Developed in collaboration with the Wound Care Champions, Wound Care Specialists, Enterostomal Nurses, and South West Regional Wound Care Program (SWRWCP) members from Long Term Care Homes, Hospitals, and South West Community Care Access Centre contracted Community Nursing Agencies in the South West Local Health Integration Network.



Network. Title	Guideline: The Management of Poonle with Proceure
Title	Guideline: The Management of People with Pressure
	Ulcers
Background	See "Guideline: The Assessment of People with Pressure Ulcers"
Indications	This guideline is intended to be used by front line registered health care
	providers, to guide their management of individuals presenting with a
	pressure ulcer.
Guideline	NOTE: The assessment and management of a person with a pressure ulcer follows "The SWRWCP's Pressure Ulcer Assessment and
	Management Algorithm".
	Wanagement Algorithm .
	Healable Wounds
	Upon completion of a thorough, holistic patient and wound
	assessment as per the SWRWCP's "Guideline: The Assessment of
	People with Pressure Ulcers", and upon determination that the wound
	in question is 'healable', cleanse the wound as per the "SWRWCP's
	Dressing Selection and Cleansing Enabler – HEALABLE"
	2. As you have previously determined that the wound is healable:
	a. Cleanse the wound as per the "SWRWCP's Dressing
	Selection and Cleansing Enabler – HEALABLE"
	b. Debride any loose, non-viable tissue in the wound using
	techniques within your scope of practice (the exception is
	dry stable heel eschar – this should be managed in a
	maintenance fashion), if indicated. See: "Guideline and
	Procedures: Wound Debridement (excluding conservative sharp debridement)" and/or "Guideline and Procedure:
	Conservative Sharp Wound Debridement"
	c. Cleanse the wound again post debridement using the
	"SWRWCP's Dressing Selection and Cleansing Enabler –
	HEALABLE". Gently pat the wound dry with dry gauze
	d. Choose an appropriate conventional moist wound
	dressing or combination of dressings (see "Guideline: The
	Assessment and Management of Moisture in Acute and
	Chronic Wounds", using the "SWRWCP's Dressing
	Selection and Cleansing Enabler – HEALABLE", unless
	otherwise directed by a physician or nurse practitioner.
	This may involve the use of topical antimicrobials, if
	identified as a need. See "Guideline: The Assessment and
	Management of Bacterial Burden in Acute and Chronic
	Wounds"
	e. Choose an appropriate dressing change frequency based
	on:

- i. Your wound assessment, including the person's risk for infection or presence of infection
- ii. Dressing products used and their ability to manage the drainage anticipated
- iii. Person's comfort and acceptability
- Initiate appropriate compression therapy in collaboration with an Enterostomal (ET) Nurse or Wound Care Specialist (WCS) if the pressure ulcer is on a lower leg and the person has venous or mixed venous-arterial disease, based on your holistic assessment of the person, their wound, and their lower leg circulation. Although the highest degree of compression that is safe to use based on your assessment is most beneficial, if the person is unable to tolerate, lower compression is better than no compression. NOTE: in the presence of deep wound infection and/or cellulitis, reduce the amount of compression until the infection shows signs it is responding to antibiotic treatment and until the person can tolerate a resumption of the previous level of compression. Also, to prevent pressure damage in people with impaired peripheral perfusion, thin or altered limb shape, foot deformities or dependent edema, Rheumatoid Arthritis, reduced sensation, longterm steroid se, and/or loss of calf muscle pump, choose a inelastic bandaging system and apply extra padding or foam over bony prominences, the Achilles tendon, and the tibialis anterior tendon

Maintenance/Non-Healable Wounds

- Upon completion of a thorough, holistic patient and wound assessment as per the SWRWCP's "Guideline: The Assessment of People with Pressure Ulcers", and upon determination that the wound in question is 'maintenance' or 'non-healable', cleanse the wound as per the "SWRWCP's Dressing Selection and Cleansing Enabler – MAINTENANCE/NON-HEALABLE"
- 2. If you have determined that the wound is maintenance/non-healable:
 - a. **DO NOT DEBRIDE**
 - Paint and/or cleanse the wound with antiseptics as indicated on the "SWRWCP's Dressing Selection and Cleansing Enabler – MAINTENANCE/NON-HEALABLE", and allow the antiseptic to air dry
 - c. Choose an appropriate dry gauze based non-adherent dressing or combination of dressings, as per the "Guideline: Assessment and Management of Moisture in Acute and Chronic Wounds", using the "SWRWCP's Dressing Selection and Cleansing Enabler MAINTENANCE/NON-HEALABLE", unless otherwise

