South West **LHIN** | **RLISS** du Sud-Ouest

South West Regional Wound Care Program (SWRWCP):

Integrated, evidence-informed skin and wound care management

Lyndsay Orr, PT, PhD
February 6, 2019

SOUTHWEST REGIONAL WOUND CARE PROGRAM

Ontario
Local Health Integration Network
Réseau local d'intégration des services de santé

Objectives

By the end of the presentation, participants should be able to:

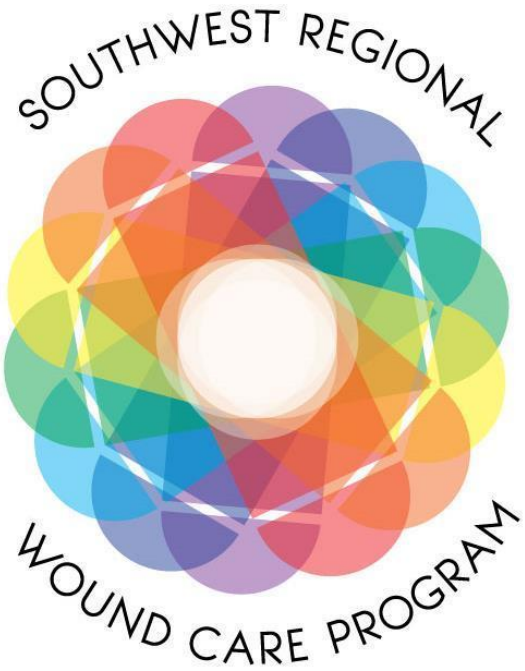
- Apply the wound management and prevention cycle to diabetic foot ulcers, pressure injuries and venous leg ulcers
- Be familiar with the SWRWCP pathway for patients to receive offloading for diabetic foot ulcers
- Be aware of the SWRWCP resources to assist with the management of chronic wounds

About the SWRWCP

The SWRWCP is a patient-centered collaboration, aspiring to support integrated wound care practices in order to:

- Improve patient outcomes
- Create a seamless experience across care settings
- Reduce overall costs (supplies + health human resources)

- www.swrwoundcareprogram.ca



Vision:

- Integrated, evidence-informed skin and wound care – every person, every health care sector, every day

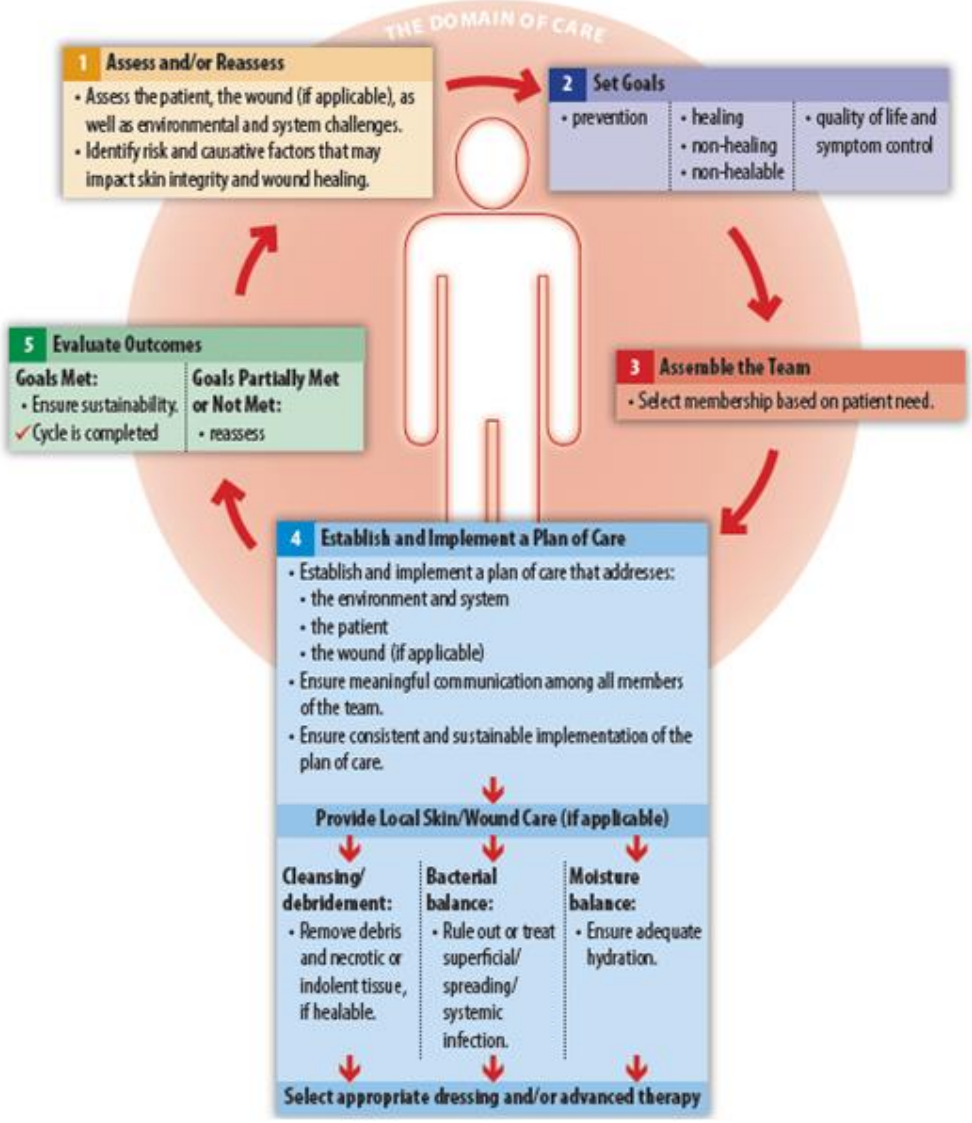
Mission

- To advocate for the seamless, timely and equitable delivery of safe, efficient, and effective, person-centered, evidence-informed skin and wound care to the people of the South West LHIN, regardless of the healthcare setting.

Cost of the Problem

- Conservative estimate of annual cost of wound care in Ontario - $1.5 billion
- Pressure injury (PI) and surgical wound infections cost individual Canadian hospitals more than $1 million/year
- “In Ontario, the potential for savings through the adoption of best practice for the estimated 15,000 leg ulcer clients and 90,000 diabetic foot ulcer clients is $338 million. As well, it was estimated that $24 million would be saved from reduced hospitalizations, due to fewer infections and amputations”

Chronic wounds



The Wound Prevention and Management Cycle

Diabetic Foot Ulcers

Application of the Wound Prevention and Management Cycle

What is a Diabetic Foot Ulcer (DFU)?

