

CENTRAL WEST COMMUNITY CARE ACCESS CENTRE

Wound Care Guidelines



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The Wound Care Management Program (the "WCMP") has been developed by Health Outcomes Worldwide in collaboration with the CW CCAC Wound Care Team on behalf of Central West Community Care Access Centre. The WCMP is intended to give an understanding of a clinical problem, and outline one or more preferred approaches to the investigation and management of the problem. The WCMP is not intended as a substitute for the advice or professional judgment of a health care professional, nor is it intended to be the only approach to the management of clinical problems. Health Outcomes Worldwide and Central West CCAC assumes no liability for the contents of the WCMP or for loss or damage of any kind whatsoever arising out of review, use of or reliance upon the WCMP for any purpose. Any such use or reliance shall be at the user's own risk and without responsibility of Health Outcomes Worldwide and Central West CCAC.

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Wound Care Management Program

Goal

- To implement best practices in wound care in the delivery of services to Central West CCAC clients

Objectives

- To develop a wound care management program for Central West CCAC
- To improve client outcomes through the implementation of best practices in wound care
- To standardize wound care practices among service providers
- To improve efficiency in the delivery of wound care services including reductions in nursing visits, cost of supplies and length of stay on service

Wound Types

The Wound Care Management Program includes authorization frequencies for the following wound types:

- Arterial Leg Ulcer
- Diabetic Foot Ulcer
- Mixed Leg Ulcer
- Pressure Ulcer
- RectalPelvic Abscess – includes Pilonidal Sinus, Perianal Abscess, etc.
- Surgical Wound Open
- Surgical Wound Closed
- Venous Leg Ulcer
- Other Wound – includes all other wounds such as burns, skin tears, etc.

Introduction

At present, wound care constitutes a large portion of service authorized in Ontario as 30% to 50% of service delivery includes acute and chronic wound care. The Central West Community Care Access Centre (CW CCAC) has developed a Wound Care Management Program (WCMP) to assist both service providers and case managers in meeting the complex challenges associated with wound healing. The purpose of the WCMP is to assist service providers and case managers in the accurate identification, comprehensive assessment and appropriate treatment of wounds. The aim of WCMP is to promote greater consistency and a higher standard of care to CW CCAC clients with wounds.

The Guidelines for Ordering Wound Care have been developed to:

- Provide Case Managers with essential information to ensure quality care for clients with wounds and effective case management services for wound care
- Provide service delivery agencies with information on the expected authorization of care
- Establish a framework for evaluation and measurement of wound care outcomes to ensure sustainability

The Standards for Service Providers have been developed to:

- Provide service providers with the minimum standard of wound care expected by the CW CCAC
- Describe the healing trajectory of different wound types
- Provide strategies for the accurate assessment and appropriate treatment of wound types
- Advise the service provider of the appropriate instances for consultation with other experts in wound management

CW CCAC will obtain wound care orders as indicated by either the MD ordering “Wound Care” or writing specific wound care orders on the Medical Referral form. If either the Nurse or Nursing Provider Agency determines they require additional information or orders, it will be their responsibility to obtain them.

Wound healing is a complex and dynamic process that is influenced significantly by the changing health status, and lifestyle choices, of the individual who is living with the condition. The process for developing this Wound Care Management Program included a review of wound care literature, engagement of focus groups, internal expert review, physician review and external content and process review by experts. The Wound Care Management Program is based on evidence based practice that has been developed by several professional bodies with knowledge, competence and expertise in effective wound care management.

Best Practice Guidelines:

CAWC http://www.cawc.net/open/library/clinical/clinical_res.html

RNAO <http://www.rnao.org/Page.asp?PageID=861&SiteNodeID=133>

NPUAP <http://www.npuap.org/>

AAWC <http://advancingthepractice.aawconline.org/>

National Clearing House –Wound Care

<http://www.guideline.gov/search/searchresults.aspx?Type=3&txtSearch=wound+care&num=20>

Case Management Assessment Guidelines

An assessment of a client requiring services for wound care should include the following areas:

1. Wound Etiology/Wound Cause

Important clinical information should be obtained regarding the wound type: acute or chronic, simple vs. complex, wound diagnosis (e.g. surgical, skin tear, abrasion, burn, venous leg ulcer, neuropathic/diabetic foot ulcer or other), and wound history from hospital stay or other referral source. This information is important to service providers for the development of appropriate treatment and service plans. In general, acute wounds have a higher frequency of service for a shorter period of time while chronic wounds have a lower frequency of service over a longer period of time.

The following questions must be answered in order to properly assess clients for appropriate wound care services:

- For an acute wound, what is the underlying cause of the wound?
- For a chronic wound, what is the underlying cause of the failure to heal or progress? (Surgical dehiscence, infection, co-morbid conditions, inappropriate treatment or other.)
- What are the client's co-morbid conditions which could affect/delay healing?
- How is the wound affecting the client's quality of life?
- Is the client or their significant other/caregiver willing and able to be taught the wound care regime? (Is there potable water in the home? Can the client afford items not supplied by CCAC, e.g. compression stockings, pressure offloading devices?)

Note: The referral source may not know the wound type or whether a wound is acute or chronic. It is recommended that the case manager request wound type information/diagnosis on admission to ensure the client is placed on the correct best practice pathway for that wound

type. The best information will be gained through collaboration between the case manager, the referral source and the visiting health professional who will be conducting an assessment of the client.

2. Healing Trajectory

Wound healing is a complex process that is impacted by many factors: client health, available resources, motivation, care environment and caregiver experience to name a few. As health care providers, we are often compelled to think that all wounds are healable; however, as knowledge in this area has evolved, we have come to understand that this is not always the case. It is a fact that ***not all wounds are healable and some wounds will not heal***. The determination of whether a wound is healable or non-healable is made by the entire care team. This decision forms the basis for treatment and intervention. The following provides a functional interpretation of healability.

- A) **Healable Wounds** have the potential to heal; causative and/or valid cofactors can be mitigated or treated.
- The goal of the service plan is for closure of the wound with ongoing functional integrity.
- B) **Maintenance Wounds** have the potential to heal but causative and valid cofactors cannot be mitigated/treated or clients are unable to adhere to the treatment plan or necessary resources cannot be included in the treatment plan, e.g. offloading devices cannot be purchased, weekly callous removal is unavailable.
- These wounds may show evidence of healing but their trajectory to get there may be slow or erratic.
 - The goal is to reduce risk of infection and further deterioration and, if possible, to promote client independence in the wound care regime through self managed care techniques.
- C) **Non-healable Wounds** are physically unable to heal due to co-morbid conditions such as cancer, lack of circulation or systemic disease.
- The goal is to promote comfort and maximize function of the client, reduce risk of infection and, if at all possible, prevent further deterioration.

3. Client Centered Care and Service Planning

The provision of care is built on the foundation of promoting and facilitating the appropriate level of client independence. It is a given that care will be provided to those who cannot care for themselves or have no-one to assist them, but every attempt will be made to assist clients and their caregivers to their maximum level of independence. The first step to independence is the assessment of the client/caregiver's ability to manage their wound care and a determination of its appropriateness. This includes the following:

- **Client/Caregiver Ability**

- Criteria for determining the client's potential for self managed care include the following:
 - Client/family or caregiver is capable of performing the care (cognitive and physical ability to be assessed by the Health Care Professional)
 - The environment does not put the client at risk for wound infection or deterioration

- **Wound Complexity/Risk for Infection/Deterioration**

- The decision to pursue a self managed care trajectory should be determined on the basis of the type of wound. Simple vs. Complex. Clients can be taught self managed care for simple wounds, but may not be able to perform self managed care on complex wounds as the risk for negative consequences, such as infection, is too high.

- i. Simple Wounds

- The wound is into the abdomen, chest, neck or head. The bottom of the wound is visible and there are no fistulas, tracts or abscesses.
- The wound is on the arm, leg, back, even if fistulas or tracts are present.
- The wound is a shallow surgical wound or a closed wound.
- A tube placement into an organ is long term or permanent.

- ii. Complex Wounds

- The wound is into an organ
- The wound is an acute post operative wound into the abdomen, chest, neck or head and either the bottom of the wound is not visible or the wound has a fistula, tract or abscess.
- The wound is acute (i.e. a new surgical site), and contains a tube which goes into an organ such as a nephrostomy tube.