- directed by a physician or nurse practitioner. This may involve the use of topical antimicrobials, if identified as a need. See "Guideline: The Assessment and Management of Bacterial Burden in Acute and Chronic Wounds"
- d. Choose an appropriate dressing change frequency based on:
 - i. Your wound assessment goal is to keep the wound clean, dry and free of infection
 - ii. Dressing products used and their ability to manage the drainage anticipated
 - iii. Person's comfort and acceptability

Management Guidelines for ALL Pressure Ulcers, Regardless of Healability

- 1. Treat the cause:
 - a. Modify any identified intrinsic, extrinsic, and iatrogenic factors affecting wound healing to increase the chance of preventing pressure ulcers, to promote the healing existing pressure ulcers (or stabilization if healing is not the goal), and to prevent infection. Consult the SWRWCP's "Braden Score and PURS Risk Scores with Associated Interventions" for a list of interventions based on the persons Braden Score. NOTE: Although a person's overall Braden score may be normal, i.e. not "at risk", they have be low-scoring in a Braden sub-category. Such an individual will benefit from targeted prevention interventions to address the identified risk factor
 - b. Promote appropriate general skin care practices:
 - i. Gently cleanse intact skin at least daily with a mild pH balanced non-fragranced cleanser, and moisturize post cleansing with a similarly formulated moisturizer
 - ii. Avoid long hot water baths/showers. Choose short showers over bathing, and avoid scrubbing/friction during washing and drying
 - iii. Inspect the entire skin at least daily for any new or additional skin damage, and report to your healthcare team immediately
 - iv. Avoid massaging warm, reddened bony prominences
 - c. Manage moisture/incontinence:
 - i. Try to establish a toileting routine to minimize episodes of incontinence
 - ii. If incontinence products are necessary, check for soiling with each assisted position change, or every four hour hours if the person is able to reposition themselves. Change the incontinence

- product when it is wet (regardless of if the product has reached its saturation point or not)
- iii. With each episode of incontinence, gently cleanse the perineal skin with a mild pH balanced nonscented cleanser, rinse well, and pat dry
- iv. Consider using a skin protectant or barrier product to protect the perineal skin from feces or urine
- v. If contamination of a sacral or coccyx ulcer is likely or occurring, consider temporary urinary and/or fecal catheterization
- vi. Avoid the use of powders and talc to reduce moisture. Instead use wicking material between skin surfaces that may sweat and rub together
- vii. Avoid leaving transfer slings beneath people at risk for or who have a pressure ulcer, as they can contribute to new pressure ulcer development
- viii. Seek medical intervention for fungal dermatitis
- d. Properly position the person with the pressure ulcer:
 - i. Avoid positioning the person on their pressure ulcer if possible
 - ii. Ensure proper posture when the person is sitting,i.e. feet flat on floor or foot rest so that the hipsand knees are flexed at 90 *
 - iii. Reposition the person every 15-30 minutes when seated, and every 1-2 hours when in bed, unless the person can do so themselves. If you are using a high density foam mattress, the turning routine can be modified to every 2-4 hours, provided that a visual check of all at-risk areas is made at each turn⁵. Consider creating a repositioning schedule
 - iv. When side-lying use pillows, wedges, blankets to support a lateral position with a 15-30 degree tilt.
 Do not position people directly on their trochanters
 - v. Limit head-of-bed elevation to 30 degrees or less, unless the person is eating/drinking or has difficulty breathing
 - vi. Minimize bedding under the person and keep them wrinkle free
 - vii. Use pillows to avoid contact between bony prominences such as knees and ankles when side lying in bed
- e. Consider pressure reduction/relief devices on all sitting/lying surfaces:
 - i. Based on your assessment, collaborate with a physiotherapist or occupational therapist (who

ideally would complete a mat assessment and evaluate pressure with a pressure mapping unit) re choice and ongoing monitoring and evaluation of equipment and pressure redistribution devices. You may consider consulting the "Support Surface Selection Algorithm". When choosing a therapeutic surface consider:

- 1. The goals of treatment
- 2. The impact on the person and their caregivers, i.e. comfort, mobility, transfers, ADLs
- The environment, i.e. where will it be used, is there enough room, will the product contribute to heating of the space
- 4. The product, i.e. need for a power supply, need for special linens, fail safety, ease of use
- ii. Consider postural alignment, distribution of weight, balance, stability, support of feet and pressure reduction when positioning individuals in chairs or wheelchairs
- iii. Avoid donut type devices or products that localize pressure to other areas
- iv. Check support surfaces for bottoming out at least daily
- v. If you are using a low air loss surface use minimal linens or no linens under the person (refer to the manufacturers guidelines), and if incontinent use a proper air flow disposable incontinent pad, not reusable cloth incontinent pads or standard blue disposable incontinent pads
- vi. Regardless of the mattress you are using, float heels off the surface of the bed using a pillow or wedge. Do not use rolled blankets, towels, incontinent pads, or IV bags
- vii. Consider using surfaces, such as gel pads to reduce pressure when using commode chairs, toilets, and bath benches
- viii. Use pressure management devices for people undergoing surgery who are at risk
- ix. People at risk of developing a pressure ulcer should not remain on a standard mattress. A replacement mattress with low interface pressure should be used at a minimum
- f. Reduce friction and shear injury:
 - i. Raise the bed knee gatch before raising the head

- of the bed to minimize shearing
- ii. Use slider sheets, slings with ceiling lifts, or trapeze bars to reposition or transfer people in bed – do not drag across the bed
- iii. Consider using heel/elbow protectors to reduce contact between the linen and skin
- g. Prevent pressure ulcers secondary to medical devices, i.e. CPAP, BIPAP, oxygen tubing and masks, percutaneous endoscopic gastrostomy tubes, endotracheal tubes, nasogastric tubes, pelvic binders, pulse oximetry probes, tracheostomy faceplates and ties, sequential compression devices, external fixators, and limb mobilizers. Consider:
 - i. Correct positioning and care of the equipment, including proper fixation and stabilization
 - Use of hydrocolloids, films, foam dressings, silicone mesh, or barrier products underneath the device
 - iii. Avoid taping tubing directly to skin; always pinch tape under the tubing so that it is not pressed into the skin
 - iv. Where available, use pressure-reducing dermal gel pads, i.e. KerraPro
 - v. Loosen the device at least one every eight hours (if compatible with the medical condition) to allow for a skin assessment
- 2. Person centered concerns:
 - a. Consider managing pain using the SWRWCP's "WHO Pain Ladder with Pain Management Guidelines". Consider:
 - i. Coordinated pre-dressing change analgesia
 - ii. Regular dosing of pain medications
 - iii. Use of appropriate medications to manage neuropathic pain
 - iv. Use of topical analgesics (i.e. morphine) or anesthetic (i.e. EMLA or lidocaine) if pain during dressing changes
 - Consider non-pharmacological methods of pain management, i.e. appropriate dressing choice, distraction, guided imagery, pressure redistribution, music, time-outs during dressing changes, less frequent dressing changes, etc.
 - c. Consider surgical management of pain, i.e. revascularization
 - d. Ensure the plan of care is created with input of the person with the wound and/or their caregiver, including their concerns, motivations, abilities and preferences for treatment
- 3. Debridement:

- a. Determine if debridement Is appropriate for the person and the wound
- Prior to debriding wounds on lower extremities, ensure a complete vascular assessment has been conducted (see "Interdisciplinary Lower Leg Assessment Form") to rule out vascular compromise
- c. If debridement is appropriate, select the appropriate method of debridement considering:
 - i. Goals of treatment, i.e. healability
 - ii. Person's overall health condition
 - iii. Type, quantity and location of necrotic tissue
 - iv. Wound depth and amount of drainage, and
 - v. Availability of resources. NOTE: Lower extremity ulcers with dry eschar in people who are acutely palliative should NOT be debrided if they do not have edema, erythema, fluctuance or drainage
- d. Consider referrals to a WCS or ET for conservative sharp debridement of non-viable tissue and/or for serial callus debridement, using sterile instruments
- e. Consider requesting a referral to a general surgeon for surgical sharp debridement secondary to the presence of advancing cellulitis/sepsis, increased pain, exudates and odor, and for debridement that is beyond the scope of practice/competency of primary care providers
- f. Ensure adequate pain management with wound debridement
- 4. Infection control:
 - a. Teach that new onset or worsening pain is a sign of infection and requires immediate medical attention
 - Treat bacterial burden as per the "Guideline: Assessment and Management of Bacterial Burden in Acute and Chronic Wounds" using the "Bacterial Burden in Chronic Wounds" tool
 - c. Implement strategies to prevent infection, i.e. proper hand washing and infection control measures, preventing contamination of pressure ulcers
 - d. Consider a referral to Infectious Disease should the person have a wound complicated by bacteremia, sepsis, advancing cellulitis or osteomyelitis
- 5. Consider referrals to (see "Criteria for Interdisciplinary Referrals"):
 - a. Dietician (diet, nutritional deficiencies/support, supplementation, weight control). NOTE: to be most efficient, the following blood work could be ordered and the results obtained before making a dietician referral: serum albumin, CBC (if anemic, proceed to checking Serum Iron, Total Iron Binding, Ferritin, Transferrin, B12

and Red Blood Cell Folate Level), BUN, Creatinine, and Potassium

- b. Speech Language Pathologist (swallowing assessment if presence or risk for swallowing impairment exists)
- c. Physician/Primary Care Nurse Practitioner (poorly controlled co-morbid health conditions, smoking cessation, medication adjustments, pain management)
- d. Physiotherapy (mobility/exercise plan, mobility/gait/range of motion assessment, adjunctive therapies for wound healing and pain management, balance)
- e. Occupational Therapist (assistive devices, modifications to activities of daily living, seating, postural alignment, distribution of weight, fall risk assessment and recommendations)
- f. Social Work (psychosocial and economic supports)
- g. Vascular Surgeon (vascular assessment +/- correction if the pressure ulcer is on a lower limb and there is significant peripheral arterial disease)
- Nurse Continence Advisor (urinary and/or fecal continence assessment and recommendations if incontinence is negatively affecting skin integrity or wound healing)
- i. WCS or ET if one or more of the following FUN criteria is flagged:
 - i. F (Frequency) Frequency of dressing changes has not decreased to three times per week or less by week three
 - ii. U (Unknown) the cause (etiology) of the wound is unknown, or the nurse is unsure of best practices
 - iii. N (Number) the surface area of the wound has not reduced 39% within the first two weeks of treatment⁶⁻⁷ or at a minimum 20-30% in threefour weeks of treatment, or there is not an ongoing reduction in wound surface area thereafter
- j. Plastic surgeon (if the ulcer is large/deep and over an ischeal tuberosity, for consideration of skin graft/flap)
- 6. Teach the person and/or their caregiver, using adult education principles, the importance of the following (you may need to consider interdisciplinary referrals):
 - a. Quitting smoking
 - b. Signs and symptoms of infection/complications and when to seek **IMMEDIATE** help
 - c. The importance of proper positioning and strategies for pressure redistribution/reduction, including at least daily examination of the skin

- d. Proper use of support surfaces
- e. Strategies to reduce moisture, friction, shear
- f. Strategies for improving nutrition and hydration
- g. Chronic diseases how they affect the healing process and the importance of adhering to the treatment plan
- h. The wound dressing technique if they or their caregiver are going to be changing dressings
- Strategies for managing pain during and between dressing changes
- j. The need for ongoing follow-up with a health care provider at regular intervals
- k. The importance of professional foot care for those with arterial leg disease and a pressure ulcer on their lower limb
- The benefits of compression therapy and daily leg elevation and the need for lifelong compression in those with lower leg pressure ulcers undergoing compression therapy
- m. Exercises to promote calf muscle pump function for those with lower leg pressure ulcers
- n. How to care for and apply/remove compression stockings, including the need to replace stockings every six months, if compression therapy is part of the persons plan of care
- o. The roles of interdisciplinary team members
- 7. Provide the person with the SWRWCPs "My Pressure Ulcer" pamphlet and "The Importance of Nutrition in Wound Healing" pamphlet, and review the pamphlet contents with them
- 8. Re-evaluate (see "Guideline: Wound Re-Assessment and Consideration of the Use of Adjunctive/Advanced Wound Therapy"):
 - a. Regularly and consistently measure the ulcer, weekly at a minimum, using the same method
 - b. Conduct a comprehensive reassessment to determine wound progress and the effectiveness of the treatment plan, i.e. using the "NPUAP PUSH Tool 3.0", weekly at a minimum (see "Procedure: NPUAP PUSH Tool 3.0").
 Identification of variances indicates the need for a holistic person and wound reassessment
 - c. Calculate the % reduction in wound surface area weekly to ensure that the wound is progression towards closure at an expected rate, i.e. 20-30% reduction in wound surface area over a 3-4 week period is a predictor of timely healing. If the wound is not closing at an expected rate, reassess for additional correctable factors, infection, and pressure
 - d. If the wound is not healing at an expected rate despite the implementation of best practice interventions, you may need to consider:

- i. A referral to a WCS or ET for assessment/reassessment
- Diagnostic testing to rule out the presence of underlying infection/osteomyelitis +/- a referral to an Infectious Diseases Specialist, if indicated
- iii. Referral to a PT for consideration of adjunctive therapies, i.e. electrical stimulation, warming therapy, growth factors, pulsed radio frequency stimulation, ultraviolet Light C, ultrasound therapy, negative pressure wound therapy, skin equivalents, or hyperbaric oxygen
- iv. A request for a wound tissue biopsy to rule out underlying malignancy, if malignancy is suspected
- v. Barriers to concordance
- e. Reassess pain at **EVERY** dressing change and more frequently as reported by the person, using the same validated pain tool/scale each time. Report pain management issues to the person's primary care physician or primary care nurse practitioner using the SWRWCP's "Comprehensive Assessment of Chronic Pain in Wounds" tool (see "Procedure: Comprehensive Assessment of Chronic Pain in Wounds" tool")
- f. Reassess the person's quality of life using the "Cardiff Wound Impact (Quality of Life) Questionnaire" if the person reports alterations in their QOL or if their caregiver verbalizes that they suspect as much [see "Procedure: Cardiff Wound Impact (Quality of Life) Questionnaire']
- 9. Notify the primary care physician or primary care nurse practitioner immediately if the following occur:
 - a. Acute onset of pain or increasing pain
 - b. Wound probes to bone if this is a new finding
 - c. Signs of localized and/or systemic infection develop

10. Documentation:

- a. Document initial and ongoing assessments as per your organizations guidelines
- b. Document care plans, implementation strategies, and outcome measurements as per your organizations guidelines

11. Discharge Planning:

- Discharge planning (if it is anticipated) should be initiated during the initial encounter with the person. Timely discharge should be supported along with optimal person independence
- b. If the care of the person is being transferred across sectors, ensure that the receiving site/facility/service is provided with a care plan that outlines care arrangements, identified risk factors (including the current

"Braden Scale for Predicting Pressure Sore Risk" or "Braden Q" score and sub-scale scores), provides details of pressure points and skin condition prior to transfer, outlines the need for pressure management/mobility equipment, gives details of any closed ulcers and the stage/site/size of existing ulcers, provides a history of ulcers, previous treatments and dressings used, the type of dressings currently used and frequency of change, any allergies to dressing products; recent blood work results, vascular study results (for lower leg ulcers), details of any surgical interventions, details of any turning schedules established, and any need for any on-going nutritional support. Also include copies of the:

- i. Initial Wound Assessment Form
- ii. Interdisciplinary Pressure Ulcer Contributing Factors Assessment Tool
- iii. Interdisciplinary Lower Leg Assessment Form (if applicable)

Outcomes

1. Intended:

- a. The wound closes and drainage ceases, if the wound is deemed 'healable'. OACCAC Pressure Ulcer Outcome-Based Pathway (OBP) outcome intervals (October 2013 release):
 - i. Interval 2 (28 days) 20-30% reduction in surface area
 - ii. Interval 3 (84 days) 70-80% reduction in surface area
 - iii. Interval 4 (126 days) wound closed
- b. The wound is maintained and infection free if the wound is deemed 'maintenance or non-healing'
- c. The person indicates that pain is resolved or manageable (less than 3/10) with appropriate use of analgesia/adjunctive/alternative methods
- d. The person with the wound understands and acts on the need for daily skin inspection and appropriate skin care, adequate nutrition and hydration, and pressure redistribution
- e. The person can identify S+S infection, and can describe how, when and whom to call when problems occur
- f. The person becomes independent in self-management of their wound

