# MODULE 2

Initial assessment of patient with lower limb wound

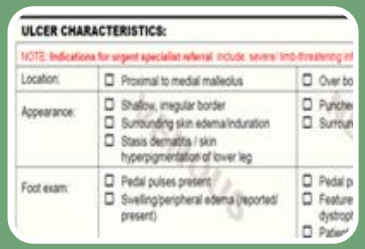
How to use the LEW pathway referral form

(Approx 15 minutes)

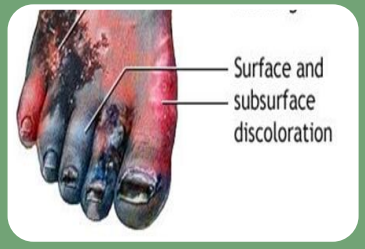
# Learning Objectives

At the end of this module, learners will be able to:

List the key components required for the initial assessment of patients with lower extremity wounds




Use the LEW Pathway referral form to differentiate between venous and neuro-ischemic (diabetic) wounds




Identify red flags for urgent referral

# The LEW Pathway starts with the primary care provider.

In the community, venous leg wounds and diabetic foot complications may be identified by nurses, podiatrists, or many other healthcare professionals.

However, **in order to initiate the LEW Pathway referral process, a physician or NP is required.**

Because management of a wound may require ordering lab tests, prescribing medications, referring to specialists, etc, the most responsible provider must be a physician/NP.

If a lower extremity wound is identified by a healthcare provider in the community, that provider should contact the patient's physician/ NP to initiate appropriate referral for wound care.

As the first link in the chain, primary care providers' assessment and diagnosis is invaluable to the wound care process. This role involves:

- Correct diagnosis of wound etiology
- Referral to appropriate secondary or tertiary level of care
- Identification and management of factors that may interfere with wound healing
- Identification of red flags for urgent referral
- Initiation of antimicrobial therapy and/or pain medications as appropriate
- Sharing this and other relevant medical information with specialists and wound care nurses

# REFERRAL FORM -- LOWER EXTREMITY WOUND PATHWAY

*venous stasis/arterial/diabetic foot wounds*

**To:** _____

**Fax #:** _____

**FAX TO LOCAL HOMECARE and TO VASCULAR SPECIALIST IF NEEDED**

| | |
|---|---|
| Patient name: | |
| Address: | |
| DOB: | HSN: |
| Age: | Treaty: |
| Phone:(h) | (w) |

**PERTINENT MEDICAL HISTORY:** ☐ relevant documents attached

☐diabetes
☐heart failure
☐CAD
☐hypertension
☐CKD stage ___
☐smoker
☐obesity
☐peripheral arterial disease
☐varicose veins/previous DVT
☐ other:

**Allergies**:

**Medications:**

To open a PDF of *Referral Form- Lower Extremity Wound Pathway*, **click on the link in the sidebar.**

**ULCER CHARACTERISTICS:**

| | | |
|---|---|---|
| NOTE: Red flags for urgent specialist referral include: severe/limb-threatening infection, gangrene, acute ischemia | | |
| Location: | ☐ Proximal to medial malleolus | ☐ Over bony prominence on the lower leg/ foot |
| Skin and wound appearance: | ☐ Shallow wound, irregular border<br>☐ Surrounding skin edema/induration<br>☐ Stasis dermatitis<br>☐ Skin hyperpigmentation of lower leg | ☐ Punched out/deeper wound, well-defined border<br>☐ Surrounding skin atrophic, shiny, dry<br>☐ Dystrophic nails, absent toe hair<br>☐ Foot deformity |
| Circulation & sensation: | ☐ Pedal pulses present<br>☐ No signs of neuropathy | ☐ Poor capillary refill<br>☐ Pedal pulses weak/absent<br>☐Loss of sensation to 10g monofilament or perception of 128Hz tuning fork at big toe<br>☐ Patient report of neuropathic pain<br>☐ Patient report of claudication/ ischemic type pain<br>☐ Signs of intrinsic foot muscle weakness |
| Size of wound: | ☐ previous ulcer | ☐ previous amputation |
| Duration of this ulcer: | Initiating event: | |

