a pressure ulcer while in acute or long term care or receiving community care, report the incident as per health authority or agency guidelines.

Bibliography


Note: This is a controlled document. A printed copy may not reflect the current, electronic version on the CL’cK Intranet (www.clwk.ca). Any document appearing in paper form should always be checked against the electronic version prior to use; the electronic version is always the current version. This DST has been developed as a guide to support nursing practice in British Columbia, however it is not a substitute for education, experience & the use of clinical judgment.

December 2014


Document Creation/Review

<table>
<thead>
<tr>
<th>Created By</th>
<th>British Columbia Provincial Nursing Skin and Wound Committee in collaboration with the Wound Care Clinicians from across all Health Authorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publication Date</td>
<td>January 2012</td>
</tr>
<tr>
<td>Revision Date(s)</td>
<td>August 2014, December 2014</td>
</tr>
<tr>
<td>Review Date(s)</td>
<td></td>
</tr>
</tbody>
</table>