Common Wound Types

TYPE	DESCRIPTION
Acute Wound	Proceeds normally through the repair process from injury to healing. Acute wounds are caused by trauma or surgery and usually require limited local care to the wound site. Acute wounds heal in a predictable period of time and most will go on to heal within 2-8 weeks . This time frame can be longer in the presence of infection.
Chronic Wound	Takes longer than usual to heal because of underlying conditions such as pressure, diabetes, poor circulation, poor nutritional state, immunodeficiency or infection. These wounds have significant delayed healing due to difficulties in removing, correcting or compensating for the cause and/or influencing factors delaying healing.
Palliative Wound	<p>A palliative wound is the result of an incurable disease such as cancer that has metastasized to the skin. Tumors may surface on the skin and are referred to as fungating, metastatic, malignant or oncological wounds. These wounds negatively impact the client’s quality of life either through disfigurement or pain. Palliative wounds can also be a result of non-cancer diagnoses such as inoperable gangrene.</p> <ul style="list-style-type: none"> ▪ Care is not curative but is directed towards minimization of pain, risk of infection, bleeding and odour.
Surgical Wound Open and Closed	<p>Surgical wounds can be considered to be acute or chronic wounds.</p> <p>Surgical wounds heal according to the following schema:</p> <p>Primary Intention Healing of Acute Surgical Wounds: The edges are approximated and the wound is closed by sutures, staples or glue. These usually heal rapidly with possible re-epithelialization within 24-48 hours (Hulten, 1994). These wounds generally heal undisturbed and may only require cleansing and protection which are tasks easily taught to a client/caregiver.</p> <p>Secondary Intention Healing: Wound has either been left open at the time of surgery to heal by means of connective tissue repair (granulation or collagen deposition) or has opened subsequent to surgery and must heal by connective tissue repair. This is a chronic wound.</p> <p>Tertiary Intention Healing: Wound has been left open for a period of time with the intention of returning for surgical closure. This is a chronic wound until final surgical repair.</p>

TYPE	DESCRIPTION
Arterial Ulcer	<p>A wound that fails to heal due to poor blood supply related to the presence of arterial occlusive disease.</p> <p>Symptoms include pain and tissue loss.</p> <p>Key Interventions</p> <ul style="list-style-type: none"> ▪ Ensure investigation of the possibility to revascularize the affected leg. Without revascularization, the wound will not heal. ▪ Reduce the risk of infection. These wounds are at high risk of infection. ▪ Clients should be made aware of the signs and symptoms of infection and when to report to their Health Care Professional.
Diabetic Foot Ulcer	<p>Caused by trauma or pressure secondary to neuropathy or vascular disease related to diabetes. The foot is the most vulnerable to pressure ischemia/ulceration due to poor fitting shoes and an insensate foot.</p> <p>Key Interventions</p> <ul style="list-style-type: none"> ▪ Manage the diabetes to facilitate healing. ▪ Relieve pressure from the foot. If the pressure is not relieved, the wound will not heal. ▪ Regular follow up care by a Health Care Professional specializing in wounds related to diabetes. ▪ Referral to dietitian. ▪ Regular blood glucose monitoring.
Pressure Ulcer	<p>Caused by poor blood supply resulting from pressure. Healing of pressure ulcers is highly dependent on a multifaceted approach which includes addressing client centered concerns, alleviating the cause, addressing appropriate wound bed preparation strategies and nutritional requirements. Best practice pressure ulcer prevention utilizes an evidence informed risk management tool such as the Braden Risk Assessment Tool.</p> <p>Key Interventions</p> <ul style="list-style-type: none"> ▪ Pressure Relief: if pressure to the affected area is not relieved, the wound will not heal. ▪ Consider a pressure reducing/relieving surface or a cushion and emphasize an effective turning schedule. ▪ Control sources of moisture and incontinence. ▪ Address issues of transfers to reduce friction and shear forces. ▪ Best Practices wound bed preparation. ▪ Appropriate referral to dietitian.

TYPE	DESCRIPTION
Venous Ulcer	<p>Caused by a trauma, but negatively impacted by an underlying pathology of the venous system (venous hypertension, venous reflux and/or impaired valve function) that impairs local healing.</p> <p>Key Interventions</p> <ul style="list-style-type: none"> ▪ Implement strategies to improve venous return through leg elevation (6" blocks on foot of bed, if not contraindicated), exercises and appropriate levels of compression therapy. Reduce leg edema and skin disturbances related to the disease. ▪ Prevent recurrence: clients must be fitted with and wear compression stockings after healing. ▪ These stockings need to be replaced at least every 6 months for continued effectiveness.
Superficial (first degree burn)	Damage limited to the epidermis characterized by erythema hyperemia, tenderness and pain.
Partial- thickness (second degree burn)	Superficial to deep partial-thickness wound characterized by large blisters, edema, pain and wet, weeping and shiny surfaces.
Full- thickness (third degree burn)	Full-thickness wound characterized by deep-red, black or white appearance, edema, painless nerve ending damage and exposed subcutaneous fat layer.

Case Management Guidelines for Assessment and Service Planning

Nursing visits are authorized for no more than 4 weeks at a time. Provider End Date (PED) is the 4th Saturday following start date for services.

Case Manager	Assessment/ Reassessment	<p>Identification of the wound type/etiology is critical for success</p> <p>An assessment of the client/caregiver's ability and appropriateness to manage their wound care treatments is to be conducted at an intake point and ongoing.</p>
	Information and Referral	<p>Case Manager's role to navigate the client's community/environment to point out additional alternative resources such as:</p> <ul style="list-style-type: none"> ▪ Wound care clinics ▪ Wound care specialists ▪ Foot care clinics ▪ Custom orthotics/shoes supplier ▪ Diabetic clinics ▪ Seating clinics ▪ Pharmacies to purchase supplies ▪ Alternative funding sources for supplies ▪ Compression stocking fitters
Service Plan Development/ Development of Client Goals	<ul style="list-style-type: none"> ▪ Goals will be developed depending on whether or not the wound is healable, non healable or maintenance. ▪ Goals will be developed in collaboration with the client and provider and will reflect the client's perspective on what the outcomes of service may be. ▪ Goals will reflect an assessment of the client's strengths and resources. ▪ Goals will reflect not only the client's physical care needs but also their functional and social needs. ▪ Consider the impact of the wound on the client's day to day function, involve the client in the development of the service plan and ensure they are in agreement, assess the learning potential of client and/or caregiver to assume all or a portion of the wound care regime. 	
Reassessment	<ul style="list-style-type: none"> ▪ The Case Manager must ascertain the goal for the wound as soon as possible. Is it a wound that is expected to heal or will it be on a maintenance or non-healable wound pathway? ▪ Ensure that the service frequency is consistent with the service 	

	<p>plan and service goals. Is the wound progressing as anticipated and if not, why?</p> <ul style="list-style-type: none"> ▪ Link the service plan for wound care to measurable outcomes and subsequent reassessment and care planning. ▪ Engage providers in conversations about a client’s lack of progress to goals if needed.
Service Plan Monitoring/ Discharge	<p>As part of the discharge plan, the Case Manager will ensure that clients have linkages to the ongoing resources to be independent in their wound care management, if required. These resources may include the following:</p> <ul style="list-style-type: none"> ▪ Wound care clinics ▪ Wound care specialists ▪ Foot care clinics ▪ Seating clinics ▪ Pharmacies where the client can obtain their supplies ▪ Alternative funding sources for supplies ▪ Diabetic clinics when appropriate
Indications to Increase Nursing Service/ Consult Visiting Wound Specialist or Consulting Physician	<ul style="list-style-type: none"> ▪ Presence of untreated infection either systemic or local. ▪ Heavily exudative wounds that cannot be managed with advanced wound care and are negatively impacting the healability of the wound and the client’s activities of daily living/function. ▪ In the case of a client who requires end of life care.
Indications for Multi-Disciplinary Conferences/ Meetings	<ul style="list-style-type: none"> ▪ Involves all members of the care team and is to be conducted in the following situations: <ul style="list-style-type: none"> ○ The wound is considered non-healable. ○ Client has been receiving services for wound care for more than 6 months and is still considered to have a “non-healable” wound. ○ The wound was determined to be healable and there is no evidence of improvement in the wound. ○ A new service plan and goal for the wound and client may be a likely outcome.

Indications for Referrals to an Enterostomal (ET) Nurse or Wound Care Specialist (WCS) – FUN Criteria

Wound Care Specialist: This is a title used by nurses and other health care professionals who have taken varying levels of post basic education in wound management.

Courses in Ontario include:

- Enterostomal Therapy Nurse Certification through recognized Programs
- University of Western Ontario Master's of Clinical Science in Wound Healing
- University of Toronto IWCC
- CAWC S Series
- Company sponsored training events and internships

Wound Care Specialists – ET Nurses

An ET Nurse is a Registered Nurse with advanced and specialized knowledge and clinical skills in wound, ostomy and continence care. ET Nurses practice in acute care, outclient clinics, community and long-term care and/or in independent practice. ET Nursing has been recognized as a Nursing Specialty by the Canadian Nurses Association. This association helps to ensure that the public is cared for by competent and up to date professional caregivers. ET Nurses are eligible for CNA Certification through examination in the 3 specialties: wound, ostomy and continence.

Guidelines for referrals to an ET Nurse or Wound Care Specialist (WCS)–

FUN Criteria

F (FREQUENCY)	If the frequency of dressing changes is not less than 3 x week within 4 weeks, consult an ET nurse or WCS
U (UNKNOWN)	If the cause of the wound or the cause of the failure to heal is unknown, consult an ET nurse or WCS.
N (NUMBER)	If the size of the wound has not decreased by 20 – 30%, in 3 – 4 weeks of treatment, consult and ET nurse or WCS (Sibbald, 2004)

