



# Colorectal Surgical Wound Dehiscence Assessment and Treatment

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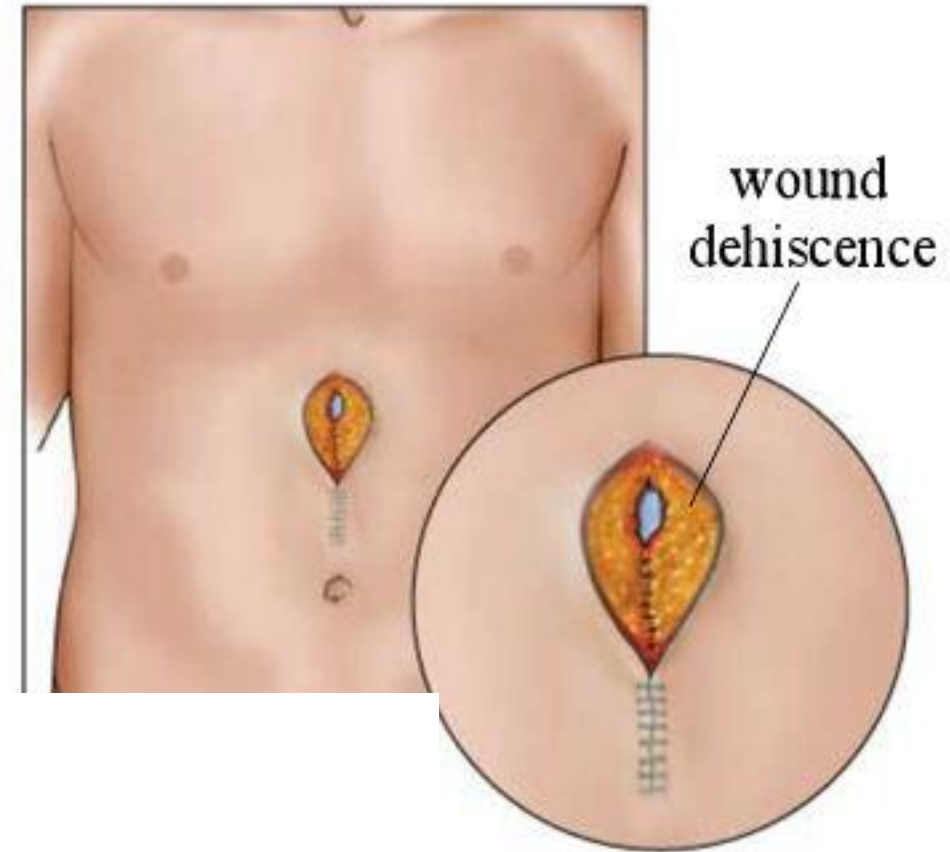
Otago

Acknowledgment:

Caroline Dowsett

Tissue Viability Nurse

London



# Overview

- Focus on Colorectal SWD (CSWD)
- Causes and Definition
- Assessment
- Wound Infection Continuum
- Management of SWD

# Surgical Wound Dehiscence (SWD)

## Impact on Patients + Society

- Severe impact on a patient's psychosocial wellbeing
- Not restricted to inpatient hospital care
- Majority are cared for in the Community
- High cost and resource burden in outpatient and community settings



# Surgical Wound Complications

- Surgical site infection (SSI)
- Surgical wound dehiscence (SWD)
- Hyper granulation
- Peri-wound maceration
- Scarring
- Medical adhesive-related skin injury

INTERNATIONAL SURGICAL WOUND  
COMPLICATIONS ADVISORY PANEL (ISWCAP)



INTERNATIONAL BEST PRACTICE  
RECOMMENDATIONS FOR  
**THE EARLY IDENTIFICATION AND  
PREVENTION OF SURGICAL WOUND  
COMPLICATIONS**