What: Damage to the skin and underlying tissues

Where: Feet, bony prominences

Why: Neuropathy + trauma

Step 1: Assess and/or Reassess

- Assess the patient
- Assess the wound
- Assess environmental and system challenges

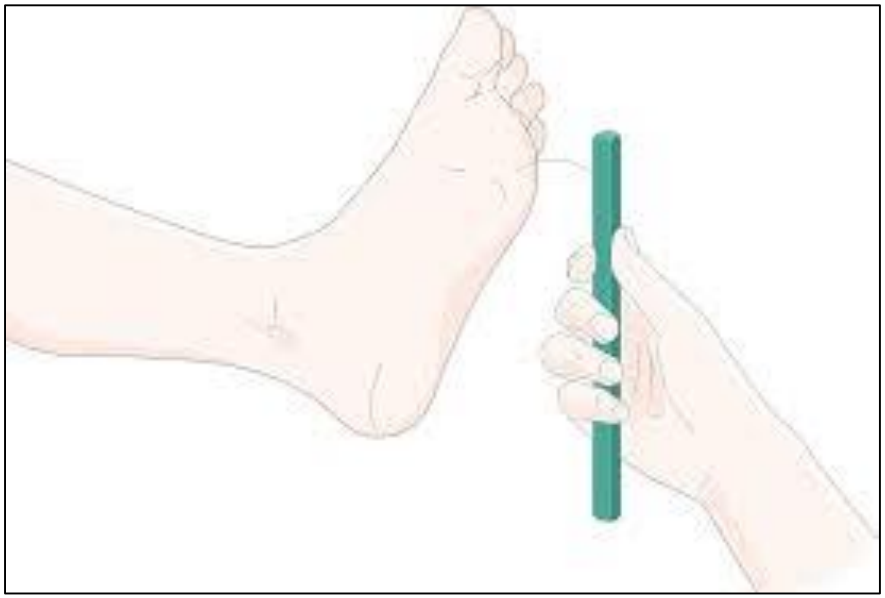
Risk Assessment

- Footwear
- Sensation
- Bony deformity
- Peripheral arterial disease (PAD)
- History of ulcer or amputation

Risk Factor: Neuropathy

Types of neuropathy:

- Sensory
- Autonomic
- Motor



Risk Factor: PAD

- Most important factor in the outcome of a DFU
- Up to 50% of people with diabetes patients have PAD
- Classic signs & symptoms of PAD are absent in ~ 50% of cases
- ABPI or TBPI

Risk Factor: Bony Deformity

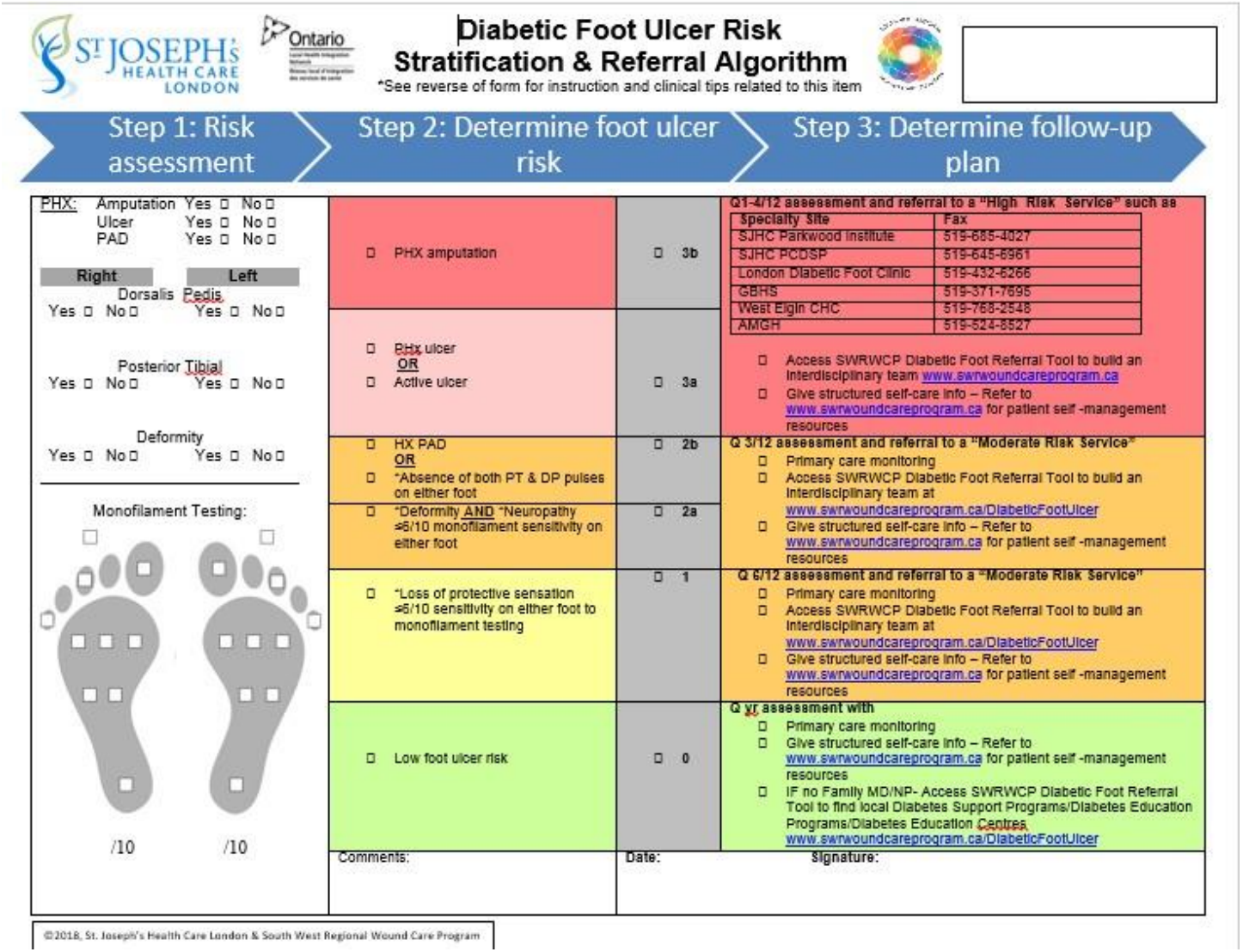
- Such as hammer toes, claw toes, and bunions
- Caused by:
  - Neuropathic changes
  - Stiffening of the joints
  - Altered biomechanics
  - Previous surgeries

Charcot Foot

Signs of Charcot deformity:

- Localized dermal flushing/redness and warmth with/without an ulcer
- Deep bony pain
- Localized edema
- Bounding pulses
- Flattening and widening of the foot