# Initial assessment

Brief history including:

- Medical comorbidities that may be contributing to the development of the wound, or be important for ongoing management
- Wound history
- Psychosocial history and impact of the wound on patient's mobility/ADLs

Physical examination:

- Brief general exam
- Detailed lower limb exam to identify clues to wound etiology
- Detailed wound examination

Once this information is obtained, the **LEW referral form** is easy to complete, assisting with identification of wound etiology and the next steps regarding referral.

# History – the essentials

Medical history:

- Diabetes (type, duration, glycemic control, complications)
- Peripheral Artery Disease (PAD) (claudication, leg/foot pain)
- Other cardiovascular disease
- Smoking status
- Venous disease
- Surgery or trauma to lower leg (increased risk for CVI)
- Kidney disease/function (important for any pharmacotherapy decisions)

Wound history:

- When/how did the wound start
- Changes in the wound
- Treatment to date
- Past wounds and/or management

Patient concerns:

- Pain
- Mobility
- Psychosocial and financial concerns

# Physical exam: Lower leg/foot and skin

## – providing clues to wound etiology

- Lower leg edema/swelling
- Skin hyperpigmentation or dermatitis
- Quality of skin: shiny, dry, thin
- Fissures
- Callus on sides/plantar aspect foot
- Toenails and web spaces
- Loss of hair on dorsum foot/toes
- Foot deformities
- Location of wound

# Physical exam: Circulation

- Arterial pulses – femoral, dorsalis pedis and posterior tibial
- Capillary refill time
- Varicose veins and/or signs of chronic venous insufficiency – lower leg edema, skin changes
- Signs of chronic ischemia – dry, shiny, hairless skin, dystrophic nails, pallor on foot elevation
- Signs of acute ischemia/gangrene

**Ankle-brachial Pressure Index (ABPI) is not routinely performed in primary care clinic.** ABPI = ratio of SBP in ankle to SBP in upper arm. (*more details on ABPI in Module 3*)

# Physical exam: Peripheral Neuropathy

Sensory neuropathy

- 10 gram monofilament test
- Loss of sensitivity to vibration of 128 Hz tuning fork at the dorsum of the first toe

Motor neuropathy

- Signs of muscle wasting in feet – reduced dorsiflexion of toes, claw toes, hammer toes, shortening of Achilles tendon

Autonomic neuropathy

- Reduced skin sweating, dry skin, hyperkeratosis (thickening of skin), scaling

# Physical exam: Wound

Location

- Distal lower leg above or below malleoli – venous
- Over bony prominence or on foot – diabetic
- On limb stump – diabetic or arterial

Appearance

- Shallow, irregular border – venous
- Deep, well-defined – diabetic, arterial
- Surrounding skin changes – acute or chronic dermatitis – venous

Size

- Wound area L x W

Subsequent modules will provide more details specific to venous, arterial and diabetic wounds, including pathogenesis, assessment and management.

# LEW Pathway referral form: EMR functionality

**REFERRAL FORM -- LOWER EXTREMITY WOUND PATHWAY**

***venous stasis/arterial/diabetic foot wounds***

**To:** _____

**Fax #:** _____

**FAX TO LOCAL HOMECARE and**
**TO VASCULAR SPECIALIST IF NEEDED**

| | |
|---|---|
| Patient name: | |
| Address: | |
| DOB: | HSN: |
| Age: | Treaty: |
| Phone:(h) | (w) |

**PERTINENT MEDICAL HISTORY:** ☐ relevant documents attached

- ☐diabetes
- ☐heart failure
- ☐CAD
- ☐hypertension
- ☐CKD stage ___
- ☐smoker
- ☐obesity
- ☐peripheral arterial disease
- ☐varicose veins/previous DVT
- ☐ other:

**Allergies**:

**Medications:**

In clinics with EMR charts, the **patient demographics**, **medications**, **allergies** and **lab test results** (but not dates) will populate in the referral form or be attached from the patient's medical record

# LEW Pathway referral form: Diagnosis

The referral form was designed by physicians to assist with differentiating venous and diabetic (neuro-ischemic) wounds.