RECOMMENDATIONS FROM AN EXPERT WORKING GROUP



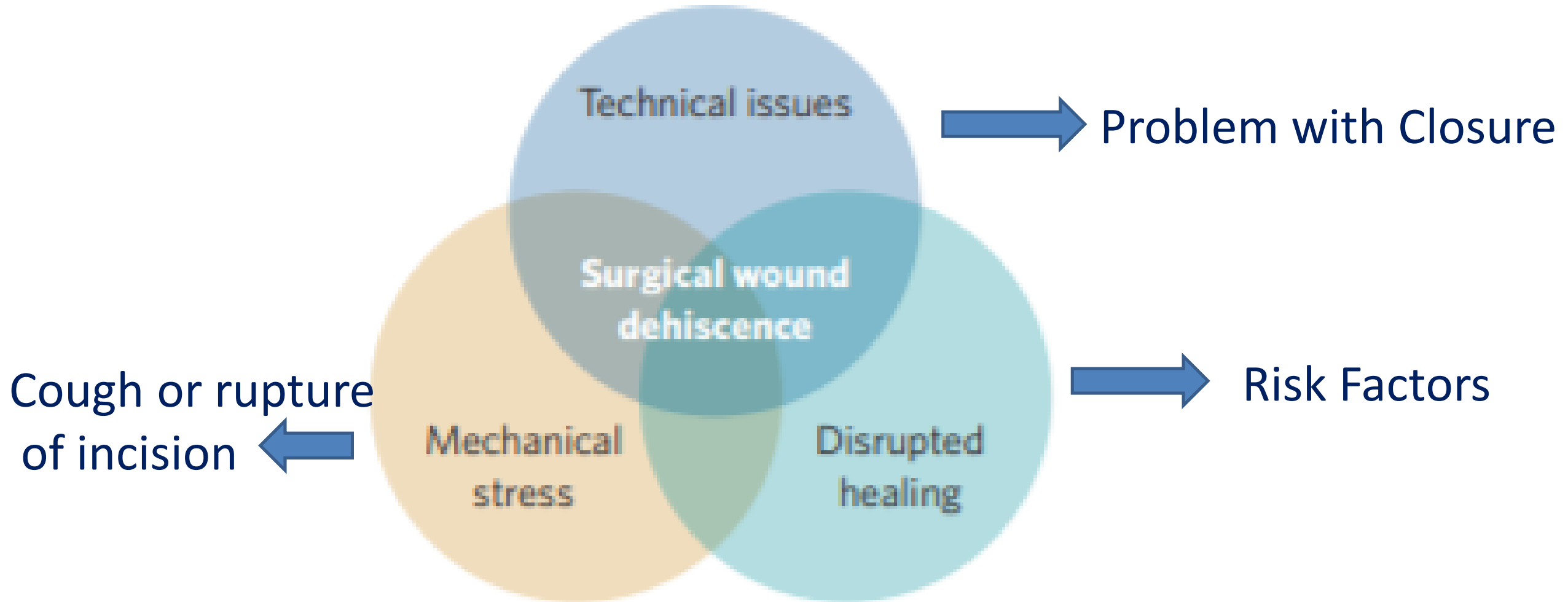
# Signs That Healing Is Impaired

- Prolonged Inflammation at the incisional site
- Increased redness, swelling, warmth and pain beyond 5 days post op
- Collection of fluid under the incision
- Serous or purulent discharge (cloudy, green, brown)

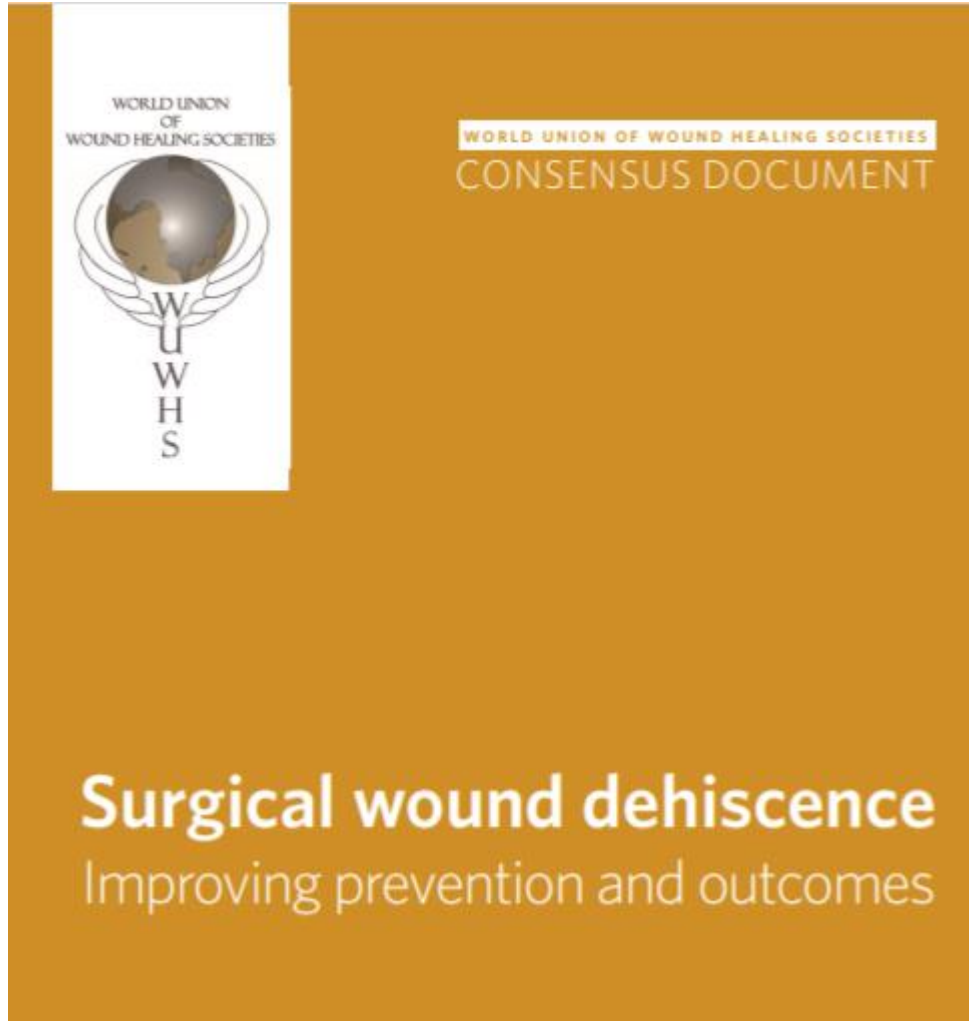
**Not all dehiscent wounds are infected  
or require treatment for infection  
and not all infected or inflamed  
wounds dehisce**



