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KINGSTON GENERAL HOSPITAL
NURSING SERVICE

PRESSURE INJURY PREVENTION
LEARNING GUIDE

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1.0 Introduction

Nurses, working in partnership with the interdisciplinary health care team and individuals at risk for pressure injuries, have an important role in risk assessment and prevention of pressure injuries (RNAO, 2011).

This guide provides you with information about the skin, pressure injuries, risk factors, risk assessment tools and associated pressure injury prevention interventions. Accurate and complete documentation of skin status and level of risk promotes continuity of care and can be used as the foundation for the skin care plan.

At the time of printing of this Learning Guide, the National Pressure Ulcer Advisory Panel (NPUAP), had just announced a change in terminology where “pressure injury” replaces “pressure ulcer” (NPUAP, 2016). While every effort was made to update terminology in KGH literature some tools or references will still refer to pressure injuries as pressure ulcers.

2.0 Learning Objectives

1. Identify intrinsic, extrinsic and surgical risk factors contributing to the development of pressure injuries.
2. Know how to perform and document a skin assessment.
3. Demonstrate the correct procedure for completion of the Braden Scale for Predicting Pressure Ulcer Risk.
4. Identify the pressure injury prevention interventions needed relating to risk assessment.
5. Know how to correctly implement pressure injury prevention interventions.
6. Know how to communicate and document patient care interventions.
7. Identify how to select, obtain and use support surfaces
8. Identify roles and responsibilities of interprofessional team members.

3.0 Anatomy

The skin is the largest organ in the human body and is vital to a person’s health and wellbeing. The skin of the average adult covers approximately $2m^2$ and weighs about 6lbs or up to 15% of total adult body weight. The skin forms a protective barrier against the external environment while maintaining a homeostatic internal environment (Wysocki, 2012).

“A pressure injury is localized damage to the skin and/or underlying soft tissue usually over a bony prominence or related to a medical or other device. The injury can present as intact skin or an open ulcer and may be painful. The injury occurs as a result of intense and/or prolonged pressure or pressure in combination with shear. The tolerance of soft tissue for pressure and shear may also be affected by microclimate, nutrition, perfusion, co-morbidities and condition of the soft tissue.” (NPUAP, 2016). In acute care settings, most pressure injuries develop within the first 2 weeks of admission (RNAO,

2011) and given the right circumstances a pressure injury can develop in less than 30 minutes (Palese, Luisa, Ilenia et. al. 2015).

4.0 Skin Assessment

A comprehensive skin assessment is an integral part of pressure injury prevention. Finding skin break down in the early stages can allow for interventions to be put into place and potentially prevent irreversible damage. A comprehensive head-to-toe skin assessment must be carried out with all patients at admission, and at least daily thereafter. Particular attention should be paid to bony prominences and vulnerable areas.

A comprehensive skin assessment requires both visual and tactile inspection. Look for changes in colour, temperature and sensation. The comprehensive skin assessment is document on the Clinical Flowsheet in the Nursing Systems Assessment under Integumentary System.

Integumentary System **See ALSO Braden Score Page 3**	
Skin clear and intact	

A “check mark” in this box indicates that a comprehensive head-to-toe skin assessment was completed (i.e. all areas of skin were assessed) and no areas of skin breakdown were detected. If areas of concern are noted an asterix (*) is documented in this box and a progress note is completed to elaborate on the findings.

Common sites for pressure injuries, also known as vulnerable areas include: back of the head, ears, shoulders and shoulder blades, spine, elbows, sacrum/coccyx, ischial tuberosities, femoral trochanters, knees, ankles, heels, toes, areas of the body covered by anti-embolic stockings or restrictive clothing, areas where pressure, friction and shear are exerted during activities of daily living, parts of the body in contact with equipment, devices, restraints etc. 50% of pressure injuries occur in the pelvic region (Hill-Rom, 2014).

5.0 Risk Factors

Several factors can put a patient at risk of developing a pressure injury. Intrinsic risk factors are those that relate to the patient's physical, psychosocial or medical condition. Extrinsic risk factors are those that are derived from the environment and surgical risk factors are factors relating to surgical procedures (RNAO, 2011).

Although not inclusive, the following table identifies some major risk factors that could cue the nurse in determining a patient's risk of pressure injury development.

Intrinsic	Extrinsic	Surgical
Nutrition status (malnutrition & dehydration)	Poor hygiene	Length of surgery
Posture/contractures	Undesirable living conditions	Position during surgery
Neurological/sensory impairment	Pressure, shear, friction	Support surface used during surgery
Incontinence	Medications altering skin integrity	Positioning devices
Extremes of age	Constrictive clothing /garments	Warming devices
Race	Transfer slings	Anesthetic agents, sedation
Level of consciousness	Restraint use	
Acute illness, sepsis	Inappropriate use of support surface	Vasoactive medications
History of previous pressure injury		Hemodynamic status (hypotension, blood loss).
Vascular disease, impaired perfusion		Retractors
Severe chronic or terminal illness, organ failure		Pooled moisture from prep/irrigant solutions
Pain		
2 or more co-morbidities		
Spinal cord injury (85% lifetime risk)		
High BMI		

6.0 Risk Assessment

The patient's risk for pressure injury development is determined by a combination of clinical judgment and the use of a reliable risk assessment tool (RNAO, 2011). NPUAP recommends that a systematic risk assessment using a validated risk assessment tool be completed to document a patient's risk for pressure injury development (2014). This recommendation is supported by the Registered Nurses Association of Ontario (RNAO) in the Best Practice Guideline Risk Assessment and Prevention of Pressure Ulcers (2011).

The Braden Scale for Predicting Pressure Ulcer risk is the risk assessment tool in use at KGH (see Appendix A). The Braden Scale for Predicting Pressure Ulcer Risk is a validated and reliable risk assessment tool used to determine level of risk of acquiring a pressure injury. This risk assessment is to be completed within 24hours of admission, daily and with a change in patient status. Braden Scale is not enough alone. Combine

that assessment with consideration of intrinsic, extrinsic and surgical risk factors to determine if a patient is *at risk.*

The Braden scale facilitates the measurement of risk potential for pressure injury development. The tool allows the nurse to assess and document information about the patient's sensory perception, exposure to moisture, activity and mobility level, nutritional status and exposure to friction and shear. A numerical value is assigned to the indicators in each category and provides a starting point for the patient's risk assessment. Higher scores indicate less risk.

