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 CCAC contracted Community Nursing Agencies in the South West Local Health Integration Network.	
Title	**Guideline: The Management of People with Skin Tears and/or Pre-Tibial Injuries**
Background	• See "Guideline: The Assessment of People with Skin Tears and/or Pre-Tibial Injuries"
Indications	This guideline is intended to be used by front line registered health care providers, to guide their management of individuals admitted/presenting with a skin tear and/or pre-tibial injury.
Guideline	**NOTE: The management of a person with skin tears and/or pre-tibial injuries follows the "SWRWCP's Skin Tears/Pre-Tibial Assessment and Management Algorithm".** 1. Stop bleeding via the use of a calcium alginate dressing, direct pressure, elevation of the injury above the level of the heart (if feasible), rest of the affected area, and indirect application of ice, as needed **Healable Wounds** 1. Upon completion of a thorough, holistic patient and wound assessment as per the SWRWCP's "Guideline: The Assessment of People with Skin Tears and/or Pre-Tibial Injuries", and upon determination that the wound in question is 'healable', and the bleeding has been stopped/controlled, cleanse the wound (using sterile technique) as per the "SWRWCP's Dressing Selection and Cleansing Enabler – HEALABLE". Make sure to cleanse away any blood clots and debris from the wound surface 2. If a viable skin flap is present, gently approximate the skin flap to the best of your ability (using sterile technique) and anchor it using adhesive strips or skin glue. ***NOTE: due to the fragility of elderly skin, sutures and staples are not a viable option.*** For category 1and 2 skin tears with less than 25% epidermal flap loss, a physician or a nurse practitioner may choose to approximate the edge of the skin tear/flap with skin glue 3. As you have previously determined that the wound is healable: a. Debride any loose, non-viable tissue in the wound using techniques within your scope of practice [see "Guideline and Procedures: Wound Debridement (except conservative sharp wound debridement)" and "Guideline and Procedure: Conservative Sharp Wound Debridement"]. ***NOTE: if a tetanus shot is required, give it <u>before</u> the wound is debrided as exotoxin may be released during wound manipulation. All persons with skin tears should be given a tetanus vaccination if they***

have not been inoculated in the past 10 years[4]

b. Cleanse the wound again post debridement using the "SWRWCP's Dressing Selection and Cleansing Enabler – HEALABLE" (using sterile technique). Gently pat the wound dry with dry sterile gauze
c. Choose an appropriate conventional moist wound dressing or combination of dressings as per the "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"). Consider choosing a dressing that will:
    i. Promote an ideal moist wound healing environment
    ii. Prevent wound bed cooling and disruption
    iii. Prevent wound contamination
    iv. Prevents strike through of exudates while wicking moisture away from the wound surface
    v. Be cost effective, i.e. do **NOT** use conventional dressing products for daily dressing changes!
    vi. Be comfortable to wear, not causing increased pain during wear time or on removal
    vii. Specific dressings to consider:
        1. A silicone-based mesh or foam dressing +/- a calcium alginate if bleeding is present
        2. An absorbent clear acrylic dressing, which is to remain in place for 21 days for category 1-3 skin tears with low to moderate exudates
        3. Zinc-impregnated gauze, fan-folded to 6-8" thicknesses and placed over the area, covered with a secondary dressing, changed q3-5 days (this treatment is commonly used with good effect, however there is no literature to support it)
    viii. Avoid hydrocolloids, transparent film dressings, and paraffin gauze (tulle gauze) as these can cause disruption of the skin flap, skin stripping, and as they require more frequent dressing changes
d. Choose an appropriate dressing change frequency based

on:

i. Your wound assessment, including the person's risk for infection
ii. Dressing products used and their ability to manage the drainage anticipated
iii. The person's comfort and acceptability

e. Initiate appropriate compression therapy (if the skin tear or pre-tibial injury is on a lower leg affected by venous or mixed venous-arterial insufficiency or lymphedema) in collaboration with an Enterostomal Therapy (ET) Nurse or Wound Care Specialist (WCS), based on your holistic assessment of the person, their wound, and their lower leg circulation (see "Guideline: The Assessment of People with Leg Ulcers" and "Guideline: The Management of People with Leg Ulcers"). 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 therapy at all. ***NOTE: in the presence of deep wound infection and/or cellulitis, reduce the amount of compression until the person shows signs that they (and their wound) are positively 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, long-term steroid use, and/or loss of calf muscle pump, choose an inelastic bandaging system and apply extra padding or foam over bony prominences, the Achilles tendon, and the tibialis anterior tendon***