# Causes of SWD



# Surgical Wound Dehiscence (SWD) Consensus Document



- World Union of Wound Healing Societies (WUWS) consensus document
- Best available evidence
- Expert opinions
- Opportunity to improve the care and outcomes of patients with surgical wounds



# Synonyms for Surgical Wound Dehiscence (SWD)

Called many different Names

- Wound disruption
- Wound separation
- Wound opening
- Wound rupture
- Wound breakdown
- Wound failure
- Surgical site failure
- Burst abdomen



# Definition of SWD

## Definition

- Separation of the margins of a closed surgical incision that has been made in the skin, with or without exposure or protrusion of underlying tissue, organs or implants

(Wound International, 2018)



# SWD - Assessment

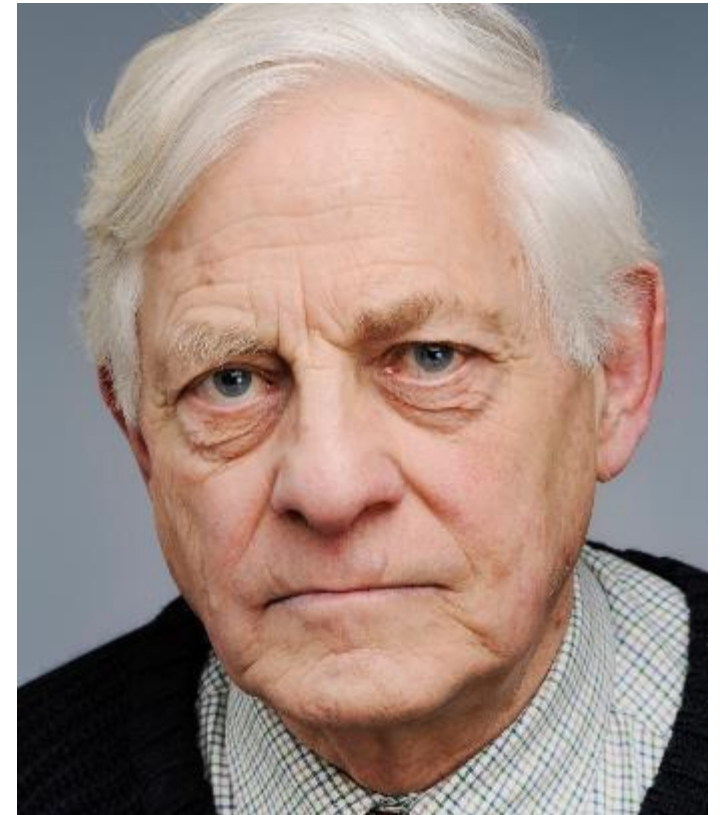
## Assessment the Whole Person

- General condition of the patient
- Medical and surgical history
- Contributing factors that may impair healing
- Pain
- Wound Assessment and Plan



Treat The Whole Patient  
Not The Hole In The Patient  
It's Not The Wound That Is Complex  
It's The Patient

