

# Pressure Injuries

Carol Ott MD FRCPC

Geriatrician

Practising Wound Care and Geriatrics



# Faculty/Presenter Disclosure

- **Faculty: Dr. Carol Ott**
- **Relationships with commercial interests:**
  - Grants/Research Support:
  - Speakers Bureau/Honoraria:
  - Consulting Fees:



# Disclosure of Financial Support

- This program has **NOT** received financial support other than the support of the MOHLTC
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- Potential for conflict(s) of interest:

**None to be disclosed**



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# Objectives

At the completion of the session, participants will be better able to:

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2. Demonstrate an approach to a pressure injury including:
  - a) Treating the cause
  - b) Addressing patient-centred concerns

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# NEW NAME/NEW DEFINITION

## Pressure Injury:

- Localized damage to the skin and/or underlying soft tissue usually over a bony prominence
  - Can present as **intact skin** or **open ulcer**
  - May be painful
  - Injury occurs as a result of
    - intense and/or prolonged pressure or pressure in combination with shear
    - tolerance of soft tissue for pressure and shear may also be affected by microclimate, nutrition, perfusion, co-morbidities and condition of the soft tissue.
- National Pressure Ulcer Advisory Panel (NPUAP) announces a change in terminology from pressure ulcer to pressure injury and updates the stages of pressure injury, April 18, 2016 [www.npuap.com](http://www.npuap.com)