6.1 Sensory Perception

This category of the Braden scale measures the ability of the patient to perceive the discomfort that results from pressure and to respond meaningfully to that discomfort. Sensory perception cues the patient to change position, ask for assistance in changing position, or express discomfort with current position. Deficits in this category can include: paralysis or neuropathy, confusion, disorientation, sedation, unresponsiveness, unable to speak due to treatment (ex. ventilator), language barrier.

Sensory Perception Ability to respond meaningfully to pressure-related discomfort	**1. Completely Limited:** Unresponsive (does not moan, flinch, or grasp) to painful stimuli, due to diminished level of consciousness or sedation. OR Limited ability to feel pain over most of body surface.	**2. Very Limited:** Responds only to painful stimuli. Cannot communicate discomfort except by moaning or restlessness. OR Has sensory impairment, which limits the ability to feel pain or discomfort over half of the body.	**3. Slightly Limited:** Responds to verbal commands, but cannot always communicate discomfort or need to be turned. OR Has some sensory impairment, which limits ability to feel pain or discomfort in 1 or 2 extremities.	**4. No Impairment:** Responds to verbal commands. Has no sensory deficit, which would limit ability to feel or voice pain or discomfort.

6.2 Moisture

This category is related to moisture; scores reflect the degree to which the skin is exposed to moisture. Moisture may come from a variety of sources: incontinence; perspiration; or wound drainage.

Moisture Degree to which skin is exposed to moisture	1. **Constantly Moist:** Skin is kept moist almost constantly by perspiration, urine, etc. Dampness is detected every time patient is moved or turned.	**2. Very Moist:** Skin is often, but not always moist. Linen must be changed at least once a shift.	**3. Occasionally Moist:** Skin is occasionally moist, requiring an extra linen change approximately once a day.	**4. Rarely Moist:** Skin is usually dry; linen only requires changing at routine intervals.

6.3 Activity

This category measures the degree of physical activity that a patient is able to undertake. The assigned score must reflect what the patient is *actually* doing not what they are capable of doing. A person may be able to move independently but isn't due to pain or fear etc.

Activity Degree of physical activity	**1. Bedrest**: Confined to bed.	**2. Chairfast**: Ability to walk severely limited or non-existent. Cannot bear own weight and/or must be assisted into chair or wheelchair.	**3. Walks Occasionally:** Walks occasionally during day, but for very short distances, with or without assistance. Spends majority of each shift in bed or chair.	**4. Walks Frequently:** Walks outside the room at least twice a day and inside room at least once every 2 hours during waking hours.

6.4 Mobility

This category measures the patient's capability to move independently in bed. This category refers to what the patient is *actually* doing not what they are capable of doing. A person may be able to move independently but isn't due to pain, fear of the unknown etc. Mobility in bed refers to both the ability to complete a position change, and to the ability and motivation to maintain the change of position while other bony prominences are kept free of pressure. The frequency with which nurses reposition the patient must not be accounted for. This category is also pertinent for the patient who may have a heavy cast, prosthetic device or extremity weakness. These patients are prone to developing intense or prolonged pressure over certain bony prominences, especially at the heels.

Mobility Ability to change and control body position	**1. Completely Immobile:** Does not make even slight changes in body position or extremity position without assistance	**2. Very Limited:** Makes occasional slight changes in body position but unable to make frequent or significant changes independently.	**3. Slightly Limited:** Makes frequent though slight changes in body extremity position independently.	**4. No Limitation:** Makes major and frequent changes in position without assistance.

6.5 Nutrition

The nutrition category measures the patient's usual food intake pattern. The emphasis is on the word "usual". If the person has been eating very well, but is NPO for X-ray, blood work or surgery, the rating should still reflect the usually good intake. If a person has been eating very poorly for a long period of time and parenteral nutrition (PN) has just been initiated, the usual intake is considered very poor. Changes in intake should be maintained for one week before they are considered usual food intake. The rating of adequate, or 3, is given to patients who are on a full regimen of tube feeding or PN. Although this type of nutritional support can be considered better than simply adequate, trace elements may be missing in long-term therapy; the rating of excellent should not be given to these patients.

Nutrition	1. Very poor:	2. Probably Inadequate:	3. Adequate:	4. Excellent:
Usual food intake pattern	Never eats a complete meal. Rarely eats more than 1/3 of any food offered. Eats 2 servings or less of protein (meat or dairy products) per day. Takes fluids poorly. Does not take a liquid dietary supplement. OR Is NPO and/or maintained on clear liquids or IV's for more than 5 days.	Rarely eats a complete meal and generally eats only about ½ of any food offered. Protein intake includes only 3 servings of meat or dairy products per day. Occasionally will take a dietary supplement. OR Receives less than optimum amount of liquid diet or tube feeding.	Eats over half of most meals. Eats a total of 4 servings of protein (meat, dairy products) each day. Occasionally will refuse a meal, but will take a supplement if offered. OR Is on a tube feeding or PN regimen, which probably meets most of nutritional needs.	Eats most of every meal. Never refuses a meal. Usually eats a total of 4 or more servings of meat and dairy products. Occasionally eats between meals. Does not require supplementation.

6.6 Friction and Shear

The clinical problems leading to friction and shear forces are similar, and so are classified together. Friction occurs with relatively light physical force and results in superficial abrasions. Shear occurs with greater levels of physical force and causes damage in the deeper tissues. Shear occurs when a parallel force is exerted on the skin, such as when a patient slides down in bed, the skin stays stationary but the skeleton slides. The ratings describe the frequency with which the person slides down in bed, the amount of assistance required for moving and the degree to which the skin slides against the bedding. This category considers patients who are exposed to friction because of frequent spastic movements, agitation accompanied by constant movement against a mattress or seating surface or contractures that place extremities in positions that are hard to protect during a move.

Friction and Shear	1. Problem:	2. Potential Problem:	3. No Apparent problem:	
	Requires moderate to maximum assistance in moving. Complete lifting without sliding against sheets is impossible. Frequently slides down in bed or chair, requiring frequent repositioning with maximum assistance. Spasticity, contractures or agitation leads to almost constant friction.	Moves feebly or requires minimum assistance. During a move skin probably slides to some extent against sheets, chair, restraints or other devices. Maintains relatively good position in chair or bed most of the time but occasionally slides down.	Moves in bed and in chair independently and has sufficient muscle strength to lift up completely during move. Maintains good position in bed or chair at all times.	

Braden Scale scoring is documented in the Clinical Flowsheet within the *Mandatory Daily Risk Assessment* Section.

