Ischaemic Ulceration of the lower limb

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Friday 6th September 9-1pm

Learning Objectives With case studies

- Defining a palliative wound
- Review the pathophysiology concepts of lower limb ulcerations
- Defining ischaemia
- Identify goals

Defining a Palliative wound

(Sezgin, Geraghty et al. 2023)

No agreed definition

1- Healing potential or NOT of wounds.

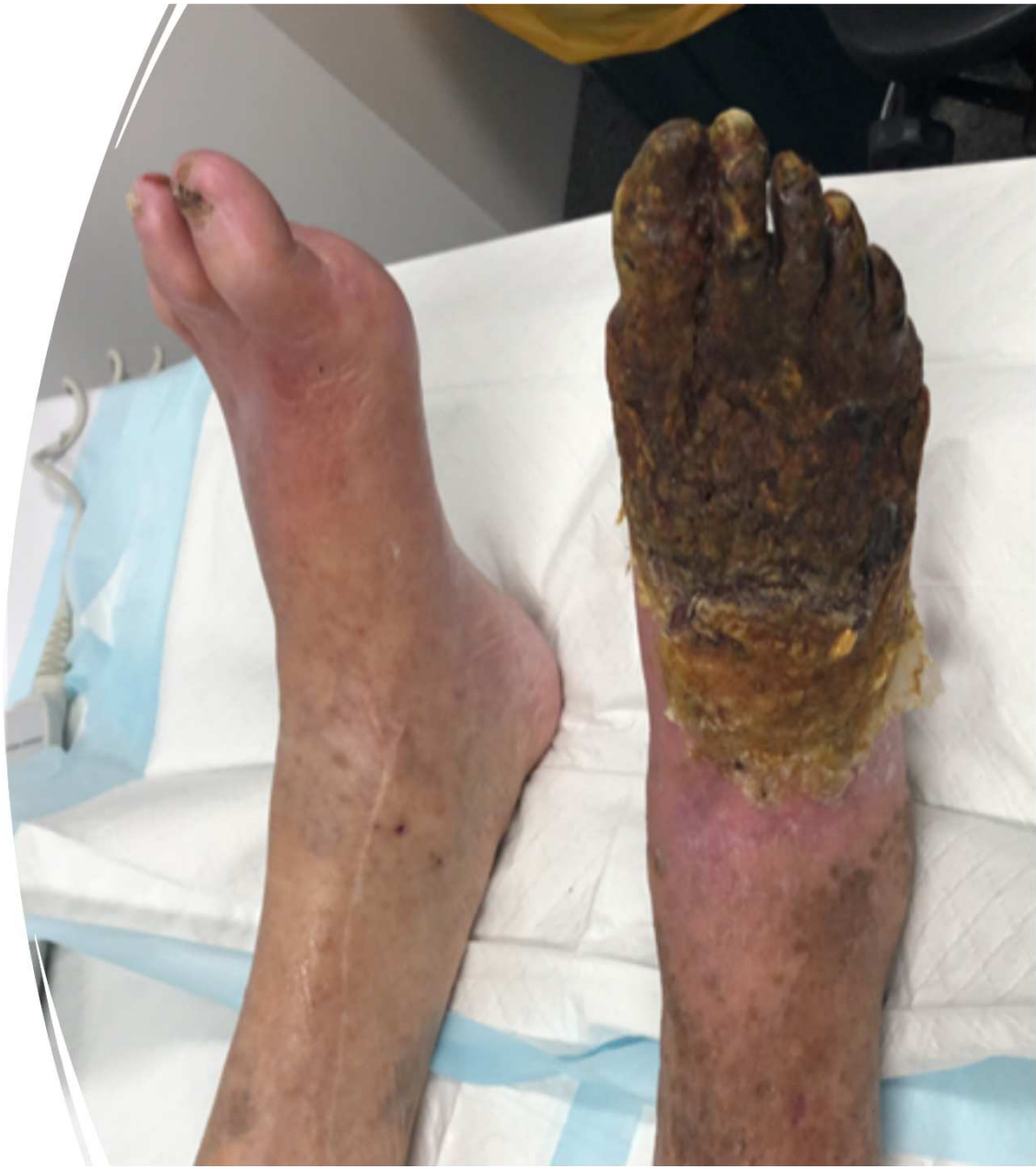
2- Understanding the impact on individuals.

3- Protecting pt comfort and dignity.

4- Patient and family needs.

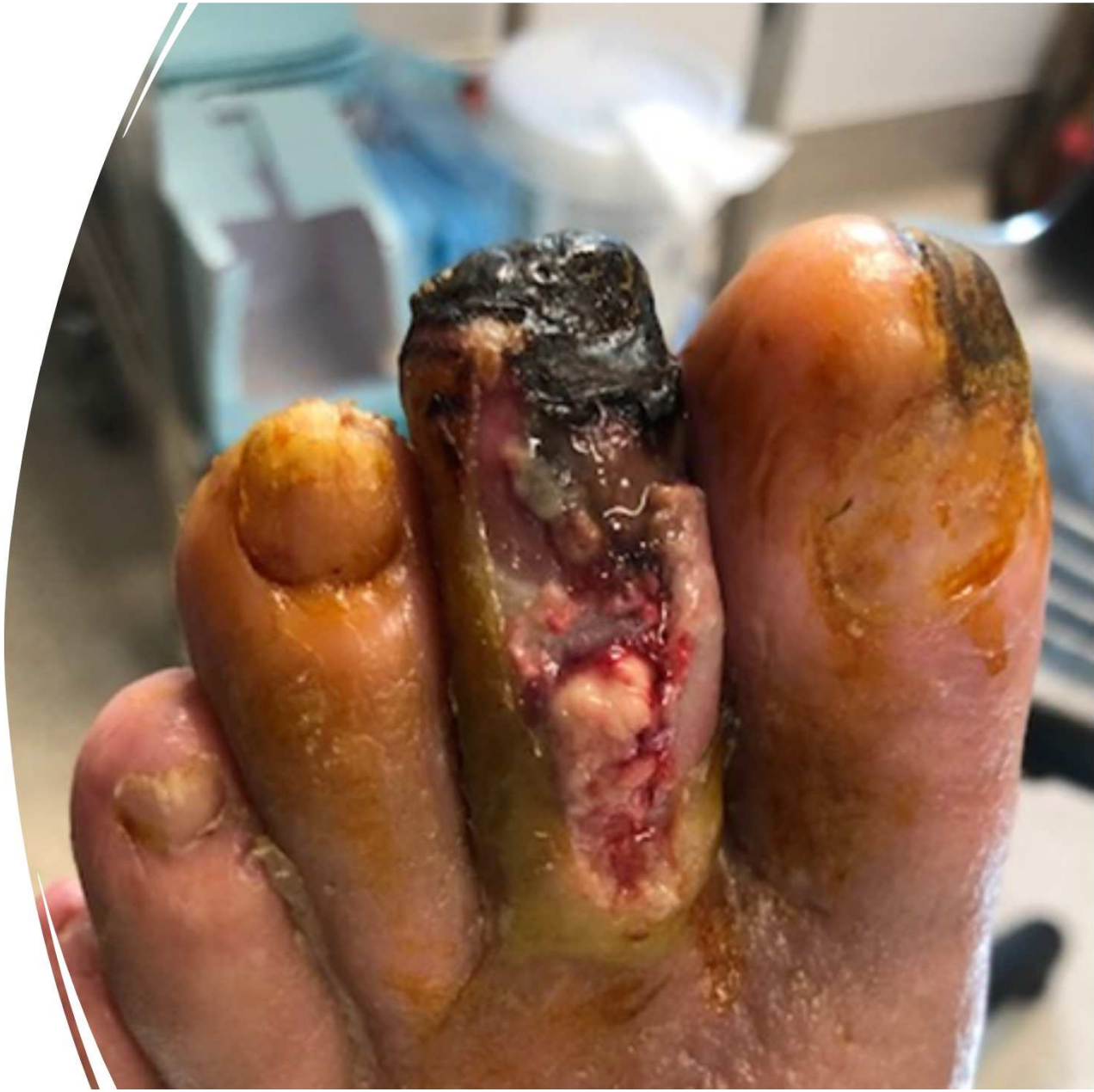
5- Symptom control and management.

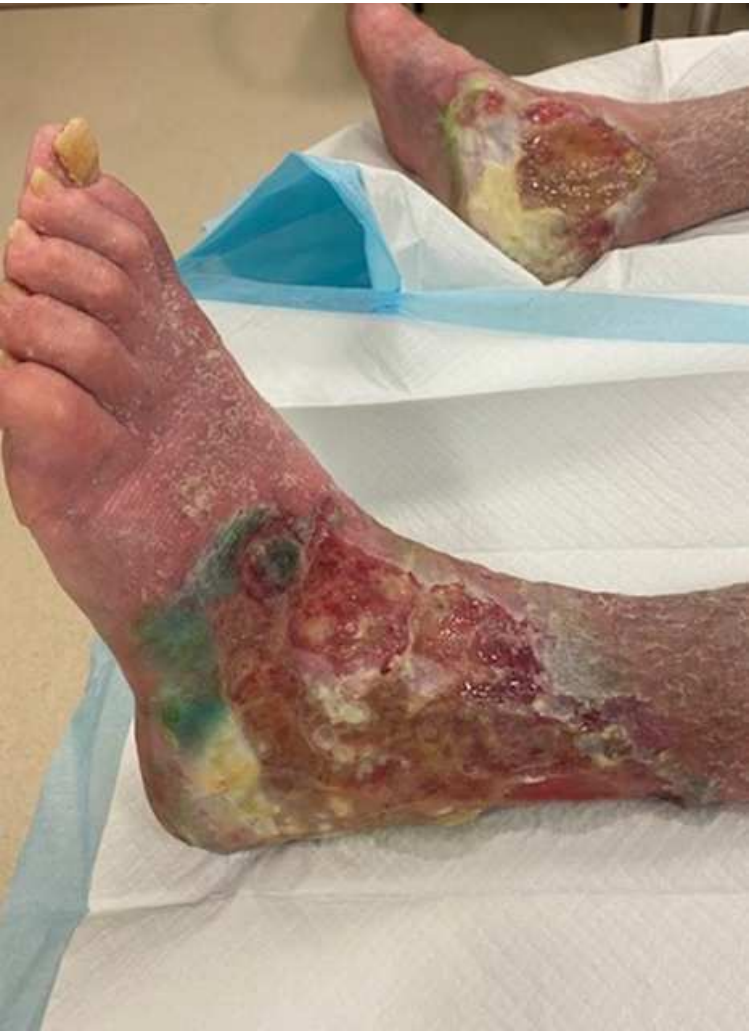
6- Holistic treatment of persons who are vulnerable and have impaired quality of life.

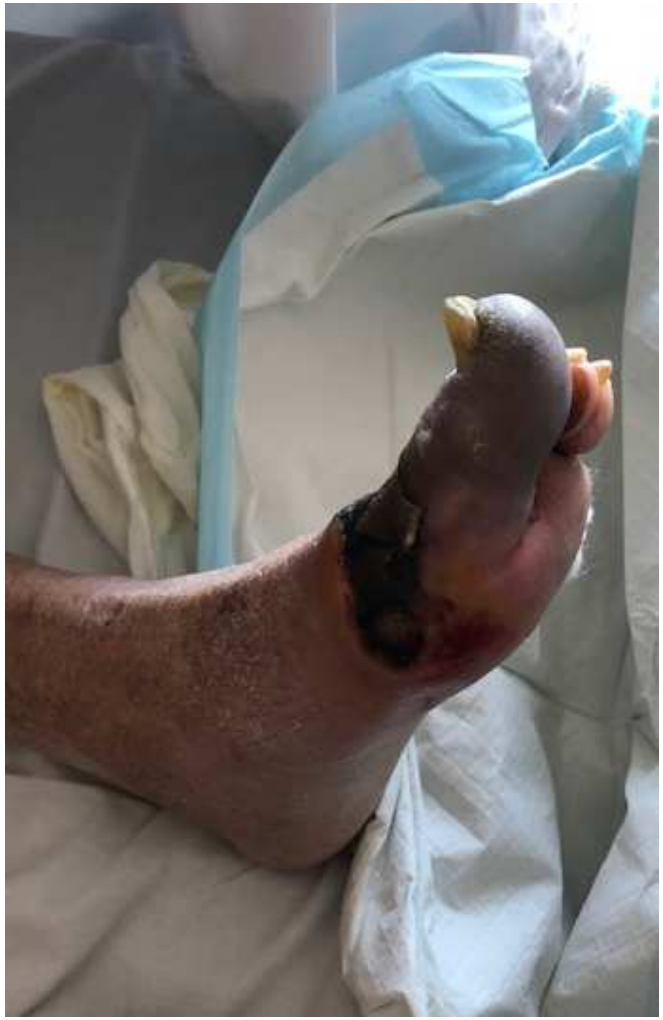


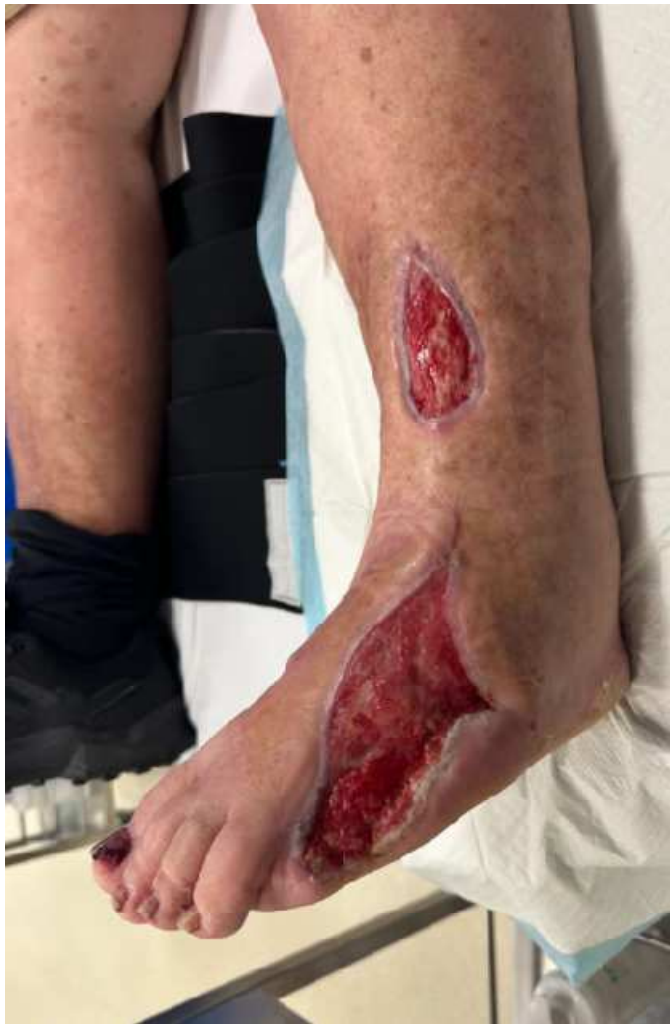
ULCER AETIOLOGY

- Venous
- Arterial
- Neuropathic
- Lymphoedema
- Others
  - Vasculitic
  - Trauma
  - Malignancy
  - Drug eruption
  - Congenital disorders
- Mixed Aetiology
- Increasingly aged population
- Prevalence of Diabetes, Obesity
- & Renal failure / dialysis