Maintenance/Non-Healable Wounds

1. Upon completion of a thorough, holistic person and wound assessment as per the SWRWCP's "Guideline: The Assessment of People with Skin Tears and/or Pre-Tibial Injuries", and upon determination that the wound in question is 'maintenance' or 'non-healable', cleanse (using sterile technique) the wound as per the "SWRWCP's Dressing Selection and Cleansing Enabler – MAINTENANCE/NON-HEALABLE". Make sure to cleanse away any blood clots and debris from the wound surface
2. If you have determined that the wound is maintenance/non-healable:
    a. **DO NOT DEBRIDE**
    b. Paint and/or cleanse (using sterile technique) the wound with antiseptics as indicated on the "SWRWCP Dressing Selection and Cleansing Enabler – MAINTENANCE/NON-

	HEALABLE", and allow the antiseptic to air dry c. Choose an appropriate non-adherent, dry, gauze based 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"). ***NOTE: the application of moisture retentive dressings in the context of ischemia and or dry gangrene can result in a serious life or limb threatening infection.*** Based on your assessment choose a dressing that will: i. Promote a moist wound healing environment ii. Minimize contamination iii. Prevent strike through of exudates while wicking moisture away from the wound surface iv. Be cost effective, i.e. do **NOT** use conventional dressing products for daily dressing changes! v. Be comfortable to wear, not causing increased pain during wear time or on removal d. Choose an appropriate dressing change frequency based on: i. Your wound assessment, including the person's risk for infection ii. Dressing products used and their ability to manage the drainage anticipated iii. The person's comfort and acceptability e. If the wound is on a leg with arterial insufficiency: i. Consider a referral to a Vascular Surgeon to see if the problem with the arterial circulation can be surgically corrected ii. Support the person to eliminate restrictive clothing and to access a supervised exercise program as tolerated – you may need to refer to Physiotherapy iii. Teach the person to: 1. Protect their extremities from heat, cold, and trauma 2. Elevate the head of their bed 10-15cm to maintain lower limb position below the level of the heart for ischemic pain 3. Use a bed cradle to elevate bedding off their limbs, for pain management 4. Avoid constrictive activities, i.e. nicotine,

caffeine, tight shoes/socks

Management Guidelines for ALL Skin Tears/Pre-Tibial Injuries, Regardless of Healability

1. Treat the cause:
    a. Modify any identified intrinsic, extrinsic, and iatrogenic factors affecting wound healing to promote the healing existing skin tears/pre-tibial injuries (or stabilization if healing is not the goal), and to prevent complications
    b. Implement preventative interventions based on the person's risk group, as determined using the SWRWCP's 'Skin Tear Risk Assessment Tool', to prevent future skin tears, i.e. "skin hygiene and hydration, responsible bathing, good nutrition, appropriate clothing, the removal of environmental risk factors, correct turning, positioning and transferring[5]"
    c. Provide those who have not had a tetanus shot in the past 10 years with one, unless otherwise contraindicated. Tetanus shots should be given **before** the wound is debrided as exotoxin may be released during wound manipulation[4]
2. Person centered concerns:
    a. Manage 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
    b. Consider non-pharmacological methods of pain management, i.e. appropriate dressing choice, distraction, guided imagery, music, time-outs during dressing changes, less frequent dressing changes, etc.
    c. Consider surgical management of pain, i.e. revascularization for ischemic leg pain
    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 with the wound
    b. Prior to debriding wound on lower extremities, ensure a complete vascular assessment has been conducted to rule out vascular compromise