FURST Tool



Diabetic Foot Ulcer Risk Stratification & Referral Algorithm

*See reverse of form for instruction and clinical tips related to this item

Step 1: Risk assessment → **Step 2: Determine foot ulcer risk** → **Step 3: Determine follow-up plan**

PHX: Amputation Yes ☐ No ☐
Ulcer Yes ☐ No ☐
PAD Yes ☐ No ☐

Right	Left
Dorsalis Pedis	
Yes ☐ No ☐	Yes ☐ No ☐
Posterior Tibial	
Yes ☐ No ☐	Yes ☐ No ☐
Deformity	
Yes ☐ No ☐	Yes ☐ No ☐

Monofilament Testing:

/10 /10

☐ PHX amputation	☐ 3b	Q1-4/12 assessment and referral to a "High Risk Service" such as Specialty Site / Fax SJHC Parkwood Institute 519-685-4027 SJHC PCDSP 519-645-6961 London Diabetic Foot Clinic 519-432-6266 GBHS 519-371-7695 West Elgin CHC 519-768-2548 AMGH 519-524-8527 ☐ Access SWRWCP Diabetic Foot Referral Tool to build an interdisciplinary team www.swrwoundcareprogram.ca ☐ Give structured self-care info – Refer to www.swrwoundcareprogram.ca for patient self -management resources
☐ PHx ulcer OR ☐ Active ulcer	☐ 3a	
☐ HX PAD OR ☐ *Absence of both PT & DP pulses on either foot	☐ 2b	Q 3/12 assessment and referral to a "Moderate Risk Service" ☐ Primary care monitoring ☐ Access SWRWCP Diabetic Foot Referral Tool to build an interdisciplinary team at www.swrwoundcareprogram.ca/DiabeticFootUlcer ☐ Give structured self-care info – Refer to www.swrwoundcareprogram.ca for patient self -management resources
☐ *Deformity AND *Neuropathy ≤6/10 monofilament sensitivity on either foot	☐ 2a	
☐ *Loss of protective sensation ≤6/10 sensitivity on either foot to monofilament testing	☐ 1	Q 6/12 assessment and referral to a "Moderate Risk Service" ☐ Primary care monitoring ☐ Access SWRWCP Diabetic Foot Referral Tool to build an interdisciplinary team at www.swrwoundcareprogram.ca/DiabeticFootUlcer ☐ Give structured self-care info – Refer to www.swrwoundcareprogram.ca for patient self -management resources
☐ Low foot ulcer risk	☐ 0	Q yr assessment with ☐ Primary care monitoring ☐ Give structured self-care info – Refer to www.swrwoundcareprogram.ca for patient self -management resources ☐ IF no Family MD/NP- Access SWRWCP Diabetic Foot Referral Tool to find local Diabetes Support Programs/Diabetes Education Programs/Diabetes Education Centres www.swrwoundcareprogram.ca/DiabeticFootUlcer

Comments: Date: Signature:

Examination of the Ulcer

- Size, depth, location
- Wound base
- Wound exudate
- Wound edge
- ? Infection
- Temperature
- Photograph
- Classification

Classify DFUs

Examples of validated diabetic foot ulcer classification systems:

- Wagner
- Meggitt-Wagner
- University of Texas
- SINBAD

University of Texas Diabetic Wound Classification System				
Stage	**Grade**			
	0	**I**	**II**	**III**
A (no infection or ischemia)	Pre- or post-ulcerative lesion completely epithelialized	Superficial wound not involving tendon, capsule, or bone	Wound penetrating to tendon or capsule	Wound penetrating to bone or joint
B	Infection	Infection	Infection	Infection
C	Ischemia	Ischemia	Ischemia	Ischemia
D	Infection and ischemia	Infection and ischemia	Infection and ischemia	Infection and ischemia

Step 2: Set Goals

- For all patients with diabetes, wound prevention goals should be developed to prevent skin breakdown
- For patients with wounds, goals should be developed based on:
  - Prevention of further breakdown
  - Management of co-morbidities and risk factors
  - Symptom control
  - Quality of life
  - Healability

Step 3: Assemble the Team

IWGDF guidelines recommend:

- Diabetologist
- Podiatrist/chiropodist
- Orthotist
- Nurse
- Educator
- Orthopedic technician
- In close collaboration with an orthopedic, podiatric and/or vascular surgeon and dermatologist.

Evidence for Team Approach in Wound Care

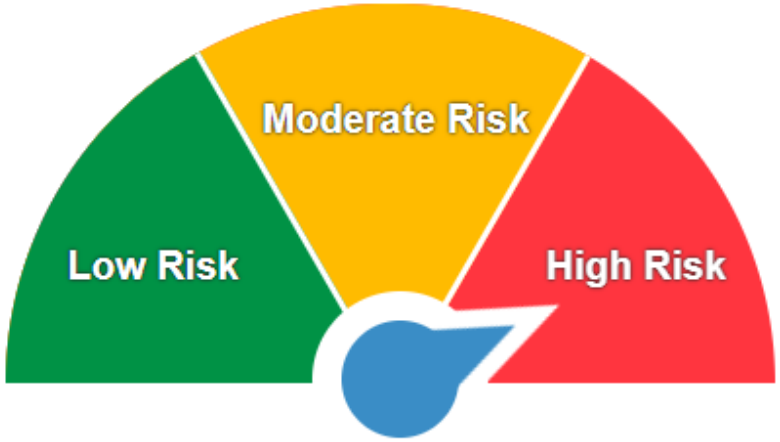
- Diabetic Foot Ulcer- largest body of knowledge with many retrospective and prospective reviews of long term programs, all demonstrating a positive team effect

- EWMA, 2014

Tools to Build an Interdisciplinary Team

YES

Great! You have used a valid diabetic foot screening tool and risk stratification system and have determined your patient's level of diabetic foot risk (low, moderate or high). Using the dial below, please indicate your patient's level of diabetic foot risk to proceed with building their diabetic foot 'dream team'.