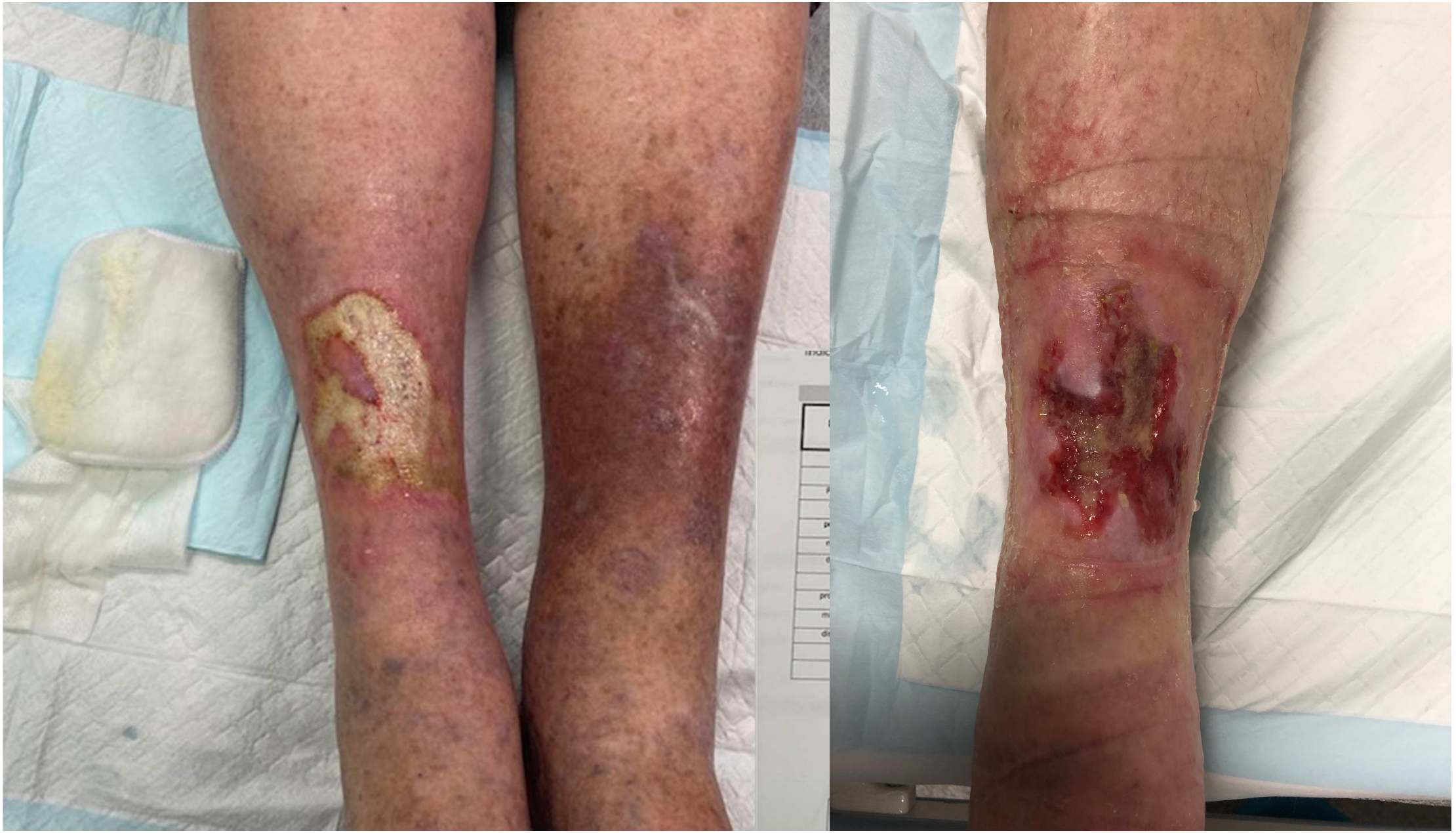






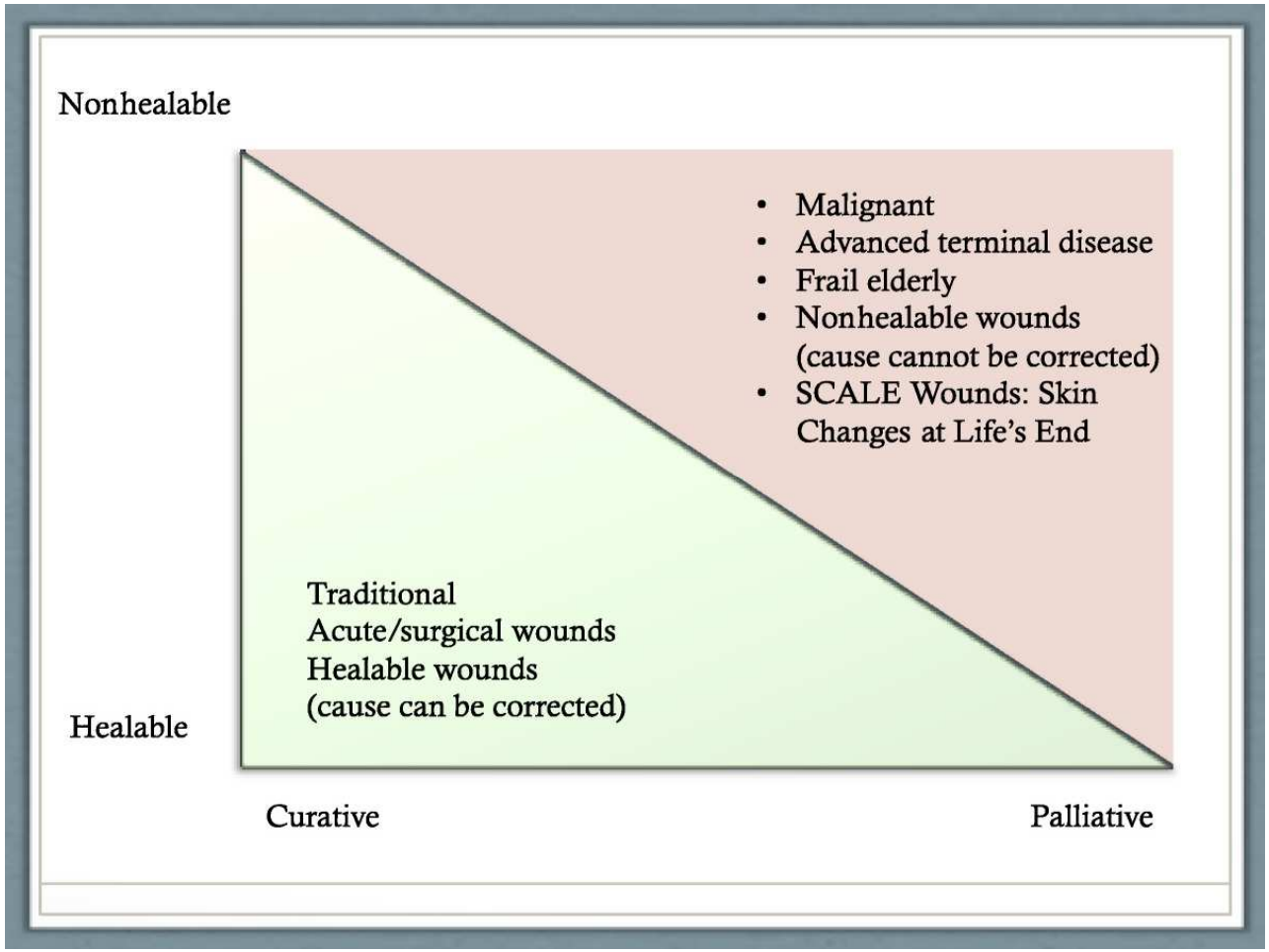


Diagnostic reasoning?



Outcome driven care; Goals to heal or not to heal ?

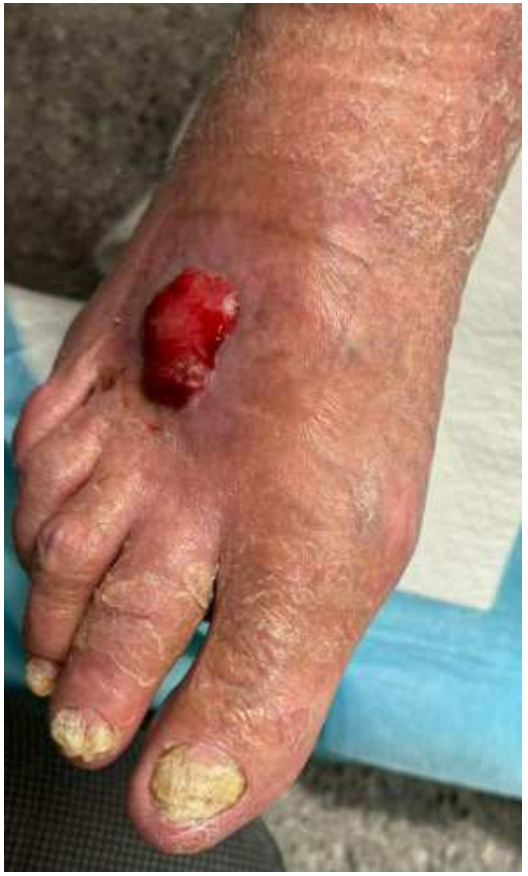
- Conservative or active TX
- Pressure Ulcers
- Iscahemic Wounds
- Cancers
- Skin conditions at end of life (skin failure)

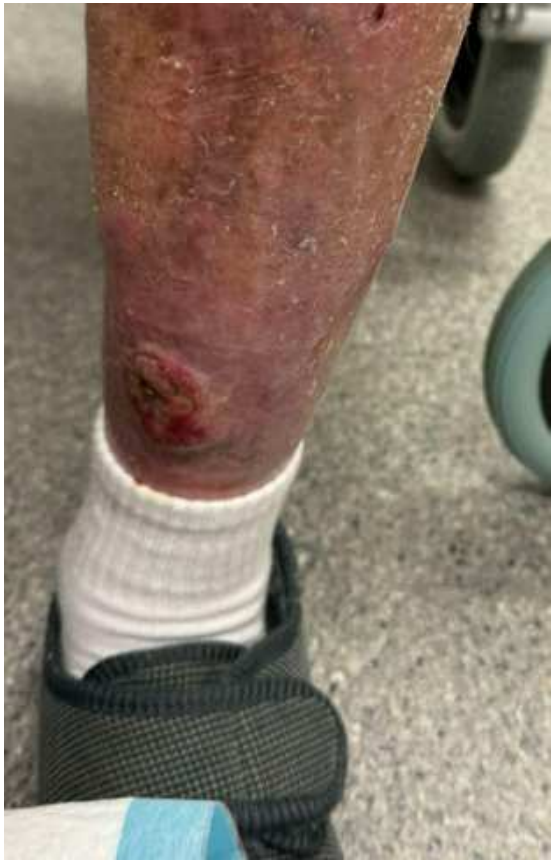


Woo, K et al, Advances in skin and wound care 2015.

1) Healing Potential or NOT ?

- 91 yr M
- Referral from GP over granulated ulcer despite maximal Tx
- Hx CKD, Korsakoff's Dementia, GORD, Melanoma
- Meds Mirtanza, Spirolactone, Thiamine, Lipitor, zoton,
- POA Wife and daughter
- O/E, palpable pedals, incompressible arteries
- PLan: Biopsy
- Dressings; antimicrobial & silicone
- F/U; phone call; SCC
- Radiation onc for pall RT





WHAT IS NOT A PHASE OF WOUND HEALING?

a) MATURATION

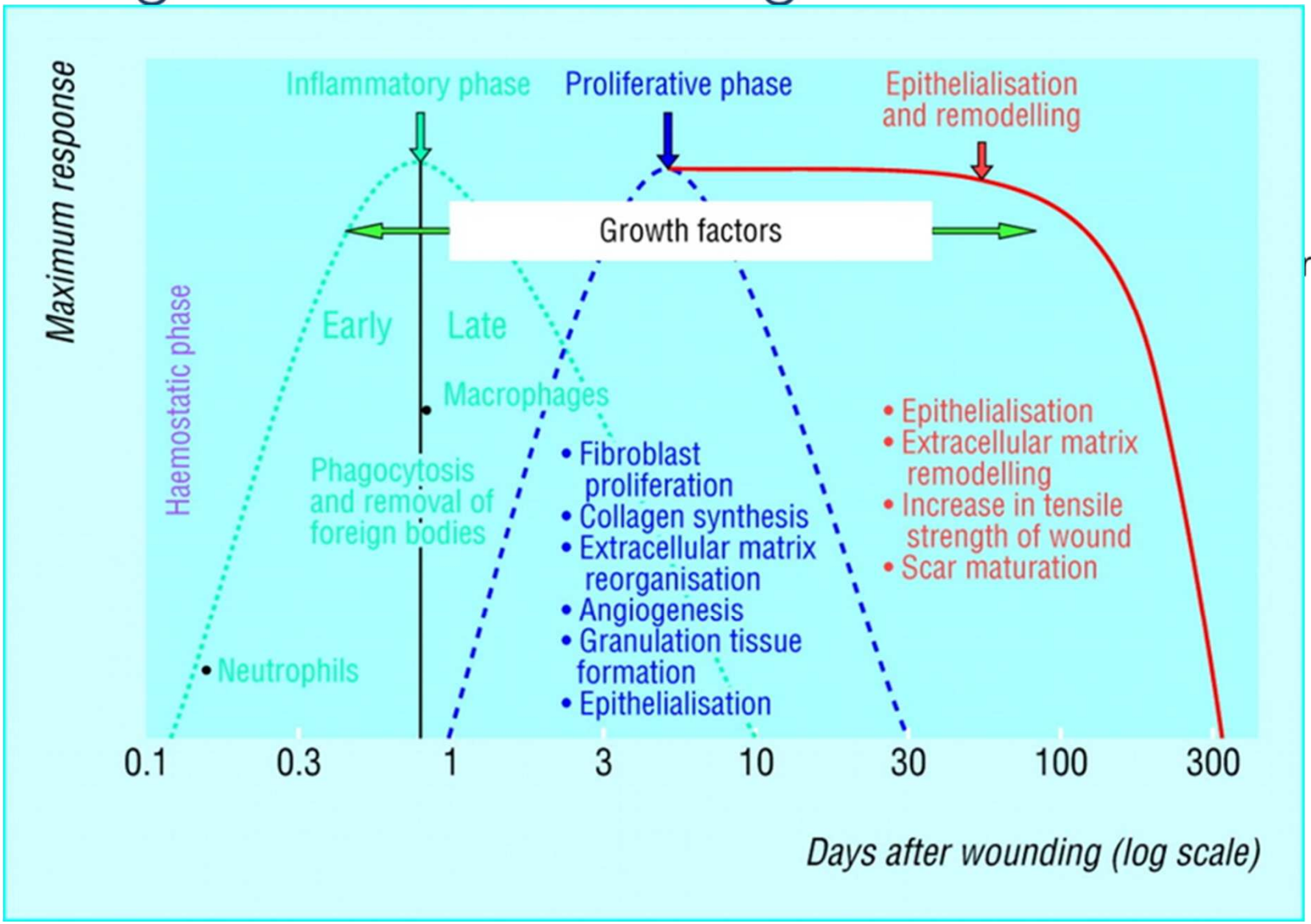
b) HAEMOSTASIS

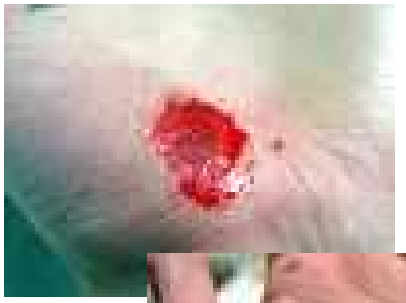
c) INFECTION

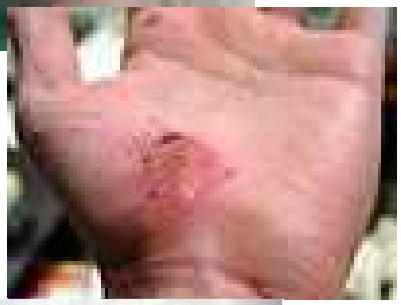
d) INFLAMMATION

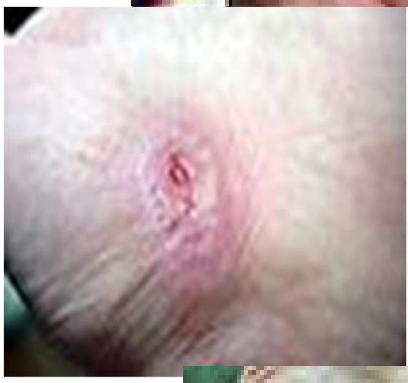
e) PROLIFERATION

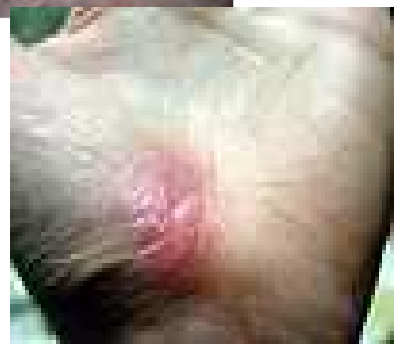
Stages of Wound Healing





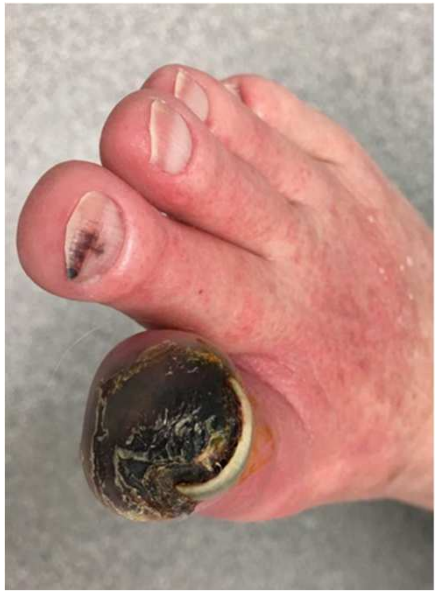




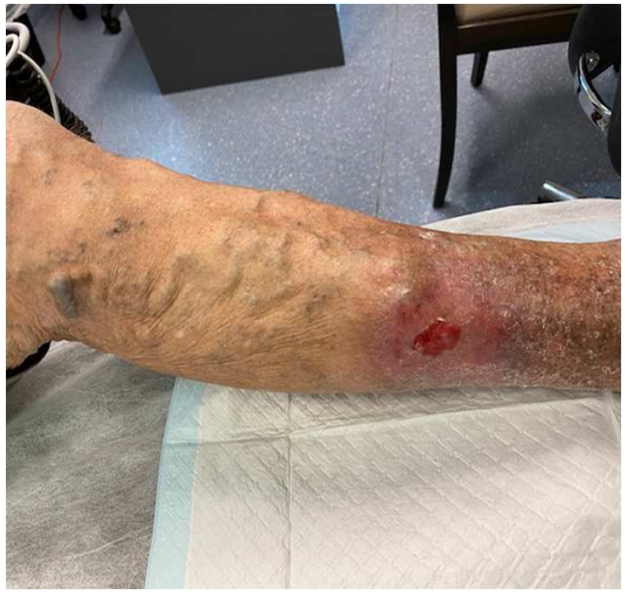


WHICH OF THESE WOULD YOU DEEM TO BE Ischaemic?

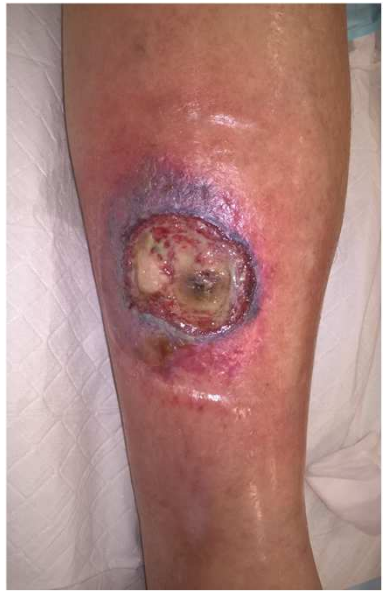
A)



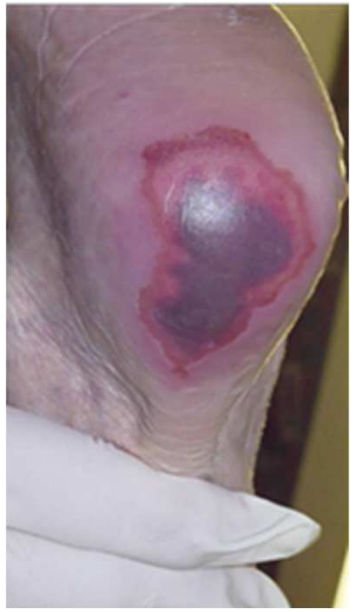
B)



C)

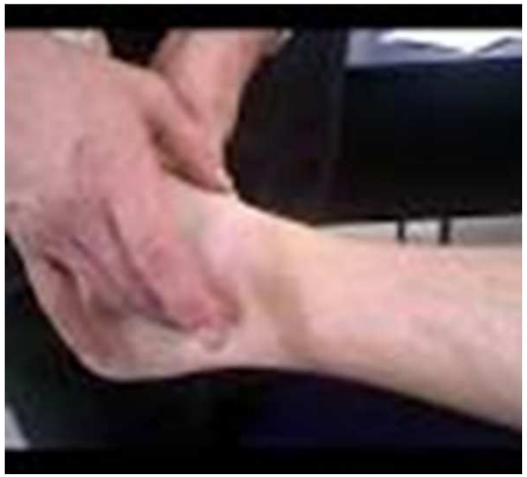
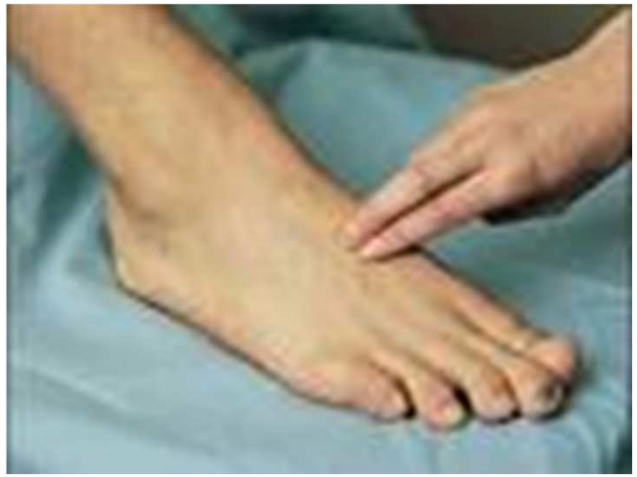


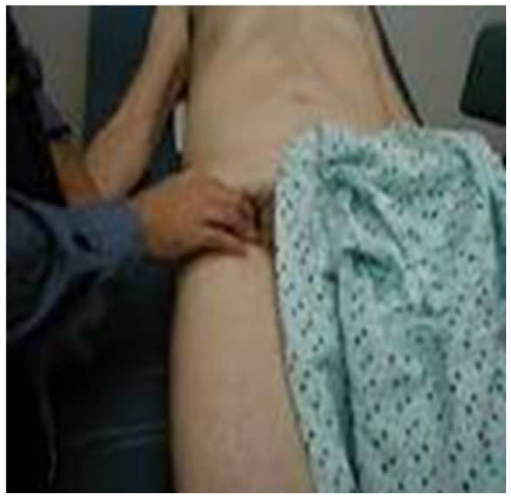
D)



NAME THE PULSES ?