Pressure Risk Assessment

Braden Scale Score: (circle **one** for each section)				
Sensory perception 1 2 3 4	Moisture 1 2 3 4	Activity 1 2 3 4	Time_____(hhmm)	
Mobility 1 2 3 4	Nutrition 1 2 3 4	Friction & Shear 1 2 3	Initials_____	
Action is required for any assessment score that is less than the maximum achievable score. **Communicate/update** risk reduction strategies on Interprofessional Patient Profile. **Implement and document** interventions				

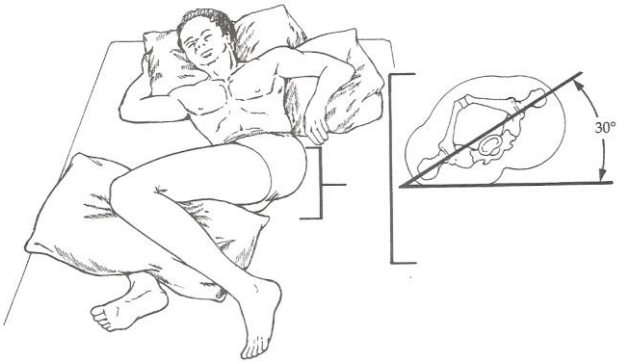
7.0 Nursing Interventions

When a patient's total Braden scale score is less than or equal to 18 the patient is considered at risk, however, at KGH interventions are targeted to actual sub scale score as opposed to total score (Bryant & Nix, 2012). Targeting interventions to actual sub scale scores can directly correct or compensate for patient deficits. **Action is required for any Braden assessment sub-scale score that is less than the maximum achievable score.** Communicate risk reduction strategies on the Interprofessional Patient Profile (IPP) (Kardex). Best practice pressure injury interventions are outlined on the IPP. The nurse selects the appropriate interventions based on the score obtained from completing the Braden scale.

SKIN/WOUND
Risk Reduction Strategies as Appropriate to Braden Score

Sensory Perception	Moisture	Activity
☐ Assess boney prominences q shift ☐ Use positioning devices (e.g. pillows)	☐ q _____ toileting/peri care ☐ q ____ skin cleanse and barrier cream ☐ Use breathable absorbent pads/briefs (no plastic backed pads) ☐ Use urinary/fecal containment device	☐ Consult OT ☐ Maximum 2 hours in chair without repositioning ☐ Consult PT ☐ Provide structured mobility plan
Mobility	**Nutrition**	**Friction/Shear**
☐ Turn/reposition q2h & prn ☐ Use 30° side-lying position ☐ Elevate legs with pillows or other devices to suspend heels	☐ Consistent documentation of percent meal consumed ☐ Consult dietitian prn ☐ Feed proteins first	☐ Use lift/transfer devices ☐ Keep HOB less than 30° (unless contraindicated) ☐ Use repositioning sheets ☐ Vaseline/petroleum jelly to moisturize heels/elbows

Pillows help to maintain patient position and can provide cushion to high-risk areas for pressure. Consider using a 30 degree lateral side-lying angle to avoid positioning onto sacral and trochanteric bony prominences.



Elevating heels off of the support surface can relieve the area of pressure entirely. When elevating the heels, pillows or foam cushions used should extend the length of the calf to avoid areas of high pressure, particularly under the Achilles tendon. Flex the knee slightly to avoid popliteal vein compression and increased risk of DVT. Approximately 25% of pressure injuries occur on the heels.

Patients who are unable to reposition themselves should be turned and repositioned q2h and prn. Use lift sheets and other positioning devices to decrease shear when repositioning patients. After using turning equipment, sling, sleeves or other components of the device should not be left underneath the individual after repositioning (RNAO, 2011). When “boosting” patients in bed align the patient’s hips with the indicator on side-rail (if present); this will help to prevent the patient from sliding down in bed. The majority of shear injuries can be eliminated with proper positioning as most shearing occurs when individuals slide down, or are dragged up in bed (RNAO, 2011).

Optimal seating position is best achieved in a chair versus in bed. The recommended seating position includes a chair that is slightly tilted back with foot support (feet should not be left dangling), and arm rests (RNAO, 2011). The majority of shear injuries can be eliminated with proper positioning as most shearing occurs when individuals slide down, or are dragged up in in the chair (RNAO, 2011). Patient who are unable to reposition themselves should remain in a chair for no more than 2 hours. Patients that are able should be taught to shift their weight every 15 minutes.

Additional pressure injury prevention risk reduction strategies can include:

- Use minimal linen between patient and surface/chair cushion etc. Each additional layer of linen between the patient and the support surface decreases the effectiveness of the support surface. Ensure linens are wrinkle-free.
- Avoid massage over bony prominences and reddened areas. Massage can potentially damage already fragile and damaged skin.
- For incontinent patients cleanse skin at the time of soiling and apply a topical barrier. Use absorbent products as needed. Avoid hot water, harsh soaps and forceful cleansing.
- Continue pressure injury preventions interventions overnight and/or while the patient is sleeping.

- Encourage early return to baseline mobility.
- Hospitalization/surgery can negatively affect patient's mobility. Just because they can move, they often don't. Patients often do not move and reposition as much as they should/are able because of fear related to pain and/or they are overwhelmed by the medical equipment.
- Involve and educate patients in pressure injury prevention strategies. Often patients do not understand the importance of the interventions that we are performing. Educating them about pressure injuries and pressure injury prevention strategies can help patient understand the reasons for interventions.

Risk reduction strategies are to be documented in the Clinical Flowsheet in the Activities of Daily living page (see Appendix B) or in the Interprofessional Progress Notes.

8.0 Support Surfaces

8.1 Standard Floor Beds and Mattresses

Accumax Quantum™ VPC mattress - Pressure redistribution mattress, foam topper over non-powered open air sectors. Fits Hill-Rom Advanta2 frame. Maximum patient weight 500lbs.
(blue mattress)

Stryker® Opti-mat 2800 - High quality, high density polyurethane foam. Fits Carroll Hi-Lo frame. Maximum patient weight 500lbs.
(green mattress)

These are the standard floor beds and mattresses currently available at KGH. **Do not** mix and match bed frames and mattress each one is designed to fit specifically to the frame. Some mattresses and frames are different lengths; improper use can damage equipment and/or put patient safety at risk.

8.2 Specialty Support Surfaces

Hill-Rom® TotalCare® P500 - Powered air, low-air loss, pressure redistribution surface. Maximum patient weight 500lbs.
(available only in ICU)

Hill-Rom® TotalCare® Treatment bed - Powered air, pressure redistribution surface. Bed frame with integrated mattress. Maximum patient weight 460lbs.