Sussman, 2004



# SWD - Assessment

Initial Goal

Diagnosis

## Wound Assessment Form

FORM FILED AT:	DUNEDIN <input type="checkbox"/>	SOUTHLAND <input type="checkbox"/> LAKES <input type="checkbox"/>

Date of assessment \_\_\_\_\_ Date of injury \_\_\_\_\_  
AOC number \_\_\_\_\_ Date of surgery \_\_\_\_\_  
Specialist follow-up \_\_\_\_\_ Location of wound/s \_\_\_\_\_

Patient's understanding of reason for visit

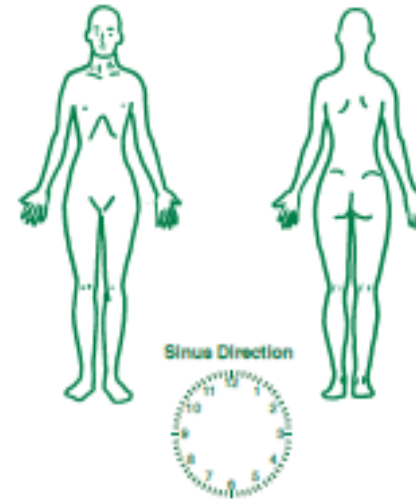
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Patient's initial goal of treatment

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

History of current episode / duration

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



<b>Surgical incision</b> <input type="checkbox"/> Healed <input type="checkbox"/> Unhealed <input type="checkbox"/> Dehiscence <input type="checkbox"/> Other _____	<b>Leg wound</b> <input type="checkbox"/> Aetiology unknown <input type="checkbox"/> Arterial ulcer <input type="checkbox"/> Venous ulcer <input type="checkbox"/> Mixed aetiology <input type="checkbox"/> Other _____	<input type="checkbox"/> Sinus <input type="checkbox"/> Fistula <input type="checkbox"/> Abscess <input type="checkbox"/> Peri-stoma wound <input type="checkbox"/> Malignancy
<b>Acute trauma</b> <input type="checkbox"/> Skin tear <input type="checkbox"/> Abrasion <input type="checkbox"/> Bruising <input type="checkbox"/> Haematoma <input type="checkbox"/> Crush injury <input type="checkbox"/> Fracture <input type="checkbox"/> Pinsite <input type="checkbox"/> Other _____	<b>Foot wound</b> <input type="checkbox"/> Aetiology unknown <input type="checkbox"/> Neuropathic ulcer <input type="checkbox"/> Neuro-ischaemic <input type="checkbox"/> Other _____	<b>Burn</b> <input type="checkbox"/> Superficial epidermal <input type="checkbox"/> Superficial dermal <input type="checkbox"/> Mid-dermal <input type="checkbox"/> Deep dermal
<b>Pressure injury</b> Site _____ Stage _____ Braden score _____	<b>Skin graft</b> <input type="checkbox"/> Meshed / non meshed  <input type="checkbox"/> Donor site Location: _____	