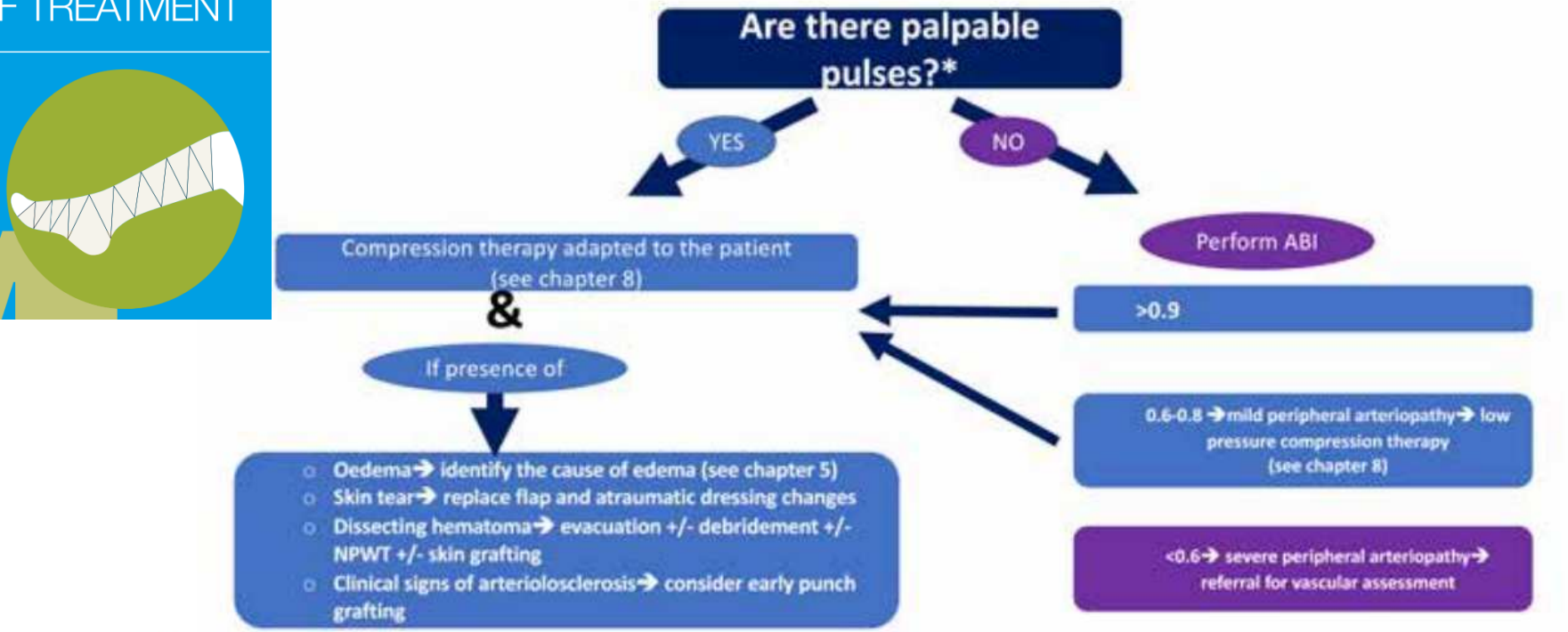
A……. b……. c……. d…….



LOWER LEG ULCER DIAGNOSIS
AND PRINCIPLES OF TREATMENT

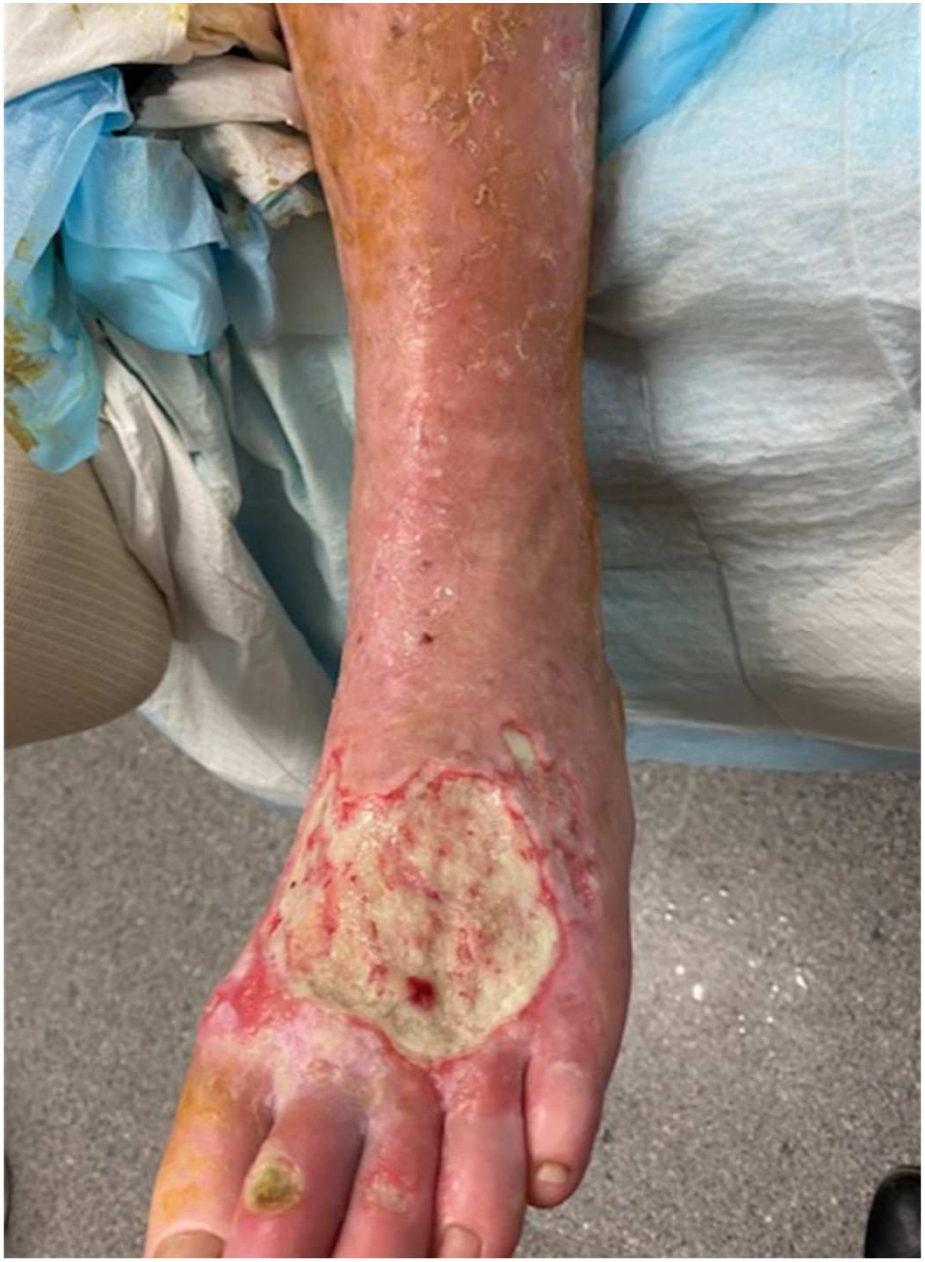
INCLUDING RECOMMENDATIONS FOR COMPREHENSIVE ASSESSMENT AND REFERRAL PATHWAYS



* The reliability of pulse palpation depends on the experience of the healthcare professional. If the practitioner is not confident in pulse palpation, an ABI should be performed

NPWT= Negative pressure wound therapy

Figure 8. Treatment algorithm in traumatic leg ulcers



Arterial

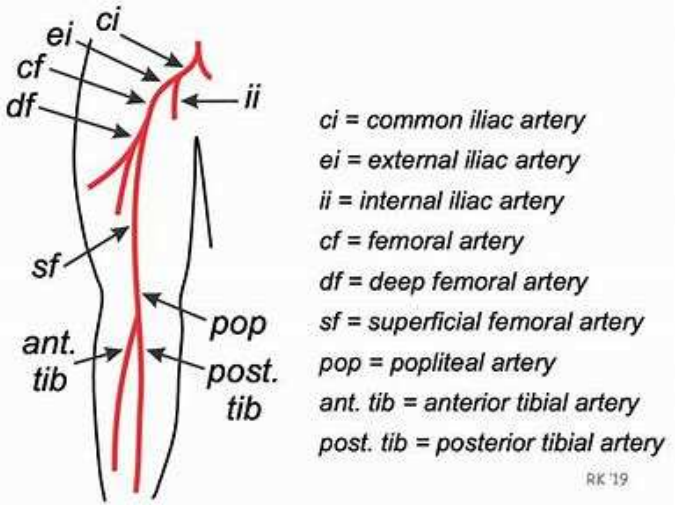
- Pain
- Pulseless
- Pallor
- Paresthesia
- Punched out
- Deep

Investigations
USS Arterial scan
CTA
MRA

Refer

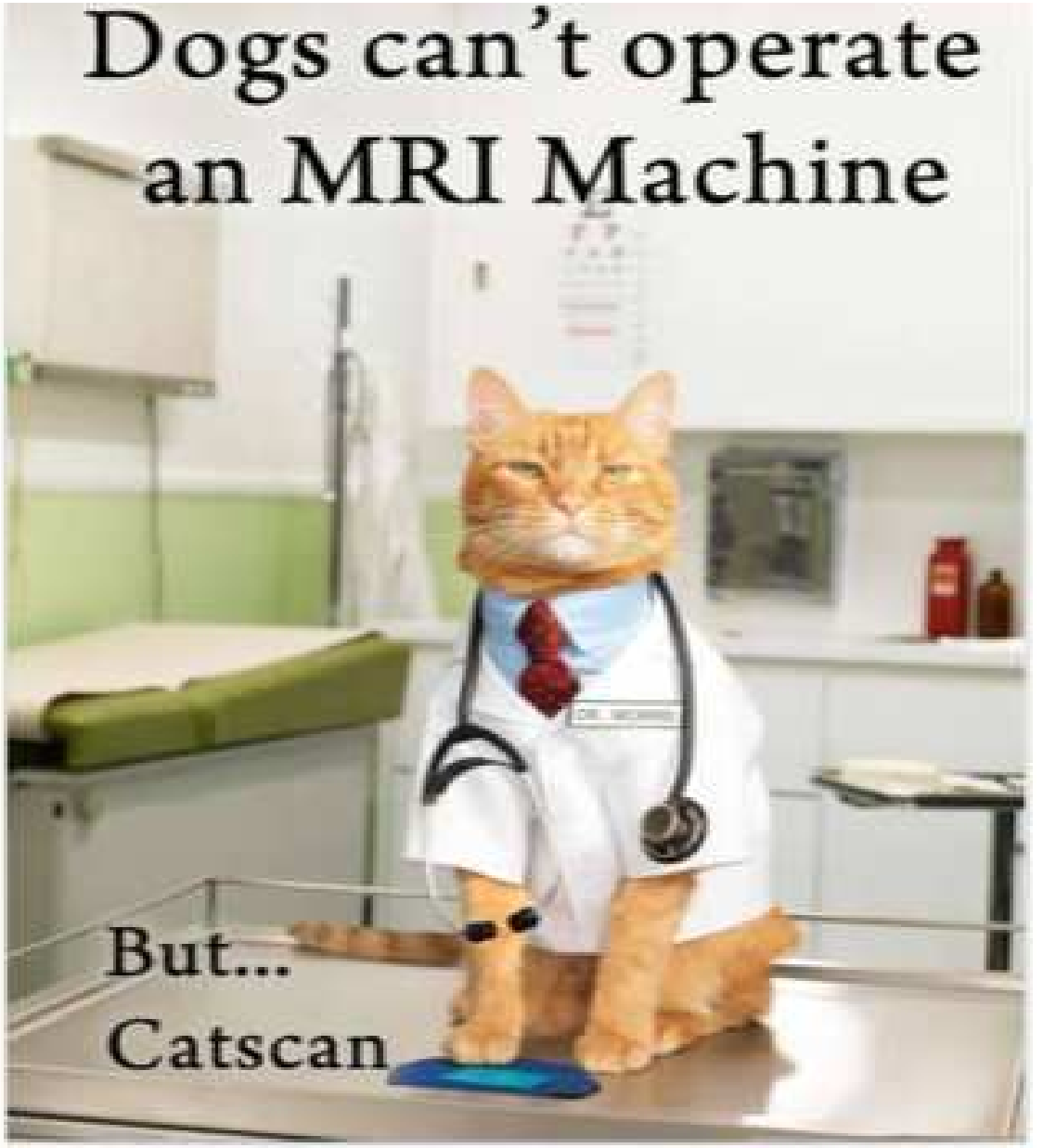
Painless Dressing

Horizontal or Dependent ?



Leg ulceration or tissue or limb loss

?



65% of deaths in Diabetics = CVD

DM + CV risk factors 3 fold increase PAD

Multifactorial MGT

Exercise

Low Fat diet

Eliminate atherosclerotic factors :

HTN,

Smoking,

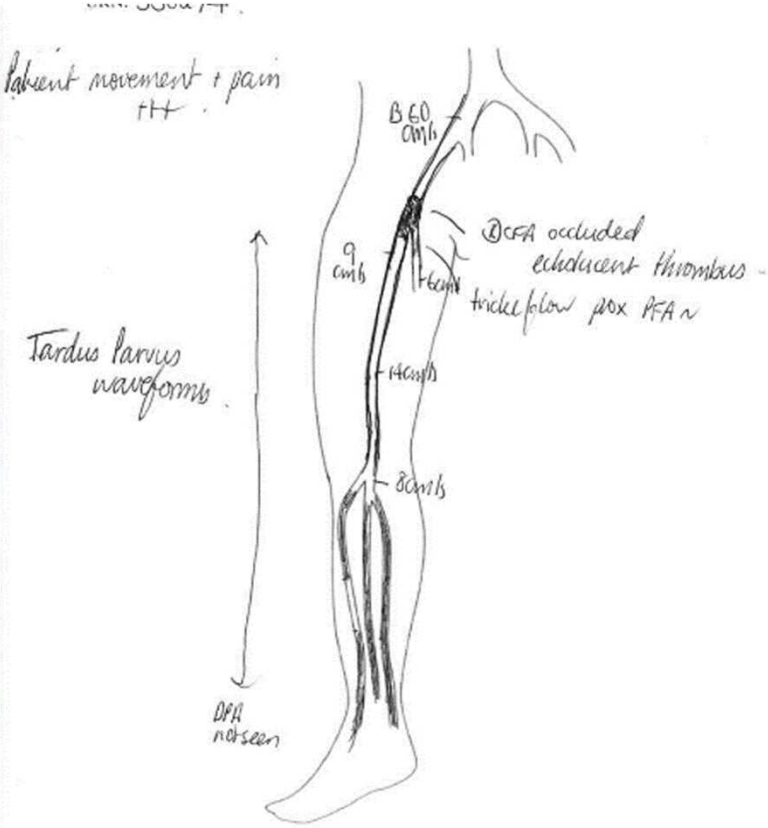
Dyslipidaemia

Diabetes

Obesity

Pharmacology ;

aspirin / statin / blood thinner

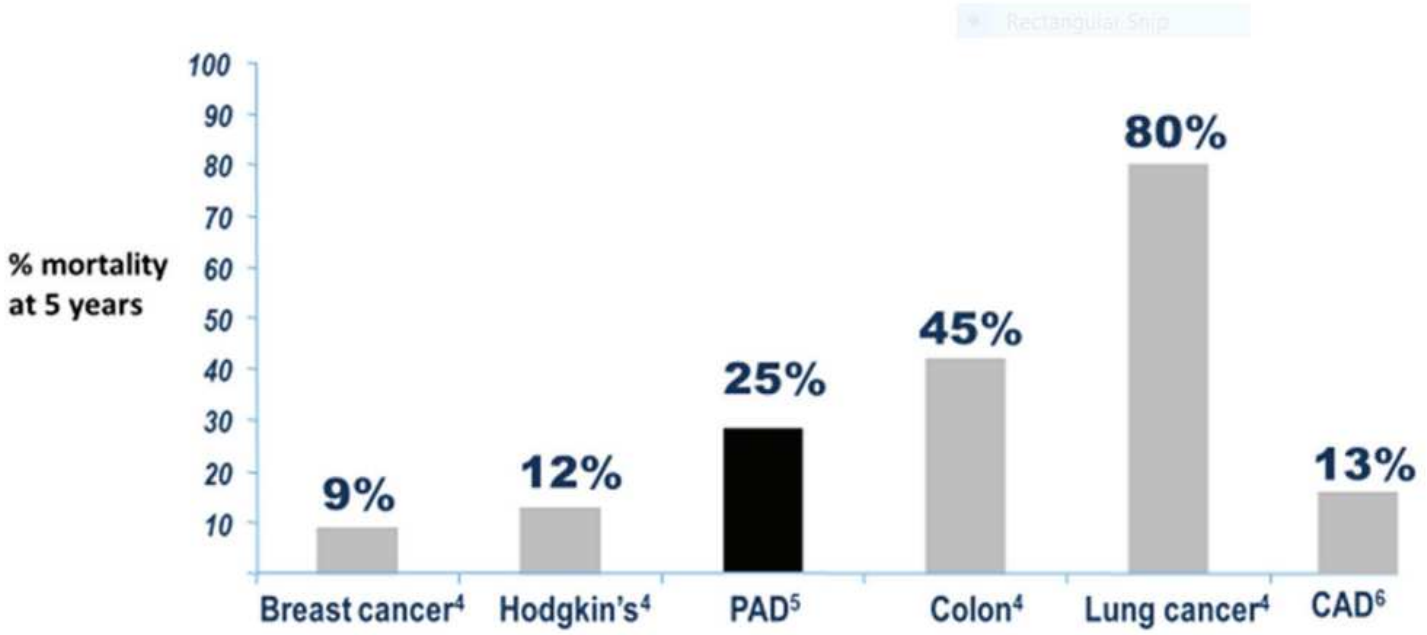


(Stevens et al. 2006)

PVD / Acute limb ischemia or CLI Critical limb ischemia Norgren L, Hiatt WR, Dormandy JA et al (2007) InterSociety Consensus for the Management of

Box 1. Possible signs of peripheral ischaemia.