Low Risk Moderate Risk High Risk

High Risk - Instructions for Building your Team

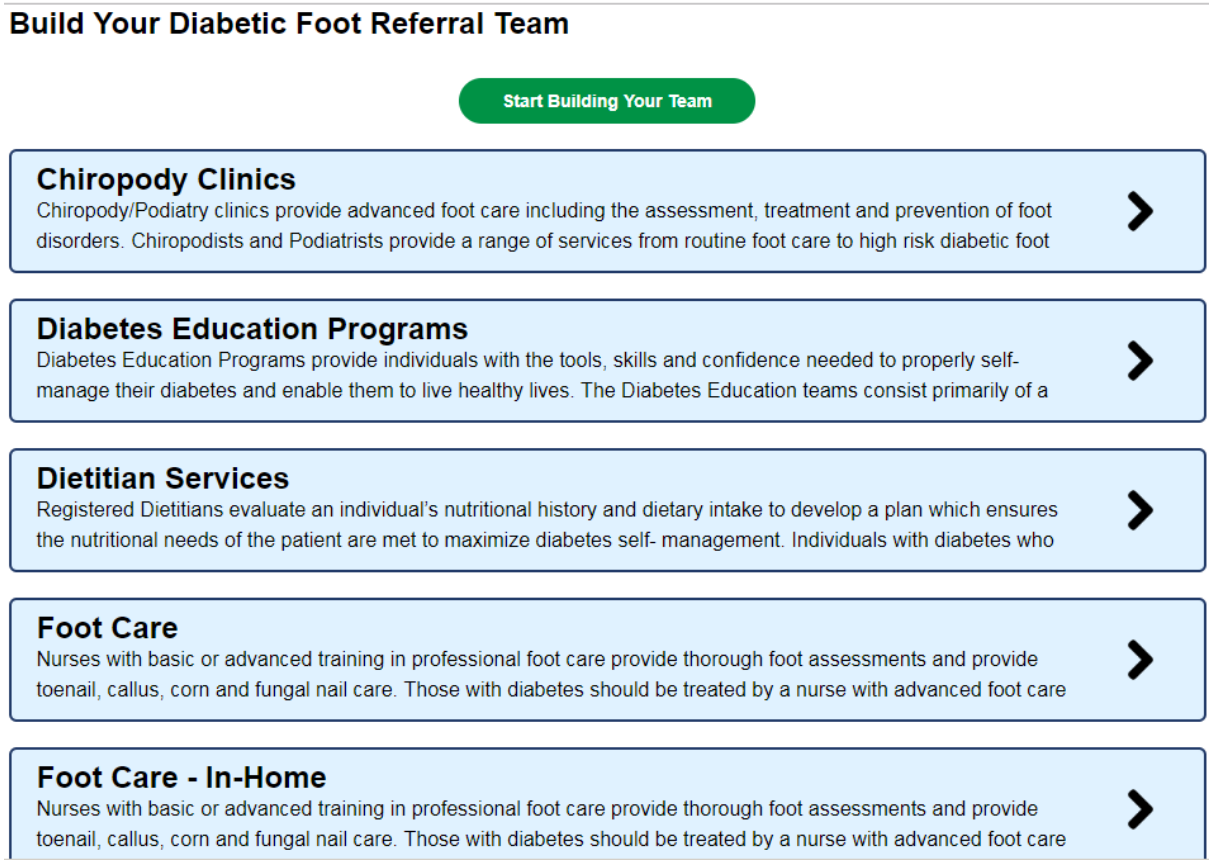
Persons with diabetes who are deemed "High Risk" present as follows:

- Diabetic Foot Ulcer Risk Stratification & Referral Algorithm risk category 3a or 3b
- Current or previous history of diabetic foot ulceration **AND/OR**
- Previous history of amputation

Tools to Build an Interdisciplinary Team

DIABETIC FOOT REFERRAL TOOL

www.swrwoundcareprogram.ca/DiabeticFootUlcer



Step 4: Plan of Care

Co-create and implement interventions to address:

- Cause and risk factors identified
- Needs of the patient, the wound, the environment

- Possible interventions for this patient?

VIPS

- Vascular- pulses, pallor, pain, ABI,TBI, arterial doppler
- Infection- clinical signs, diagnostics
- Pressure offloading- activity, footwear, gait
- Sharp surgical debridement

Vascular- ABPI Testing

Infection

- 50% of DFUs become infected (Lipsky et al, 2006)
- 90% of amputations preceded by infection (Pecoraro et al, 1990)
- Diagnosis is based on clinical signs and symptoms
  - No diagnostic test available to diagnose infection
  - Tests used to guide clinical treatment

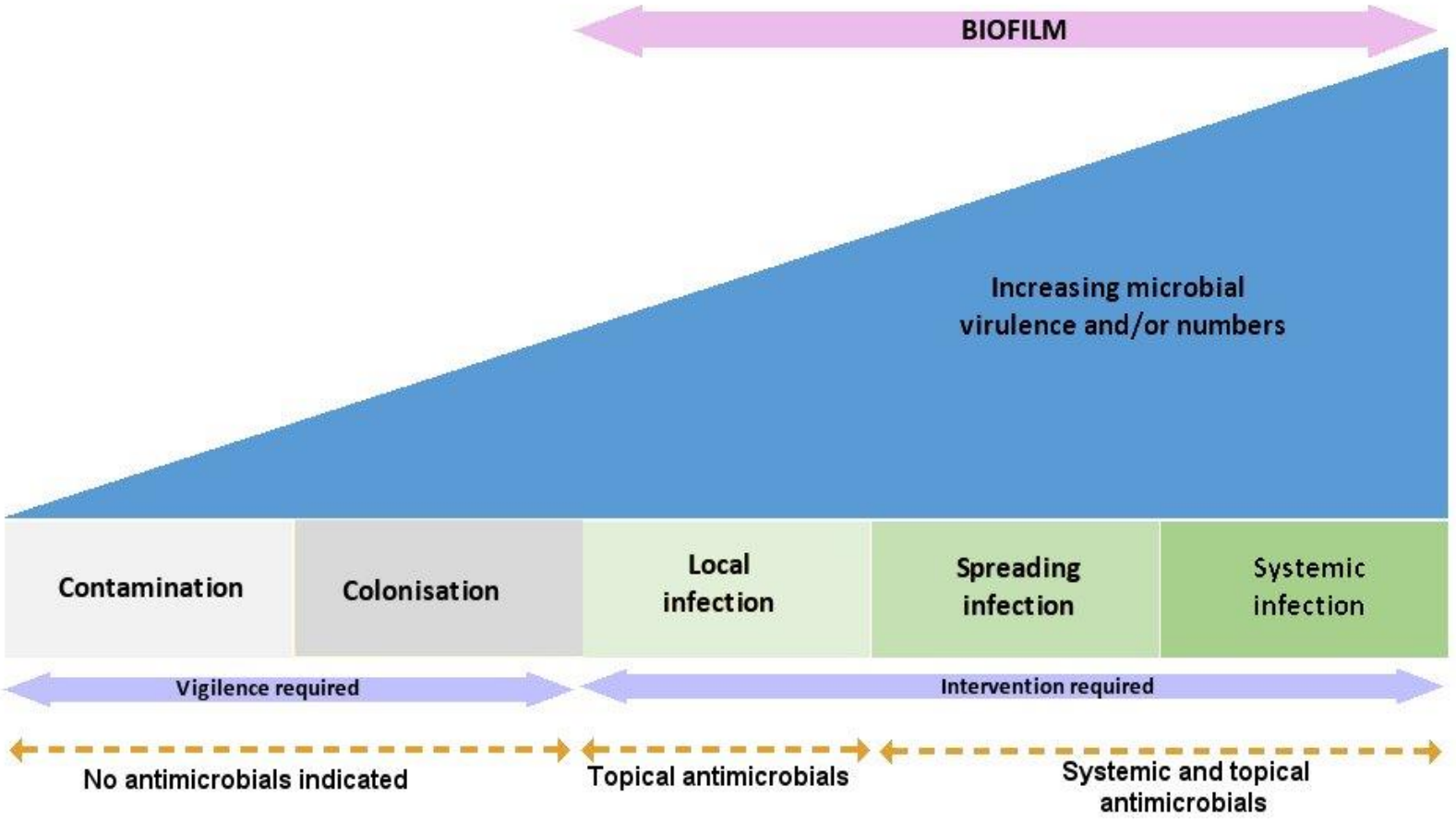
https://academic.oup.com/cid/article/54/12/e132/455959