Prelims



# SWD - Assessment

Factors that may  
impede healing

Intermittent  
Goal setting

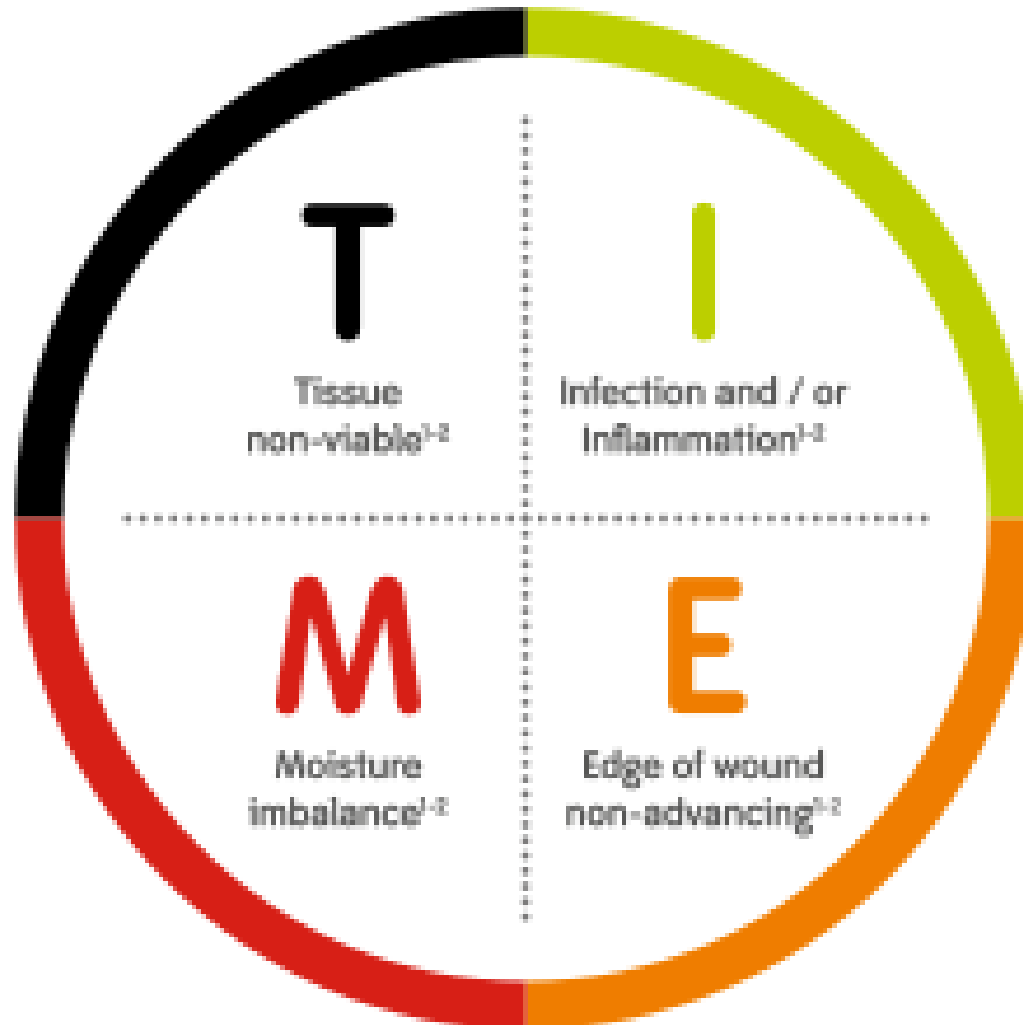
Discharge planning

Consider management plan to include referral or consultation if appropriate within multidisciplinary or interdisciplinary team **at time of assessment and/or within first four weeks** following initial wound assessment if failing to progress.

FORM FILED AT: DUNEDIN ☐ SOUTHLAND ☐ LAKES ☐

Risk factors for delayed healing	Factors that may impede healing
<input type="checkbox"/> Age at assessment >65 years <input type="checkbox"/> Hypertension <input type="checkbox"/> Obesity	<input type="checkbox"/> Diabetes – type I / type II (please circle) <input type="checkbox"/> Lower leg wound / leg ulcers <input type="checkbox"/> Peripheral arterial disease <input type="checkbox"/> Chronic renal failure <input type="checkbox"/> Pulmonary disease <input type="checkbox"/> Diabetic foot ulcer <input type="checkbox"/> Chronic venous insufficiency <input type="checkbox"/> Inflammatory skin conditions
<b>Factors that may impede healing</b> <input type="checkbox"/> Alcohol consumption <input type="checkbox"/> Poor appetite <input type="checkbox"/> Anaemia / low albumin and/or low iron levels <input type="checkbox"/> Medication e.g. chemotherapy / anti-inflammatory / steroids / anticoagulants <input type="checkbox"/> Other: _____ <input type="checkbox"/> Smoking <input type="checkbox"/> Recent weight loss	
<b>Negotiated goal of care</b> _____ _____	
Assessment summary: (include estimated length of time to heal and estimated discharge date)	
Initial _____ Date and signature _____	
Review date	Assessment review / outcome: (estimated length of time to heal)
Estimated discharge date and signature	
Discharge plan: Patient / carer wound education and outcomes discussed to:	
<input type="checkbox"/> Support patient concordance and expectations regarding wound management <input type="checkbox"/> Manage ongoing care of newly healed wound <input type="checkbox"/> Prevent recurrence of ulceration to foot or lower leg <input type="checkbox"/> Prevent recurrence of pressure related injury / ulceration <input type="checkbox"/> Ensure equipment and services are in place to manage ongoing care (e.g. compression hosiery, pressure relief devices, orthotic footwear) <input type="checkbox"/> Follow-up arranged as necessary	Referrals completed <input type="checkbox"/> Clinical nurse specialist <input type="checkbox"/> Leg ulcer assessment nurse <input type="checkbox"/> High risk diabetic foot clinic <input type="checkbox"/> Podiatrist <input type="checkbox"/> Other _____
Date of referral and signature _____	