- Skin changes on the legs and feet (thinning, shiny skin or paleness may occur)
- Weak pulses in the legs and feet
- Skin or foot pallor on limb elevation and redness (rubor) on limb dependency (Buerger's test)
- Legs that are cooler than the arms
- Gangrene — tissue death caused by lack of blood flow
- Wounds or ulcers on the legs and feet that will not heal
- Reduced hair growth on the legs
- Toes that turn blue
- Severe burning pain in the toes
- Leg cramps and pain when you are lying in bed
- Muscles that feel numb or heavy
- Arms and legs that are reddish blue
- Toenails that are thick, opaque and brittle.



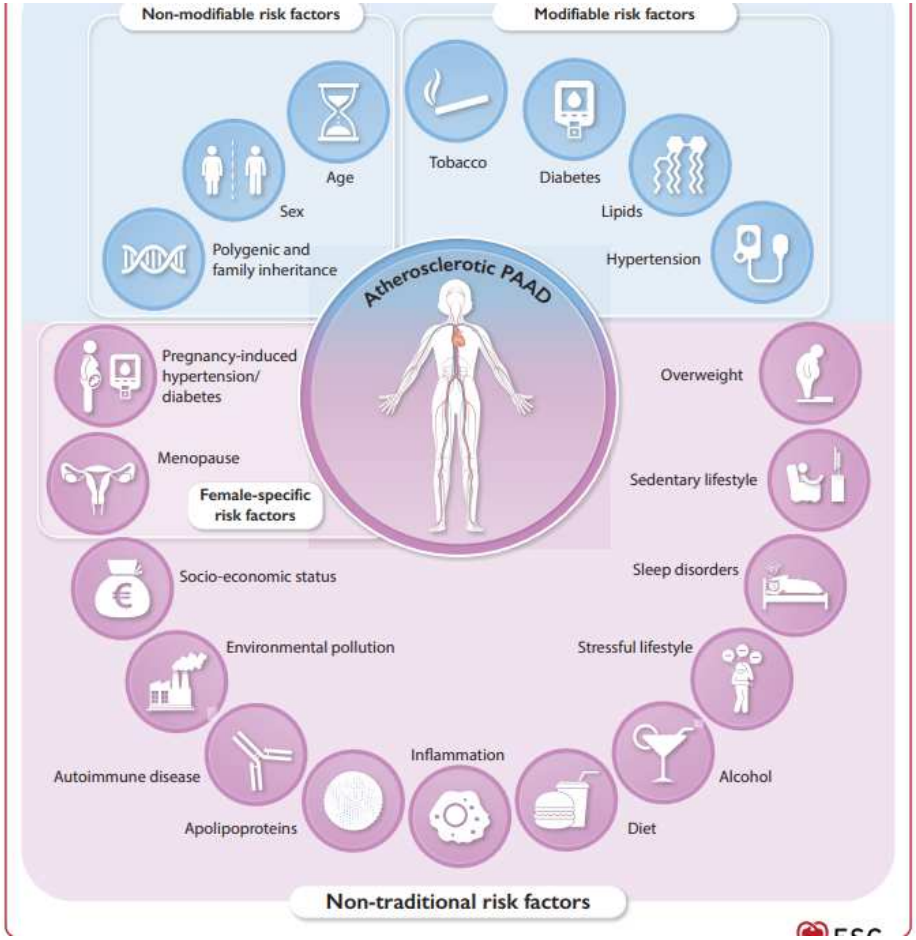
[4]American Cancer Society. Cancer Facts and Figures – https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2018/cancer-and-figures-2018.pdf. [5]Sartipy et al. Eur J Vasc Endovasc Surg. 2018 Apr;55(4):529-536. doi: 10.1016/j.ejvs.2018.01.019. [6] Droz-Perroteau C. Six-year survival study after myocardial infarct EOLE prospective cohort study. Long-term survival after MI. https://doi.org/10.1016/j.therap.2019.02.001

Figure 1. Comparison of 5-year mortality rates: PAD versus common cancers.

ESC European Society of Cardiology
European Heart Journal (2024) 00, 1–163
https://doi.org/10.1093/eurheartj/ehae179

2024 ESC Guidelines for the management of peripheral arterial and aortic diseases

Developed by the task force on the management of peripheral arterial and aortic diseases of the European Society of Cardiology (ESC)



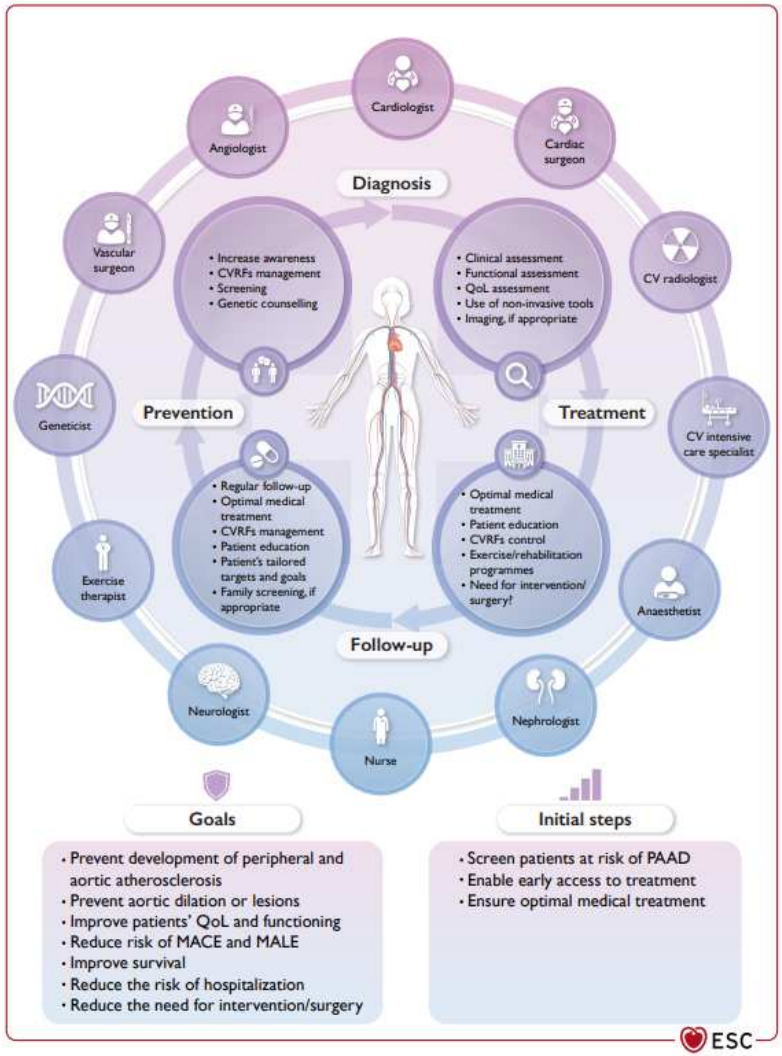
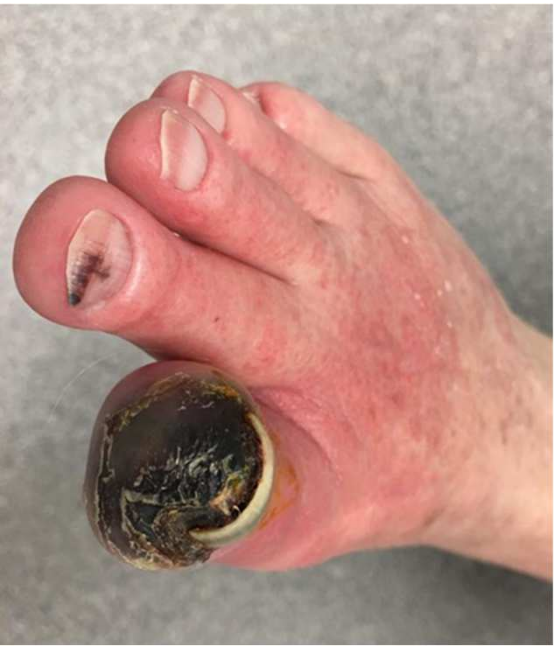


Figure 1 Central illustration: from diagnosis to treatment, a holistic multidisciplinary peripheral arterial and aortic diseases approach. CV, cardiovascular; CVRFs, cardiovascular risk factors; MACE, major adverse cardiac event; MALE, major adverse limb event; PAAD, peripheral arterial and aortic diseases; QoL, quality of life.

Which of these does not require Revascularisation?

A)



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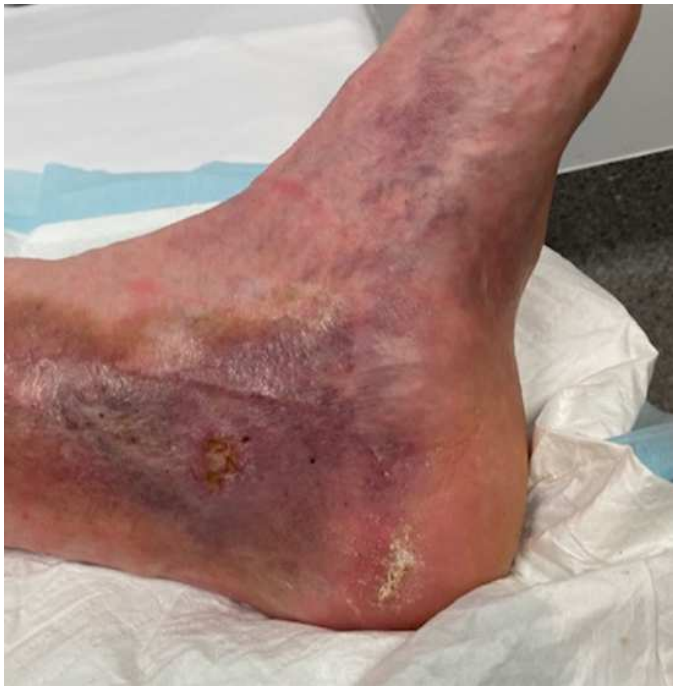

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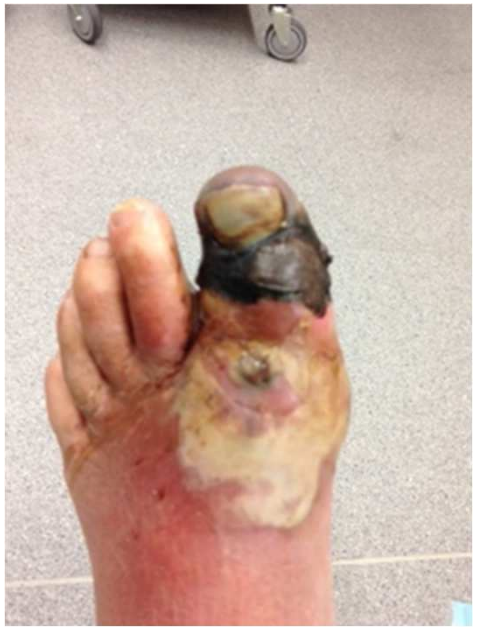

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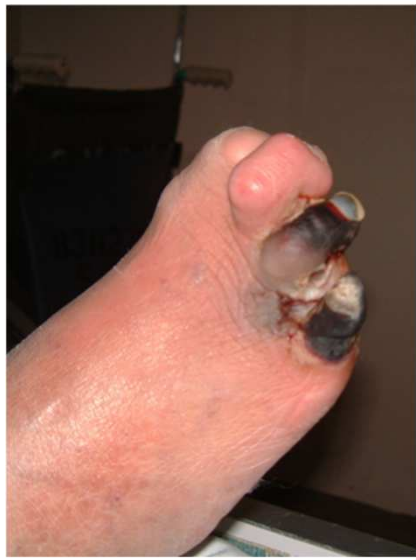
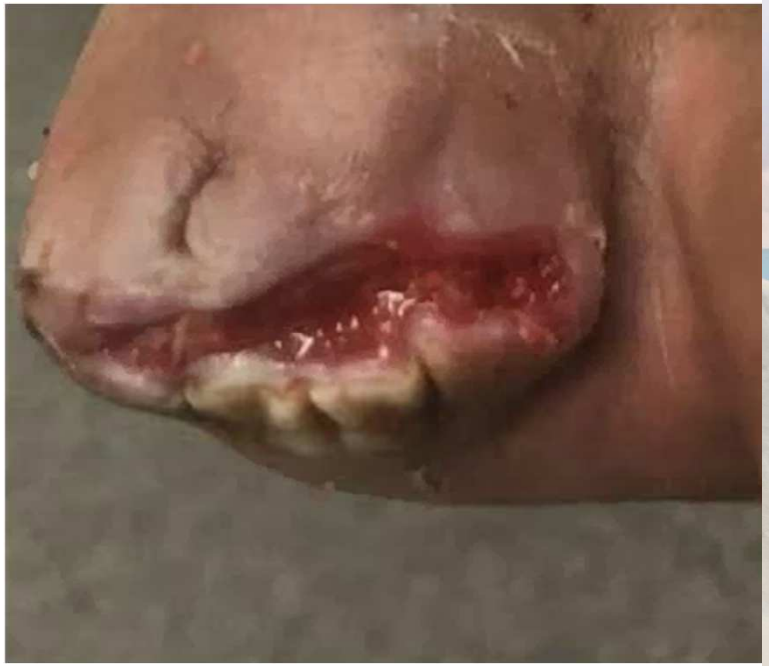
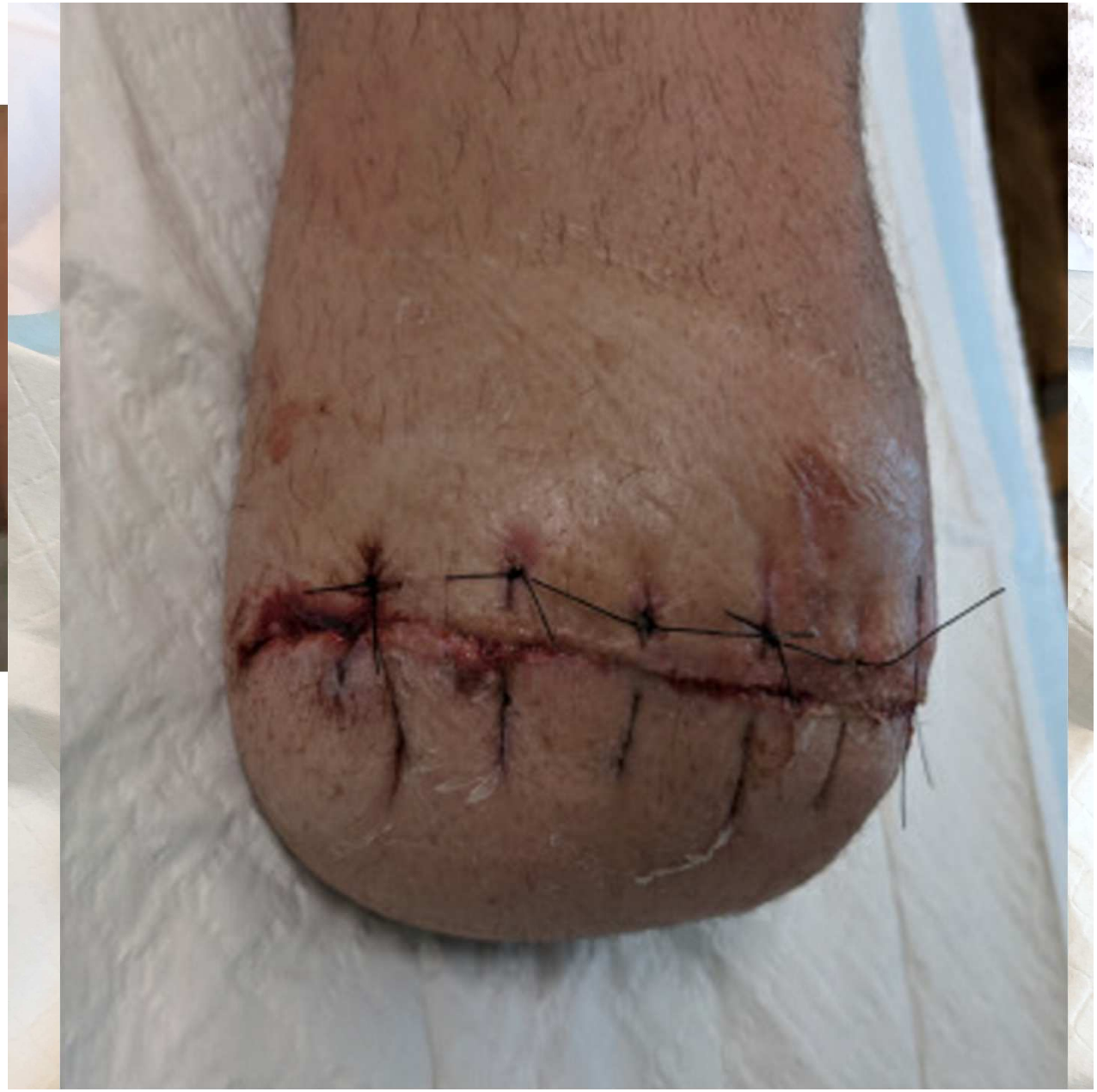






40yr T2DM
Thromboangitis
Obliterans

Full Compression is indicated for patients with an ABPI between 0.8 to 1.2 ?