Wound Type	Service Authorization Guidelines	Expected Time Frame for Progress	Indications for ET/WCS/MD Consult/NP	Best Practice Interventions	Recommended Products
Surgical Wounds – Closed Surgical Wounds					
<p><u>Closed Surgical Incision</u></p> <p>Primary intention healing is healing of a wound where the wound edges heal directly touching each other. This results in a small line of scar tissue. The goal whenever a wound is sutured is closure.</p> <p>In primary intention healing, the goal is to minimize the risk of infection and allow the wound to heal from the inside out. This way, scarring is minimized.</p>	<p>Client should not be brought on to service for a closed surgical wound only, unless there are known risk factors that threaten the integrity of the wound.</p> <p>This wound requires little care and the client should be taught general incision care and how to monitor for Signs & Symptoms (s/s) of infection</p> <p>Authorize 1-2 visits for client teaching.</p>	<p>Heals quickly</p> <p>Healing starts within hours and usually is healed by 14 days.</p>	<p>These wounds usually heal quite well. If there is an opening of the wound or if there are s/s of infection, a referral to the WCS is appropriate.</p>	<p><u>Principles of Best Practice Wound Care (BPWC):</u> Treat the cause. Optimize nutritional intake, debridement, bacterial balance, exudate control, protect periwound skin and manage infection.</p> <p><u>Client Education:</u></p> <p>Health teaching to minimize risk of infection and dehiscence of wound, and general health status.</p> <p><u>Best Practice Technique:</u> The Möndal Technique involves the use of AQUACEL or AQUACEL Ag covered with film dressing. Hydrofiber Ag is dependent on the individual client’s risk of infection.</p>	<p>These wounds usually heal well and do not require a dressing.</p> <p><u>Dry healing wound:</u></p> <p>Dry dressing All Dress</p> <p>or</p> <p>Hydrocolloid – Duoderm Tegaderm</p> <p>Draining closed wound. Care provider to identify cause with Team. AQUACEL cover with DuoDERM . The cover dressing will depend on the amount of exudates.</p>

Wound Type	Service Authorization Guidelines	Expected Time Frame for Progress	Indications for ET/WCS/MD Consult/NP	Best Practice Interventions	Recommended Products
Surgical Wounds – Open Surgical Wounds					
<p><u>Open Surgical Wounds (OSW)</u></p> <p>Examples of OSW:</p> <ul style="list-style-type: none"> ▪ Incision and Drainage (I&D) ▪ Dehiscence of an abdominal wound due to post-op infection <p>Open surgical wounds include: Incisional separation or Incisional necrosis or Secondary Intention Healing: Wound has either been left open at the time of surgery to heal by means of connective tissue repair (granulation or collagen deposition), or has opened subsequent to surgery and must heal by connective tissue repair. This is a chronic wound.</p> <p>Tertiary Intention Healing: Wound has been left open for a period of time with the intention of returning for surgical closure. This is a chronic wound until final repair.</p>	<p>Healable Wound</p> <p>Daily for 2 visits</p> <p>Then Q4 days until PED</p> <p>Heavily exudating wounds – daily x 1 week to identify the cause, then Q4 days until PED</p> <p>Infected OSW – daily x 1 week – treatment of infection, then Q4 days until PED</p> <p>Consider Topical Negative Pressure for large, deep or multiple or orthopaedic wounds.</p>	<p>2 – 8 weeks</p> <p>Dependent on client factors such as obesity, size and location of wound, nutritional status and other co-morbid condition.</p> <p>Dependent on wound size.</p> <p>20 – 30% closure by week 4.</p>	<p>FUN Criteria (Pg 16)</p> <p>Failure of wound to close</p> <p>Clinical infection</p> <p>Unmanageable exudate</p> <p>Negative Pressure Wound Therapy assessment</p> <p>Packing of these wounds requires a thorough assessment to ensure that base of wound has been accurately determined.</p>	<p><u>Principles of BPWC:</u> Treat the cause. Optimize nutritional intake, debridement, bacterial balance, exudate control, protect periwound skin and manage infection.</p> <p><u>Client Education:</u> Health teaching to minimize risk of infection and dehiscence of wound and general health status. Note: Gauze ribbon packing should only be used if the wound base cannot be visualized or probed, and if used to deliver Iodosorb or other antimicrobial product. Tight wound packing is not considered best practice.</p>	<p>Product choice will depend on exudate amount, presence of necrotic tissue.</p> <p><u>Wet/Exudating wound:</u> Pack wound with Hydrofiber or Calcium Alginate. Cover with Absorbent Foam/Exudate Absorbent.</p> <p><u>For tunneling or undermined surgical wounds –</u> AQUACEL Ribbon, Silvercel Rope Cover as above.(Butcher,M,2002)</p> <p><u>Superficial infection:</u> Antimicrobials/Silver Iodosorb, Acticoat MSDR112, AQUACEL Ag , Biatain Ag, Short term use until infection/bacteria burden is resolved.*Dry wounds in the presence of good arterial supply need hydration –that is usually accomplished by adding gel and covering with a DuoDERM or Tegaderm</p>

Wound Type	Service Authorization Guidelines	Expected Time Frame for Progress	Indications for ET/WCS/MD Consult/NP	Best Practice Interventions	Recommended Products
Rectal Pelvic Abscess					
<p><u>Rectal Pelvic Abscess (e.g. Pilonidal) – (a specific type of open surgical wound)</u></p> <p>A pilonidal sinus is sinus tract which commonly contains hairs. It occurs under the skin between the buttocks (the natal cleft), a short distance above the anus. The sinus tract goes in a vertical direction between the buttocks. Rarely does, a pilonidal sinus occur in other sites of the body.</p>	<p>Healable Wound</p> <p>Daily visits for 2 – 3 days to establish the care plan.</p> <p>May need to maintain daily for up to 5 – 7 days. Then Q 3-4 days.</p> <p>These wounds can be very wet.</p> <p>In some cases, the client can remove cover dressing as needed, leave packing in place and recover.*Teaching required.</p>	<p>20 – 30% closure by week 4</p>	<p>FUN Criteria (Pg 16)</p> <p>Failure of wound to close</p> <p>Clinical infection</p> <p>Unmanageable exudate</p> <p>Note: Gauze ribbon packing should only be used if the wound base cannot be visualized or probed, and if used to deliver Iodosorb or other antimicrobial product. Tight wound packing is not considered best.</p>	<p><u>Principles of Best Practice Wound Care:</u></p> <p>Treat the cause.</p> <p>Optimize nutritional intake, debridement, bacterial balance, exudate control, protect periwound skin, and reduce risk of infection.</p> <p>Management of infection, both superficial and systemic treatment of exudate.</p> <p>Management of exudate with a more absorptive dressing than gauze.</p>	<p>Packing materials are indicated to allow wound to heal from the bottom up. Packing materials are those that are soft and non-traumatic to the wound and absorbent for exudate management.</p> <p><u>Wet wounds: Pack with</u> AQUACEL Ag or Silvercel Ribbon. Cover with an Absorbent Foam/Exudate Absorbents</p> <p><u>Superficial infection:</u> Antimicrobials/Silver Iodosorb, Acticoat, AQUACEL Ag, Biatain Ag , Short term use until infection/bacterial burden is resolved</p>

Wound Type	Service Authorization Guidelines	Expected Time Frame for Progress	Indications for ET/WCS/MD Consult/NP	Best Practice Interventions	Recommended Products
Venous Leg Ulcer – Healable Wound					
<p><u>Venous Leg Ulcer (VLU) – Healable</u></p> <p>The root of the problem is increased pressure of blood in the veins of the lower leg. This causes fluid to “ooze out” of the veins beneath the skin. This causes swelling, thickening and damage to the skin. The damaged skin may eventually break down to form an ulcer. The client may have a trauma to the leg resulting in a wound that will not heal. Often the underlying venous pathology is missed and the ulcer goes on misdiagnosed.</p> <p>The increased pressure of blood in the leg veins is due to blood collecting in the smaller veins next to the skin. The blood tends to collect and “pool” because the valves in the larger veins are damaged. The valves may be damaged by a previous thrombosis (blood clot) in the</p>	<p>Authorize daily for 2 – 3 days depending on amount of exudate and edema, then Q4days until PED.</p> <p>After wound is healed, consider an authorization of once a month visit x 4 for the provider to visit and/or to call the client to assess for adherence to compression stockings and ulcer prevention care.</p> <ul style="list-style-type: none"> ▪ Clients may need assistance in putting on the compression stockings. ▪ An OT may be required to assess for adaptive devices to assist client to apply compression 	<p>9 – 12 weeks for healing if compression therapy is appropriate.</p> <p>20 – 30% closure by week 3 – 4</p> <p>These wounds can be wet in the first week of treatment due to edema and may require more frequent authorization.</p>	<p>FUN Criteria (Pg 16)</p> <p>Infection</p> <p>Increased exudate</p> <p>Less than 20 % closure by week 3 – 4</p> <p>ABPI (Ankle Brachial Pressure Index) To rule out poor circulation as a cause, it is usual for a doctor or nurse to check the blood pressure in the ankle and in the arm. The ankle blood pressure reading is divided by the arm blood pressure reading to give a blood pressure ratio called the “ABPI”. Normal range is 1.0-1.2. If the ratio is low (less than 0.8), it indicates that the cause of the ulcer is likely to be poor circulation (peripheral vascular disease), rather than venous problems.</p>	<p>Vascular assessment is required to determine arterial flow – ABPI.</p> <p>ABPI - Must be done prior to initiating compression. Must be repeated at 6 month intervals if client using compression.</p> <p>High Compression Therapy is the gold standard of treatment. It is ordered by a physician and should only be administered after a complete client and lower leg assessment has been completed.</p> <p><u>Principles of BPWC:</u> Treat the cause. Optimize nutritional intake, debridement, bacterial balance, exudate control, protect periwound skin and reduce risk of infection.</p>	<p><u>With a doctor’s order Compression Therapy:</u></p> <p>Sure Press</p> <p>4 layers compression</p> <p>3 layers MS DR430, Coban 2, Viscopaste Boot, Comprilan</p> <p><u>Wet VLU:</u> to manage exudate:</p> <p>AQUACEL, Kaltostat , Mesorb</p> <p>Cover with Absorbent Foam/Exudate Absorbents</p> <p>Antimicrobials/Silver, AQUACEL Ag, Iodosorb, Biatain Ag, Acticoat</p> <p>After the wound is healed, the client will have to wear lifelong compression stockings (75% recurrence</p>