# Pressure Injuries

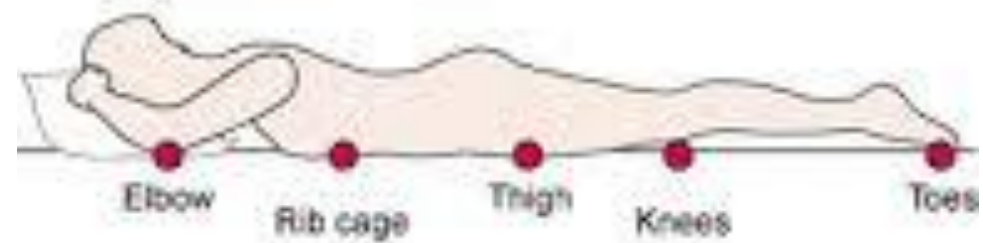
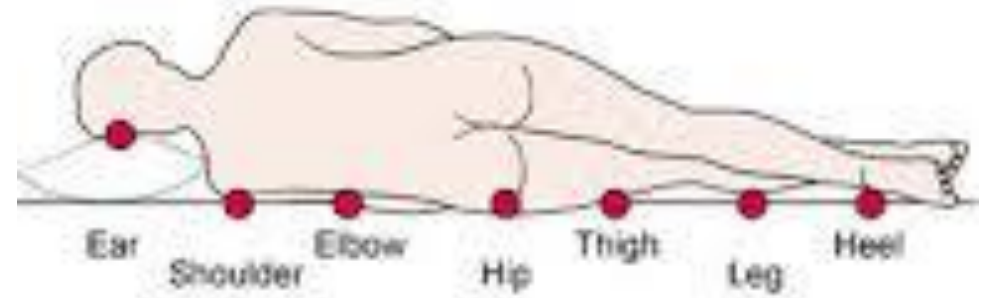
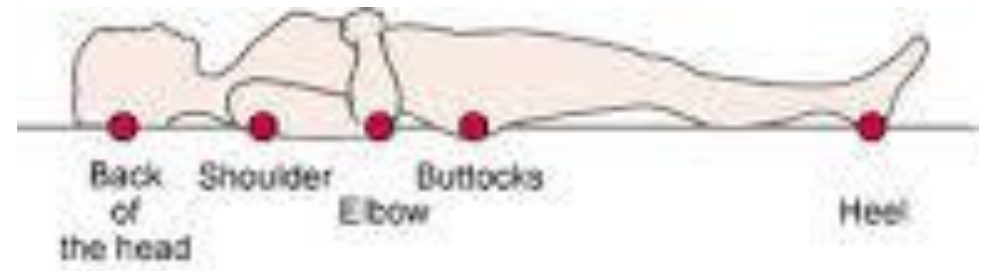
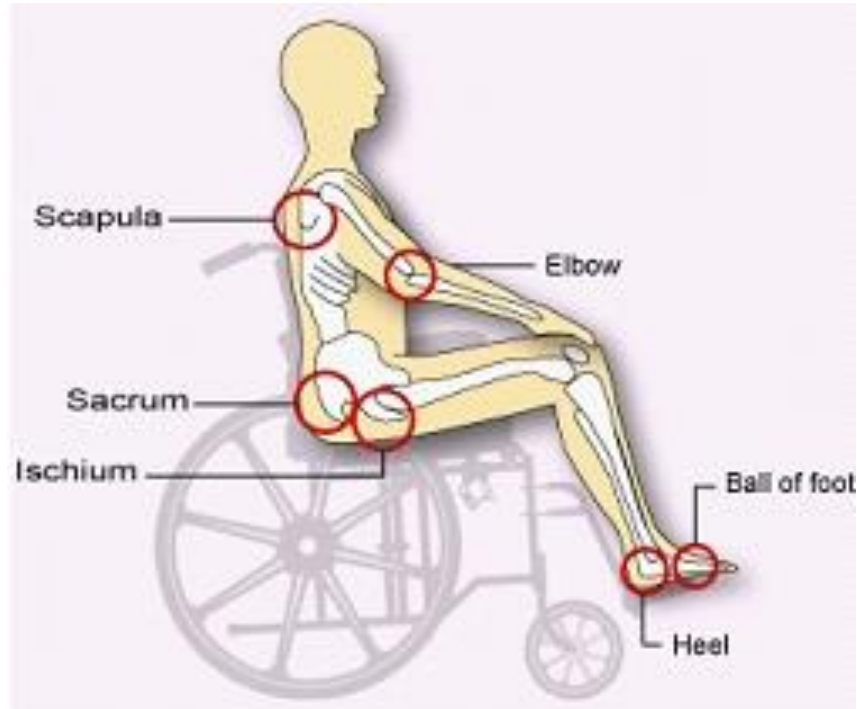
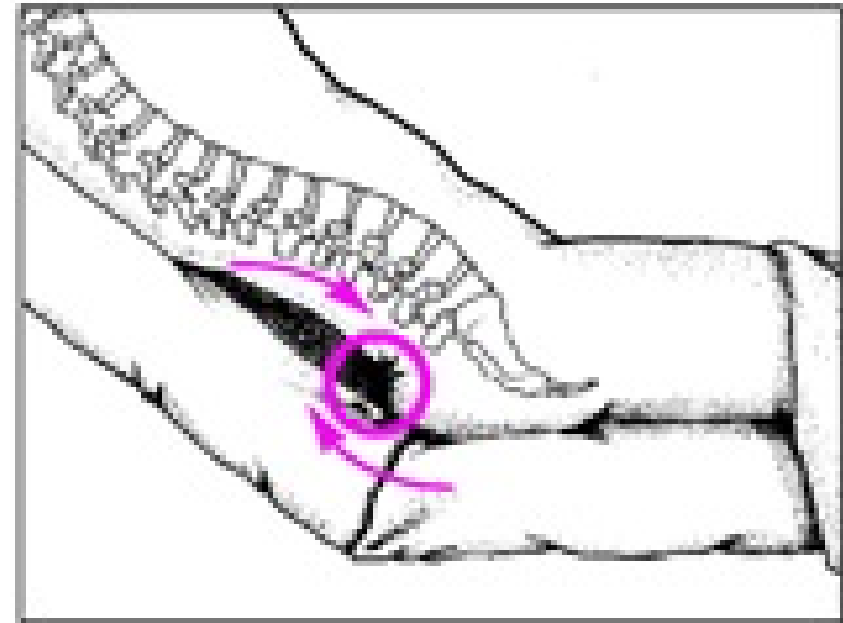
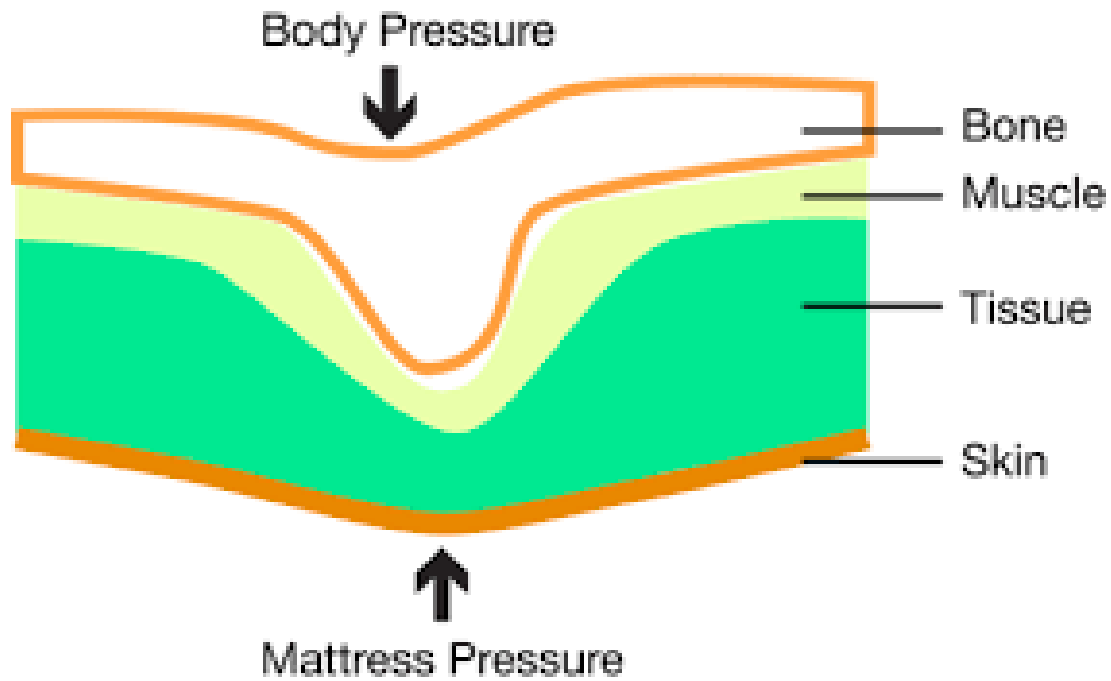