- TRUE
- FALSE

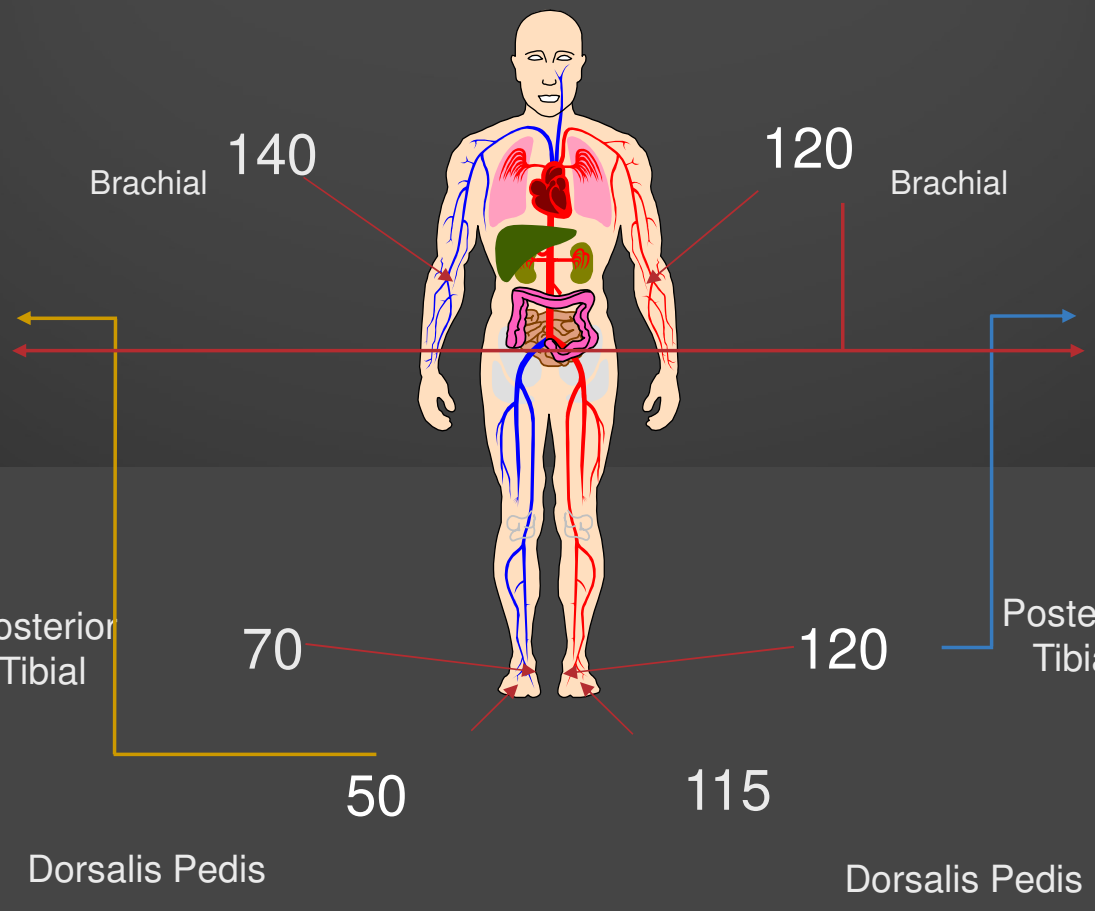
For referencing Team V et al. Ankle Brachial Pressure Index and compression application: Review summary. WP&R Journal 2019; 27(2):108-111.

HOW TO CALCULATE THE ABPI

R) ABPI

$\frac{70}{140}$

= 0.5



L) ABPI

$\frac{120}{120}$

= 1.0

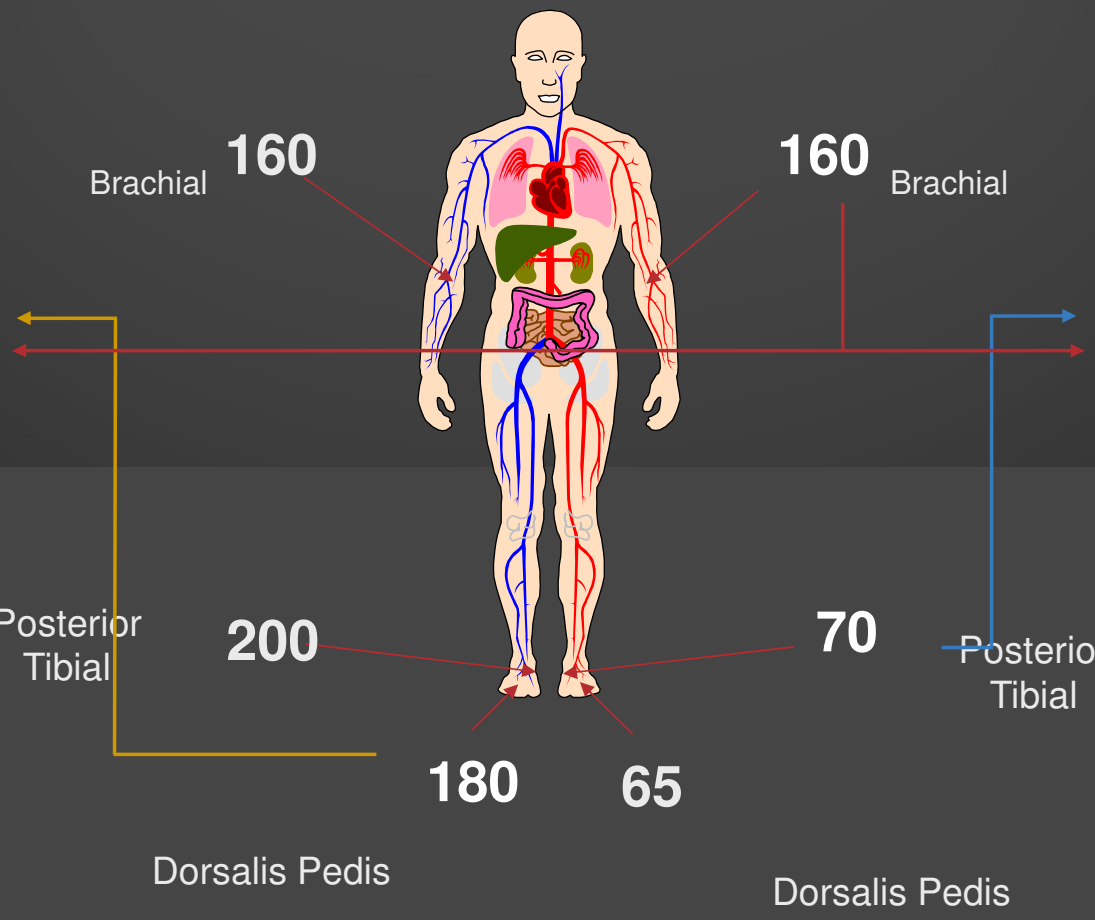
Belch JJF *et al. Arch Int Med* 2003; 163: 884-92; Hiatt WR. *N Engl J Med* 2001; 344: 1608-21.

HOW TO CALCULATE THE ABPI

R) ABPI

$\frac{200}{160}$

= 1.25

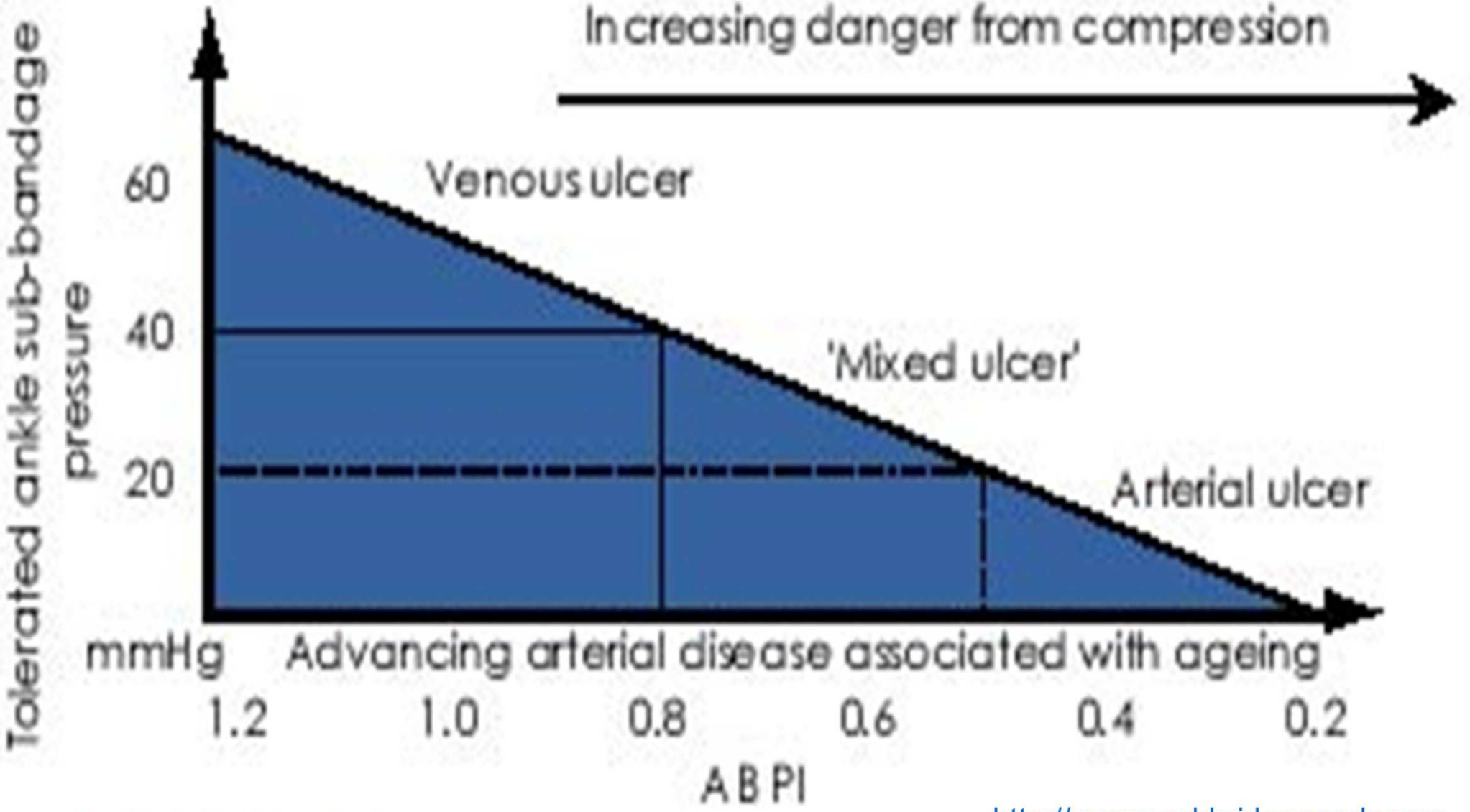


L) ABPI

$\frac{70}{160}$

= 0.43

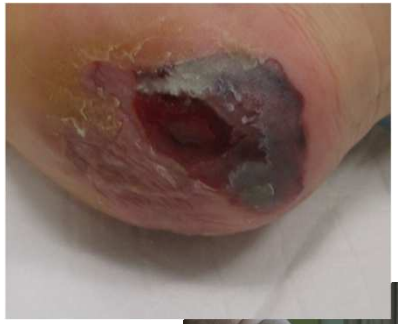
Belch JJF *et al. Arch Int Med* 2003; 163: 884-92; Hiatt WR. *N Engl J Med* 2001; 344: 1608-21.

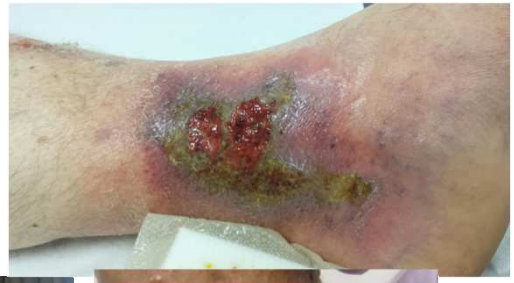


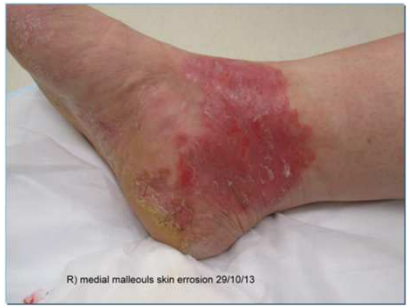
http://www.worldwidewounds.com

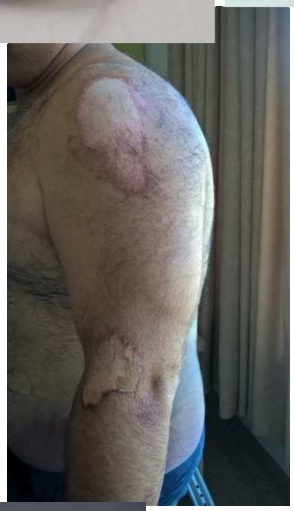
Types of wounds?

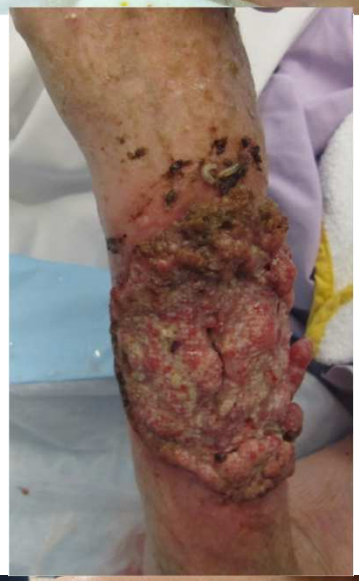
1. Graze
2. Puncture wound
3. Burn
4. Pressure sore
5. Venous Ulcer
6. Ischaemic
7. Cancerous
8. Autoimmune
9. Neuropathic