**ULCER CHARACTERISTICS:**

| NOTE: Red flags for urgent specialist referral include: severe/limb-threatening infection, gangrene, acute ischemia | | |
|---|---|---|
| Location: | ☒ Proximal to medial malleolus | ☐ Over bony prominence on the lower leg/ foot |
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| Size of wound: | ☐ previous ulcer | ☐ previous |
| Duration of this ulcer: | Initiating event: | |

Insert examination findings in the **Ulcer Characteristics** section of the form

**PROBABLE ETIOLOGY:** ☒ Venous ☐ Arterial ☐ Diabetic (neuro-ischemic) ☐ Mixed ☐ Uncertain

# LEW Pathway referral form:
## triage and referral

**TRIAGE DECISION:**

☐ **URGENT REFERRAL (red flags) – send patient to ER, or page on-call vascular surgeon and fax this form**

☐ **NON-URGENT REFERRAL to homecare** for treatment according to pathway protocols *(home care nurse may order a wound swab in referring physician / NP name if required)* – **fax this form to nearest homecare team**

☐ **NON-URGENT REFERRAL for vascular assessment** of diabetic foot ulcer – **fax this form to vascular specialist**. Non-urgent diabetic foot ulcers should also be referred to homecare for initiation of treatment.

Urgent referral (red flags are identified):

- Call the emergency on-call vascular specialist
- OR send the patient to the nearest emergency department.

Non-urgent referral for diabetic foot ulcer:

- Refer patient to both a vascular specialist and to homecare for wound management.*(The same form is used for both referrals.)*

# Non-urgent referral to homecare for treatment

- Referrals to home care/wound care nurses will prompt a comprehensive lower leg assessment including ABPI.
- Specific physician orders are not required if the LEW Pathway referral form is used. Nurses will initiate treatment according to standardized treatment protocols.

To open a PDF of these nursing forms **click on the link in the sidebar.**

- *Lower leg assessment form*
- *Treatment protocol diabetic foot ulcer*
- *Treatment protocol venous stasis ulcer*
- *Treatment protocol non-healable wound*

Treatment according to protocol:

- If compression therapy is warranted, it will be implemented according to protocols.
- If a nurse deems that a wound swab is indicated, this will be sent in the referring physician's/NP's name, with notification by fax or phone to the MRP.
- When a wound swab is done, the nurse will advise the patient to see the MD/NP as soon as possible for review of possible infection and treatment if warranted.

# Improved communication with wound care nurses

- A key feature of the LEW pathway is support for communication among care providers.
- After the initial assessment by a homecare/wound care nurse, documentation will be sent to the referring physician/NP advising of the treatment plan.

To open a PDF of the nursing form *Communication with Referring Physician/NP* **click on the link in the sidebar.**

If there are any concerns about wound infection, inadequate wound healing or new issues, the nurse will notify the referring physician/NP, requesting referral to a specialist if necessary.

**Saskatchewan Lower Extremity Wound Pathway** **April 2016**

**Communication with Referring Physician/NP: LOWER EXTREMITY WOUND PATHWAY**

**ATTN:**

**RE:** Patient Name:

Patient contact info:

Your patient was assessed by Regional Home Care Team personnel as follows:

Date: _____ Location: _____

Assessed by: _____

☐ ABI ☐ TBI _____ Other investigation: _____

**REGIONAL HOME CARE TEAM REQUESTING:**

| Clinical follow-up: | Referral to specialist<br>☐ re. foot deformities: _____<br>☐ re. surgical consult: _____<br>☐ re. non-healing wound:_____<br>☐ other: |
|---|---|

# END OF MODULE

Proceed to the module 2 quiz