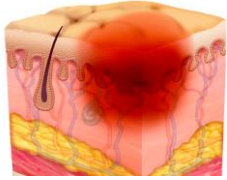
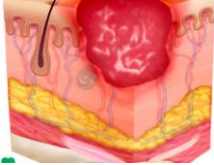
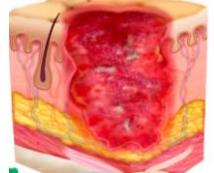
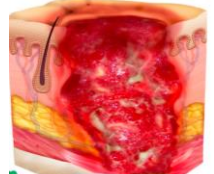

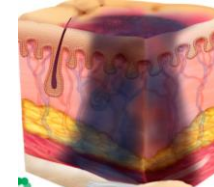
Diagram showing the areas of the body at risk of pressure sores when lying down

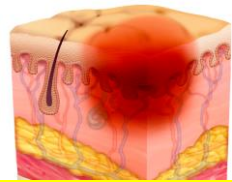
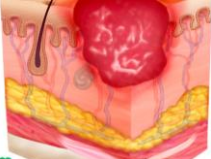
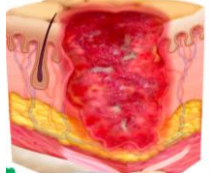
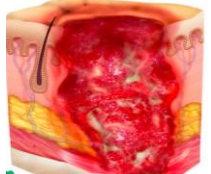

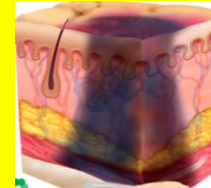
© CancerHelp UK  
Original diagram by the Tissue Viability Society

# Pressure Injuries



Hess, C T. DID YOU KNOW? The Difference between Friction and Shear  
Advances in Skin & Wound Care: [June 2004 - Volume 17 - Issue 5 - p 222](#)

PRESSURE INJURY	Definition	Picture
Stage 1	Non-blanchable erythema	
Stage 2	Partial-thickness skin loss with exposed dermis	
Stage 3	Full-thickness skin loss	
Stage 4	Full thickness and tissue loss	
Unstageable	Obscured full-thickness and skin loss	
Deep Tissue	Persistent non-blanchable deep red, maroon or purple discolourization	

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# Additional pressure injury definitions

- **Medical Device Related Pressure Injury:**  
**This describes an etiology.**

- stage using the staging system.



- **Mucosal Membrane Pressure Injury:**

- these injuries cannot be staged.