Hill-Rom® Synergy® Air Elite - Powered air, low air loss, alternating pressure/pressure relief. Mattress replacement fits Advanta2 bed frame. Maximum patient weight 500lbs.

These are the Specialty Support Surfaces (SSS) available at KGH. These are for patients at high risk of pressure injury development, or with an existing pressure injury, who meet the selection criteria. Nursing Policy S-2000 Specialty Support Surface Selection (see Appendix B) and the Specialty Support Surface selection algorithms (see Appendix C, D and E) can assist in determining if patient requires a specialty support surface. SSSs are requested through the equipment coordinator by using Specialty Support Surface Request Form

Follow the Specialty Support Surface Selection algorithm to determine if the patient requires a SSS. If a SSS is required complete the Specialty Support Surface Request Form (Appendix F). Once the form is completed notify the equipment coordinator about the request. After review of the request form a SSS will be provided based on surface availability. The yellow copy of the request form goes to the equipment coordinator and the white copy is placed in the patient chart in the “Therapy” section; this ensures there is accurate documentation that a surface was initiated. The person who completed the request form is responsible for communicating that a SSS was initiated on to the Interprofessional Patient Profile (IPP) (Kardex). SSSs are to be reevaluated every two weeks. The nurse caring for the patient on the day the reevaluation is due is responsible for submitting the SSS request form again, indicating if the need still exists. The re-evaluation is important as there are limited numbers of SSSs available at KGH and it ensures the most appropriate patients or the ones with the greatest need are the ones placed on these surfaces.

Mattresses and bed frames are available for bariatric patients who exceed the maximum weight for the above beds. These are obtained by completing a SSS Request form.

8.3 Caring for a Patient on a SSS

While on a SSS continue all other pressure injury prevention strategies. **Patients still require routine turning and repositioning q2h and prn. SSSs are not sufficient for the prevention or management of heel pressure injuries.** Heels must still be elevated off the support surface with pillows or other appropriate devices.

Surfaces must be checked periodically to ensure that the patient isn't "bottoming-out" (resting on the frame of the bed); especially if the patient is frequently sitting straight up (high-fowlers) while in bed (RNAO, 2011).
Use minimal linen layers in between the patient and the SSS. Each additional layer of linen or absorbent pads decreases the effectiveness of the support surface (Williamson & Sauser, 2009). Six layers of linen can decrease the effectiveness of a SSS to that of a standard floor mattress.

9.0 Interprofessional Team Members

9.1 Physiotherapist

Physiotherapy promotes optimal levels of independence in mobility and respiratory health. Consider consulting a physiotherapist if the patient presents with difficulty or inability to reposition, transfer, and/or ambulate.

9.2 Occupational Therapist

Occupational Therapists are able provide care that aids in prevention and management of pressure injuries when standard interventions are not adequate given the level of risk and/or are proving to be ineffective. Consider consulting an occupational therapist if the patient is at high-risk for pressure injuries and a positioning and seating assessment is needed to complement standard interventions for pressure injury prevention to the care plan, or the patient has a pressure injury and standard interventions for pressure reduction are not effective.

9.3 Registered Dietitian

Nutritional assessment should be performed on admission and whenever there is a change in a patient's condition that may increase the risk of malnutrition. Registered Dietitians conduct a comprehensive nutrition assessment that considers concurrent disease processes and the inherent precautions and contraindications to supplementation. Consider consulting a Registered Dietitian if the patient presents with poor dietary intake and/or deficiencies are suspected.

Self-Test

9.4 Case Study

Raoul is an 82-year old gentleman admitted to the neurology unit one week ago with a diagnosis of right-sided cerebral vascular accident. He has paralysis of his left side with full function of his right side. On admission, Raoul weighed 125 kg (275lbs). He was febrile with a temperature of 38.2°C and remains diaphoretic, requiring linen changes twice a day. Because of dysphagia, Raoul was maintained initially on I.V fluids. Tube feedings of ¼ strength Ensure at 25ml/hr were started today. Raoul wears a condom catheter for urinary incontinence. He is presently alert, co-operative but requires assistance from 1 staff member to turn in bed. Raoul uses a ceiling lift spends a few hours per day up in his wheelchair.

1. Determine Raoul's Braden Scale scores.

2. Is Raoul at risk for pressure injury development?

3. What interventions would be appropriate for Raoul?

9.5 Answers

1. Sensory Perception – 2
   Moisture – 2
   Activity – 2
   Mobility – 2
   Nutrition – 2
   Friction and Shear – 1

2. Raoul is said to be at risk of pressure injury development because he scored less than the maximum possible achievable score on his Braden scale. His total score was 11, anything less than 18 is considered at risk.
   In addition, Raoul has intrinsic risk factors (malnutrition, neurological/sensory impairment, extremes of age, high BMI) and extrinsic risk factors (pressure, shear, friction, lift/transfer devices) that put him at risk of developing a pressure injury.

3. The following risk reduction interventions would be appropriate for Raoul:

SKIN/WOUND
Risk Reduction Strategies as Appropriate to Braden Score

Sensory Perception	Moisture	Activity
☑ Assess boney prominences q shift ☑ Use positioning devices (e.g. pillows)	☐ q _____ toileting/peri care ☐ q ____ skin cleanse and barrier cream ☐ Use breathable absorbent pads/briefs (no plastic backed pads) ☑ Use urinary/fecal containment device	☑ Consult OT ☑ Maximum 2 hours in chair without repositioning ☑ Consult PT ☐ Provide structured mobility plan
Mobility	**Nutrition**	**Friction/Shear**
☑ Turn/reposition q2h & prn ☑ Use 30° side-lying position ☑ Elevate legs with pillows or other devices to suspend heels	☐ Consistent documentation of percent meal consumed ☑ Consult dietitian prn ☐ Feed proteins first	☑ Use lift/transfer devices ☑ Keep HOB less than 30° (unless contraindicated) ☑ Use repositioning sheets ☐ Vaseline/petroleum jelly to moisturize heels/elbows

As the above risk reduction strategies are carried out they are documented in the Clinical Flowsheet in the Activities of Daily Living section or in the Interprofessional Progress Notes.

