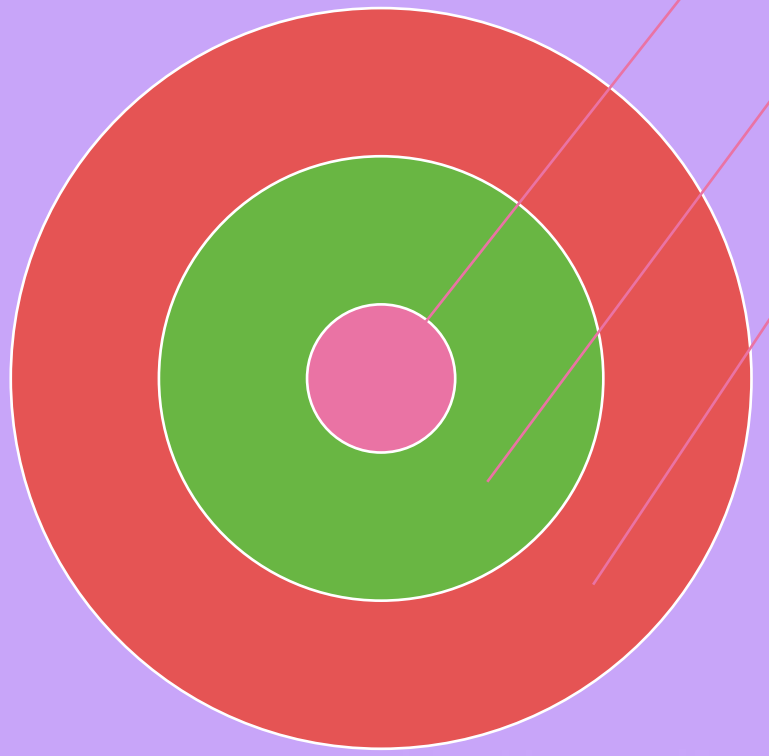
# HELP, MY PATIENT HAS A LEG ULCER!

"I'm not magic!"

# HOLISTIC ASSESSMENT

- Unfortunately, dressings alone do not heal leg ulcers!
- Diagnosing and treating the underlying cause of the ulcer is the key to successful treatment.
- To diagnose and treat the leg ulcer, a holistic assessment needs to be undertaken.

# WHAT IS A HOLISTIC ASSESSMENT?



Whole wound (TIMES)

Whole leg (LLA + doppler)

Whole patient (PMH, medication, bloods)


Look at the **WHOLE** patient, not just the **HOLE** in the patient

# "SIMPLE" LEG ULCERS

1

'A leg ulcer **should** heal in 6-12 weeks'

2

'Epithelialisation **should** be reached within 4 weeks'

3

'Leg ulcers **should** reduce in size by 40% following 4 weeks of optimal therapy'

4

'Chronic wounds **normally** start off small'

Vowden and Vowden (2016); Leaper and Durani (2008); Gwilym et al. (2022)

# HOWEVER, NOT ALL LEG ULCERS ARE "SIMPLE"


# THE CHALLENGE

40% of people with leg ulcers did not receive a vascular assessment (Gray et al 2018)

31% of patients with venous leg ulceration were not receiving compression therapy

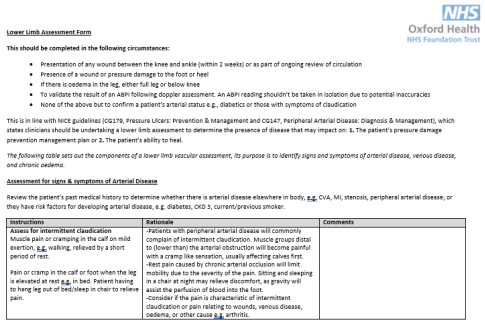
Lack of early identification and assessment means that more resources are spent on suboptimal treatments

This can lead to increased chronicity, infection and other complications

Guest, et al (2020)