# The New Descriptions include:

- Recognizes how skin colour affects detection
- Brings awareness to this issue

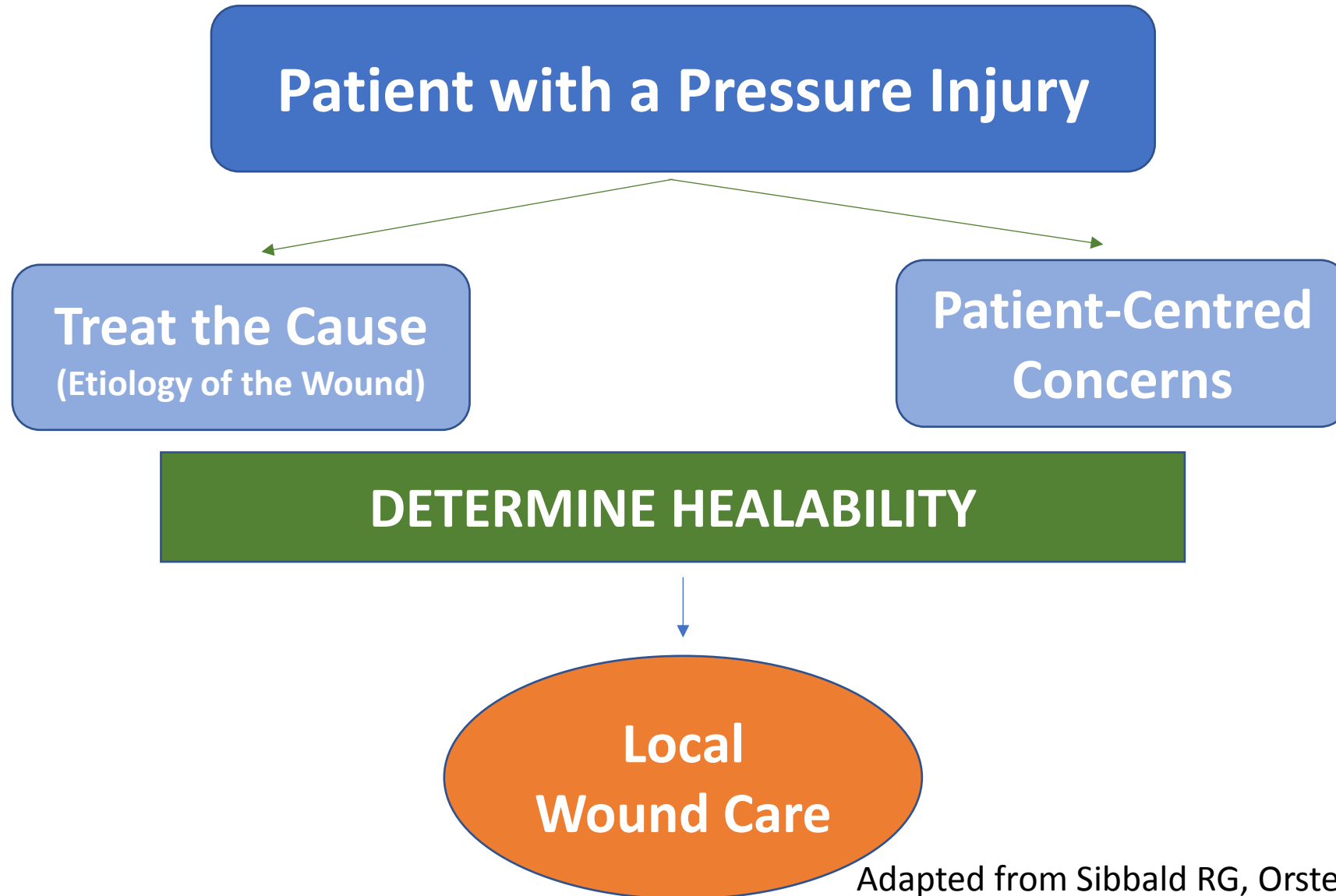


# Objectives

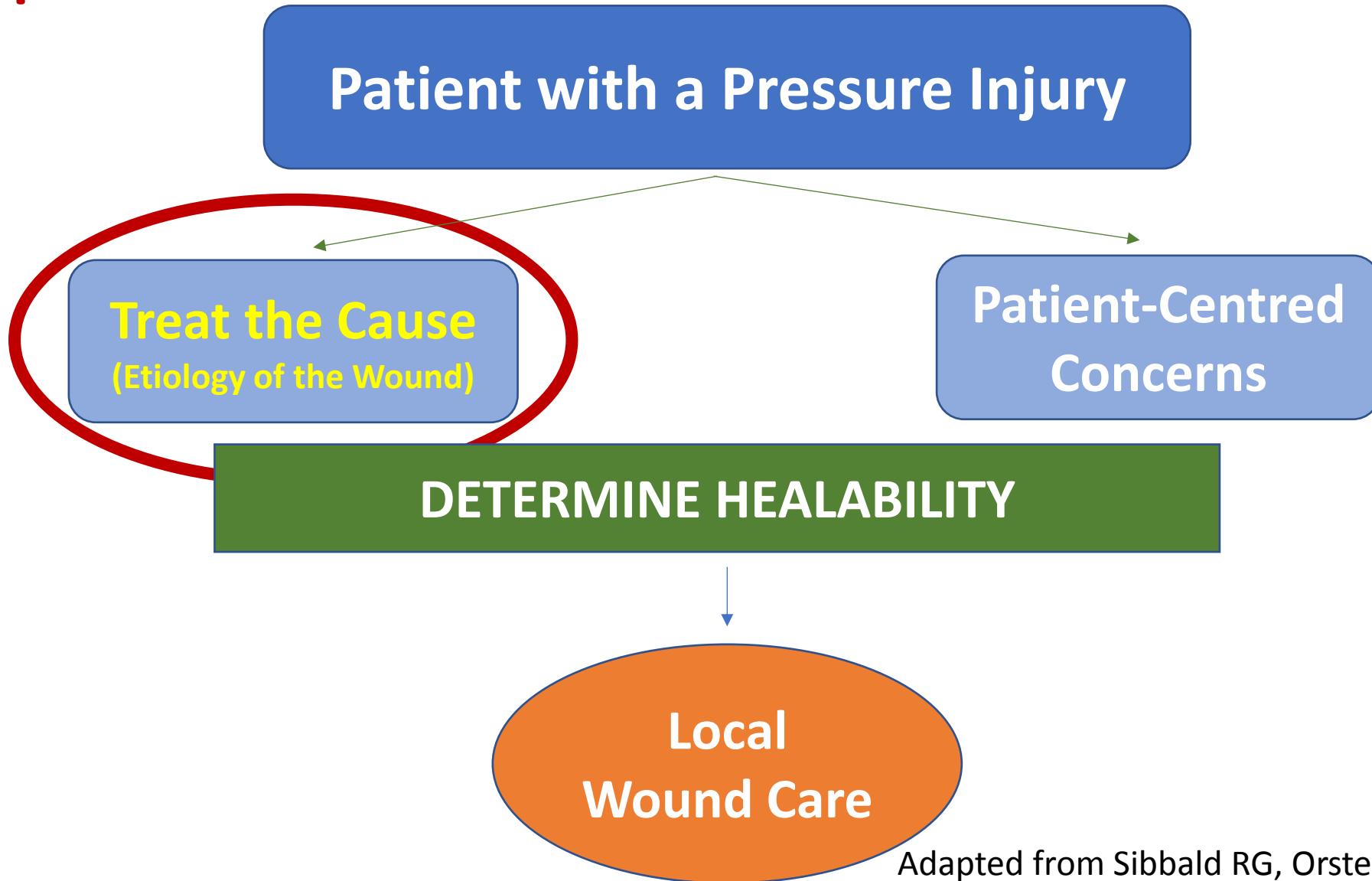
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# Approach