	c. If debridement is appropriate, select the appropriate method of debridement considering the: 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 v. Availability of resources d. Consider a referral to a WCS or ET for conservative sharp debridement of non-viable tissue using sterile instruments e. Consider requesting a referral to a general surgeon for surgical sharp debridement in the presence of necrotic tissue in a wound that requires debridement secondary to the presence of advancing cellulitis/sepsis, increased pain, exudates and odor, or 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 b. Treat bacterial burden as per the "Guideline: The Assessment and Management of Bacterial Burden in Acute and Chronic Wounds", using the "Bacterial Burden in Chronic Wounds" tool. ***NOTE: Topical antimicrobials can be used to reduce bacterial burden in the presence of superficial wound infection, but never take the place of systemic antibiotics when those are needed for deeper infections*** c. If you are not sure of the nature of the infection, choose a non-occlusive dressing as the secondary dressing. Dressing frequency for infected skin tears/pre-tibial ulcers should be increased until the symptoms of the infection are progressively improving d. Implement strategies to prevent infection, i.e. proper hand washing and infection control measures e. Consider a referral to an Infectious Diseases specialist in the presence of a wound complicated by bacteremia, sepsis, advancing cellulitis or osteomyelitis 5. Consider referrals to (see "Criteria for Interdisciplinary Referrals"): a. Registered Dietician (diet, nutrition, supplementation, weight control). ***NOTE: To be most efficient, the following blood work could be ordered an 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 (presence or risk of developing a swallowing impairments)
c. Physician/Primary Care Nurse Practitioner (poorly controlled co-morbid health conditions, smoking cessation, medication adjustments)
d. Physiotherapy (mobility/exercise plan, mobility/gait/range of motion assessment, adjunctive therapies for wound healing and/or neuropathic pain management)
e. Occupational Therapist (assistive devices, modifications to activities of daily living, fall risk assessment and recommendations)
f. Social Work (psychosocial and economic/community supports)
g. Vascular surgeon (vascular assessment +/- surgical correction)
h. Infectious Diseases (for wounds complicated by bacteremia, sepsis, advancing cellulitis or osteomyelitis)
i. ET or WCS for wounds that have one or more of the following **FUN** criteria:
    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 decreased 28.79% at four weeks, as this predicts complete venous leg ulcer closure by 24 weeks[7], or a minimum of 20-30 in 3-4 weeks of treatment, or there is not an ongoing decrease or reduction in wound surface area

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. Changing dressings as per their schedule, and keeping dressings clean and dry at all times
    b. Quitting smoking
    c. The importance of good nutrition and hydration
    d. The importance of managing pain effectively
    e. How to recognizing the signs and symptoms of infection/complications and when/how to seek **IMMEDIATE** help
    f. How to protect their limbs from injury
    g. Chronic diseases and 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 7. If the person has a skin tear or pre-tibial injury on their lower leg, teach the person: a. To wash their legs and feet daily and moisturize their dry skin (not between the toes) daily, using non-scented, mild, pH balanced soap. If the person is wearing compression socks, have them apply moisturizers after the socks have been removed for the day b. To exercising regularly and eating a well-balanced diet c. To change their socks daily (no tight shoes or socks) d. To protect their legs and feet from heat/cold/injury (no ice packs/heating pads) e. Strategies for managing pain during and between dressing changes, i.e. use of a bed cradle, elevating the HOB on 4-6" blocks to keep the persons heart above their feet, avoiding leg elevation f. The need for ongoing follow-up with a health care provider at regular intervals g. The importance of professional foot care for those with arterial leg disease h. The benefits of compression therapy and daily leg elevation and the need for lifelong compression (if this is part of their plan of care) i. Exercises to promote calf muscle pump function j. How to care for and apply/remove compression stockings, including the need to replace stockings every four - six months, if compression therapy is part of the persons plan of care 8. Provide the person with the SWRWCPs "My Skin Tear" pamphlet and the "The Importance of Nutrition in Wound Healing" pamphlet, and review the pamphlets contents with them. If the person has concomitant venous, mixed, or arterial disease of the lower legs and has a skin tear or pre-tibial injury on their lower leg, provide them with "My Venous Leg Ulcer" or "My Arterial Leg Ulcer" pamphlet, as applicable 9. Re-evaluate (see "Guideline: Wound Re-Assessment and Consideration of the Use of Adjunctive/Advanced Therapy"): a. Regularly and consistently measure the wound, 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" c. Calculate the % reduction in wound surface area to ensure that the wound has closed 20-30% in 3-4 weeks of

treatment as this is a predictor of timely wound closure

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 nurse for assessment
    ii. Diagnostic testing to rule out the presence of underlying infection
    iii. Adjunctive therapies, i.e. electrical stimulation therapy, growth factors and bioactive agents[5]
    iv. Barriers to concordance
e. Reassess pain at **EVERY** dressing change and more frequently as reported by the person, using the same 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 quality of life or if their caregiver verbalizes that they suspect as much [see "Procedure: Cardiff Wound Impact (Quality of Life) Questionnaire]