Infection

- 50% of patients with a limb-threatening infection do not manifest systemic signs of symptoms
- Look for
  - Pain in the neuropathic foot
  - Erratic glucose control
  - Flu-like symptoms

Gardner et al, 2001

The Wound Infection Continuum



Indications for antimicrobial dressings

- Antimicrobial dressings may be used on wounds that present with localized (covert or overt), spreading or systemic infection
- acute wounds (eg traumatic wounds, including burns, and surgical wounds)
- chronic wounds
- The diagnosis and rationale for the use of an antimicrobial dressing should be documented in the patients' healthcare records
- Manufacturer's recommendations for indications, contraindications, wound cleansing and method of dressing application should be followed

When not to use antimicrobial dressings

- In the absence of localized, spreading or systemic infection
- Clean surgical wounds or small acute wounds at low risk of infection
- Chronic wounds healing as expected
- Sensitivity to any of the dressing's components
- Pregnancy and lactation (Check manufacturer's recommendations)
- When contraindicated by the manufacturer of the dressing being considered

The Facts About Dressings

- There is no one dressing suitable for all wounds and technology is constantly changing
- You cannot chose a dressing if you do not assess the wound
- There are an abundance of dressing products on the market; it is impossible to know them all
- What you take off a wound is more important than what you put on it (especially for a DFU)

P = Managing Inappropriate Footwear

ALL footwear must:

- Fit the foot
- Protect the foot
- Be appropriate for the specific activity

Foot length + Wiggle room = Shoe size. A "wiggle room" of 0.5 - 0.7 inches is perfect.

www.blitzresults.com

Total Contact Cast

- Custom molded minimally padded cast
- Distributes pressure evenly
- 72-100% healing in 5 weeks (Armstrong & Lavery, 1998)
- Non-removable cast walkers
    - Patients wore off-loading device < 30% of the time (Armstrong et al, 2003)

Total Contact Cast

PROVIDER PATHWAY *for* OFFLOADING DEVICES *for* INDIVIDUALS *with* DIABETIC FOOT ULCERS

in the South West LHIN

Diabetic Foot Ulcer (DFU)

Health Care Provider completes the Foot Ulcer Risk Stratification Tool (FURST)

Patient receives a risk score less than 3

Individual with DFU follow up plan is determined based on level of risk using the SWRWCP Diabetic Foot Referral Tool at ***www.swrwoundcareprogram.ca/DiabeticFootUlcer***

DIABETIC FOOT REFERRAL TOOL

Patient receives a risk score of 3

Patient is referred to Home and Community Care using the South West LHIN referral form

Fax South West LHIN Referral Form

Patient is referred to Specialty site using SWRWCP referral form

Fax SWRWCP Referral Form directly to Specialty Site

Communication from specialty site and specialty community nursing clinic with primary care provider

Patient Referred to Specialty Site:
assessment for total contact casting by interdisciplinary team

Interdisciplinary Teams will include at a minimum the following team members:
- Physician
- Diabetes specialist
- Wound care specialist
- System navigator

Specialty site assessment is in accordance with best practices and includes
- risk assessment
- comprehensive DFU assessment
- eligibility checklist which includes HQO quality standards for offloading devices

Refer to: ***www.swrwoundcareprogram.ca/125/Offloading_Page*** for a list of specialty site providers

Patient Referred to Specialty Community Nursing Clinic:
for comprehensive assessment, and wound management. Removable Cast Walker can be initiated using special authorization process while waiting for Specialty Site appointment.

Specialty site and specialty community nursing clinic work collaboratively to care for a patient.

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Offloading Pathway- Specialty Community Nursing Clinics

- Once the order for offloading is received by the South West LHIN, the patient will be allocated by the Care Coordinator to one of the specialty community nursing clinics according to geographic proximity to the patient's home
- Comprehensive assessment completed by a wound care specialist or a NSWOC
- Provide diabetic foot ulcer management prior to the specialist site visit
- If the patient is deemed suitable for offloading patient may be initiated using a removable cast walker (RCW)