# Approach



# Approach to Wound Care

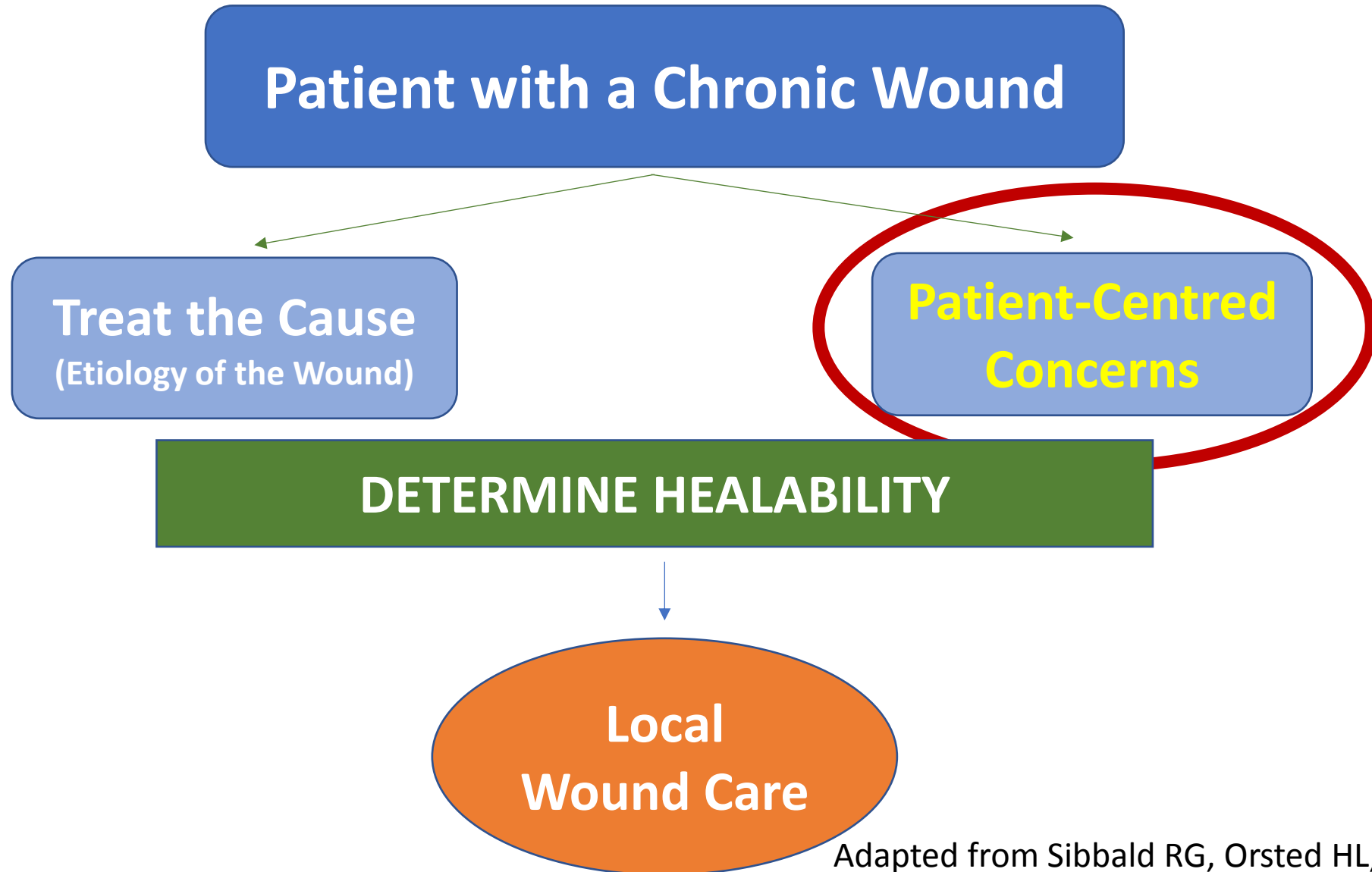
**Treat the Cause**  
(Etiology of the Wound)

## ETIOLOGY/UNDERLYING ISSUES

- Arterial Issues
- Venous Stasis/Lymphedema
- Pressure Ulcer
- Diabetes



# Approach



# Patient Centred Concerns

- Pain
- Dementia/delirium
- Financial issues
- Ageism
- Chronic disease
  - Diabetes, Rheumatoid Arthritis
  - Venous stasis
  - Other immunologic disorders
- Malnutrition
- Obesity
- Neuropathy
- Peripheral Vascular disease