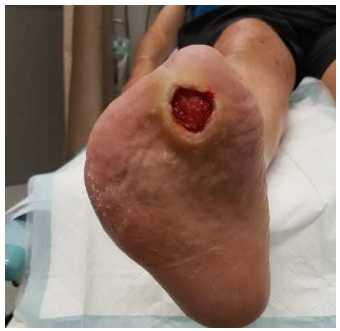


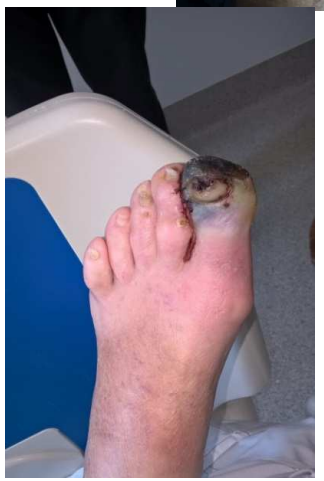


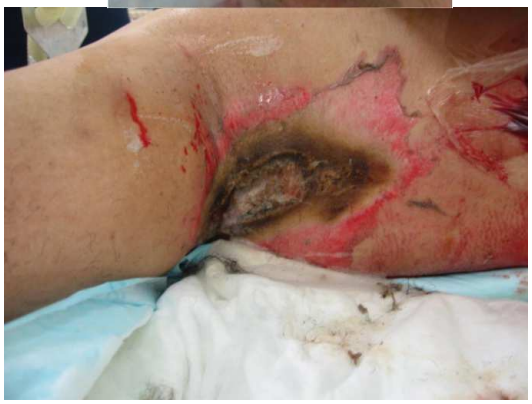








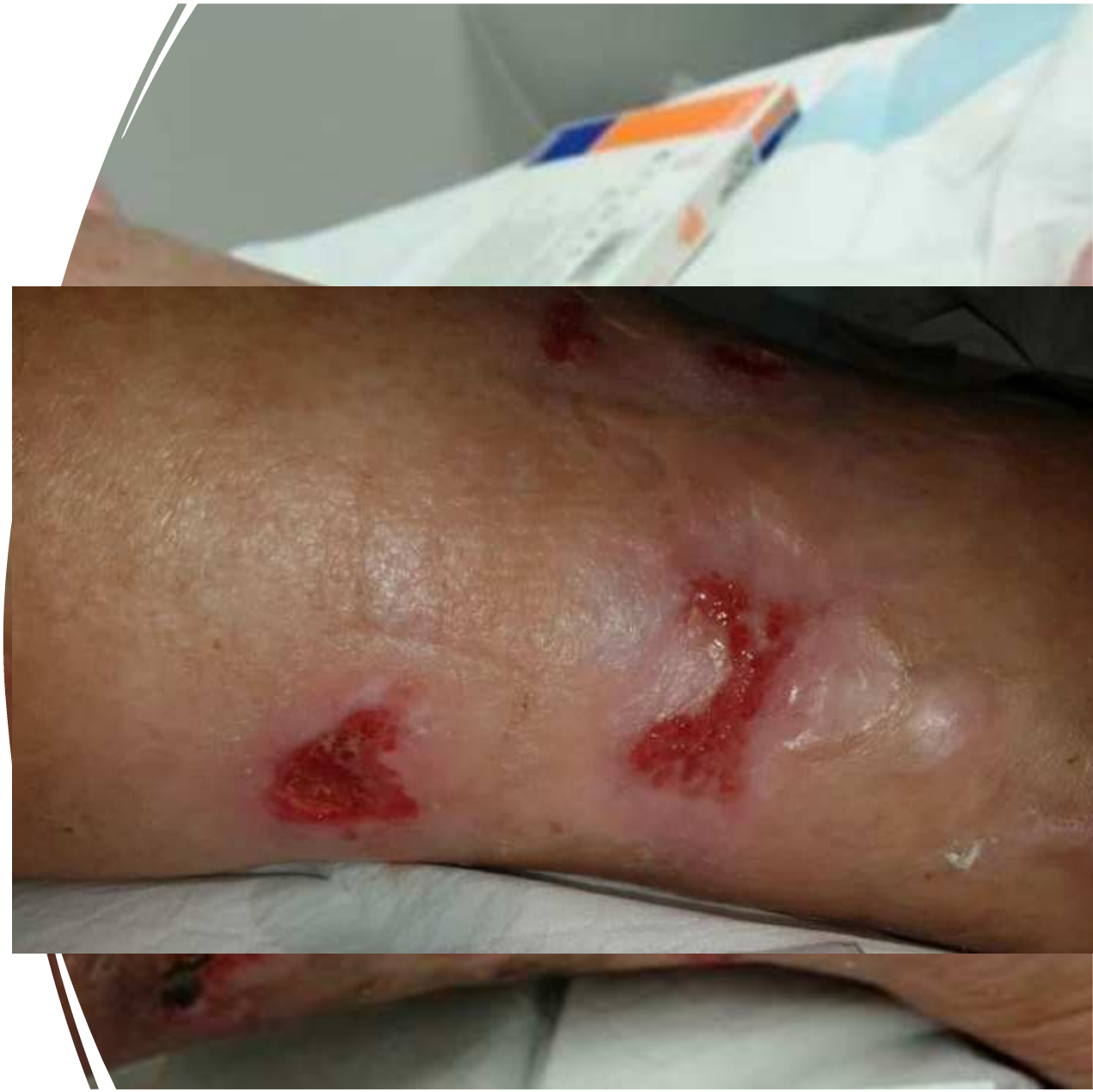


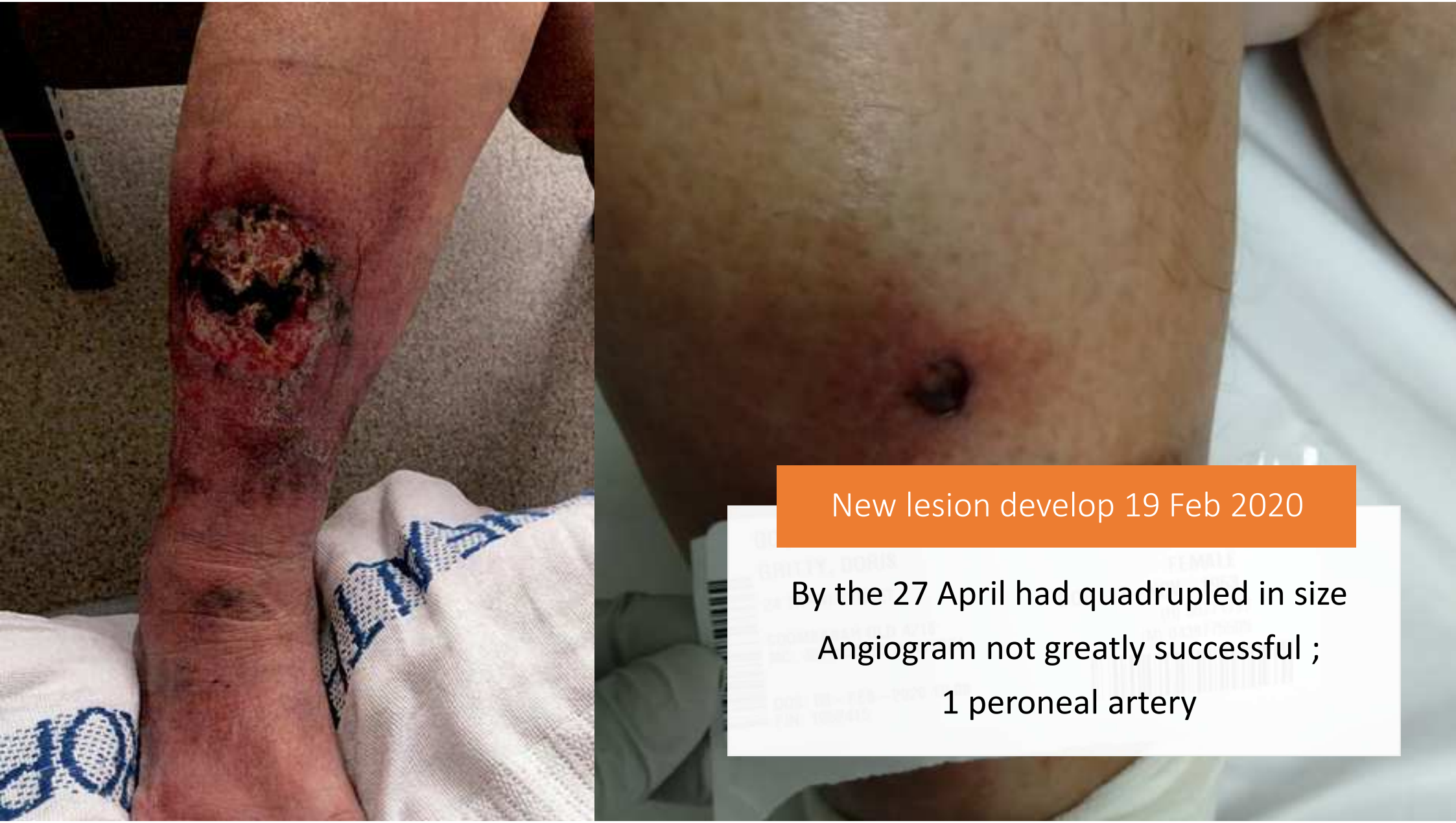


Ms G 65 yr Female

- Trauma June 19 - Dec 2019

- Non healing wound
- T2DM micro/ macro vascular complications
- CKD, HTN, CVA, AF, SSS PPM, VVs
- Meds ; pred, olmesaertan, ezetimibe, amiodorone, lercanidipine, metoprolol, rivoroxaban, jardiamet, novomix
- No pulses, Occluded PT ; Angioplasty
- Biopsy non malignant



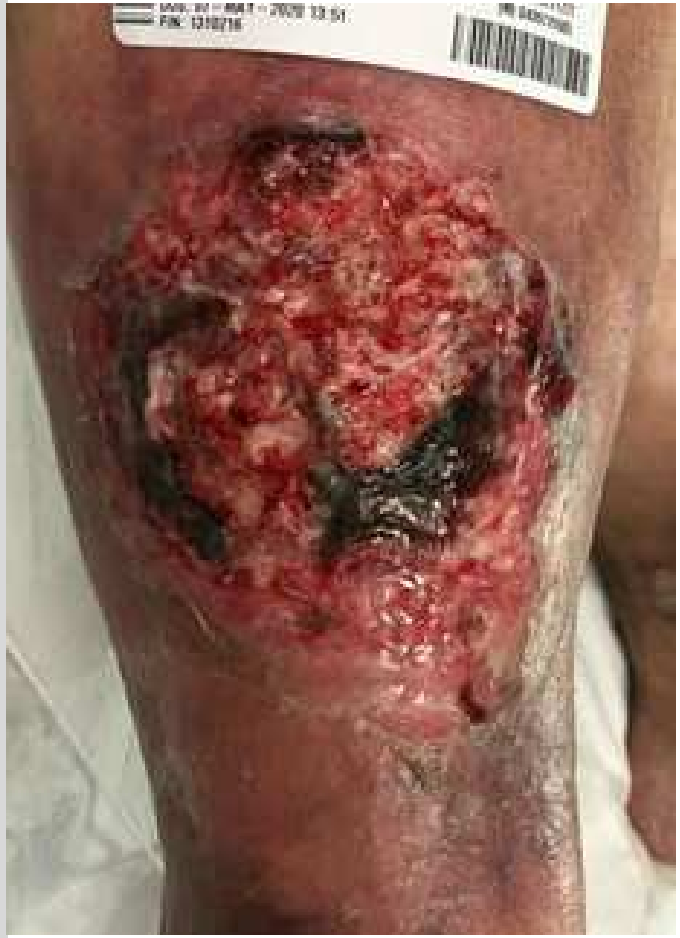


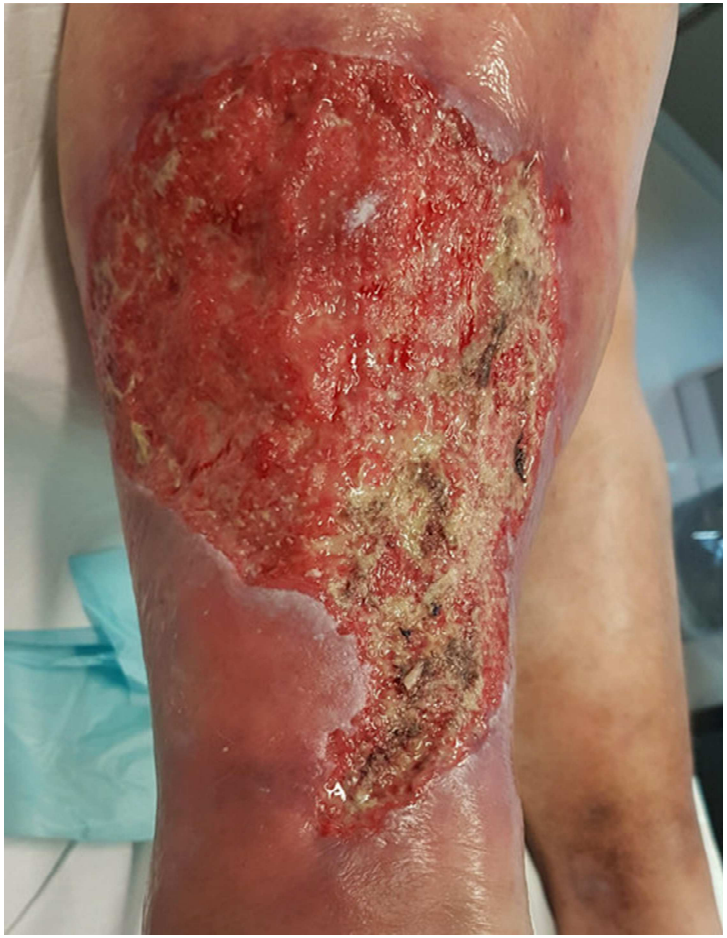
New lesion develop 19 Feb 2020

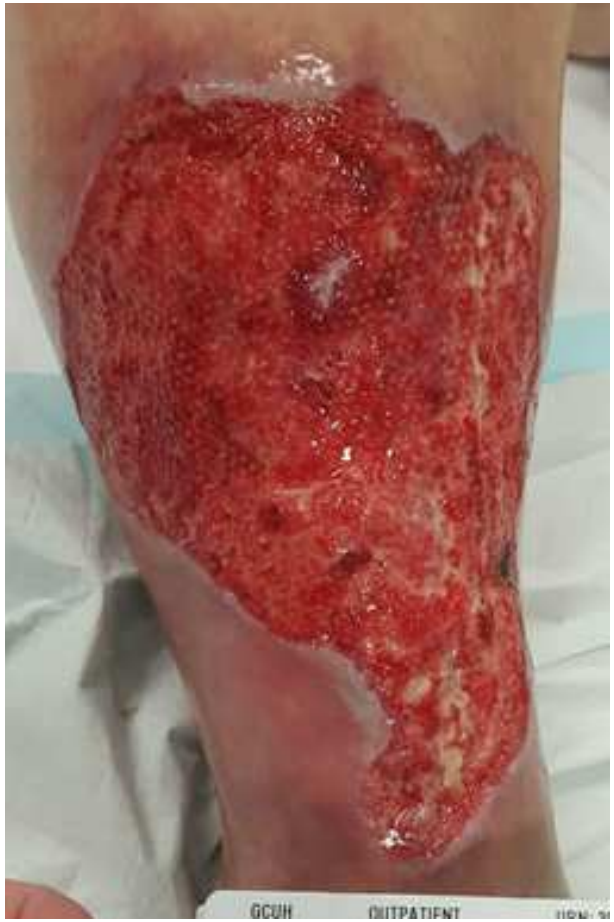
By the 27 April had quadrupled in size

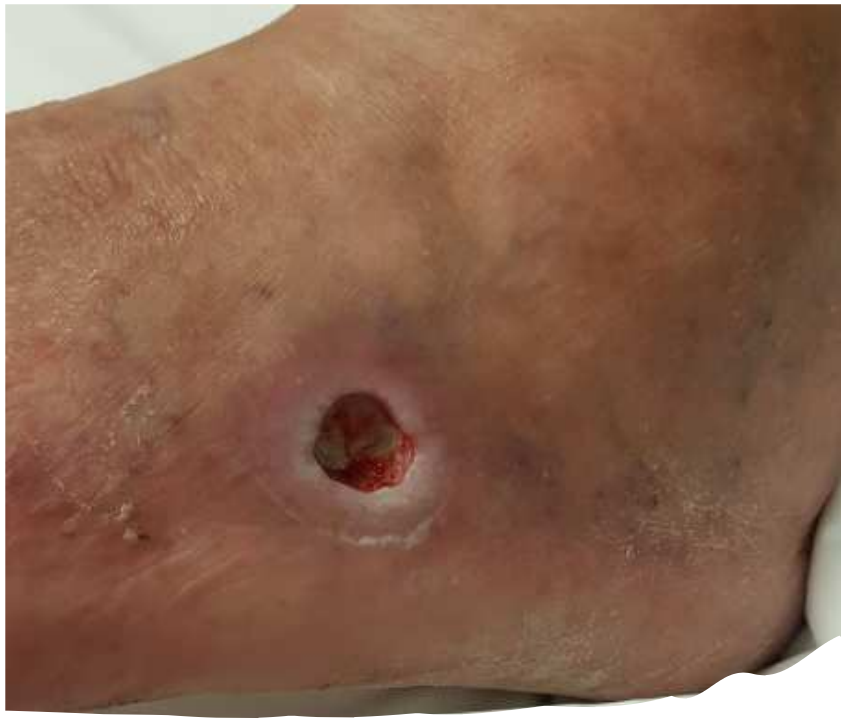
Angiogram not greatly successful ;

1 peroneal artery






GCUH
OUTPATIENT



1 yr; Spreading margins
plus new lesion on left foot
May 2020 further biopsies

Table 3. Criteria for the diagnosis of ulcerative pyoderma gangrenosum (PG)

Major criterion	
Biopsy of ulcer edge with neutrophilic infiltrate	
Minor criteria	
Exclusion of infection	Peripheral erythema, undermining border, and tenderness at ulceration site
Pathergy phenomenon	Multiple ulcerations, at least one on an anterior lower leg
History of inflammatory bowel disease or inflammatory arthritis	Cribriform or 'wrinkled paper' scar(s) at healed ulcer sites
History of papule, pustule, or vesicle ulcerating within four days of appearing	Decreased ulcer size within one month of initiating immunosuppressive medication(s)
For the diagnosis of PG the major criterion is obligatory and at least four of the minor criteria should be given.	

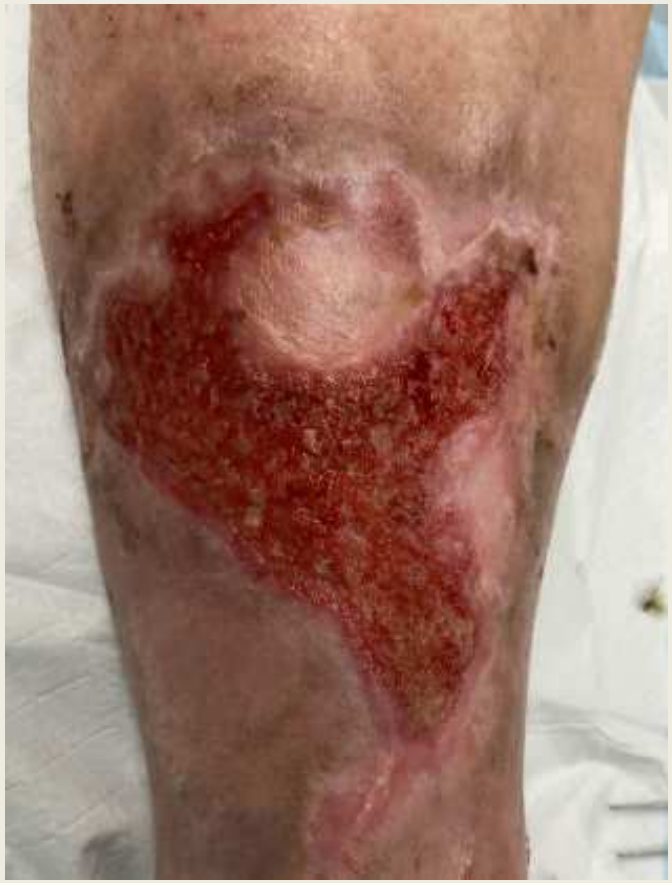
Table 4. Therapeutic alternatives published in recent years for systemic treatment in patients with pyoderma gangrenosum (PG)

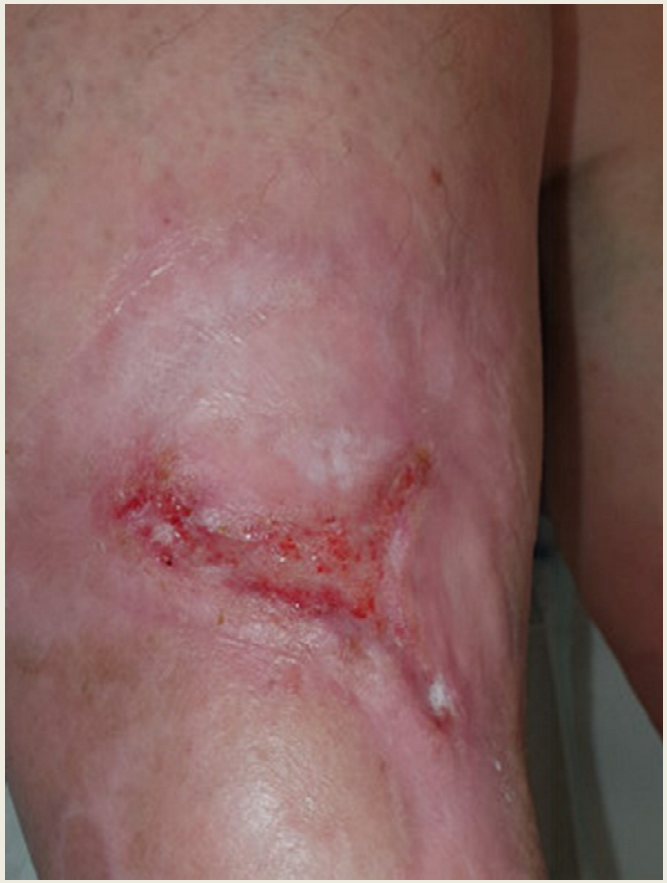
• Traditional systemic agents • Azathioprine • Dapsone • Mycophenolate Mofetil • Prednisolon • Cyclosporin • Methotrexate	• Biologic agents • Adalimumab • Anakinra • Canakinumab • Etanercept • Ruxolitinib • Secukinumab • Ustekinumab
Intravenous Immunoglobulin (IVIG)	

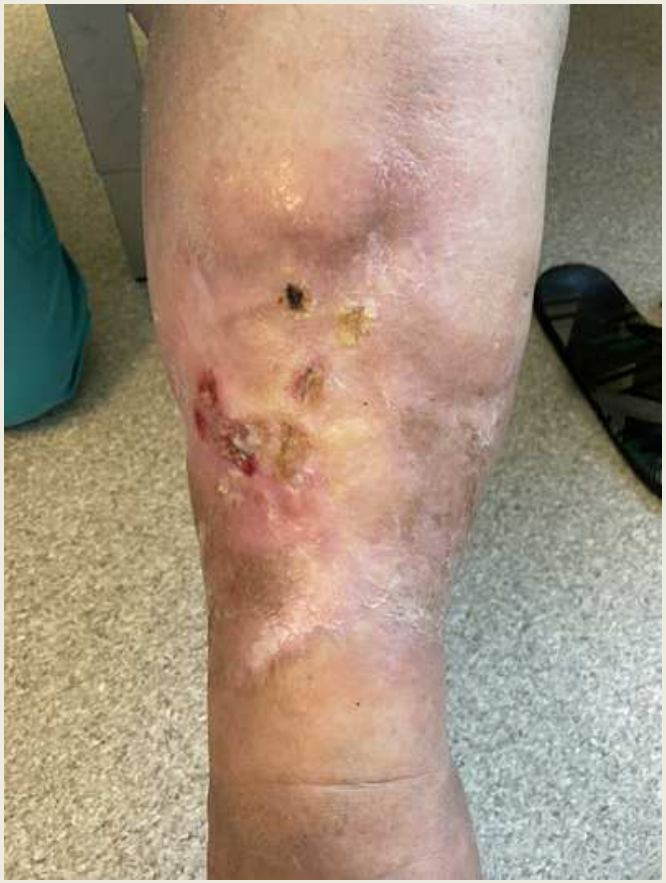
Pyoderma Gangrenosum

May – August 2020
Biopsies; neutrophilic dermatoses (Derm)
March 2021 IVIG

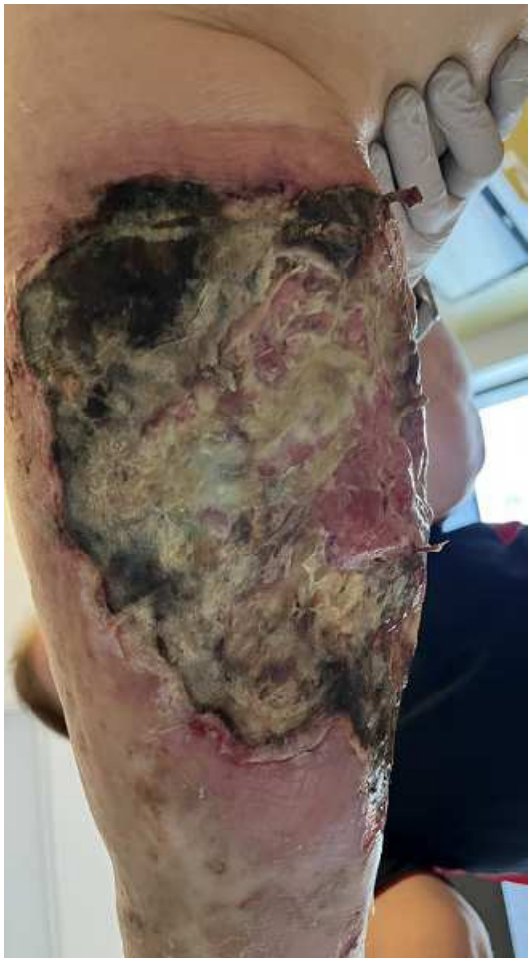
Started 25 Pred August 20– Aug 21 (2yrs) May 2023 healed







Jan 2024 L) leg progressed May – July 2024



Goal Changes ?