# Wound Assessment TIME



# Assessment - T-Tissue

## Location and Depth

Assess	Specifics
Location and extent of dehiscence	Location of the incision Proportion of the incision affected Number of areas of dehiscence Presence of sutures/clips and condition (intact/broken)
Depth of dehiscence	Partial or full-thickness dehiscence and tissue layers affected Extension to or exposure of organs/bone/implant
Wound Bed Tissue	Black, Yellow, Red or Pink
Dimensions	Maximum length, width, depth Presence of undermining/tunnelling





# T for Tissue

## Wound Bed

Assess	Specifics
Location and extent of dehiscence	Location of the incision Proportion of the incision affected Number of areas of dehiscence Presence of sutures/clips and condition (intact/broken)
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The diagram is a circular flow chart with four colored squares arranged in a circle, connected by a light blue ring. The squares represent the stages of wound healing:

- Dry eschar** (Black square, top-left):  
Black Necrosis
- Yellow slough** (Yellow square, top-right)
- Granulation tissue** (Red square, bottom-left)
- Epithelising** (Pink square, bottom-right)

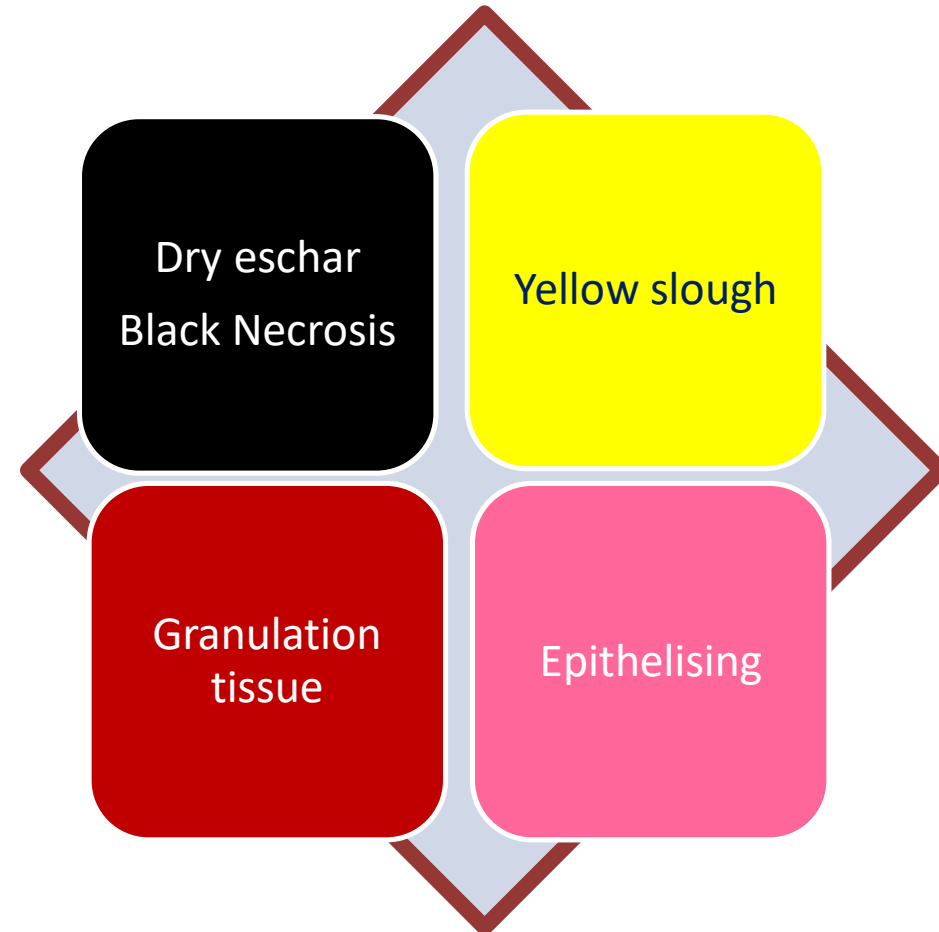
Wound Supplement Sheet							
Date:							
Site:							
<b>Wound measurement</b>							
Maximum length (cm)							
Maximum width (cm)							
Depth (cm)							
Graft take %							
See tracing							
Digital image (signed consent)							
<b>Wound bed</b>							
Necrotic (black) %							
Slough (yellow) %							
Granulating (red) %							
Epithelialising (pink) %							
Hypergranulation %							
<b>Wound improvement</b>							
Yes /							
No ?							
Static ?							
<b>Exudate levels (at dressing change)</b>							
Large (<24hrs)							
Moderate (48-72hrs)							
Low (up to 7 days)							
Amount (increasing/decreasing)							
<b>Type of exudate</b>							
Serous							
Haemoserous							
Purulent							
Haemopurulent							
Malodorous							
<b>Peri-wound area</b>							
Macerated							
Oedematous							
Erythema / inflammation							
Cellulitis							
Fragile							
Healthy / intact							
<b>Pain* Score 0-10</b>							
(0= no pain / 10 = worst pain)							
Continuous							
At specific times							