Patient-Centred  
Concerns



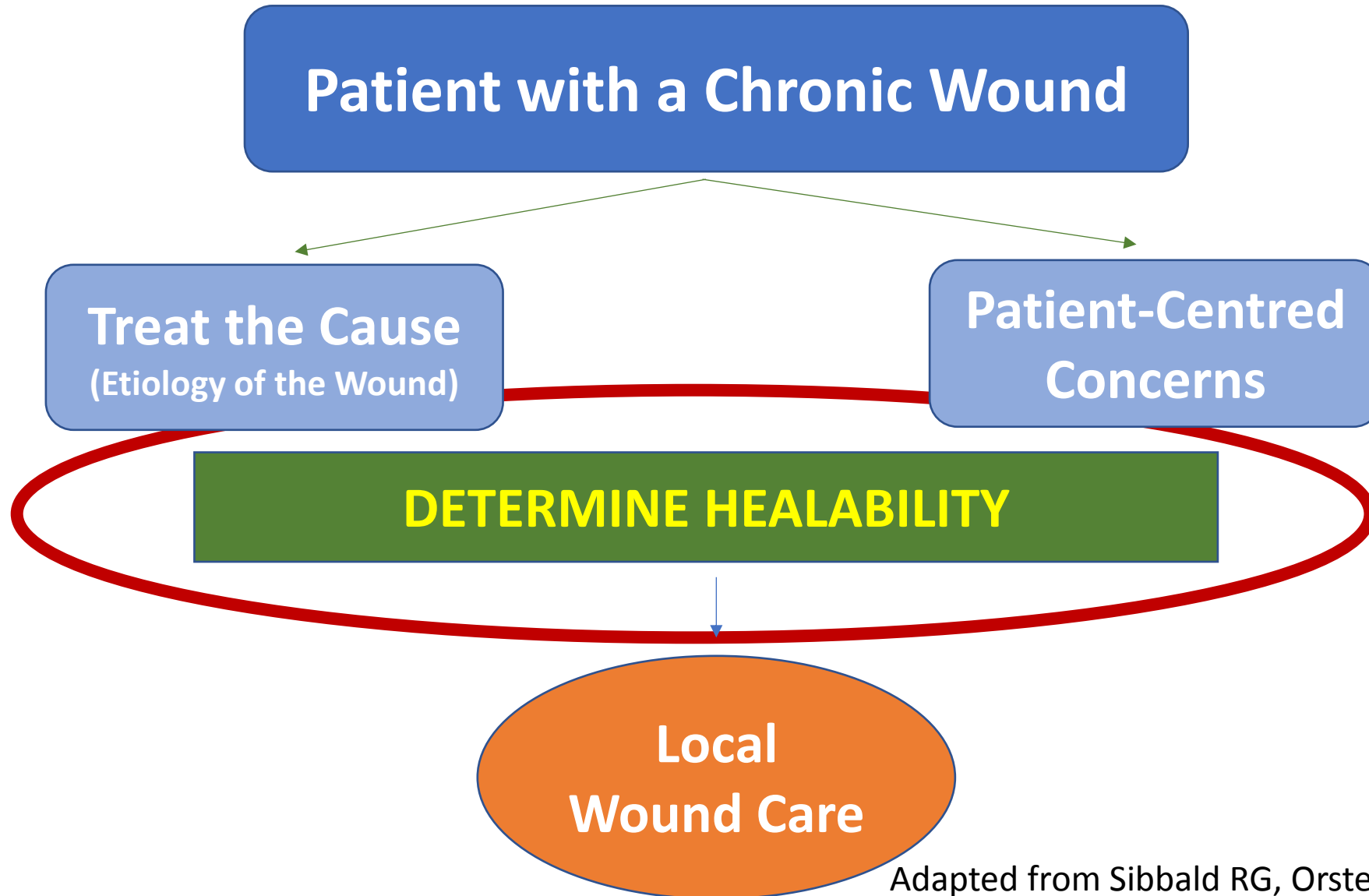
# Patient Centred Concerns

## Drug issues:

- warfarin with antibiotics
- nortriptyline with
  - Cardiac meds
  - SSRIs
  - Quinolones
  - Increased risk of falls
  - Cognitive issues
- pentoxifylline (Trental)
  - Side effects
- gabapentin, amlodipine, NSAIDS
  - Edema
  