- Pain ; added Bupenorphrine patch, endep, endone
- Tachypnoea, tachycardia, AF, delirium, anaemia
- Intolerable symptoms extensive co-morbidities sepsis risk
- VAD assessed
- 23/7/24 1st assessment
- 26/7/24 2nd assessment
- 29/7/24 final
- Self administration RIP 4/8/24

Wound plan; comfort, ordour

Topical Lignocaine

- Fentanyl 50 mcg with dressings
- Flaminal Hydro
- Atrauman
- Zetuvit
- Yellow lline

Criteria

Voluntary assisted dying

Voluntary assisted dying gives people who meet eligibility criteria, are suffering and dying, the option to ask for medical assistance to end their life.

https://www.qld.gov.au/health/support/voluntary-assisted-dying/explained

To access voluntary assisted dying, you must meet **all** the eligibility criteria:

1. Have an eligible condition.
2. Have decision-making capacity.
3. Be acting voluntarily and without coercion.
4. Be at least 18 years of age.
5. Fulfil residency requirements.

1. Have an eligible disease, illness or medical condition

An eligible disease, illness or medical condition is one that that is:

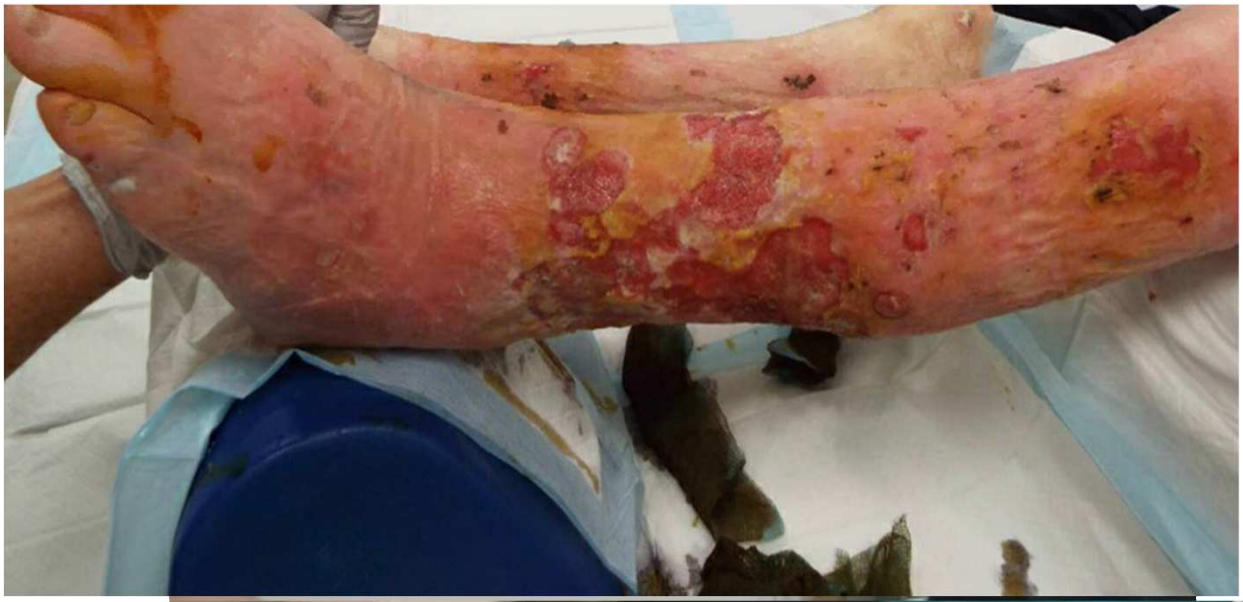
- advanced, progressive and will cause death **and**
- expected to cause death within 12 months **and**
- causing suffering that you consider to be intolerable. Suffering can include:
  - physical suffering
  - mental suffering
  - suffering caused by treatment provided for the disease, illness or medical condition.

Mr TM 74yr

Multiple L) Lower leg SCCs

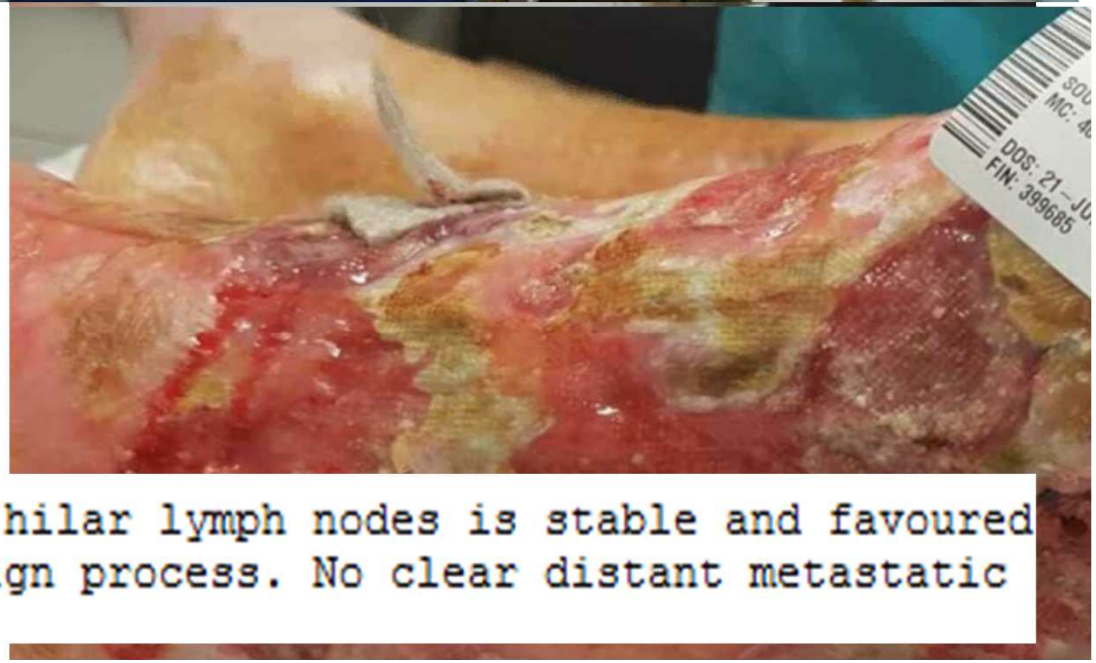
2015 - 2019

SSG / debride plastics

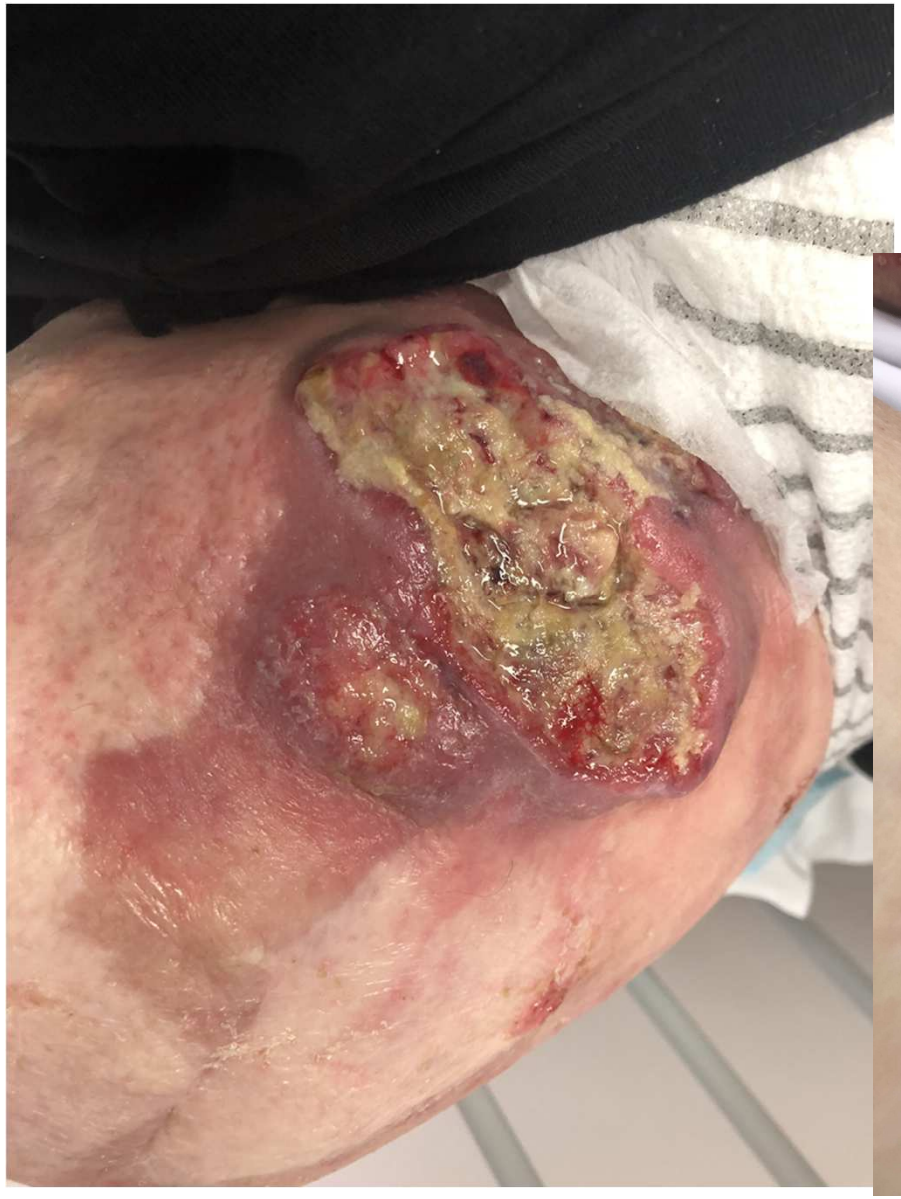


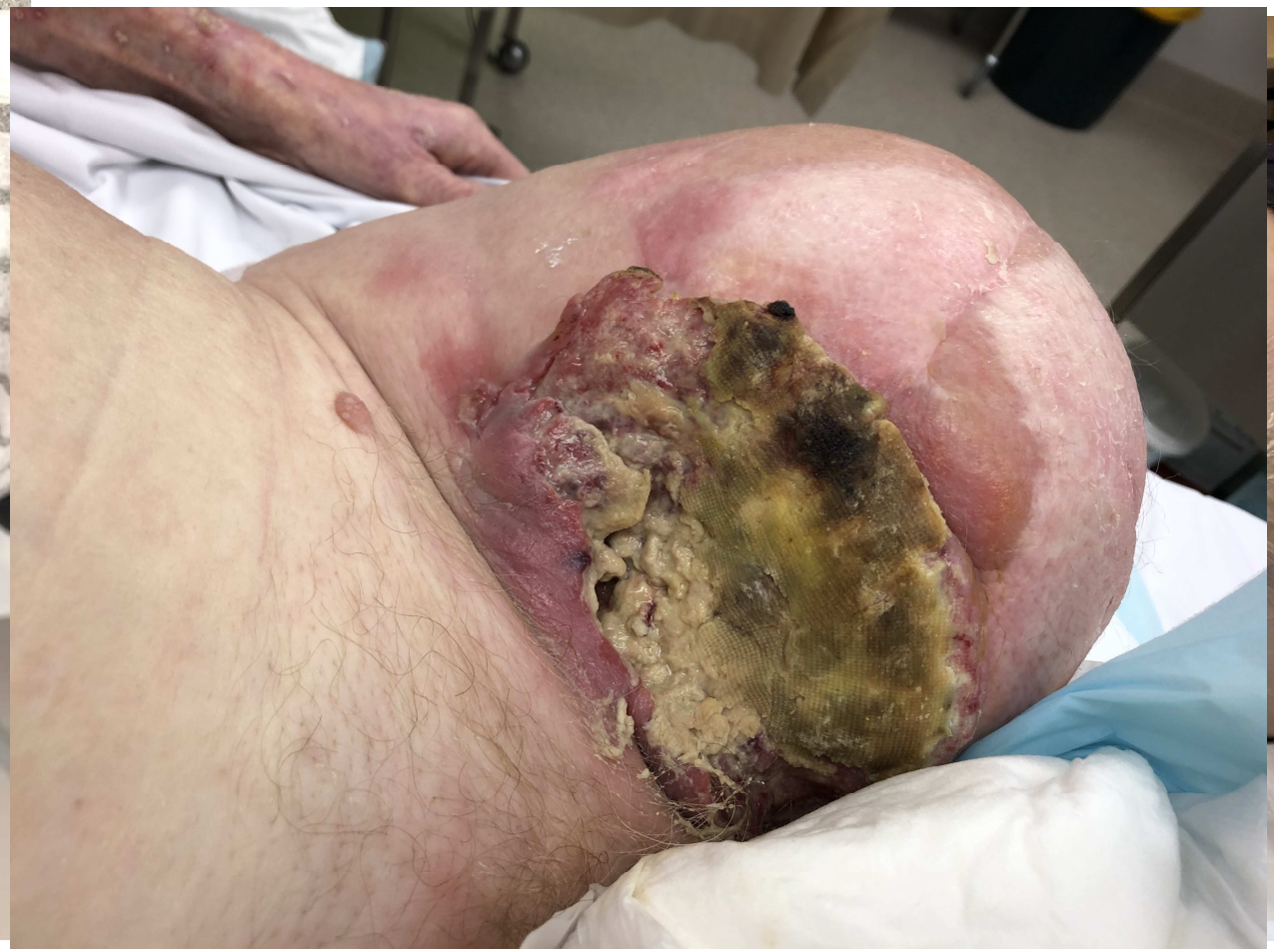
- RA
- Feltys syndrome – triad RA, Large Spleen, low neutrophils
- Leflunimde (DMARD disease modifying anti Rhem Drug)
- Skin hyperkeratosis
- Neutropenic