# WHAT IS A HOLISTIC VASCULAR ASSESSMENT?

Lower Limb Assessment Form + ABPI Readings + Pulse Sounds / Waveforms + PMH & Medication = Holistic Vascular Assessment



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**Lower Limb Assessment Form**

**This should be completed in the following circumstances:**

- Presentation of any wound between the knee and ankle (within 2 weeks) or as part of ongoing review of circulation
- Presence of a wound or pressure damage to the foot or heel
- If there is oedema in the leg, either full leg or below knee
- To validate the result of an ABPI following doppler assessment. An ABPI reading shouldn't be taken in isolation due to potential inaccuracies
- None of the above but to confirm a patient's arterial status e.g., diabetics or those with symptoms of claudication

This is in line with NICE guidelines (CG179, Pressure Ulcers: Prevention & Management and CG147, Peripheral Arterial Disease: Diagnosis & Management), which states clinicians should be undertaking a lower limb assessment to determine the presence of disease that may impact on: **1.** The patient's pressure damage prevention management plan or **2.** The patient's ability to heal.

*The following table sets out the components of a lower limb vascular assessment, its purpose is to identify signs and symptoms of arterial disease, venous disease, and chronic oedema.*

**Assessment for signs & symptoms of Arterial Disease**

Review the patient's past medical history to determine whether there is arterial disease elsewhere in body, e.g. CVA, MI, stenosis, peripheral arterial disease, or they have risk factors for developing arterial disease, e.g. diabetes, CKD 5, current/previous smoker.

| Instructions | Rationale | Comments |
|---|---|---|
| **Assess for intermittent claudication**<br>Muscle pain or cramping in the calf on mild exertion, e.g. walking, relieved by a short period of rest.<br><br>Pain or cramp in the calf or foot when the leg is elevated at rest e.g. in bed. Patient having to hang leg out of bed/sleep in chair to relieve pain. | -Patients with peripheral arterial disease will commonly complain of intermittent claudication. Muscle groups distal to (lower than) the arterial obstruction will become painful with a cramp like sensation, usually affecting calves first.<br>-Rest pain caused by chronic arterial occlusion will limit mobility due to the severity of the pain. Sitting and sleeping in a chair at night may relieve discomfort, as gravity will assist the perfusion of blood into the foot.<br>-Consider if the pain is characteristic of intermittent claudication or pain relating to wounds, venous disease, oedema, or other cause e.g. arthritis. | |