Kingston General Hospital

Interprofessional Comprehensive Patient Care Record

From: _____ yyyy/mm/dd at 0700 h To _____ yyyy/mm/dd at 1859 h

Patient Identification Label

MOBILITY AND RISK REDUCTION

	Time (hhmm)		0930	1115	1145														
Mobility Activities	Turned/repositioned	(0-6 / L, R, S, P)																	
	Head of bed	(degrees)	20		10														
	30^0 side lying	✓	✓		✓														
	Positioning devices used	✓	✓		✓														
	Heels elevated	✓	✓		✓														
	Skin traction applied/removed	A/R																	
	Passive /Active ROM exercises	P/A																	
	Active ROM exercises	✓																	
	Sat up at bedside	(0-6)																	
	Stood at bedside	(0-6)																	
	Up in chair	(minutes)		45															
	Marched in place/shifted weight	(0-6)																	
	Transfer to bed/stretcher	(0-6)			✓														
	Transfer to chair/commode	(0-6)																	
	Ambulation	(0-6)																	
	Stairs/other	(0-6)																	
	Distance walked (metres)																		
	Patient refused mobility activity *	✓																	
	Patient unavailable	✓																	
	With: Walker	✓																	
	Cane / crutches (circle)	✓																	
	Wheelchair	(0-6)																	
	Ceiling/portable mechanical lift	✓			✓														
	Sit to stand lift	✓																	
	Repositioning sheet	✓	✓		✓														
	Bed rail	✓																	
	Sliding Board	✓																	
	Trapeze bar	✓																	
Fall Risk/ Reduction Safety	Bed rail	0 1 2 3																	
	Bed in lowest position	✓																	
	Bed/chair alarm in use	✓																	
	Wander guard bracelet in use	✓																	
	Brakes/bed locked	✓																	
	Call bell within reach	✓																	
	Fall mat in place	✓																	
	Non slip footwear on	✓																	
	Urinal/commode within reach	✓																	
	Chair/commode brakes locked	✓																	
	Line/Tubes covered with protector e.g. skin sleeve	✓																	
	Adequated lighting e.g. bed light	✓																	
		Initial																	

L - Left R - Right S - Supine P - Prone ROM - Range of Motion

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10.0 Appendices

10.1 Appendix A – Braden Scale for Predicting Pressure Ulcer Risk

Contributing factors	Range				Score
Sensory perception ability to respond meaningfully to pressure-related discomfort	Completely limited: 1 Unresponsive (does not moan, flinch or grasp) to painful stimuli, due to diminished level of consciousness or sedation OR limited ability to feel pain over most of body surface	Very limited: 2 Responds only to painful stimuli. Cannot communicate discomfort except by moaning or restlessness OR has a sensory impairment which limits the ability to feel pain or discomfort over ½ of body	Slightly limited: 3 Responds to verbal commands, but cannot always communicate discomfort of need to be turned OR has some sensory impairment which limits ability to feel pain or discomfort in 1 or 2 extremities	No impairment: 4 Responds to verbal commands. Has no sensory deficit which would limit ability to feel or voice pain or discomfort	
Moisture degree to which skin is exposed to moisture	Constantly moist: 1 Skin is kept moist almost constantly by perspiration, urine etc. Dampness is detected every time patient is moved or turned.	Very moist 2: Skin is often, but not always moist. Linen must be changed at least once a shift.	Occasionally moist: 3 Skin is occasionally moist, requiring an extra linen change approximately once a day.	Rarely moist: 4 Skin is usually dry; linen only requires changing at routine intervals.	
Activity degree of physical activity	Bedrest: 1 Confined to bed.	Chairfast: 2 Ability to walk severely limited or non-existent. Cannot bear own weight and/or must be assisted into chair or wheelchair	Walks occasionally: 3 Walks occasionally during day, but for short distances, with or without assistance. Spends majority of each shift in bed or chair.	Walks frequently: 4 Walks outside the room at least twice a day and inside room at least once every 2 hours during waking hours	
Mobility ability to change and control body position	Completely immobile: 1 Does not make even slight changes in body position without assistance.	Very limited: 2 Makes occasional slight changes in body or extremity position but unable to make significant changes independently	Slightly limited: 3 Makes frequent though slight changes in body or extremity position independently	No limitations: 4 Makes major and frequent changes in position without assistance.	
Nutrition usually food intake pattern	Very poor: 1 Never eats a complete meal. Rarely eats more than 1/3 of any food offered. Eats 2 servings or less of protein (meat or dairy products) per day. Takes fluids poorly. Does not take a liquid dietary supplement OR is NPO and/or maintained on clear liquids or IV's for more than 5 days	Probably inadequate: 2 Rarely eats a complete meal and generally eats only about ½ of any food offered. Protein intake includes only 3 servings or meat or dairy per day. Occasionally will take a dietary supplement OR receives less than optimum amount of liquid diet of tube feeding	Adequate: 3 Eats over half of most meals. Eats a total of 4 servings of protein (meat or dairy products) each day. Occasionally will refuse a meal, but will usually take a supplement if offered OR is on a tube feeding or TPN regimen which probably meets most of nutritional needs	Excellent: 4 Eats most of every meal. Never refuses a meal. Usually eats a total of 4 or more servings of meat and dairy products. Occasionally eats between meals. Does not require supplementation.	
Friction and Shear	Problem: 1 Requires moderate to maximum assistance in moving. Complete lifting without sliding against sheets is impossible. Frequently slights down in bed or chair, requiring frequent repositioning with maximum assistance. Spasticity, contractures or agitation leads to almost constant friction.	Potential Problem: 2 Moves feebly or requires minimum assistance. During a move skin probably slides to some extent against sheets, chair, restraints or other devices. Maintains relatively good position in chair or bed most of the time but occasionally slides down.	No apparent problem: 3 Moves in bed and in chair independently and has sufficient muscles strength to lift up completely during move. Maintains good position in bed or chair at all times.		