Wound Type	Service Authorization Guidelines	Expected Time Frame for Progress	Indications for ET/WCS/MD Consult/NP	Best Practice Interventions	Recommended Products
Venous Leg Ulcer – Healable Wound (continued)					
<p>vein or by varicose veins. Gravity causes blood to backflow through the damaged valves and pool in the lower veins.</p>	<ul style="list-style-type: none"> ▪ stockings. ▪ Client may require assistance in securing funding for compression stockings. 		<p>Important to know, as the treatments are very different.</p> <p>Check every 3-6 months to make sure the circulation to the legs remains good.</p>	<p>Client Education:</p> <p>Health teaching to prevent infection and dehiscence of wound and general health status.</p> <p>Promotion of walking exercise as tolerated.</p> <p>Elevate foot of bed if appropriate to encourage venous blood return while sleeping.</p>	<p>rate without compression therapy).</p> <p>Client will need to be fitted for compression stockings.</p>

Wound Type	Service Authorization Guidelines	Expected Time Frame for Progress	Indications for ET/WCS/MD Consult/NP	Best Practice Interventions	Recommended Products
Venous Leg Ulcer – Maintenance Wound					
<p><u>Venous Leg Ulcer Maintenance Wound</u></p> <p>The client may not adhere to compression therapy.</p> <p>Health Care Professional must determine cause of non adherence as it could be pain or discomfort or lack of understanding of the purpose of the treatment.</p>	<p>Maintenance</p> <p>Q 7 days</p> <p>Potential discharge when family is able to care for wound.</p> <p>Increase authorization if the client changes mind re compression therapy.</p> <p>Reassess client in 4 weeks by call to review benefits of compression therapy.</p>	<p>The wound is difficult to heal without compression therapy.</p> <p>If the client refuses to use compression therapy, or is non-adherent to the treatment plan, a maintenance goal of treatment should be considered for the client.</p>	<p>Increased exudate</p> <p>Infection</p> <p>Increased pain</p>	<p>If ABPI is within limits for compression – teach client the benefits.</p> <p>Maintain wound environment</p> <p>Teach client/caregiver wound management.</p> <p>Goals may be to assist with pain, exudate, odour and infection control.</p>	<p>Some compression is better than no compression as long as the ABPI is within acceptable limits for compression and the physician has assessed and ordered mild compression such as TubiGrip.</p>

Wound Type	Service Authorization Guidelines	Expected Time Frame for Progress	Indications for ET/WCS/MD Consult/NP	Best Practice Interventions	Recommended Products
Arterial Leg Ulcers – Healable Wound					
<p>Arterial Leg Ulcer</p> <p>Occurs due to insufficient arterial blood supply.</p> <p>Contributing Factors:</p> <p>Smoking, diabetes, hyperlipidemia, hypertension, Coronary Artery Disease – resulting in a lack of oxygenated blood reaching the tissue especially in the lower limbs, tissue ischemia and necrosis.</p> <p>Need increased blood supply for healing to occur. Diagnostic studies needed to identify the cause.</p>	<p>Healable Wound</p> <p>Healability must be determined by vascular testing.</p> <p>Authorize daily for 2 days</p> <p>Then Q4 days until PED</p> <p>Surgery will likely be required to progress to healing.</p>	<p>Slow progress prior to surgery</p> <p>Following a successful bypass graft, these wounds will heal.</p>	<p>FUN Criteria (Pg 16)</p> <p>Infection</p> <p>Increased Pain</p>	<p>Vascular assessment</p> <p>Correction of underlying disease process if possible</p> <p>Principles of BPWC: In the presence of good arterial supply</p> <p>Optimize nutritional intake, debridement, bacterial balance, exudate control, protect periwound skin and manage infection.</p> <p>Client Education</p> <p>Health teaching to reduce risk of infection and deterioration of the wound and general health status. Benefit of increased exercise to decrease claudication if tolerated.</p>	<p>The treatment prior to surgery will depend on whether or not the wound is Healable or Non healable.</p> <p>The treatment after revascularization includes:</p> <p>Dry healing wounds:</p> <p>Intrasite Gel. Use covered with Absorbent Foam</p> <p>Warning: Use cautiously if risk of infection (contraindicated if infection present)</p> <p>Exudating healing wounds:</p> <p>Hydrofiber Cover with Absorbent Foam or Exudate Absorbents.</p> <p>Superficial infection:</p> <p>Antimicrobials/Silver Iodosorb , Acticoat, AQUACEL Ag, Biatain Ag, Short term use until infection/bacterial burden is resolved</p>

Wound Type	Service Authorization Guidelines	Expected Time Frame for Progress	Indications for ET/WCS/MD Consult/NP	Best Practice Interventions	Recommended Products
Arterial Leg Ulcers – Healable Wound (continued)					
				<p>Use of bed cradle to elevate bedding off legs and feet.</p> <p>Avoid constrictive activities (nicotine, caffeine, tight shoes or stockings).</p> <p>Elevate head of bed on 4 – 6” blocks, keep heart above feet for ischemic pain. Do not elevate legs. Avoid heating pads and ice bags.</p> <p>DO NOT USE COMPRESSION</p>	

Wound Type	Service Authorization Guidelines	Expected Time Frame for Progress	Indications for ET/WCS/MD Consult/NP	Best Practice Interventions	Recommended Products
Arterial Leg Ulcers – Non-Healable					
<u>Arterial Leg Ulcer-Non-healable</u>	<p>Non-healable Wound</p> <p>Q4 days for one week and then discharge when client and family are able to care for wound.</p> <p>Goals of care are changed and are now focused on preventing amputation.</p> <p>Pain control</p> <p>Minimizing risk of infection</p> <p>Discharge when family is able to care for wound.</p>	<p>Slow to no progress</p> <p>If there is no possibility of revascularization – Angioplasty bypass (increasing circulation to the leg), the goal of treatment will be non-healable.</p> <p>Moist wound healing is NOT recommended for arterial leg ulcers that cannot be revascularized.</p>	<p>Infection</p> <p>Gangrene</p>	<p>Teach the client or family member to paint the ulcer with Betadine.</p> <p>No Moist Wound Healing because there is no oxygen supply to the leg due to an arterial blockage.</p> <p>MWH would make this wound larger with no way for the body to heal it.</p>	<p>Betadine or Chlorhexidine painted on wound.</p>

Wound Type	Service Authorization Guidelines	Expected Time Frame for Progress	Indications for ET/WCS/MD Consult/NP	Best Practice Interventions	Recommended Products
Mixed Leg Ulcer – Complex Wound					
<p><u>Mixed Leg Ulcer</u></p> <p>These are wounds that are present on a limb that has both arterial and venous components. They are complex wounds.</p>	<p>Healable Wound</p> <p>Q2 days for 1 week then Q 4 days until PED</p> <p>Focus here is on comprehensive vascular assessment</p>	<p>Can be slow to progress</p>	<p>FUN Criteria (Pg 16)</p> <p>Clinical Infection</p> <p>Increased Pain</p>	<p>Careful arterial assessments</p> <p>Vascular Surgeon assessment</p> <p>Arterial duplex ultrasonography</p> <p>May need duplex ultrasound arterial assessment or arteriography</p> <p>ET assessment</p>	<p>Physician recommendation depending on goals of treatment.</p> <p>Low compression <u>only by doctor's order</u>, after complete vascular assessment.</p>

Wound Type	Service Authorization Guidelines	Expected Time Frame for Progress	Indications for ET/WCS/MD Consult/NP	Best Practice Interventions	Recommended Products
Diabetic Foot Ulcer – Healable					
<p>Diabetic Foot Ulcer (DFU)</p> <p>The risk of lower extremity amputation is 15 – 46 times higher in people with diabetes than in persons who do not have diabetes (Armstrong and Lavery, 1998.)</p> <p>85% of all diabetes-related amputations are preceded by foot ulcers (Jones, 2005).</p> <p>50% have opposite limb amputated in 5 years.</p> <p>55% mortality rate within 5 years (Mayfield et al, 2001)</p> <p>Early detection and appropriate treatment of these ulcers may prevent a significant percentage of amputations.</p> <p>Most DFU’s occur at areas of increased pressure. 90% of diabetic plantar ulcers are attributed to pressure from poorly fitted shoes and callous formation. (Orstead, Searles, Trowell et al, 2006).</p>	<p>Healable Wound</p> <p>In general, daily for 2 days to start, then Q3-4 days per week for 4 weeks initially.</p> <p>Authorization will depend on stage of wound healing. (Debridement stage due to increased exudate and/or clinical infection will require more frequent authorization.)</p> <p>Dressing change frequency is determined by the size of the wound, the amount of exudate and the ability of the dressing to contain it.</p>	<p>Slow to progress</p> <p>The percentage reduction in foot ulcer area after 4 weeks of best practice care predicts healing at 12 weeks (Sheehan et al, 2003).</p>	<p>FUN Criteria (Pg 16)</p> <p>For aggressive debridement in the healable wound. (There has to be adequate arterial perfusion for aggressive debridement.)</p> <p>Failure to progress</p> <p>Infected wounds may require Infectious Disease Consult</p>	<p>A consultation with vascular surgeon may be required to determine vascular involvement.</p> <p>ABPI by a trained nurse is important but can be inconclusive in the diabetic client. It is better to be seen in a vascular lab where toe pressure can also be done.</p> <p>Referral to a dietitian and diabetic specialist to ensure diet is appropriate to manage the diabetes and for wound healing.</p> <p>Glucose assessment and rigorous diabetic control.</p>	<p>Common Dressing Supplies</p> <p>For healing Dry DFU wounds:</p> <p>Intrasite (to rehydrate), covered with Absorbent Foam.</p> <p>For healing exudating/wet wounds:</p> <p>AQUACEL , covered with Hydrasorb, ExuDry or Mesorb</p> <p>Superficial infection:</p> <p>Antimicrobials/Silver Iodosorb , Acticoat, AQUACEL Ag, Biatain Ag, Short term use until infection/bacteria burden is resolved.</p> <p>Warning: Occlusive dressings such as hydrocolloids are not recommended for ulcers on the plantar foot (Mulder et</p>