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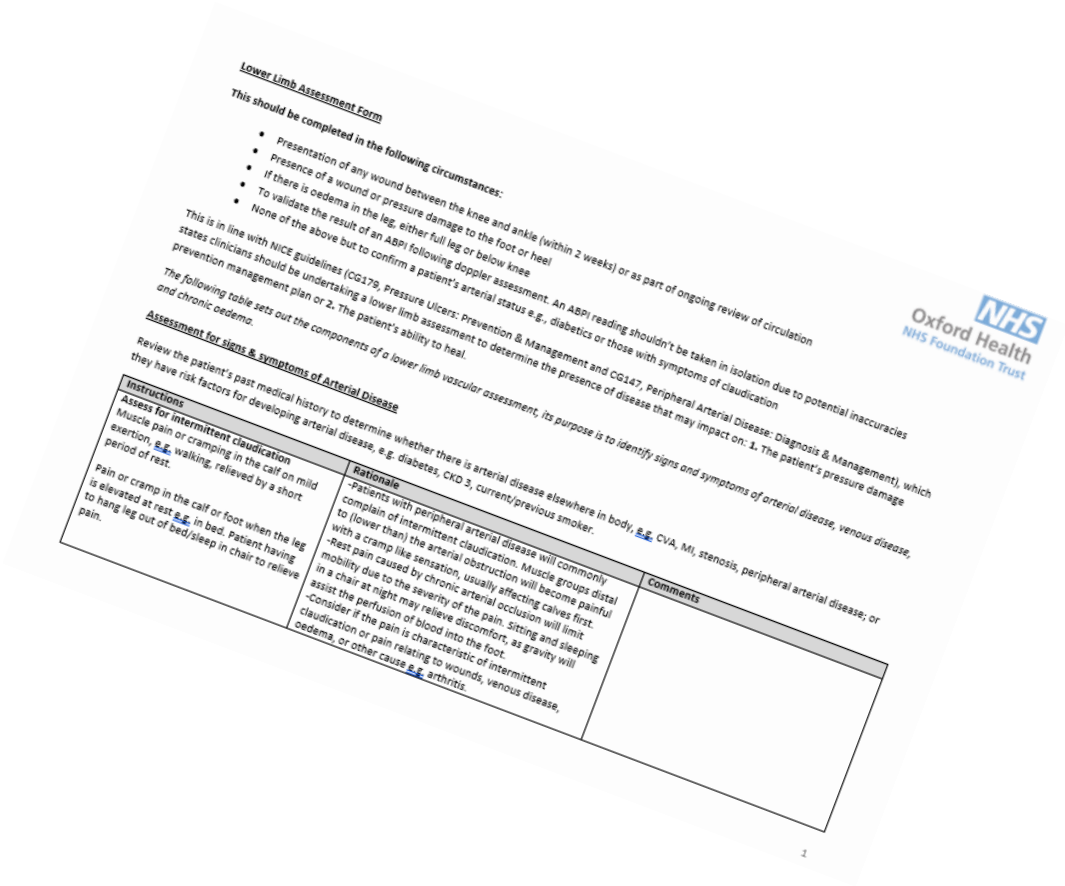
# LET'S GO THROUGH THE LOWER LIMB ASSESSMENT FORM TOGETHER

# WHAT DO WE USE THE LOWER LIMB ASSESSMENT FOR?



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- To identify signs and symptoms of arterial disease, venous disease and chronic oedema.
- To assess patients effectively and safely
- To establish whether it is safe to apply compression therapy
- To decide whether it is safe to debride wounds

# WHEN DO I NEED TO COMPLETE THE LOWER LIMB ASSESSMENT FORM?

- Presentation of any lower limb/foot wound, deep tissue injury or uncategorisable pressure damage to heel
- If there is chronic oedema present (even if there is no wound present)
- In conjunction with a manual doppler or automated MESI doppler
- As an ongoing review


# WHO IS RESPONSIBLE FOR DIAGNOSIS?

30% of wounds lack a proper diagnosis, preventing the identification of a suitable treatment plan

(Guest et al, 2015)

- [x] Arterial
- [x] Venous
- [x] Chronic Oedema

# SIGNS AND SYMPTOMS OF ARTERIAL DISEASE

# SEVERE SIGNS OF PERIPHERAL ARTERIAL DISEASE (PAD)

- Severe signs of Peripheral Artery Disease (PAD) include critical limb ischemia, characterised by pain at rest that improves when dangling legs or exercise-induced pain, and loss of tissue potentially leading to amputation...

# WHAT IS REST PAIN?

- When the arteries are severely narrowed/blocked, even at rest the arteries cannot supply enough blood to the legs – progressive arterial occlusion.
- The part of the body furthest away from the heart is affected first (e.g. the toes and feet).

# PROGRESSION OF REST PAIN

Initially the feet may only be painful at night, when the legs are placed horizontally in bed, losing the help of gravity to supply blood to the feet.

Some people find that dangling the legs out of the bed or sleeping in an armchair with legs dependent helps relieve the pain temporarily.