10.2 Appendix B - Activities of Daily Living page in the Clinical Flowsheet

Kingston General Hospital

Interprofessional Comprehensive Patient Care Record

Patient Identification Label

ACTIVITIES OF DAILY LIVING

From: _____ yyyy/mm/dd at 0700 h To _____ yyyy/mm/dd at 1859 h

	Time (hhmm)																				
Nutrition	NPO ✓																				
	Diet Type _____																				
	Proteins fed first ✓																				
	Diet amount taken (per cent)																				
	Diet - level of assistance (0-6)																				
	Gastric residual less than 200 mL																				
	NG/Feeding tube nare to connection port distance (cm)																				
	Nutritional supplement (e.g. Ensure)																				
Hygiene	Shower/Bath (0-6)																				
	q _____Peri care (0-6)																				
	Barrier cream (0-6)																				
	Mouth care (0-6)																				
	Shave (0-6)																				
	Moisturize dry heels & elbows ✓																				
	Breathable absorbent pads/brief used ✓																				
	Antiembolic stockings applied ✓																				
	Antiembolic stockings removed ✓																				
Elimination	Voided (0-6)																				
	Incontinent (urine) ✓																				
	Stool (0-6)																				
	Incontinent (Stool) ✓																				
	q _____ Toileting ✓																				
	OstomyType: _____ emptied ✓																				
	Appliance change ✓																				
	Sleep ✓																				
	Visitors ✓																				
	Initials																				

0- Independent – requires no assistance
1- Set-Up Help Only – requires article or device (e.g. cane, tray) to be provided or placed within reach
2- Supervision – requires oversight/cuing (e.g. "move left leg first") or minimal physical assistance
3- Limited Assistance – requires physical assistance with guided maneuvering of the limbs only
4- Extensive Assistance – requires moderate weight bearing support with a 1 person assist; patient still performs half the task
5- Maximal Assistance – requires maximum weight bearing support with 2 plus helpers; patient performs less than half of the task
6- Total Dependence – requires full performance of task by other(s) and mobilization requires use of lift device

(Adapted from Health Outcomes for Better Information in Care (HOBIC))

RF - Refused

✓ **- Complete**

Kingston General Hospital

Patient Identification Label

Interprofessional Comprehensive Patient Care Record

From: _____ (yyyy/mm/dd) at 0700 h To _____ (yyyy/mm/dd) at 1859 h

MOBILITY AND RISK REDUCTION

	Time (hhmm)																	
Mobility Activities	Turned/repositioned	(0-6 / L, R, S, P)																
	Head of bed	(degrees)																
	30^0 side lying	✓																
	Positioning devices used	✓																
	Heels elevated	✓																
	Skin traction applied/removed	A/R																
	Passive /Active ROM exercises	P/A																
	Active ROM exercises	✓																
	Sat up at bedside	(0-6)																
	Stood at bedside	(0-6)																
	Up in chair	(minutes)																
	Marched in place/shifted weight	(0-6)																
	Transfer to bed/stretcher	(0-6)																
	Transfer to chair/commode	(0-6)																
	Ambulation	(0-6)																
	Stairs/other	(0-6)																
	Distance walked (metres)																	
	Patient refused mobility activity *	✓																
	Patient unavailable	✓																
	With: Walker	✓																
	Cane / crutches (circle)	✓																
	Wheelchair	(0-6)																
	Ceiling/portable mechanical lift	✓																
	Sit to stand lift	✓																
	Repositioning sheet	✓																
	Bed rail	✓																
	Sliding Board	✓																
	Trapeze bar	✓																
Fall Risk/ Reduction Safety	Bed rail	0 1 2 3																
	Bed in lowest position	✓																
	Bed/chair alarm in use	✓																
	Wander guard bracelet in use	✓																
	Brakes/bed locked	✓																
	Call bell within reach	✓																
	Fall mat in place	✓																
	Non slip footwear on	✓																
	Urinal/commode within reach	✓																
	Chair/commode brakes locked	✓																
	Line/Tubes covered with protector e.g. skin sleeve	✓																
	Adequated lighting e.g. bed light	✓																
		Initial																

L - Left R - Right S - Supine P - Prone ROM - Range of Motion

10.3 Appendix C – Nursing Policy S-2000: Specialty Support Surface Selection

KINGSTON GENERAL HOSPITAL

NURSING POLICY AND PROCEDURE

SUBJECT: Specialty Support Surface Selection	**NUMBER**	S-2000
	PAGE	1 of 8
	ORIGINAL ISSUE	2014 December
	REVIEW	
	REVISION	

Introduction:

The **Specialty Support Surface Selection** policy and procedure is a guideline for nurses (RN and RPN) in determining when an alternative to a standard bed surface is indicated.

Definitions:

Specialty Support Surface (SSS) - a device designed to redistribute pressure in the management of tissue strain relief and prevention of pressure related complications. SSSs may include additional therapeutic functions such as: preventing or reducing shearing, friction and moisture.

Policy:

1. Patients must meet criteria indicating the need for a SSS (see Appendix A-C). The selection process is based on algorithms that are divided into 4 goals:
   1.1. prevention of skin breakdown
   1.2. treatment of skin breakdown,
   1.3. providing comfort at end of life (palliation), and
   1.4. management of the bariatric (Body Mass Index (BMI) of 30 or greater) patient.
   NOTE: All KGH standard floor mattresses are pressure-reduction surfaces.

2. Once a risk and need has been identified, the nurse will complete the Specialty Support Surface Request Form and follow the instructions provided on the form (see Appendix D Braden Scale and Appendix E SSS Request Form).
   NOTE: Incomplete request forms will not be processed. They will be returned to the nurse who requested the SSS.

3. The patient need must be reassessed every two weeks and with change in patient status.
   3.1. Once the SSS is no longer required, the nurse will notify the Equipment Coordinator or delegate to coordinate the exchange to a KGH standard mattress.

4. SSS may not be appropriate for patients with unstable fractures of the spine, pelvis or lower limbs; consult primary service.

5. Patients with lower limb amputation(s), below knee or higher, may require a more supportive surface.

6. The use of a SSS is not a substitute for routine repositioning of the patient. Patients will continue to be repositioned a minimum of every 2 hours as tolerated while on the SSS.

Procedure:

1. Complete the Specialty Support Surface Request Form and notify the Equipment Coordinator of need and type of surface required (see Appendix E).
   1.1. The white non-carbon reproduction (NCR) copy of the completed Specialty Support Surface Request Form is placed in the Therapy section of the patient chart, and the yellow copy to the Equipment Coordinator.
   1.2. The Equipment Coordinator will provide the most appropriate SSS based on availability.

Reporting and Recording:

1. Document on the Interprofessional Progress Notes.
   1.1. Date and time SSS was initiated
   1.2. Date of each reassessment and findings
   1.3. Patient tolerance of SSS
   1.4. Adverse reactions and actions taken

2. Communicate on the Interprofessional Patient Profile (KARDEX).
   2.1. Type of SSS
   2.2. Goal of therapy
   2.3. Date of when the reassessment is to be completed

References:

Brienza. D. M., Geyer, M.J. (2005). Using support surfaces to manage tissue integrity. *Advances in Skin & Wound Care* 18(3), p.151-157.