Wound Type	Service Authorization Guidelines	Expected Time Frame for Progress	Indications for ET/WCS/MD Consult/NP	Best Practice Interventions	Recommended Products
Diabetic Foot Ulcer – Healable (continued)					
				<p>OT/PT /Orthotist consult for proper footwear and offloading.</p> <p>Debridement of necrotic tissue and callous by a diabetic foot care specialist—only in the presence of good arterial supply.</p>	<p>al, 2003, Keast, 2009)</p> <p>Mepilex or Biatain Foam as a cover</p> <p>Note: Foam dressings do not reduce the interface pressure. Offloading devices and orthotics do reduce pressure.</p>

Wound Type	Service Authorization Guidelines	Expected Time Frame for Progress	Indications for ET/WCS/MD Consult/NP	Best Practice Interventions	Recommended Products
Diabetic Foot Ulcer – Non-healable					
<p><u>Diabetic Foot Ulcer – Non-healable</u></p> <p>Poor healing in the client with diabetes is related to low arterial circulation, potential for infection and poor glycemic control. These factors must be addressed.</p>	<p>Non-healable Wound</p> <p>Q4 days</p> <p>Potential discharge post family teaching</p> <p>Prevent or delay amputation</p> <p>Prevent or delay deterioration of the wound</p> <p>Client/caregiver education about wound care</p>	<p>Not expected to heal if co-factors are not addressed.</p> <p>No healing if ischemia is present or inability to manage other impairments to healing.</p>	<p>Infection</p> <p>Change in vascular status</p>	<p>Assess the wound bed for bacterial balance, exudate level and the need for debridement.</p>	<p>Betadine soaked gauze and absorbent cover dressing</p>

Wound Type	Service Authorization Guidelines	Expected Time Frame for Progress	Indications for ET/WCS/MD Consult/NP	Best Practice Interventions	Recommended Products
Other Wounds					
<p><u>Other Types of Wounds</u></p> <p>Other types of wounds seen in the community include but are not limited to:</p> <ul style="list-style-type: none"> ▪ Pyoderma Gangrenosum ▪ Bullous Pemphigus ▪ Cutaneous Vasculitis ▪ Hidradenitis Suppurativa <p>Malignant Wounds</p> <p>Traumatic Injuries:</p> <ul style="list-style-type: none"> ▪ Pre-tibial lacerations ▪ Hematomas ▪ Skin tears ▪ Dog bites ▪ Stab and gunshot wounds ▪ Calciphylaxis ▪ Necrotising Fascitis ▪ Necrobiosis Lipoidica Diabeticorum 	<p>Healing Goal</p> <p>Daily for 2 -3 days</p> <p>Q 3-4 days for the first week, then decrease</p> <p>Frequency of visits dependent on etiology of wound and the recommended treatment</p>	<p>Slow progress – the time required to heal depends upon the cause more than the size of the wound (Essig, 2002).</p>	<p>FUN Criteria (Pg 16)</p> <p>Clinical infection</p> <p>Unmanageable exudate</p>	<p>Optimize nutritional intake and general health status.</p> <p>Referral to appropriate physician for underlying disease (i.e. dermatologist, wound specialist, rheumatologist, gastroenterologist)</p> <p><u>Principles of BPWC:</u></p> <p>Debridement (in the absence of malignancy or inflammatory ulcers), bacterial balance, exudate control, protect periwound skin</p> <p>Client Education</p> <p>Health teaching to prevent infection and deterioration of wound</p>	<p><u>Wet Wounds:</u></p> <p>AQUACEL or Kaltostat (layered to 80% of the depth), covered by absorbent foam or exudate absorbents</p> <p><u>For Infection/Bacterial Burden Management:</u></p> <p>AQUACEL Ag, Iodosorb, Acticoat</p> <p>Short term use until infection/bacterial burden is resolved.</p> <p>Cover with exudate management. Use caution in presence of anaerobic infection. If you are not sure of the nature of the infection, choose a non-occlusive dressing as the cover dressing.</p>

Wound Type	Service Authorization Guidelines	Expected Time Frame for Progress	Indications for ET/WCS/MD Consult/NP	Best Practice Interventions	Recommended Products
Pressure Ulcers					
<p><u>Pressure Ulcers</u></p> <p>A pressure ulcer is localized injury to the skin and/or underlying tissue usually over a bony prominence as a result of pressure or pressure in combination with shear and/or friction.</p> <p>A number of contributing or confounding factors are also associated with pressure ulcers:</p> <ul style="list-style-type: none"> ▪ Nutritional status ▪ Mobility ▪ Activity ▪ Sensory perception ▪ Age ▪ Low arterial pressure ▪ Low oxygenation ▪ Moisture ▪ Friction and shear ▪ Co-morbidities 	<p>Healable Wound</p> <p>Suspected Tissue Injury is a new stage of pressure ulcer. It is notable by the presence of deep purple bruising in lightly pigmented skin and may appear gray to purple in darkly pigmented skin. Once present, the risk of deep breakdown is almost 100%.</p> <p>Q 7days for 1-2 weeks.</p> <p>Goal is to intervene early to reduce pressure and to monitor skin breakdown and to initiate early treatment.</p> <p>Stage I ulcer – Q7days for 1-2 weeks.</p> <p>Goal: teaching and pressure relief</p>	<p>Stage II and III pressure ulcers, up to 8 weeks</p> <p>Stage IV – longer and more complex – bone is exposed and causes additional problems.</p> <p>With pressure relief and good local moist wound healing, there can be good progress.</p> <p>Prevention is the key.</p>	<p>FUN Criteria (Pg 16)</p> <p>Failure to progress</p> <p>Less than 30% closure in 4 weeks</p> <p>Infection</p>	<p>Assessment for nutrition to promote wound healing.</p> <p>Referral to dietitian for clients with full thickness wounds as increased calories and protein is necessary.</p> <p>Equipment for pressure relief and reduction may be required.</p> <p>OT/PT consult may be required</p> <p>Good turning schedule</p> <p>Assess for nutrition</p>	<p><u>Dry Pressure Ulcers</u></p> <p>Intrasite (to rehydrate)</p> <p>Cover with DuoDERM or absorbent foams or exudate absorbents.</p> <p><u>Wet/Exudating wounds</u></p> <p>AQUACEL, cover with absorbent foam or exudate absorbents, AQUACEL Ag, Iodosorb, Biatain Ag, Sivercel, cover with absorbent foam or exudate absorbents</p> <p><u>For superficial wound infection/bacterial burden management:</u> Use Antimicrobials/Silvers such as:</p> <p>Iodosorb, Acticoat, Aquacel Ag, Biatain Ag for short-</p>

Wound Type	Service Authorization Guidelines	Expected Time Frame for Progress	Indications for ET/WCS/MD Consult/NP	Best Practice Interventions	Recommended Products
Pressure Ulcers (continued)					
	<p>Stage II – Q3-4 days for 3-4 weeks</p> <p>Stage III and Stage IV – Daily for 2 days then Q3 days until stable, then Q4 days for 4 weeks or longer.</p> <p>Suspected Deep Tissue Injury. Daily for 2 days then Q3 days for 4 weeks.</p> <p>As the stage progresses to III and IV, the authorization may vary depending on the stage of wound healing and exudate.</p> <p>Possible discharge once caregiver independent with treatment.</p> <p>Non-healable Wound</p> <p>Q7 days for a Maximum of 3 visits for teaching</p>			<p>to promote wound healing. Braden Scale for Pressure Sore Risk</p> <p>Principles of BPWC: Address the cause, debridement, bacterial balance, exudate control, protect periwound skin.</p> <p>Client Education: Health teaching to reduce risk of infection and deterioration of wound, improve nutrition and general health status. Reposition every 2 hours. Mobilize as much as possible Use a draw sheet as aid to turning, lifting. Avoid massage of bony prominences and use of donut shaped cushions Avoid elevating head of bed more than 30 degrees, except for meals. Keep heels elevated completely off of the bed by placing pillows under calves.</p>	<p>term use until infection/ bacterial burden is resolved.</p>

Wound Care Standards for Service Providers

The Central West CCAC has developed a brief description of best practice interventions for clients with wounds. These are general best practice interventions that can be applied to all clients with wounds. The Central West CCAC recognizes that the service provider organizations will be responsible to ensure the implementation of these best practice interventions and the specific evidence informed interventions for each wound type. The service provider agencies have also been provided with a CD by Virginia McNaughton, RN, ET, that describes best practice for each wound type using the Preparing the Wound Bed Paradigm.