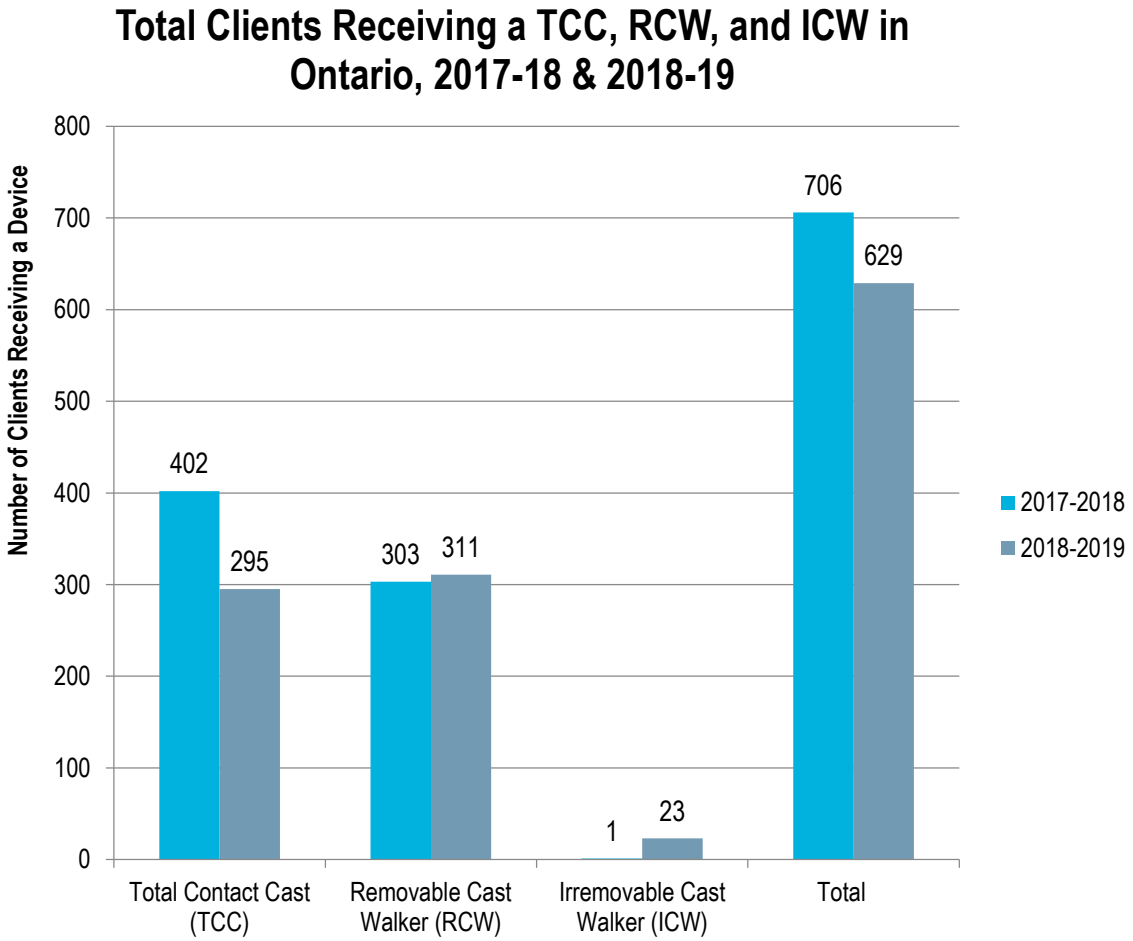
Offloading Pathway- Specialty Sites

- Referral to specialist physician/surgeon at one of the identified specialty site locations
- Patients must be assessed by a specialty site prior to application of a total contact casting system (TCC)
- The specialty sites can collaborate with the nursing clinics to deliver the treatment plan setting

MOHLTC Reporting

Type of Health Service Provider/Home Care Access Point	Type of Facility (please indicate below)	Total Number of clients that received an offloading device under the MOHLTC initiative	Number of removable cast walkers	Number irremovable cast walkers	Number of total contact casts
Hospitals(Grey Bruce Health Services, St. Joseph's Health Care: Parkwood Institute, Alexandria Marine General Hospital)	3	33	22	9	11
Home care ambulatory/ wound care clinics(Care Partners, Saint Elizabeth Health Care)	7	11	8		3
Community health centres (West Lorne CHC)	1	8	6	1	1
Complex continuing care rehabilitation centres	0				
Centres for complex diabetes care(St. Joseph's Health Care: Primary Care Diabetes Support Program)	1	22	20		4
Others ((London Diabetes Foot Clinic)	1	7	8		
Total	**13**	**81**	**64**	**10**	**19**

Types of Offloading Devices Used by Clients



- Of the clients who received an offloading device, nearly half (47%) received a total contact cast.
- 49% received a removable cast walker.
- Only 4% of clients received an irremovable cast walker.

- Average number of total contact casts applied per series per client varied amongst the LHINs ranging from 4-14 applications per patient

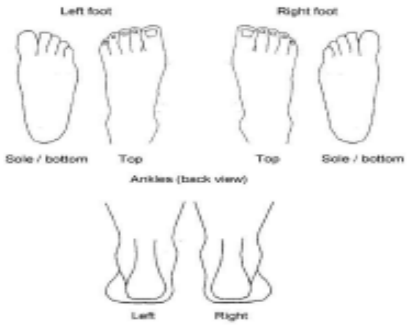
Resources and Enablers

Ontario

Diabetic Foot Ulcer Referral Form

Patient Details

Name:	
Address:	GP/NP:
	Billing Number:
DOB:	Fax #: (refer to footer for fax numbers and locations)
Contact Number:	E-mail:



Please mark wound location.
Wound Details (e.g. previous treatment, dressings)

Duration of Ulcer:	Hgb A1c: Date completed:
Depth of Ulcer: ☐ Superficial ☐ Partial Thickness ☐ Full Thickness ☐ Bone Involvement	
Is the ulcer clinically infected? ☐ Yes ☐ No	
Diabetic Foot Ulcer Risk Stratification & Referral Algorithm Score: ☐ 0 ☐ 1 ☐ 2a ☐ 2b ☐ 3a ☐ 3b	
Has offloading been provided? ☐ Yes ☐ No If yes, please indicate type: ☐ Total Contact Casting ☐ Removable Cast Walker ☐ Custom Orthotics	

***Please attach Cumulative Patient Profile (CPP) and send with referral

Signature: _____ Date: _____

Specialty Site	Fax
SJHC Parkwood Institute- Dr. Reed; London	519-685-4037
SJHC Primary Care Diabetes Support Program; London	519-645-6991
London Diabetic Foot Clinic- Dr. Thompson; London	519-630-8286
Grey Bruce Health Services- Diabetic Foot Ulcer Clinic; Owen Sound	519-371-7695
West Elgin Community Health Centre; West Lorne	519-768-2548
Alexandra Marine and General Hospital- Dr. Kittner; Goderich	519-524-8537

Sharp Debridement: Mechanical removal of necrotic tissue

- Sharp debridement is considered most effective
- Biofilms are more susceptible to antimicrobial treatment for 24 to 48 hours after debridement
- Serial debridement is recommended
- Sharp debridement reduces plantar pressure by 26% (Young, 1992; Steed, 1996)
- Regular debridement by foot specialist lowers mean plantar pressures (Pitei, Foster, Edmonds, 1999)
- Cutting into tissue is a controlled act