2. Unintended:

- a. The wound dose not close, if the wound is deemed 'healable'
- b. The wound becomes infected
- c. The person develops gangrene
- d. The person expresses concerns about poorly managed pain
- e. The person requires an amputation where one was not anticipated
- f. The person does not understand the need for daily skin inspection and other measures needed to decrease the risk of future tissue damage

	g. The person shows no evidence of understanding and acting on
	educational information received
	h. The person does not understand the S+S
	infection/complications, and when, how and whom to seek
	help from
	i. The person does not become independent in self-
	management of their wound
References	1. Woodbury MG, Houghton PE. Prevalence of pressure ulcers in
	Canadian health care-settings. Ostomy Wound Management.
	2004;50, 22-38.
	2. Allan J, Houghton PE. Electrical stimulation: A case for a stage III
	pressure ulcer. Wound Care Canada. 2004:2, 34-36
	3. European Pressure Ulcer Advisory Panel, National Pressure Ulcer
	Advisory Panel. International guideline: Prevention of pressure ulcers:
	Quick reference guide. 2009. Available at:
	http://npuap.org/Final_Quick_Prevention_for_web_2010.pdf.
	Accessed March 27, 2011.
	4. Sibbald RG, Krasner DL, Lutz JB, et al. The SCALE expert panel: Skin
	changes at life's end. Preliminary Consensus Document. September
	2008.
	5. Bergstrom N, Horn SD, Rapp MP, et al. Turning for ulcer reduction: a
	multisite randomized clinical trial in nursing homes. J Am Geriatr Soc.
	2013;61:1705-1713.
	6. Van Rijswijk L. Full-thickness pressure ulcers: Patient and wound
	healing characteristics. Decubitus. 1993;6:16-21.
	7. Gunes UY. A prospective study evaluating the pressure ulcer scale for
	healing to assess stage II, stage III, and stage IV pressure ulcers.
Related Tools	Ostomy Wound Management. 2009;55(5):48-52.
	The SWRWCP's Pressure Ulcer Assessment and Management
(NOTE: these tools and	Algorithm
their instructions can be	Guideline: The Assessment of People with Pressure Ulcers
found on the SWRWCP's	SWRWCP's Dressing Selection and Cleansing Enabler – HEALABLE
website:	Guideline and Procedures: Wound Debridement (excluding)
swrwoundcareprogram.ca)	conservative sharp debridement
	Guideline and Procedure: Conservative Sharp Wound Debridement
	Guideline: The Assessment and Management of Moisture in Acute
	and Chronic Wounds
	Guideline: The Assessment and Management of Bacterial Burden in
	Acute and Chronic Wounds
	SWRWCP's Dressing Selection and Cleansing Enabler –
	MAINTENANCE/NON-HEALABLE
	Braden Score and PURS Risk Scores with Associated Interventions
	Support Surface Selection Algorithm
	Criteria for Interdisciplinary Referrals
	WHO Pain Ladder with Pain Management Guidelines
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	Interdisciplinary Lower Leg Assessment Form

- Guideline: Assessment and Management of Bacterial Burden in Acute and Chronic Wounds
- Bacterial Burden in Chronic Wounds Tool
- My Pressure Ulcer pamphlet
- The Importance of Nutrition in Wound Healing pamphlet
- Guideline: Wound Re-Assessment and Consideration of the Use of Adjunctive/Advanced Wound Therapy
- NPUAP PUSH Tool 3.0
- Procedure: NPUAP PUSH Tool 3.0
- Comprehensive Assessment of Chronic Pain in Wounds tool
- Procedure: Comprehensive Assessment of Chronic Pain in Wounds" tool
- Cardiff Wound Impact (Quality of Life) Questionnaire
- Procedure: Cardiff Wound Impact (Quality of Life) Questionnaire
- Braden Scale for Predicting Pressure Sore Risk
- Braden Q
- Initial Wound Assessment Form
- Interdisciplinary Pressure Ulcer Contributing Factors Assessment Tool