Best Practice for Clients with Wounds

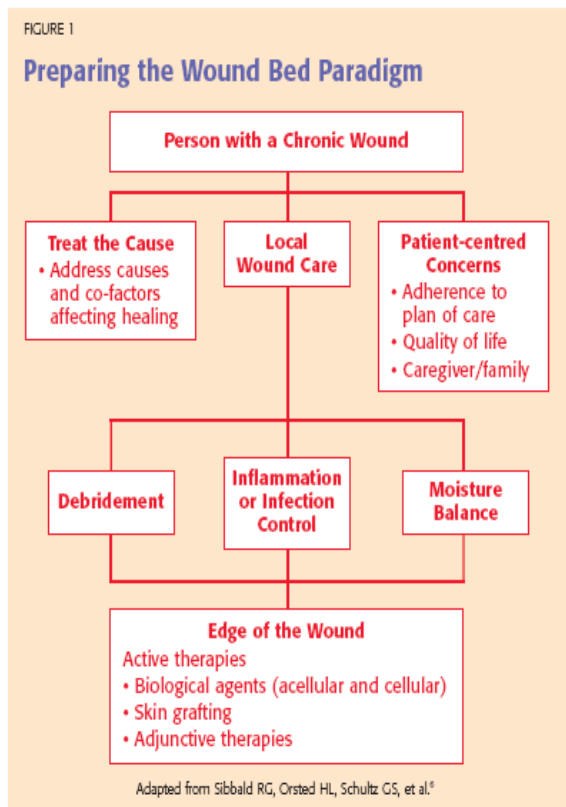
Wound healing is a complex and dynamic process that is influenced significantly by the changing health status, lifestyle choices and available resources of the individual who is living with the condition. Wound management by Health Care Professionals (HCP) is provided through the adoption of an evidence informed framework that considers the whole client. Through the process of education and knowledge transfer health care professionals can develop the necessary knowledge and skills required to provide best practice informed care for a person with a wound.

The Canadian Association for Wound Care best practice approaches to wound care provides a practical easy to use guide for wound care. Once there is a wound diagnosis, the service provider must consider three significant components of wound management in order to manage the wound effectively:

- Treat the cause,
- Provide local wound care, and
- Address client-centered concerns.
(Sibbald, G. et al. Ostomy/Wound Management 2000; 46(11):14–35)

In Ontario, wound care constitutes a large portion of service authorized by CCACs; 30% to 50% of service delivery includes wound care. This one service carries an enormous financial consequence with little evidence of standardized care. Standardizing approaches to care and managing these cases more effectively can increase the effectiveness of services provided to clients and helps to contain the economic burden.

The CW CCAC is advocating the use of preparing the wound bed paradigm for the effective treatment of clients with wounds. It provides nurses with easy reference material to ensure safe and effective wound management strategies for a broad range of wounds. It is expected that in some cases the consultation by a Wound Care Specialist (WCS) may be required.



Standard Principles of Wound Care

These standard principles of wound care are to be applied by all Health Care Professionals (HCP) in their treatment of clients requiring wound care. Prior to initiating wound care, a comprehensive client assessment must be completed that includes: client goals, a review of systems, nutritional status, blood work, past treatments, living conditions, lifestyle issues, and social and economic resources. Collaboration with an interdisciplinary team is also recommended. This assessment and collaboration will allow the HCP to determine the wound diagnosis and develop the over arching goal of care or healing trajectory: healable, maintenance or non-healable. Once the healing trajectory and goals of care have been determined (goals of care can change if and when underlying etiologies, cofactors and co-morbidities are addressed), this information must be clearly identified and communicated to all team members prior to the implementation of the standard principles of wound care.

Four Standard Principles of Wound Management

1. Treat the Cause

- Interdisciplinary team collaboration
- Comprehensive Client and Wound Assessment
- Implementation of strategies to remove or mitigate the cause

2. Address Client Centered Concerns

- Quality of Life
- Factors affecting ability to adhere to the plan of care
 - Pain Management
 - Resources
 - Client and caregiver education
 - Involvement of significant others

3. Best Practice Local Wound Care

- Wound cleansing
- Debridement of a healable wound
- Moisture balance
- Elimination of dead space
- Provision of thermal insulation
- Protection of the wound and periwound area
- Inflammation and infection control

4. Outcome Measurement/Reporting and Evaluation

- Internal CW CCAC process
- Evaluation and reporting from service providers

Standard Principle 1: Treat the Cause

- Interdisciplinary team collaboration
- Comprehensive Client and Wound Assessment
- Implementation of strategies to remove or mitigate the cause
- Healing trajectory

Interdisciplinary Team Collaboration

Effective wound management can be a very complex process. The treatment requires a holistic approach of assessment and referral to appropriate health team members. Successful management of clients with wounds requires the expertise of an interdisciplinary approach. No one person can take full control. The etiology of wounds is multi-dimensional and the solution requires an interdisciplinary approach.

Interdisciplinary wound management team assessment may provide a critical component in the wound healing trajectory. Effective wound management depends on the coordinated efforts of interdisciplinary health care professionals in care settings across the continuum. Cost-effective client care cannot be achieved without this approach.

The goal of the CW CCAC Wound Management Program is to have a standardized coordinated approach with measurable outcomes in wound management across all service provider agencies. These standards of care will serve as the foundation to empower caregivers to deliver the best possible care for clients.

Comprehensive Client and Wound Assessment

Identification, correction and/or modification of the cause of the wound and co-factors for healing, are essential to determine the healing trajectory and develop the treatment plan. Therefore, a comprehensive client assessment is conducted including factors which may impair or delay wound healing, e.g. age, malnutrition, insufficient oxygen and perfusion, bacterial underlying concomitant diseases, curative therapies, unmanaged stress, lack of resources or access to appropriate specialists.

Implementation of Strategies to Remove or Mitigate the Cause

- Determination of the cause of the wound – often the actual cause of the wound is a trauma of some sort. The risk of re-injury due to recurrent trauma must be assessed and mitigated
- Pain Management strategies
- Medications (those impacting wound healing)
- Wound perfusion status
- Presence of edema
- Nutritional status (Decreased albumin)
- Anemia or other blood disorders
- Other co-morbid conditions (HIV, Cancer, Immune deficiency, obesity)

Access to a broad range of Health Care Professionals may be necessary to complete the assessments required to determine the cause of a wound and develop the goals of care. It is imperative that **all** information provided by members of this team be available to the nurse at the bedside.

Healing Trajectory

Wound healing is a complex process that is impacted by many factors: client health, available resources, client and caregiver motivation, care environment and caregiver experience to name a few. As health care professionals, we are often compelled to think that all wounds are healable. However as knowledge in this area has evolved, we have come to understand that this is not always the case. It is a fact that ***not all wounds are healable and some wounds will not heal***. The determination of whether a wound is healable or non-healable is made jointly by the interdisciplinary team including the client. This decision forms the basis for treatment and intervention. **The following provides a functional interpretation of healability.**

- A) **Healable Wounds** have the potential to heal; causative and/or valid cofactors can be mitigated or treated.
- The goal of the service plan is for closure of the wound with ongoing functional integrity.

B) **Maintenance Wounds** have the potential to heal but causative and valid cofactors cannot be mitigated/treated or clients are unable to adhere to the treatment plan or necessary resources cannot be included in the treatment plan, e.g. offloading devices cannot be purchased, weekly callous removal is unavailable.

- These wounds may show evidence of healing but their trajectory to get there may be slow or erratic.
- The goal is to reduce risk of infection and further deterioration and, if possible, to promote client independence in the wound care regime through self managed care techniques.

C) **Non-healable Wounds** are physically unable to heal due to co-morbid conditions such as cancer, lack of circulation or systemic disease.

- The goal is to promote comfort and maximize function of the client, reduce risk of infection and, if at all possible, prevent further deterioration.

Not All Wounds Will Heal

As health care professionals, we are often compelled to think we can heal all wounds. As this area of care has evolved, we have come to understand that this is not always the case. **Not all wounds are healable - some wounds will not heal.** In fact, the framework of “*Treat the Cause, Treat the Client Concerns, Treat the Wound*” has helped us to understand that clients sometimes require a maintenance mode of wound management which includes quality of life and a non-healing approach to the wound.

Standard Principle 2: Address Client Centered Concerns

Factors affecting ability to adhere to the plan of care

1. Pain Management

- McCaffery’s widely accepted definition says that pain “is whatever the experiencing person says it is and exists whenever he says it does. (1972, 1998 in Bryant, 2000) There are several pain scales reported in the literature. One recommended pain scale is the 0-10 Numeric scale



The nurse will assess the pain involved with the wound and the wound dressing. The nurse will collaborate with the team to plan strategies related to the prevention of wound pain and to evaluate the efficacies of those strategies.

2. Resources

- The nurse will evaluate the available client resources and collaborate with the case manager to ensure the best outcome for the client.

3. Client and Caregiver Education

- Client and caregiver education is an important component of wound management. Education needs to be relevant, simple and complete in an attempt to assist clients to their highest level of functioning. A strong focus will be placed on the client/caregiver role in wound management. Wherever possible, the client/caregiver will be expected to be taught how to manage the specific wound. Client teaching guidelines for common wound types are located in the appendix.

Standard Principle 3: Best Practices for Local Wound Care

Once the cause of the wound or the cause of failure to heal has been identified and a comprehensive assessment of the client and the wound has been completed, the team will apply best practice principles of wound care.

A) Wound Cleansing

- Use low toxicity solutions such as potable water and normal saline.
- Clients using municipal water systems may be taught to shower their wounds prior to application of dressings.

B) Debridement of a Healable Wound

- Debridement of devitalized, contaminated or infected tissue is only appropriate in a wound with adequate oxygen supply.
- Conservative Sharp debridement is always done by a qualified wound care specialist and requires an order from the physician.