10. Notify the primary care physician or primary care nurse practitioner immediately if the following occur:
    a. Acute onset of pain or increasing pain
    b. Signs of localized and/or systemic infection develop
    c. Gangrene develops or worsens, rest pain develops in the foot, and/or previously palpable peripheral pulses are diminished or absent in the leg of a person who has a skin tear on their lower leg or pre-tibial injury
11. 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
12. Discharge Planning:
    a. 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 the current care and wound management strategies, and copies of:

	i. Initial Wound Assessment Form ii. Interdisciplinary Lower Leg Assessment Form
Outcomes	1. Intended: a. The wound closes and drainage ceases, if the wound is deemed 'healable', at an expected rate, i.e. surface area reduction of f20-30% in 3-4 weeks of treatment. OACCAC Traumatic Wound Outcome-Based Pathway (OBP) outcome intervals (September 2013 release): i. Interval 2 (28 days) – 20-30% reduction in surface area ii. Interval 3 (60 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 understands their role in preventing further tissue damage and incorporate recommended activities and interventions to treat risk factors e. The person can identify signs and symptoms infection/complications and describe how, when and whom to seek help from 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 expresses concerns about poorly managed pain d. The person does not understand and/or act on their role in preventing further tissue damage and do not incorporate recommended activities and interventions to treat risk factors e. The person develops gangrene and/or requires an amputation where one was not anticipated, if they have a skin tear of the lower leg or pre-tibial injury f. The person does not understand the signs and symptoms of infection/complications and how, when and whom to seek help from g. The person does not become independent in self-management of their wound
References	1. White M, Karam S, Colwell B. Skin tears in frail elders: A practical approach to prevention. Geriatric Nurse. 1994;15(2):95-9. 2. Baranoski S. How to prevent and manage skin tears. Advances in Skin and Wound Care. 2003;16(5):268. 3. O'Regan A. Skin tears: A review of the literature. World Council of Enterostomal Therapists Journal. 2002;22(2):26-31. 4. Carden DL. Tetanus. In Tintinalli JE, Kelen GD, Strapcxynski JS, (eds).

	Emergency Medicine: A Comprehensive Study Guide, Sixth Edition. American College of Emergency Physicians. 2004. 5. LeBlanc K, Christensen D, Orsted HL, et al. Best practice recommendations for the prevention and treatment of skin tears. Wound Care Canada. 2008;6(1):14-30.
Related Tools (NOTE: these tools and their instructions can be found on the SWRWCP's website: (swrwoundcareprogram.ca)	• The SWRWCP's Skin Tear/Pre-Tibial Injury Assessment and Management Algorithm • Guideline: The Assessment of People with Skin Tears and/or Pre-Tibial Injuries • SWRWCP's Dressing Selection and Cleansing Enabler – HEALABLE • Guideline: Wound Debridement (excluding conservative sharp debridement) • Guideline: 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 • Skin Tear Risk Assessment Tool • Procedure: Skin Tear Risk Assessment Tool • Criteria for Interdisciplinary Referrals • WHO Pain Ladder with Pain Management Guidelines • Bacterial Burden in Chronic Wounds Tool • My Skin Tear pamphlet • Nutrition in Wound Healing pamphlet • My Venous Leg Ulcer pamphlet • My Arterial Leg Ulcer pamphlet • Guideline: Wound Re-Assessment and Consideration of the Use of Adjunctive/Advanced Therapy • NPUAP PUSH Tool 3.0 • Procedure: NPUAP PUSH Tool 3.0 • Comprehensive Assessment of Chronic Pain in Wounds • Procedure: Comprehensive Assessment of Chronic Pain in Wounds • Cardiff Wound Impact (Quality of Life) Questionnaire • Procedure: Cardiff Wound Impact (Quality of Life) Questionnaire • Interdisciplinary Lower Leg Assessment Form