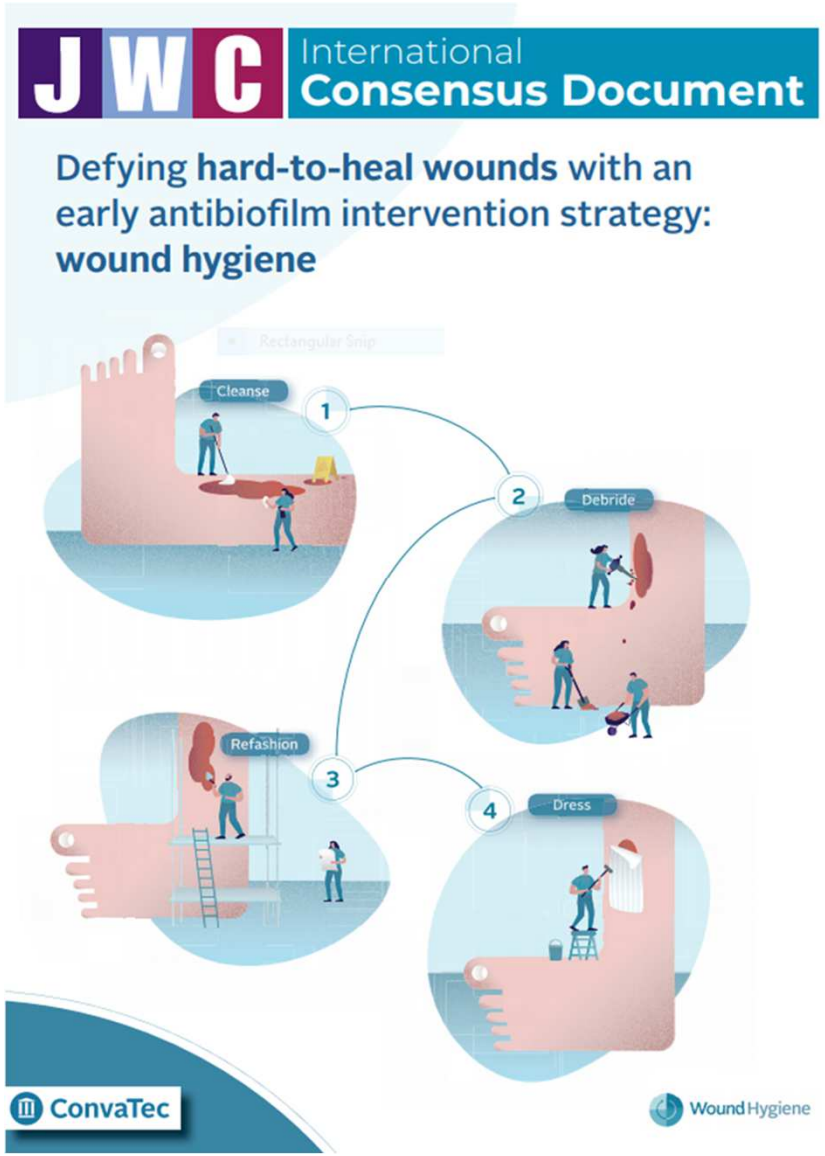
April 2020



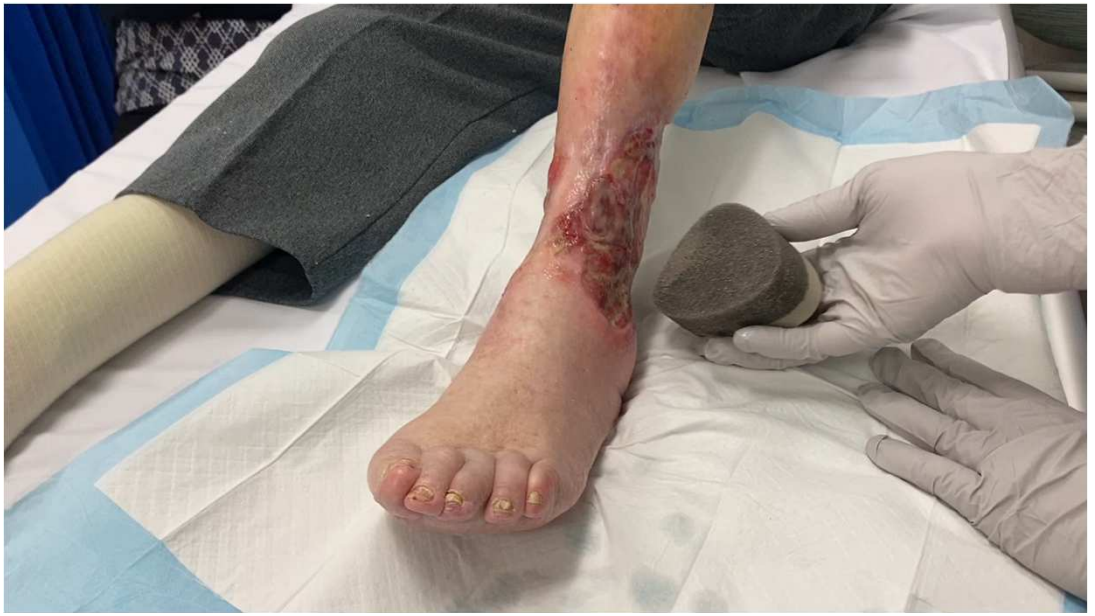
AKA

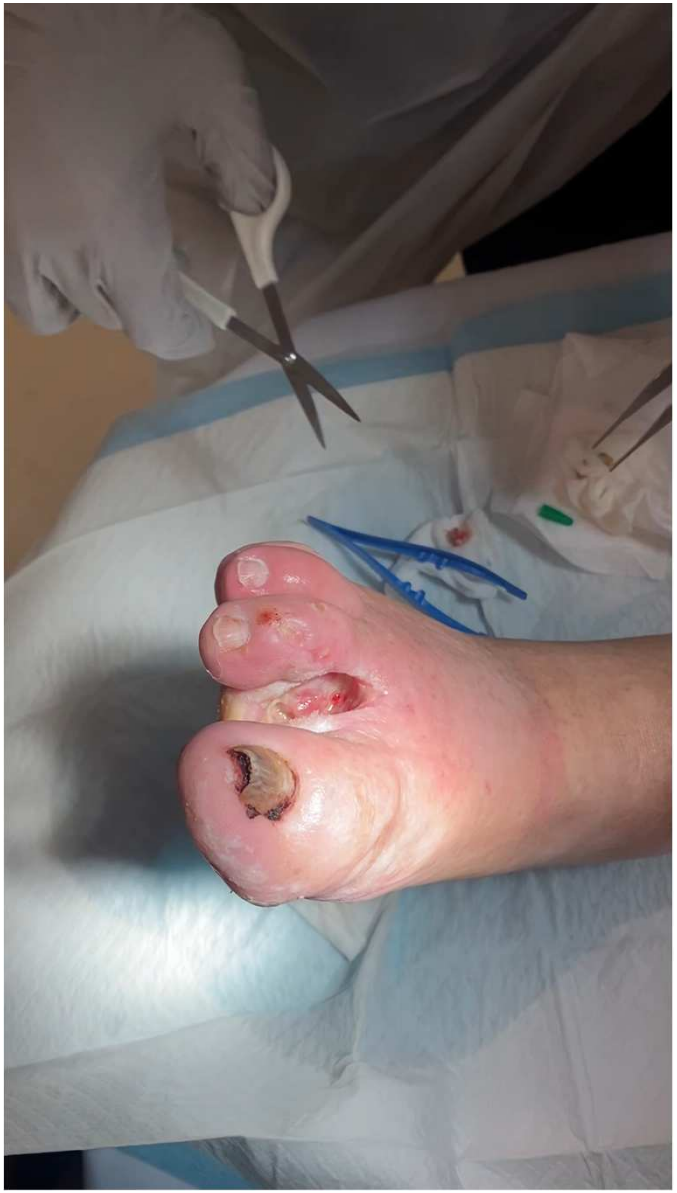


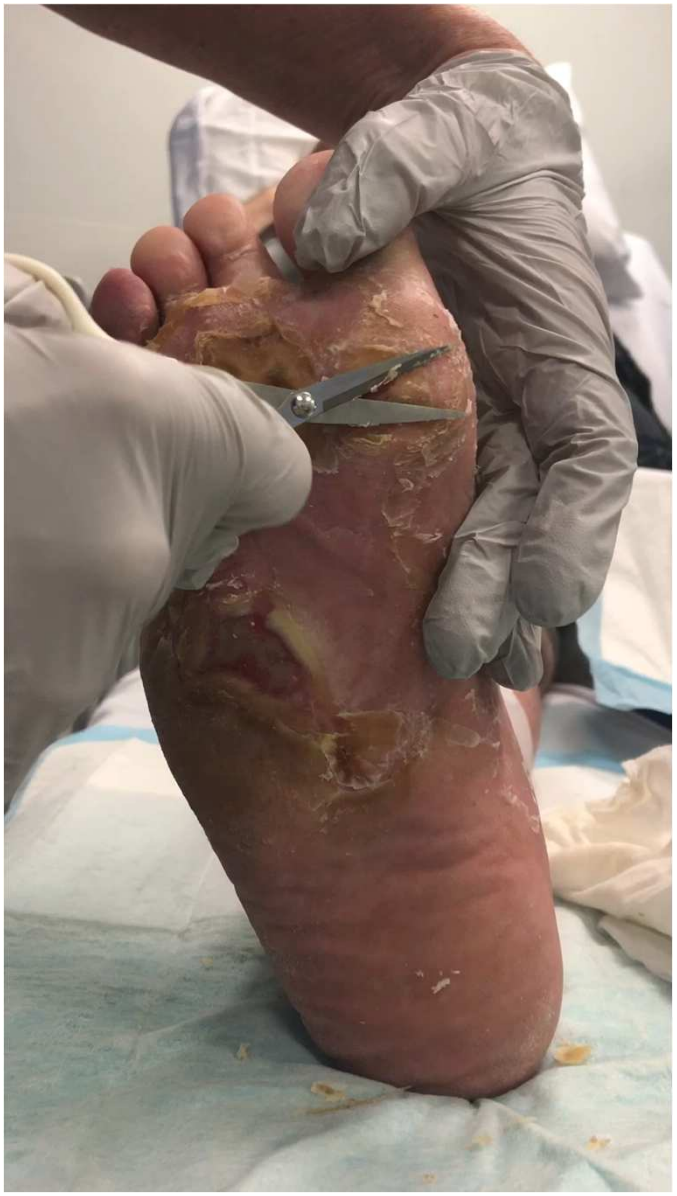




- Clean
- Debride
- Refashion
- Dress







Hydrogels
Hydrocolloids
Alginates
Hydrofibe
Isotonic impregnated pads
Cadexomer iodine based products
Hypertonic saline
Enzynmatic alginates
Medicated honey
Silver based products
Capillary wicking products
Biosurgical larvae products
Teatree oil based products

Moiste Wound Healing Motto…

If its wet……..DRY it!

If its dry with blood supply…MOISTEN it!

If its dry with NO supply… keep dry!

If its irritated…SOOTHE it!

If its chronic…IRRITATE it!

If its palliative. COMFORT it!

If its oedematous SQUEEZE it!

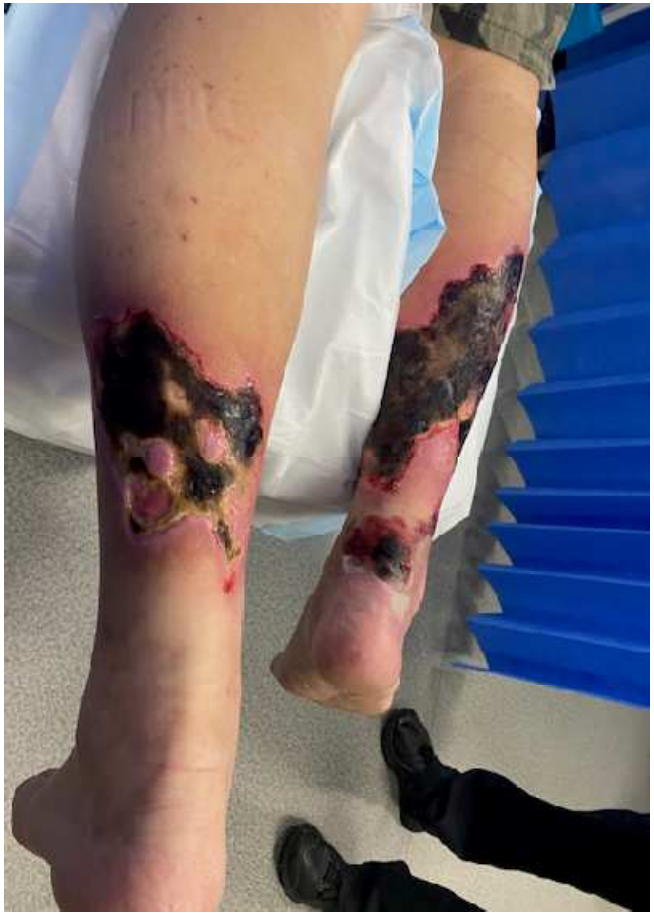
If its red RELIEVE it!

If its green .. NUKE it!

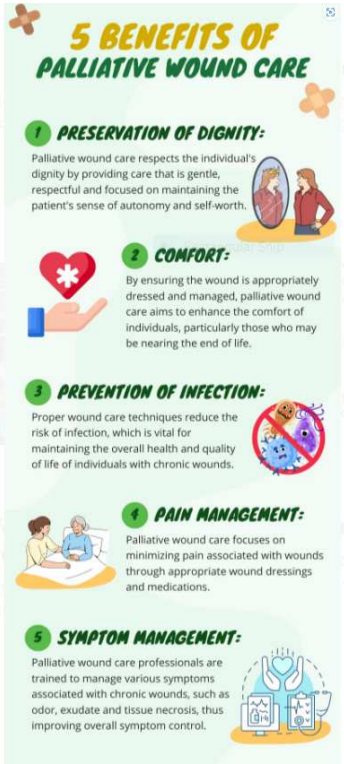
If its radiated … RUN !

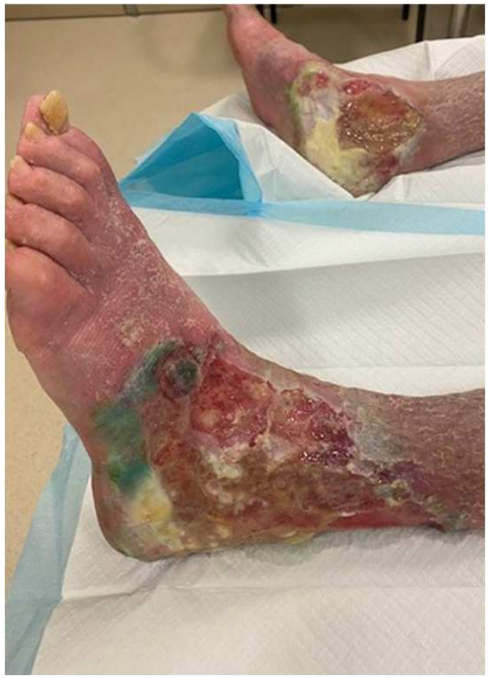
If its come apart bring it together

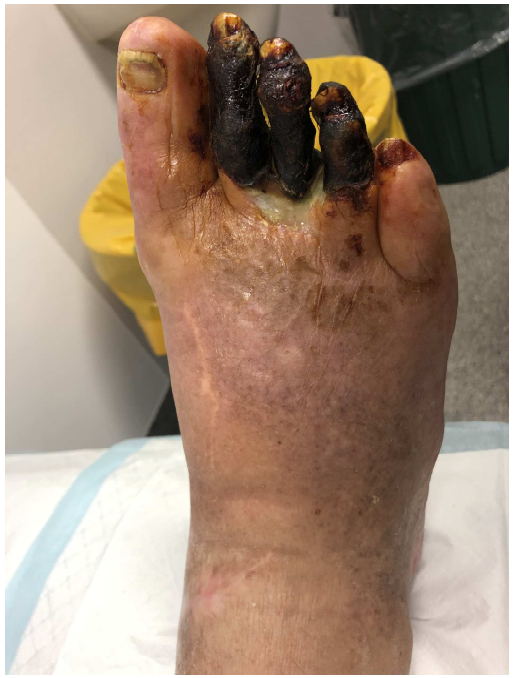
Calciphylaxsis

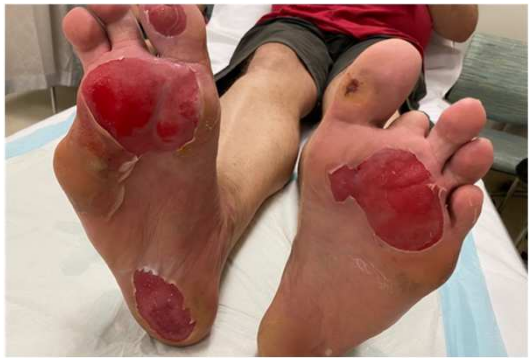


https://dermnetnz.org/topics/calciphylaxis









[Palliative Wound Care - The Wish Clinic - Medium]

Conclusion

Pt centered, Know whether it is healable or not, Realistic goals, Comfort Measures, Manage symptoms, Maintain dignity

Reference LIst

- Sezgin, D., et al. (2023). "Defining palliative wound care: A scoping review by European Association for Palliative Care wound care taskforce." Journal of Tissue Viability **32**(4): 627-634.
- Woo, Kevin Y. PhD, RN, ACNP, GNC(C), FAPWCA; Krasner, Diane L. PhD, RN, CWCN, CWS, MAPWCA, FAAN; Kennedy, Bruce BSc (Pharm), MBA; Wardle, David BSc; Moir, Olivia. Palliative Wound Care Management Strategies for Palliative Patients and Their Circles of Care. Advances in Skin & Wound Care 28(3):p 130-140, March 2015. | DOI: 10.1097/01.ASW.0000461116.13218.43

- **P—Provoking and palliating factors:** What makes your pain worse? What makes your pain better (eg, warm weather, walking, certain types of cleansing solutions or dressings)?
- **Q—Quality of pain:** What does your pain feel like? Descriptors (eg, burning, electrical shocks, pricking, tingling pins) may help to differentiate the 2 types of pain: nociceptive and neuropathic.
- **R—Regions and radiation:** Where is the pain, and does the pain move anywhere (eg, in and around the wound, the wound region, unrelated)?
- **S—Severity or intensity:** How much does it hurt on a scale of 0 to 10, with 0 representing no pain and 10 representing pain as bad as it could possibly be?
- **T—Timing or history:** When did the pain start? Is it present all the time? A pain diary may help to map out the temporal pattern of pain (eg, the pain worsens at night).
- **U—Understanding:** What is important to you for pain relief? How would you like to get better?
- **V—Values:** What is your comfort goal or acceptable level of pain relief? Are there any other views or feelings about the pain that are important to you or your circle of care?

Palliative Wound Care Management Strategies for Palliative Patients and Their Circles of Care Advances in Skin & Wound Care28(3):130-140, March 2015

Drug	Comments
Morphine 0.1% (25 mg in 25 g of hydrogel)[38–40] (use morphine sulfate injection 10 mg/mL, or higher concentration—preferably without preservative) For convenience, 10 mg morphine in 8 g size of hydrogel (0.125%) is also often used.[41–43] Stable for 28 d.[44] Onset of pain relief reported within 20 min to a few hours.[45] Apply 1–3 times daily (relief lasts 2–45 h)[38]	20% systemic absorption has been reported,[41] as well as 75%; wound size dependent[45–47] None has occurred in small wounds[41] If hydrogel is too drying, a petroleum base has been suggested as an alternative Adverse effects reported; itching, burning[42,48]
Hydromorphone 0.02% in lidocaine 2% gel or 5% ointment. Recommended to use 50 mg/mL injection strength to minimize dilution of base.[49]	No published studies
Methadone powder 1% 100 mg in 10 g of stoma powder and distributed on wound (sprayed) from a 60-mL syringe or in arboxymethylcellulose gel[50] Applied 25 mg of methadone per 225 cm^2 once daily.[51] Diamorphine (medical heroin) 0.1% in hydrogel[52–54]	4 Case study patients. Worked best with exudative wounds with exposed tissue 4% systemic absorption reported, in 16-cm^2 wound[51] Similar effectiveness to morphine 0.1%[55] Less stable in hydrogel gel[4]
Ketamine gel 1% (100 mg in 10 g of base) pain relief within 15 min applied 3 times daily. Duration of effect reported as short as 2.5 h Application dose is 0.13–0.37 mg of ketamine per kg of patient weight[56]	Sedation, lightheadedness, sensation of warmth have occurred[56]
Ketamine 10%, with bupivacaine 4% Q.S. in a petroleum base[57,58]	Not for open wounds because of risk of irritation[57,59]