C) Moisture Balance

- Wounds that are not healable should be kept dry. Clients can be taught to apply an antibacterial such as **Povidone-iodine** and cover with a dry dressing. In healable wounds, the goal of moisture balance is to provide enough moisture that cells live and function normally but not so little that they dry up or so much moisture that they “drown”. Excess exudate causes maceration. A good rule of thumb is “Not too wet, not too dry; just like the level of moisture in your eye”. The benefits of moist wound healing include:
 - Moisture facilitates the wound healing process.
 - Increased rate of re-epithelization due to faster epithelial migration across the moist wound bed.
 - Client’s report decreased pain due to hydration of the wound by the dressing that insulates and protects nerve endings.
 - Frequent dressing changes (too many dressing changes, e.g. OD, BID disturb the wound bed and delay healing.
 - Wound exudate delivers certain growth factors and nutrients.

D) Elimination of Dead Space

- Dead space in a wound must be filled, though not overfilled, to promote wound healing and prevent premature closure.
- Packing is a technique that fills the wound, promotes the growth of granulation tissue and helps to prevent abscess formation. All wounds with depth must be packed.

E) Provision of Thermal Insulation

- Hypothermia, caused by frequent dressing changes causes delayed wound healing.
- Keeping the wound covered (less frequent dressing changes) will keep the wound normothermic and improve healing.
- Select a dressing that is appropriate for the needs of the wound, the patient and caregiver or clinical setting.

F) Protection of the Wound and Periwound Area

- Healing wound tissue never fully regains its tensile strength (only 80%); therefore, damaged skin must always be protected from pressure and shear forces. Make sure that there is evidence of this ongoing protection in the care planning.
- Wound exudate contains proteolytic enzymes that will damage surrounding skin. The proper use of exudate management products changed appropriately will decrease the potential for this fluid to sit on the surrounding skin. Commercial skin barriers in the form of sprays or creams can be also be used to protect the periwound skin.
- Prevention of shear, friction and pressure.
- Compression stockings for the client with a healed venous leg ulcer.
- Proper footwear for the client with a diabetic foot ulcer, etc.

G) Inflammation and Infection Control

It is of vital importance to identify and manage wound bioburden to eliminate infection. There is much discussion today of the need to differentiate between contamination, colonization and infection when dealing with acute and chronic wounds.

All wounds should be assessed regularly for clinical signs and symptoms of infection. Assess for an increase in exudate, shiny red surface, increase in pain, odour, erythema, induration, edema, cellulitis, a fever, and no healing. If MRSA is present, assess the client for colonization or infection. Use only non-sensitizing topical antibacterial agents for local symptoms and signs of infection or increased bacterial burden. Do not routinely use topical antibiotics. Follow physician's orders. Discuss with physician when signs and symptoms of infection extend beyond wound margin or the ulcer probes to bone. Systemic antibiotics may be required (CAWC Guidelines, 2002).

All chronic wounds are colonized by micro-organisms, but not all micro-organisms are harmful to the wound and/or host. Wound healing, however, does have the potential to be greatly compromised when the bacterial burden of the wound grows to the point that it is beyond the capacity of host resistance or incorporates other bacterial species.

Clinicians should be fluent in the signs and symptoms that indicate that threshold has been exceeded and the wound is now at risk for significant deterioration. The mnemonic NERDS and STONEES (Sibbald, 2009) presents an approach that easily supports clinical practice and is readily interpreted to other health regulated professionals not intimately involved in wound care management.

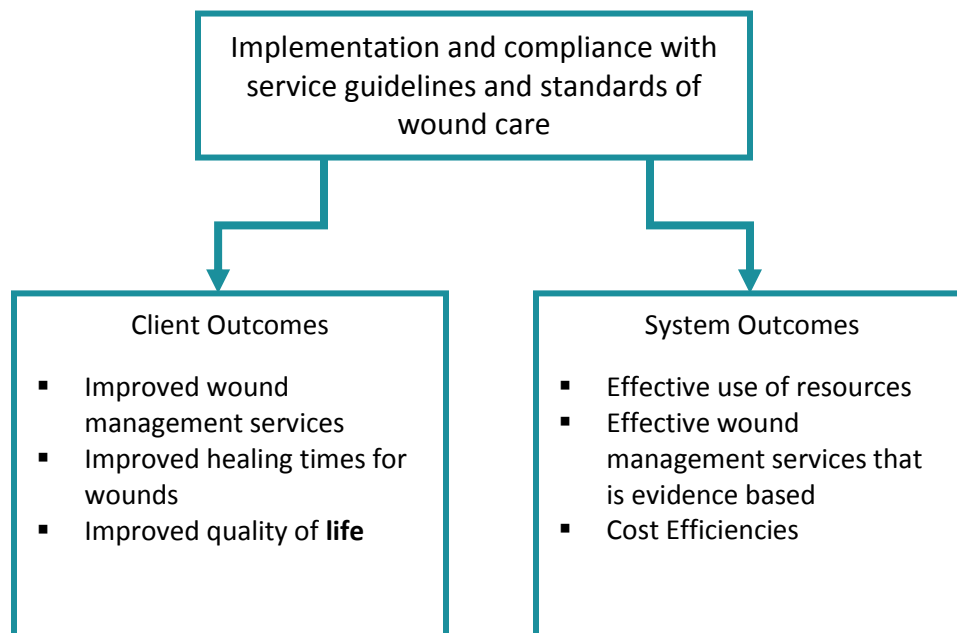
Definition - NERDS	Characteristics	Definition – STONES	Characteristics
N Non-healing Wound	Wounds that are not 20-40% smaller in 4 weeks, according to client history/documentation	S Size is bigger	Wound size is increasing
E Exudative Wound	Increase in wound exudate. More than 50% of dressing is stained with exudate.	T Temperature Increasing	Increased periwound temperature by more than 3 degrees difference between adjacent skin.
R Red and Bleeding Wound	Wound bed tissue is bright red. Tissue bleeds easily with gentle manipulation	O Probes to exposed bone	Wound that has exposed bone or that probed to bone.
D Debris	Presence of discolored granulation tissue, slough or necrotic tissue	N New Areas of Breakdown	New areas of breakdown or new lesions.
S Smell from the Wound	Unpleasant or sweet, sickening odour.	E Erythema/Edema	Reddened skin in periwound area Swelling in periwound area.

Standard Principle 4 Evaluation and Outcome Measurement

OUTCOME MEASUREMENT

Outcome measurement is essential to demonstrate accountability in the use of public funds for the provision of health care services. Nursing for wound care accounts for 30-40% of the service budget of CCAC's. The wound management principles and guidelines developed for Service Providers and Case Managers should result in positive outcomes for the client and the health care system. The diagram below depicts the proposed high level outcomes from the implementation and compliance with the wound management principles and guidelines.

Outcome Measurement



To ensure the achievement of these outcomes, it is important that Nurses and Case Managers comply with the wound management standards of care and the service guidelines. CW CCAC and the Provider agencies will have to monitor the compliance of their staff with the wound management service guidelines and the standards of wound care.

An internal CW CCAC reporting process and tools have been developed for the CW CCAC to monitor the compliance to the service guidelines.

The Outcome Measurement process for the service providers within the CW CCAC will have a logical and step-by-step methodology. The CW CCAC encourages agencies to engage in outcome measurement processes that will enhance their capability to report on specific wound care outcomes. The CW CCAC will require reporting on a set of indicators following the evaluation of the first phase of the Wound Care Management Program.

References

1. Barton, P., Parslow, N. Malignant wounds; Holistic assessment and management in: Krasner, D.L., Rodenheaver G.T., Sibbald, R.G., eds. Chronic Wound Care: A Clinical Source Book for Healthcare Professionals, 3rd ed. Wayne, PA: HMP Communications 2001: pg 700
2. Black, J., Hawks, J. and Keene, 2001. Medical Surgical Nursing, Clinical Management for Positive Outcomes. Philadelphia, WB Saunders Company, Cutting, K.F. and White, R. Defined and refined criteria for identifying wound infection revisited. Wound Care, March 2004, pages S6 to S15.
3. Franz, M.G., Khun, A., Wright, T.E., Wachtel, T., Robson, M.C. Use of the wound healing trajectory as an outcome determination for acute wound healing. Wound repair and regeneration, 2000:8 511-516
4. Franks, P.J., Moody, M., Moffatt, C.J., Hiskett, G., Gatto, P., Davies, C., Furlong, W.T., Barrow, E., Thomas, H. on behalf of the Wound Healing Nursing Research Group. Randomized trial or two foam dressing in the management of chronic venous ulceration. Wound Rep Reg 2007; 15: 197-202
5. Chauri, A.S.K., Nyamekye, K., Grabs, A.J., Farndon, J.R., Poskitt, K.R. The Diagnosis and Management of Mixed Arterial/Venous Leg Ulcers in Community-based Clinics. EurJ Vasc Endovasc Surg 1998; 16: 350-355
6. Gottrup, F. et al An Overview of Surgical Wound Infections; Etiology, Incidence and Risk Factors. Retrieved from World Wide Wounds
[http://www.worldwidewounds.com/2005/september/Gottrup/Surgical-Site-Infections- Overview.html](http://www.worldwidewounds.com/2005/september/Gottrup/Surgical-Site-Infections-Overview.html)
7. Holloway, G.A. Arterial Ulcers: Assessment, Classification and Management. In Krasner, D.L., Rodenheaver, G.T., Sibbald, R.G., eds. Chronic Wound Care: A Clinical Source Book for Healthcare Professionals, 3rd ed. Wayne, PA: HMP Communications, 2001:495-504
8. Labropoulos, Nico, et al. The Role of Venous Reflux and Calf Muscle Pump Function in Nonthrombotic Chronic Venous Insufficiency Correlation with Severity of Signs and Symptoms. Arch Surg. 1996; 131(4):403-406
9. Huffman, M. Outcomes and Outcomes Measurement. In: The Foundation of Outcome Based Home Care: Outcomes Measurement and Standard of Care. 2005; 1(A): 1-21.
10. Hutchison, J.J., Lawrence, J.C. Wound Infection under occlusive dressings. Journal of Hospital Infection 1991: 17:83-94