Eventually the feet are painful all through the day and sleeping is very difficult due to the pain

# IS IT REST PAIN?

## Night cramps

- Occurs in the calf muscle overnight
- Awakens the patient from sleep
- Relieved by massaging the muscle, by walking or antispasmodic agents

## Restless legs syndrome

- Causes an unpleasant crawling/creeping sensation in the feet, calves and thighs
- Often worse in the evening and at night
- Women are twice as likely to develop this
- Overwhelming urge to move the legs
- Magnesium supplements can reduce symptoms

## Arthritis (particularly of the metatarsal bones)

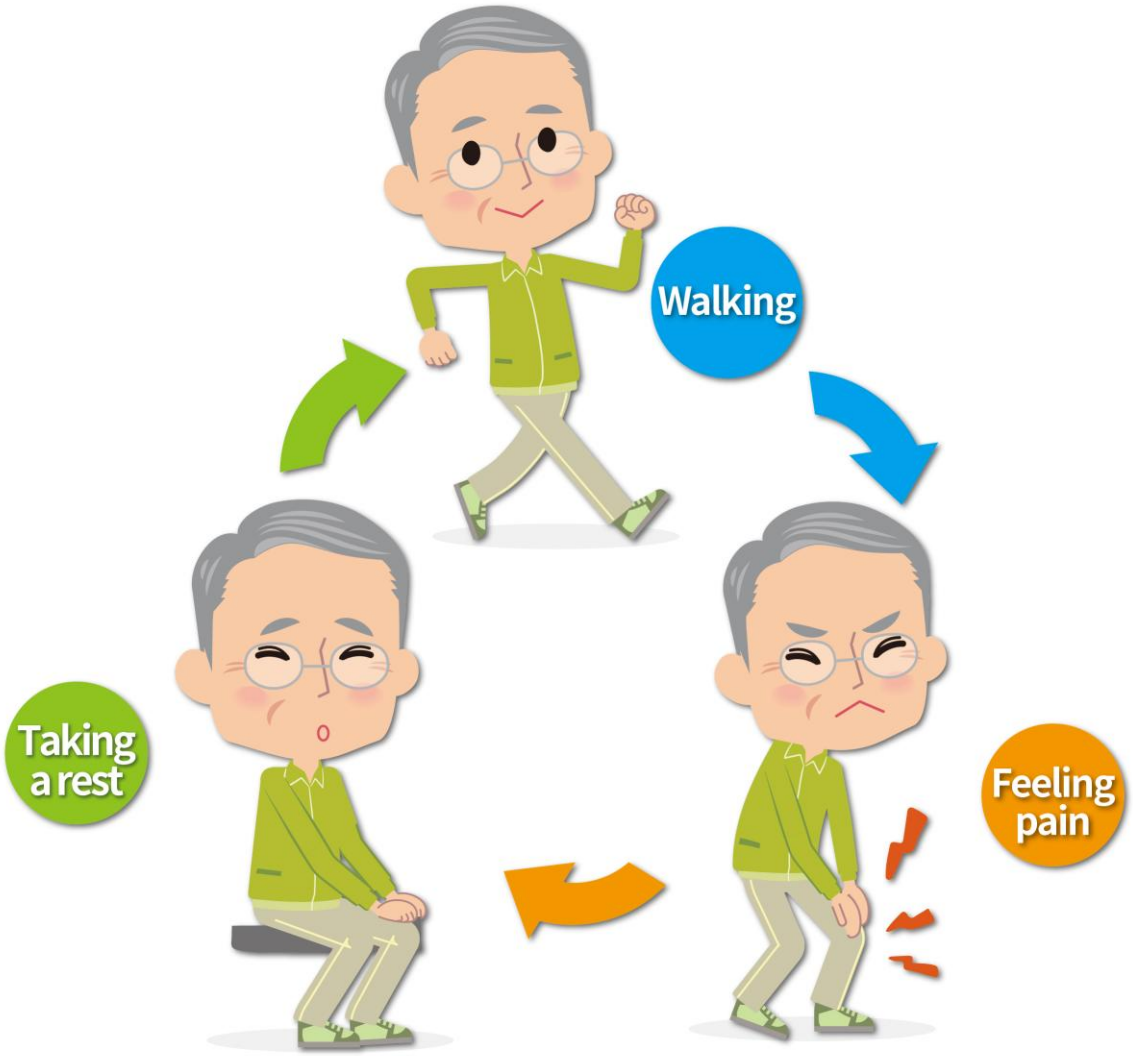
- Pain in the foot often experienced at night
- Relieved by standing
- Usually occurs intermittently and at sporadic intervals
- Not relieved by recumbency

## Diabetic neuropathy

- Often associated with diminished pedal pulse sounds and trophic skin changes
- Decreased vibratory sense

# WHAT IS INTERMITTENT CLAUDICATION?

- Exercised-induced ischaemic leg pain.
- The muscles require a higher blood supply and more oxygen when walking to remove toxins.
- 'Window shopping' – resting for 2-3 minutes relieves pain enabling further walking.