- Renal clearance
- Adherence

Patient-Centred  
Concerns

# Approach



# Goals of Care

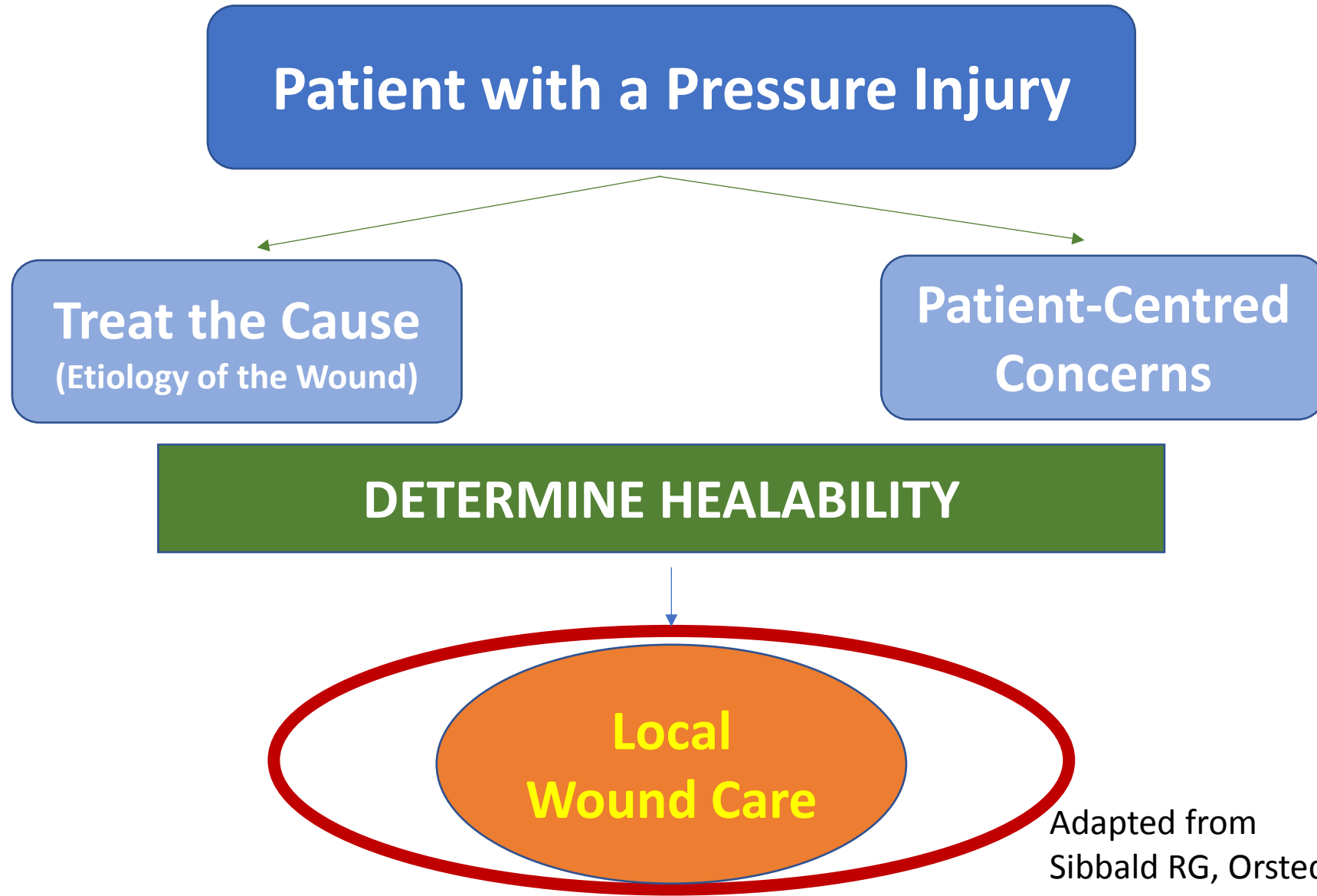
**DETERMINE HEALABILITY**

**HEALABLE**

**NONHEALABLE**

**MAINTENANCE**

# Approach



Adapted from  
Sibbald RG, Orsted HL, Schultz GS, et al.

# Local Wound Care

No robust evidence for difference between wound dressings

- Consider unit cost of dressing
- Management properties
- Patient preference



- Vermeulen H, van Hattem JM, Storm-Versloot MN, Ubbink DT, Westerbos SJ. **Topical silver for treating infected wounds**. Cochrane Database of Systematic Reviews 2007, Issue 1. Art. No.: CD005486. DOI: 10.1002/14651858.CD005486.pub2.
- Bergin S, Wraight P. **Silver based wound dressings and topical agents for treating diabetic foot ulcers**. Cochrane Database of Systematic Reviews 2006, Issue 1. Art. No.: CD005082. DOI: 10.1002/14651858.CD005082.pub2.
- Westby MJ, Norman G, Dumville JC, Stubbs N, Cullum N. **Protease-modulating matrix treatments for healing venous leg ulcers**. Cochrane Database of Systematic Reviews 2016, Issue 12. Art. No.: CD011918. DOI: 10.1002/14651858.CD011918.pub2.
- Dumville JC, Deshpande S, O'Meara S, Speak K. **Foam dressings for healing diabetic foot ulcers**. Cochrane Database of Systematic Reviews 2013, Issue 6. Art. No.: CD009111. DOI: 10.1002/14651858.CD009111.pub3.
- Forster R, Pagnamenta F. **Dressings and topical agents for arterial leg ulcers**. Cochrane Database of Systematic Reviews 2015, Issue 6. Art. No.: CD001836. DOI: 10.1002/14651858.CD001836.pub3.
- Dumville JC, O'Meara S, Deshpande S, Speak K. **Hydrogel dressings for healing diabetic foot ulcers**. Cochrane Database of Systematic Reviews 2013, Issue 7. Art. No.: CD009101. DOI: 10.1002/14651858.CD009101.pub3.
- Wu L, Norman G, Dumville JC, O'Meara S, Bell-Syer SEM. **Dressings for treating foot ulcers in people with diabetes: an overview of systematic reviews**. Cochrane Database of Systematic Reviews 2015, Issue 7. Art. No.: CD010471. DOI: 10.1002/14651858.CD010471.pub2.