# T for Tissue Wound Bed

TIME



# T for Tissue Wound Bed



# T for Tissue Wound Bed





# T for Tissue Wound Bed

Clinical judgment to assess signs of healing

- ✓ Decreasing amount of exudate
- ✓ Wound bed tissue improvement



# Assessment - T for Tissue Measurements

Assess	Specifics
Location and extent of dehiscence	Location of the incision Proportion of the incision affected Number of areas of dehiscence Presence of sutures/clips and condition (intact/broken)
Depth of dehiscence	Partial or full-thickness dehiscence and tissue layers affected Extension to or exposure of organs/bone/implant
Wound Bed Tissue	Black, Yellow, Red or Pink
Dimensions	Maximum length, width, depth Presence of undermining/tunnelling

# Assessment - T for Tissue Measurements

- Document the results of all wound assessments
- Find the true extent of the Wound
- A short area of dehiscence is not necessarily only superficial and may extend deeply

<b>Southern District Health Board</b> <b>Wound Evaluation Supplement Sheet</b> ACC number _____ Type of wound _____ Estimated weeks to heal _____ Site _____		SURNAME		NHI		
		OTHER NAMES		DOB	AGE	
		WARD		CONSULTANT		
		ADDRESS		PHONE NUMBER		
		FORM FILED AT: DUNEDIN <input type="checkbox"/> SOUTHLAND <input type="checkbox"/> LAKES <input type="checkbox"/>				
Date:						
Site:						
Wound measurement						
Maximum length (cm)						
Maximum width (cm)						
Depth (cm)						
Graft take %						
See tracing						
Digital image (signed consent)						

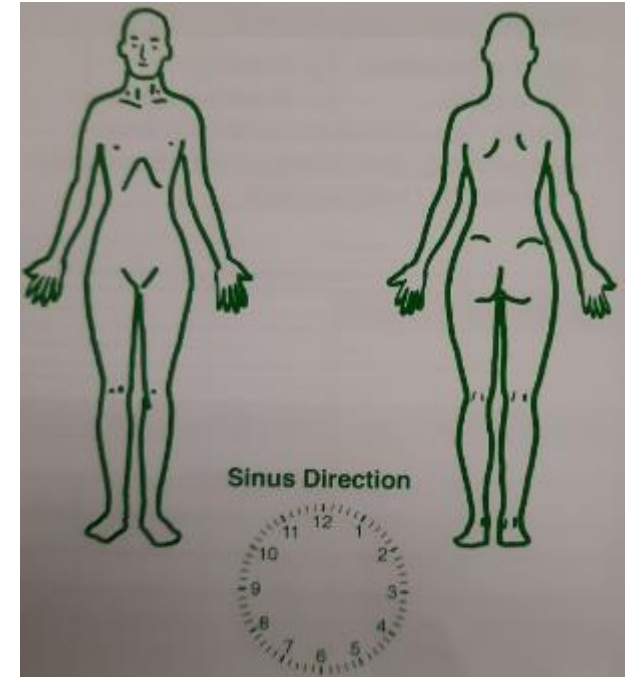




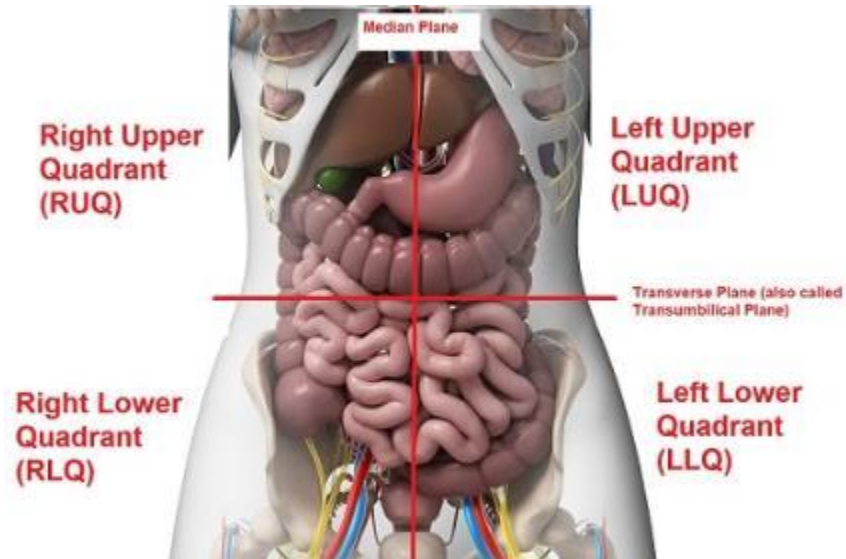
# Assessment - T for Tissue Measurements