11. McIsaac, C. Managing Wound Care Outcomes. *Ostomy/Wound Management*. 2005; 51(4): 54-68.
12. Olsen, M., Brandt, K., Dietz, J., Mayfield, J. And Fraser, V. Hospital associated costs due to surgical site infection after breast surgery. *Archives Surgery*. 2008 January; 143(1): 52-60.
13. Sibbald, G. et al. Preparing the Wound Bed; Debridement, Bacteria Balance, and Moisture Balance. *Ostomy/Wound Management* 2000; 46(11):14-35.
14. Abuzauk, T., Coward, P., Shenava, Y., Kumar, V.S., Skinner, J.A. The management of wounds following primary lower limb arthroplasty: a prospective, randomized study comparing hydrofibre and central pad dressings. *International Wound Journal*. 3 (20)133-137.
15. Birchall, L., Taylor, S. (2003) Surgical Wound Benchmark Tool and PPGs *British Journal of Nursing* Vol 12(17): 1013-1023.
16. Clarke, J.V., Deakin, A.H., Dillon, J.M., Emmerson, S. and Kinninmonth, A.W.G. (2009) A prospective clinical audit of a new dressing design for lower limb arthroplasty wounds. *Journal of Wound Care*. 18(1):5-11.
17. Emmerson, S., Kinninmonth, A., McGowan, M., Graham, K. (2005) Preliminary results reporting a reduction in post-operative blistering using a modified Möindal dressing technique in a Glasgow hospital. Poster Abstracts ZfW Sonderheft 2.
18. Folstad, A. (2002) The management of wounds following orthopedic surgery: the Möindal Dressing WGCP 220, June.
19. Gill, D. (1999) The use of hydrocolloids in the treatment of diabetic foot. *Journal of Wound Care* 8(4): 204-206.
20. Harding, K., Queen, D. (Eds) (2008) Wound exudate and the role of dressings. A Consensus Document. *International Wound Journal* 5(s1)
21. Jude, E.B., Apelqvist, J., Sprault, M., Martini, J. and the Silver Dressing Study Group. (2007) Prospective randomized controlled study of Hydrofiber® dressings containing ionic silver or calcium alginate dressings in non-ischemic diabetic foot ulcers. *Diabetic Medicine*: 24:280-288.
22. Kosell, K., Mills-Zorzes, S., Barton, P., Chipman, M., Coutts, P., Gregoire, D., Harrison, M., Labate, T., Lorimer, K., Oliver, S., Parslow, N., Santos, J., 2004 Assessment and management of Venous Leg Ulcers *RNAO Nursing Best Practice Guidelines Project* Toronto, Ont.

23. Kozell, K., Bauer, N., Flahr, D., Goetz, D., Kohr, R., Labate, T., MacLeod, F., Norton, L., Parslow, N., Savage, P., Woo, K., and Mayo, S., 2007, Assessment and management of stage I – IV pressure ulcers *RNAO Nursing Best Practice Guidelines Project (Revised)* Toronto, Ont. pp 17
24. Moore, P.J., (2000) Cost benefits of two dressings in the management of surgical wounds. *British Journal of Nursing* 9(17): 1128-1132.
25. Mulder, G., Armstrong, D., Seaman, S. (2003) Diabetic Foot Ulcerations: Dressings *Wounds* 2003; 15(4) © 2003 Health Management Publications Inc. Available at: http://www.medscape.com/Viewarticle/456305_10_AccessedJuly14, 2009
26. Orsted, H., Searles, G., Trowell, H., Shapera, L., Miller, P., Rahman, J. (2008) Best Practice Recommendations for the prevention, diagnosis and treatment of diabetic foot ulcers: Update 2006. *Wound Care Canada* 4(1) 57-71
<http://www.cawc.net/open/wcc/4-1/vol4no1-BP-DFU.pdf>
27. Sheehan, P., Jones, P., Caselli, A.J.M., Veves, A. (2003) Percent Change in Wound Area of Diabetic Foot Ulcers over a 4 week period is robust indicator of complete healing in a 12 week prospective trail. *Diabetes Care* 26:1879-1882
28. Teague, L., Amott, C., Bruton, K.L., Campbell, K., Coutts, P., Melmas, L., Fatum, H., Goodman, L., Mirka, T., Nesbeth, H., Orsted, H., Santos, J. 2005. Assessment and, Management of Foot Ulcers for People with Diabetes. Registered Nurses Association of Ontario, Toronto, Canada pp.21-22
29. Vermeulen, H., Ubbink, D., Goosens, A., de Vos, R., Legemate, D. (2005) Dressings and topical agents for surgical wounds healing by secondary intention (*Review*) *The Cochrane Collaboration*.
30. Butcher, M. (2002) Managing wound sinuses. *Nursing Times*
31. Abuzakuk T, Coward P, Shenava Y, Kumar VS, Skinner JA. The management of wounds following primary lower limb arthroplasty: a prospective, randomized study comparing hydrofibre and central pad dressings. *International Wound Journal*. 3(20): 133-137.
32. Birchall L, Taylor S. (2003) Surgical Wound Benchmark Tool and PPGs *British Journal of Nursing* Vol 12 (17): 1013-1023.
33. Clarke, J.V., Deakin, A.H., Dillon, J.M., Emmerson, S., and Kinninmonth, A.W.G. (2009) A prospective clinical audit of a new dressing design for lower limb arthroplasty wounds. *Journal of Wound Care*. 18(1): 5- 11.

34. Emmerson S, Kinninmonth A, McGowan M, Graham K. (2005) Preliminary results reporting a reduction in post-operative blistering using a modified Möndal dressing technique in a Glasgow hospital. Poster Abstracts ZfW Sonderheft 2.
35. Folstad A. (2002) The management of wounds following orthopedic surgery: the Möndal Dressing WGCP 220, June.
36. Gill, D. (1999) The use of hydrocolloids in the treatment of diabetic foot. *Journal of Wound Care*. 8(4): 204- 206.
37. Harding, K., Queen, D. (Eds) (2008) Wound exudate and the role of dressings. A Consensus Document. *International Wound Journal* 5(s1).
38. Jude, E.B., Apelqvist, J. Sprault, M., Martini, J., and the Silver Dressing Study Group. (2007) Prospective randomized controlled study of Hydrofiber® dressings containing ionic silver or calcium alginate dressings in non-ischaemic diabetic foot ulcers. *Diabetic Medicine*. 24: 280-288.
39. Keast D. Email communication re: plantar diabetic foot ulcers. July 5, 2009.
40. Kozell, K., Mills-Zorzes, S., Barton, P., Chipman, M., Coutts, P., Gregoire, D, Harrison, M., Labate, T., Lorimer, K., Oliver, S., Parslow, N. Santos, J. 2004. Assessment and management of Venous Leg Ulcers *RNAO Nursing Best Practice Guidelines Project* Toronto, Ont..
41. Kozell, K., Bauer, N., Flahr, D., Goetz, D., Kohr, R., Labate, T., MacLeod, F., Norton, L., Parslow, N., Savage, P., Woo, K. & Mayo, S. 2007. Assessment and management of stage I to IV pressure ulcers *RNAO Nursing Best Practice Guidelines Project (Revised)* Toronto, Ont. pp. 17.
42. Moore PJ. (2000) Cost benefits of two dressings in the management of surgical wounds. *British Journal of Nursing*. 9(17): 1128-1132.
43. Mulder, G., Armstrong, D., Seaman, S. (2003) Diabetic Foot Ulcerations: Dressings Wounds. 2003;15(4) © 2003 Health Management Publications, Inc. Available at: <http://www.medscape.com/viewarticle/456305> 10 Accessed July 14, 2009.
44. News Release: May 14, 2008 ConvaTec Introduces VERSIVA(R) XC(TM) Gelling Foam Dressings to U.S.
45. Available at: http://salesandmarketingnetwork.com/news_release.php?ID=2024612 Accessed July 14, 2009.

46. Orsted H, Searles G, Trowell H, Shapera L, Miller P, Rahman J. (2006) Best Practice Recommendations for the prevention, diagnosis and treatment of diabetic foot ulcers: Update 2006. *Wound Care Canada* 4(1) 57-71. <http://www.cawc.net/open/wcc/4-1/vol4no1-BP-DFU.pdf>
47. Sheehan, P., Jones, P., Caselli, A., Giurini, J.M., Veves, A. (2003) Percent Change in Wound Area of Diabetic Foot Ulcers Over a 4-Week Period Is a Robust Predictor of Complete Healing in a 12-Week Prospective Trial *Diabetes Care* 26:1879-1882.
48. Teague, L., Arnott, C., Bruton, K.L., Campbell, K., Coutts, P., Delmas, L., Fatum, H., Goodman, L., Mirka, T., Nesbeth, H., Orsted, H., Santos, J. 2005. Assessment and Management of Foot Ulcers for People with Diabetes. *Registered Nurses' Association of Ontario*, Toronto, Canada, pp. 21-22.
49. Woo, K., Sibbald, R.G. (2009) A cross sectional validation study of using NERDS and STONES to assess bacterial burden. 55(8), p 40-48.