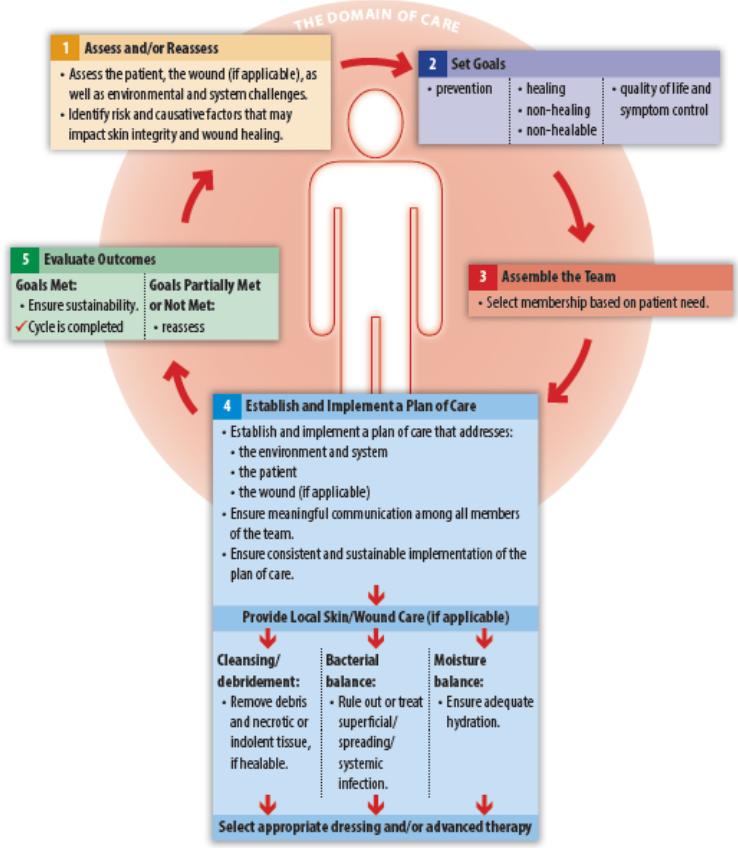
Wound Irrigation

- Cleanse at each dressing change
- Remove obvious debris and excess exudate
- Safe irrigation with safe fluids
- If you can drink the water it can be used
- For infected wounds consider using a fluid with a surfactant and an antimicrobial agent

Step 5: Evaluate Outcomes

- Prevention – Up to 80% of DFUs could be prevented - so prevention is always a preferred outcome
- Goals being met – such as a 50% reduction in surface area at 4 weeks is a good predictor of wound healing
- Goals not being met - return to Step 1 to reassess

Figure 2: The Wound Prevention and Management Cycle



Pressure Injuries

Application of the Wound Prevention and Management Cycle

What's a Pressure Injury (PI)

What:

- Damage to the skin and underlying tissues

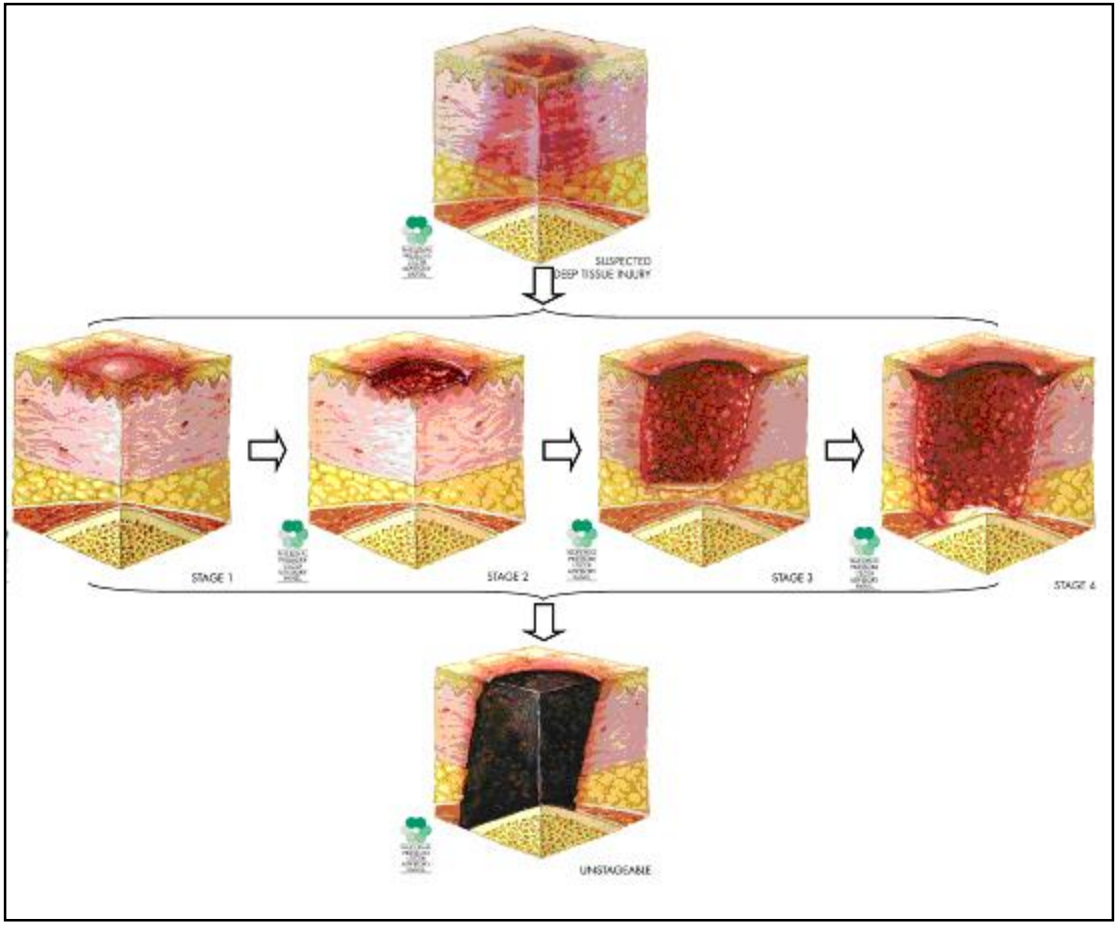
Where:

- Bony prominences
- Beneath medical devices

Why:

- Intense or prolonged pressure
- Pressure + shear

Pressure Injury Staging



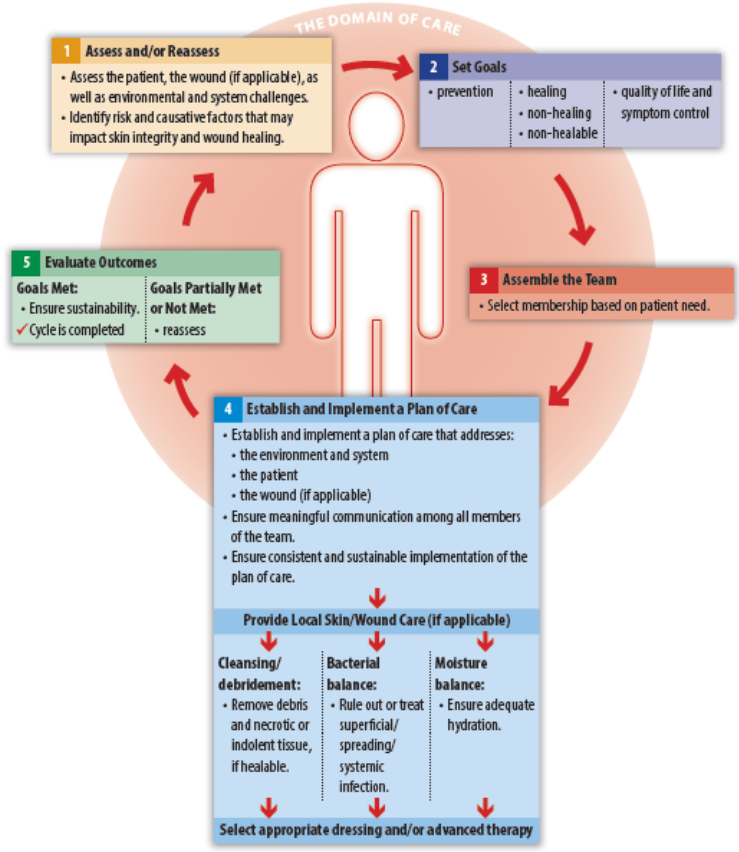
Interventions

- Pressure Management
- Shear and Friction
- Local Wound Management
- Nutrition
- Psychosocial

Evaluate Outcomes

- Prevention - 70% of PIs could be prevented - so prevention is always a preferred outcome
- Goals being met – such as a 40% reduction in surface area at 2 weeks is a good predictor of wound healing
- Goals not being met - return to Step 1 to reassess

Figure 2: The Wound Prevention and Management Cycle



Venous Leg Ulcers

Application of the Wound Prevention and Management Cycle

What is a Venous Leg Ulcer (VLU)?

What:

- Damage to the skin and underlying tissues

Where:

- Lower legs, medial malleolus

Why:

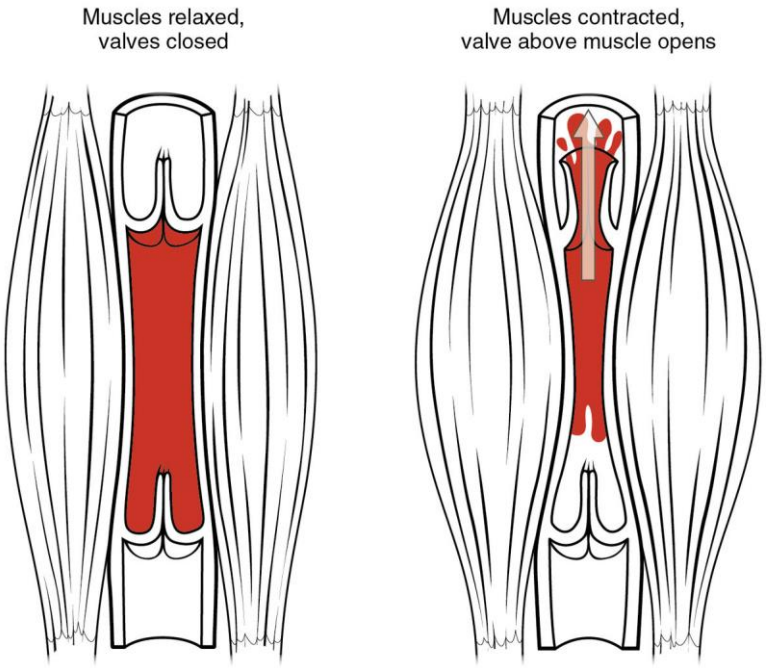
- Chronic venous insufficiency

Interventions

- Compression therapy
- Calf-muscle pump exercises
- Physical activity
- Limb elevation

A Word on Compression

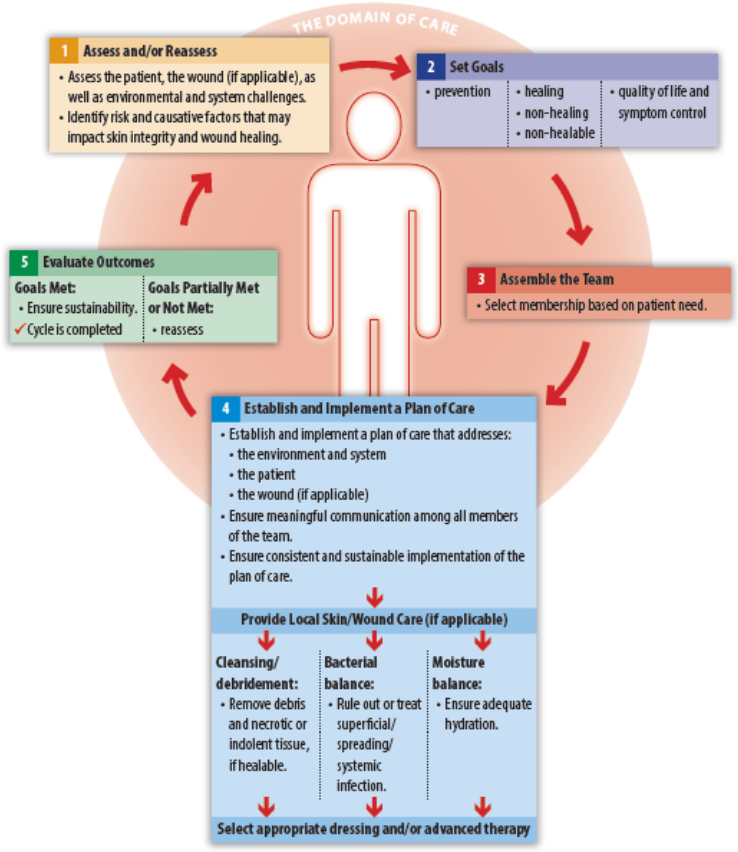
- Gold standard treatment for chronic venous insufficiency and VLU
- Best compression is the one the patient will wear
- Only works in conjunction with calf muscle pump exercises



Evaluate Outcomes

- Prevention is always a preferred outcome
- Goals being met – such as a 30% reduction in surface area at 4 weeks is a good predictor of wound healing
- Goals not being met - return to Step 1 to reassess

Figure 2: The Wound Prevention and Management Cycle



Summary

- Wound etiology is required to ensure patients receive appropriate treatment
- Non healing wounds are not normal; require frequent reassessment
- Dressings and antibiotics do not heal wounds
- Chronic disease management

How can we help?

- Education sessions and outreach
- Website: www.swrwoundcareprogram.ca

Education Opportunity

Wound Care for Primary Care Practitioners

Monday March 18th, 2019 12:00-5:00pm

Best Western Lamplighter Inn, London

Best Practice Approach to Skin Health and Wound Healing

Monday March 4th, 2019 8:00-5:30pm

Arden Park Hotel, Stratford

Thursday March 21st, 2019 8:00-5:30pm

Best Western Plus Walkerton

Thank you

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