Brienza, D.M., Geyer, M.J, Sprigle, S. (2004). Seating, positioning, and support surfaces. In S. Baranoski & Ayello, E.A. (eds). *Wound Care Essentials: Practice Principles. Pp 187-216. Lippincott Williams & Wilkins: New York.*

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Gallagher Camden, S. (2007). Skin care needs of the obese patient. In R. A. Bryant & D. P. Nix (Eds). *Acute and Chronic Wounds: Current Management Concepts* (3rd ed.) pp 249-257. Mosby Elsevier: St. Louis.

Maklebust, J. (2005). Choosing the right support surface. *Advances in Skin & Wound Care.* 18(3), p. 158-161.

Maklebust, J. & Sieggreen, M. (2001). Prevention. In *Pressure Ulcers* (3rd ed.) pp. 59-114. Springhouse: Pennsylvania.

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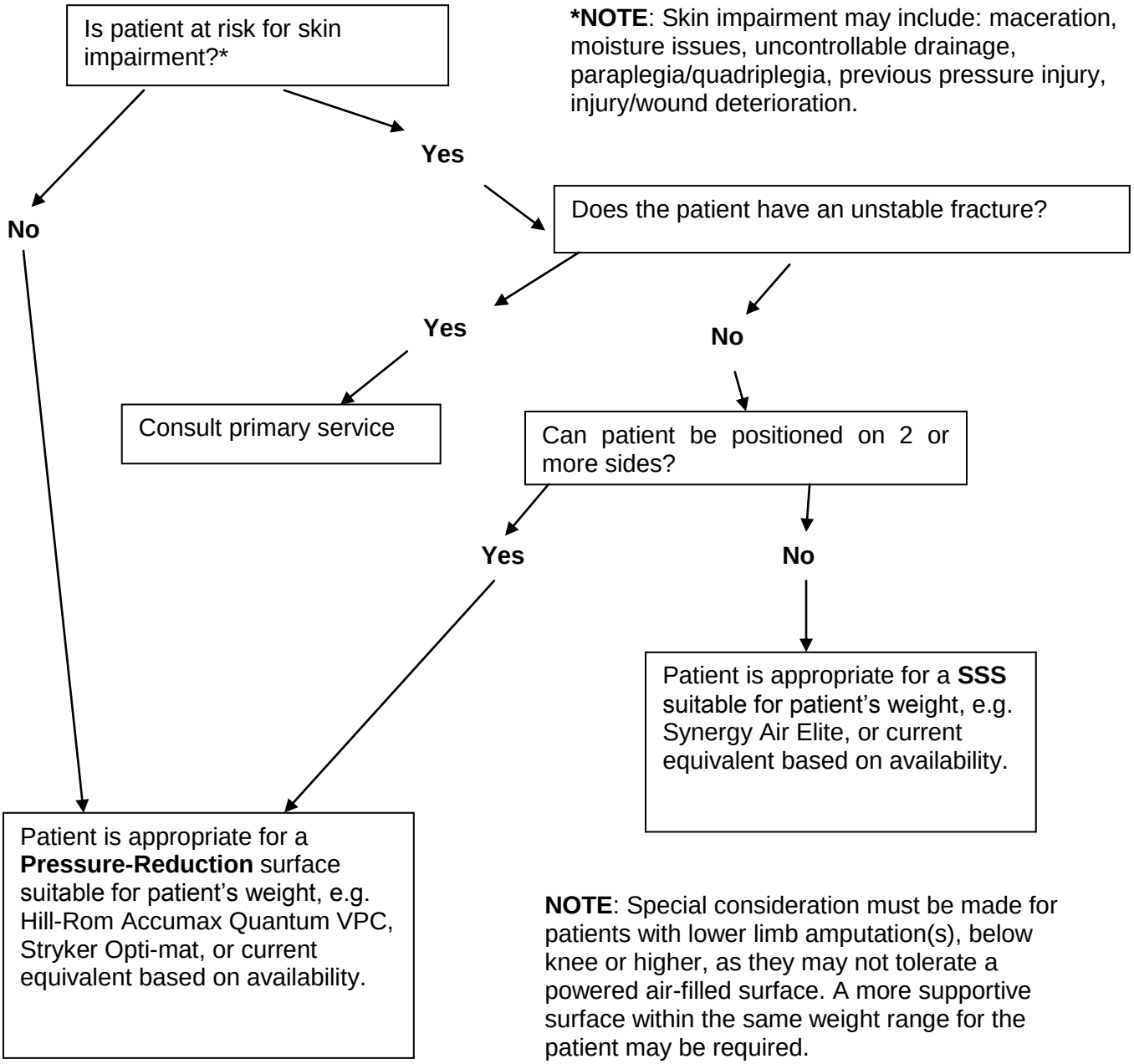
Pieper, Barbara (2007). Mechanical forces: Pressure, shear, and friction. In R. A. Bryant & D. P. Nix (Eds). *Acute and Chronic Wounds: Nursing management* (3rd ed.). pp.205-234. Mosby Elsevier: St. Louis.

Director, Professional Practice – Nursing Signature

Date

10.4 Appendix D – Specialty Support Surface Selection Algorithm 1

Specialty Support Surface Selection Algorithm 1
Goal: Prevention



NOTE: Special consideration must be made for patients with lower limb amputation(s), below knee or higher, as they may not tolerate a powered air-filled surface. A more supportive surface within the same weight range for the patient may be required.

10.5 Appendix E – Specialty Support Surface Selection Algorithm 2

Specialty Support Surface Selection Algorithm 2:
Goal: Treatment

Does patient have an unstable fracture?

Yes

Consult primary service

No

Has patient had a flap/graft or burn on posterior body surface?

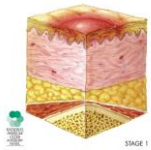
No

Has patient had <u>extensive</u> perineal debridement extending to posterior body surface?

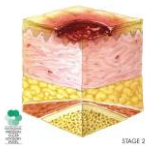
No

Yes

What is the most extensive stage of the pressure injury(s) present?



Stage I

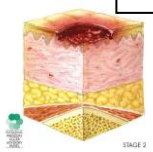


Stage II
With 1 sleep surface impaired**

Stage III, IV or unstageable.
Regardless of number of sleep surfaces impaired**

Suspected Deep Tissue Injury
Requires **immediate Pressure-Relief** when one or more sleep surface(s) impaired**

Patient is appropriate for a **Pressure-Reduction** surface suitable for patient's weight, e.g. Hill-Rom Accumax Quantum VPC, Stryker Opti-mat, or current equivalent based on availability.