# Treatment

Bandaging daily or as needed (due to location)

**Primary Dressing – antiseptic dressing**

**Secondary Dressing – absorptive dressing**

**DEPENDS ON WHAT IS AVAILABLE AT YOUR INSTITUTION**

- More expensive is not necessarily better
- More than 1 way to dress a wound

# Other Treatments

## Electrical Stimulation

- Looks to be some evidence for Pressure Ulcers  
New Cochrane



## Phototherapy for Pressure Injuries

- 7 RCTs (403 patients)
- Unclear if helpful

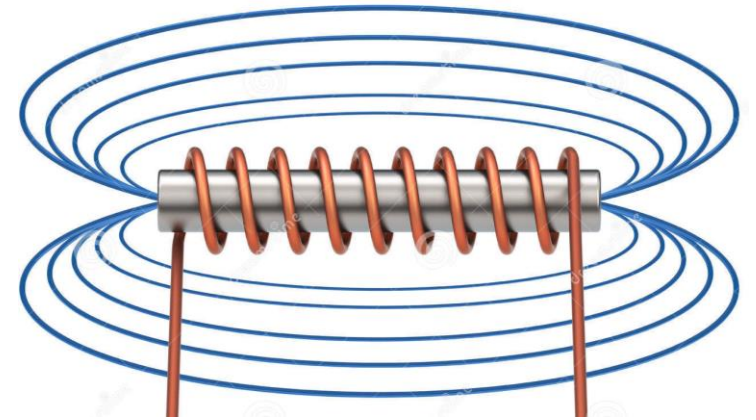


Chen C, Hou WH, Chan ESY, Yeh ML, Lo HLD. Phototherapy for treating pressure ulcers. Cochrane Database of Systematic Reviews 2014, Issue 7. Art. No.: CD009224. DOI: 10.1002/14651858.CD009224.pub2.

# Other Treatments

## Electromagnetic Therapy

- No evidence for pressure injuries - Cochrane



## Ultrasound Therapy

- No evidence for pressure injuries - Cochrane



# Negative Pressure Wound Treatment (NPWT, VAC)

- Cochrane Review: Searched Medical Literature up to May 2015
  - Looking for Robust studies comparing NPWT to other treatments
  - Found 2 studies comparing to dressing
  - 1 study comparing to topical tx
  - 1 study compared to moist wound healing
- “The trials were small, and poorly described, of fairly short or unclear duration, and contained little in the way of useful data.”
- “As a result of the limited amount of research evidence available, we were not able to draw any conclusions regarding the potential value (or harm) of NPWT as a treatment for pressure ulcers. More, better quality research is needed if this is an important and relevant question for decision makers.”
- Dumville JC, Webster Evans D, Land L. Negative pressure wound therapy for treating pressure ulcers. Cochrane Database of Systematic Reviews 2015, Issue 5. Art. No.: CD011334. DOI: 10.1002/14651858.CD011334.pub2.



# NEVER EVENT

9. Any stage III or IV Pressure Ulcer acquired after admission to hospital.

Stage III and IV ulcers can lead to serious complications such as infections of the bone and or blood (sepsis)

# Not ALL pressure injuries are preventable

Kennedy terminal ulcer



Sibbald RG, Krasner DL, Lutz J. SCALE: Skin Changes At Life's End: Final Consensus Statement: October 1, 2009. *Adv Skin Wound Care*. 2010;23(5):225-238.

# Financial Costs of Caring for Wounds



## Include:

- Nursing Care
- Hospitalization
- Wound Care supplies
- Physician time
- Off-loading equipment
- Medication

## 2007 – CMS data

- 257 412 cases of secondary Stage 3 or 4
- Cost per case **\$43 180**

# Can reduce costs of Wound Care Supplies!



- **Baycrest Hospital and Apotex LTCH**

Year	Costs
2010	\$147,857
2014	\$65,319

56% ↓

Ott C, Jones-Lim L, Bandali A, Calabrese S. **How We Decreased the Cost of Wound Care Supplies at a Hospital and Long-term-care Home.** Wounds Canada. 2018 Vol 16 No 2, pp 58-61.

- **2 Long term care homes in Halifax**

Year	Costs
2012	\$147,692.68
2018	\$46,133.87

59% ↓

Mitchell MacDonald B. **Developing a Wound Care Program in Long term care: Changing the Focus from Products to Prevention.** Wounds Canada. 2018 Vol 16 No 2, pp 51-56.

# Pressure Injury – Take home message

Better to ***PREVENT*** than treat