TIME

- ✓ Consistent method for measuring longest wound length and widest width
- ✓ If more than one area of dehiscence is present, each area should be assessed individually
- ✓ Use Clock face to describe e.g. 9 cm sinus at 12 o'clock



Head



Right



Legs

Left



# Probing

Don't Use Metal Probes

Use soft tipped Measurement Probes



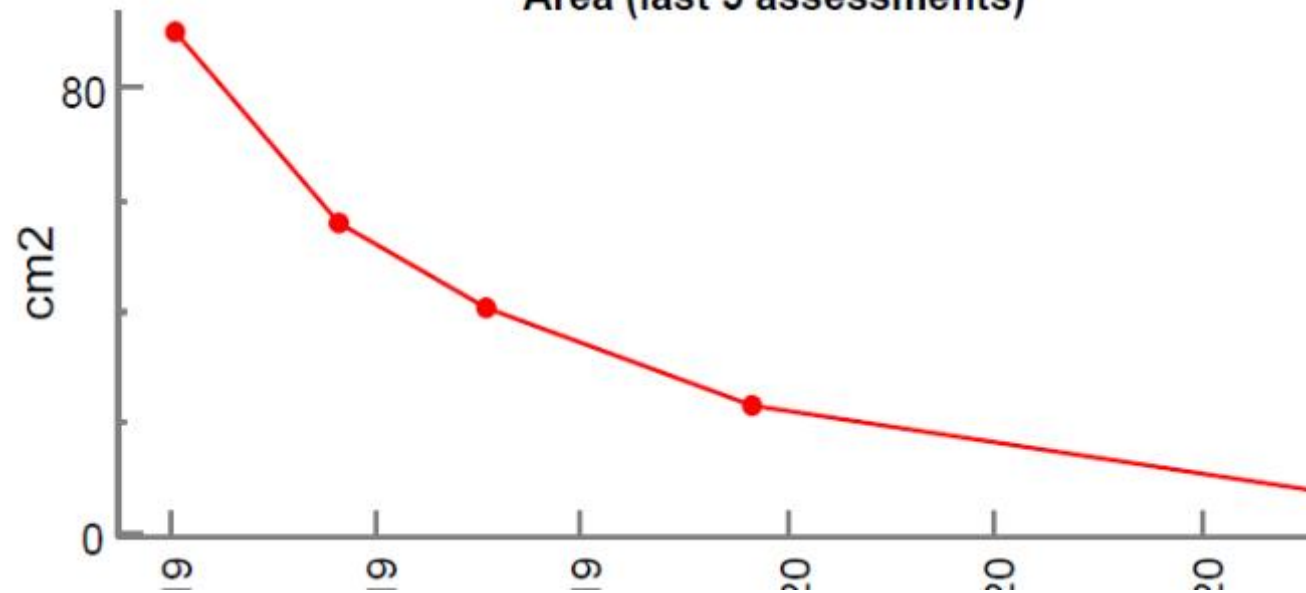
✓ Probing should be done gently by competent clinician

# Monitoring Healing

ter  
mm  
pth  
mm  
pth  
mm  
me  
cm<sup>3</sup>



Area (last 5 assessments)





# I – Inflammation/Infection

## Local and Systemic Signs

Assess	Specifics
Local indicators	<ul style="list-style-type: none"><li>Erythema – localised or spreading (cellulitis)</li><li>Pus/purulent or haemopurulent exudate</li><li>Abscess</li><li>Swelling/induration</li><li>Local warmth</li><li>Malodour</li><li>Unexpected pain or tenderness</li></ul>
Systemic signs and symptoms	<ul style="list-style-type: none"><li>Malaise</li><li>Loss of appetite</li><li>Pyrexia or hypothermia</li><li>Tachycardia, Tachypnoea</li><li>Elevated C-reactive protein (CRP)</li><li>Elevated or suppressed white blood cell count</li><li>Sepsis</li></ul>