Stage II
With 2 or more sleep surfaces impaired**

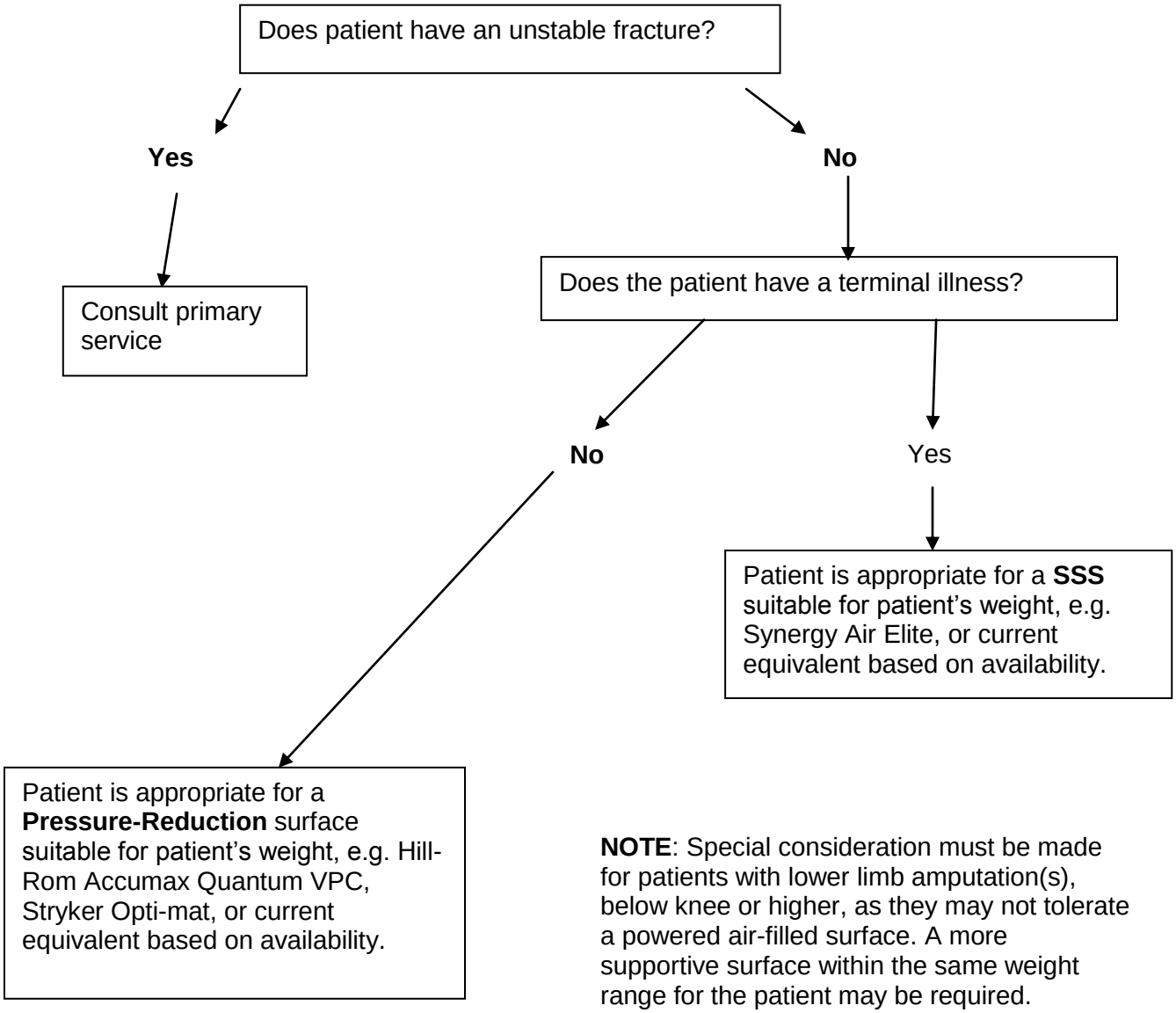
Patient is appropriate for a **SSS** suitable for patient's weight, e.g. Synergy Air Elite, or current equivalent based on availability.

****NOTE**: Impaired sleep surfaces refer to body surfaces such as: sacrum/coccyx/buttocks and trochanter

NOTE: Special consideration must be made for patients with lower limb amputation(s), below knee or higher, as they may not tolerate a powered air-filled surface. A more supportive surface within the same weight range for the patient may be required.

10.6 Appendix F – Specialty Support Surface Selection Algorithm 3

Specialty Support Surface Selection Algorithm 3
Goal: Comfort at End of Life



NOTE: Special consideration must be made for patients with lower limb amputation(s), below knee or higher, as they may not tolerate a powered air-filled surface. A more supportive surface within the same weight range for the patient may be required.

10.7 Appendix G – Specialty Support Surface Request Form

KINGSTON GENERAL HOSPITAL

Specialty Support Surface Request Form

☐ Initial Request ☐ Reassessment Request ☐ Discontinuation

- This form must be completed prior to requesting a specialty support surface (SSS).
- Person completing request form is responsible for communicating information on the Interprofessional Patient Profile (KARDEX).
- Upon completion of this request form, notify the Equipment Coordinator by phone or vocera of the need for a SSS.

NOTE: Surfaces are provided based on availability

PLEASE WRITE OR PRINT LEGIBLY
INCOMPLETE or ILLEGIBLE request form will be returned and may DELAY delivery of Support Surface

1. Select Goal of Therapy

a. Follow the appropriate algorithm found in the Nursing Policy and Procedure: S-2000 Specialty Support Surface Selection (choose one):
- ☐ Prevention (see Appendix A)
- ☐ Treatment (see Appendix B)
- ☐ Comfort in end of life (see Appendix C)

b. ☐ Management of the obese patient

2. Specialty Support Surface
Type of surface requested (if known):

_____

3. Supportive Patient Data:
- Based on the algorithm please indicate reason SSS is required:

_____

_____

- Braden Scale Score: _____
- Patient weight (kg):_____
- Patient height (cm):_____

Special Considerations

- Patients must continue to be turned and repositioned a minimum of every 2 hours while on a SSS.
- The need for a SSS must be reassessed every 2 weeks by nursing staff, and request form resubmitted.
- SSSs are not appropriate for use in patients with unstable fractures of the spine.
- Patients requiring a SSS with lower limb amputation(s), below knee or higher, may require a more supportive surface.
- Management of heels should be considered independently of the support surface.

Print name:_____ **Designation:**_____ **Signature:**_____

Date: _____ (yyyy/mm/dd) **Time:** _____ (hh:mm)

White copy – patient chart Yellow copy – equipment coordinator