# PROGRESSION OF INTERMITTENT CLAUDICATION

**Early stage:**

Pain in the calf, thigh or buttock muscles on walking

Occurs at quite a long distance, such as half a mile

**Established stage:**

Narrowing of arteries worsen

Pain occurs at shorter distances, such as 100 yards

**Advanced stage:**

Eventually, some patients can only walk a few yards before they are stopped by the pain in the legs.

# PERIPHERAL ARTERIAL DISEASE AND PAIN

- Be a detective, investigate the pain!
- Don't take answers at face value, ask questions.
- Consider arthritis and spinal stenosis as differential diagnoses for intermittent claudication.
- Refer to NICE (2022) documentation - Peripheral arterial disease - What else might it be?


Patient information leaflet

# SKIN NECROSIS (GANGRENE)

- Death of the tissue caused by lack of blood flow and oxygen.
- Can also be caused by infection.
- Can be removed but is irreversible.

# WHAT IS THE DIFFERENCE BETWEEN NECROSIS/ESCHAR AND ANAEROBE INFECTION?

# OTHER SYMPTOMS OF PAD MAY INCLUDE:

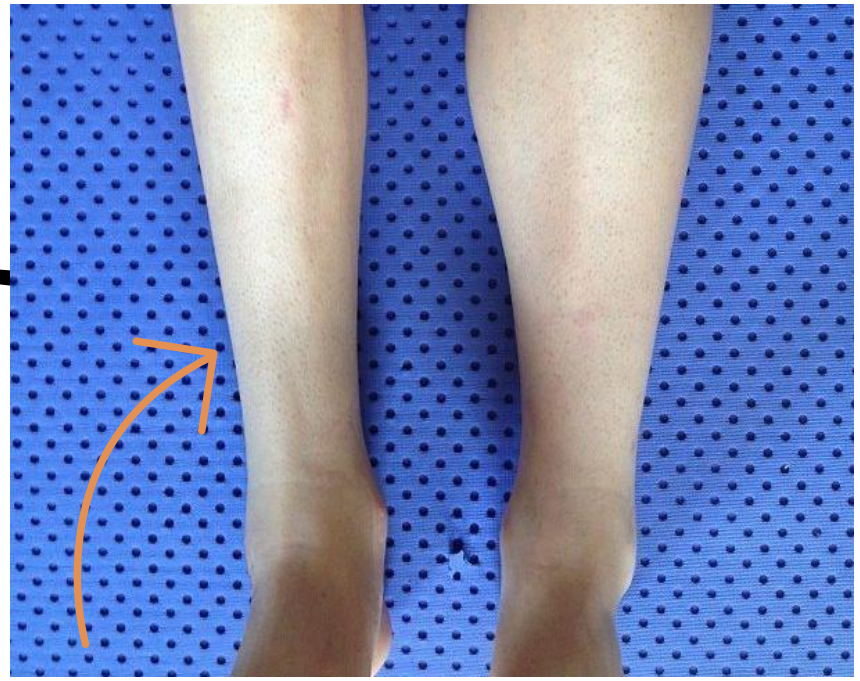
- Cold, shiny skin on the legs.
- Skin colour changes on the legs.
- Slow-growing, thickened toenails.
- Wound on the toes, feet or legs that won't heal.
- Hair loss or slower hair growth on the legs.
- Sensory and/or motor neuropathy.
- Erectile dysfunction.

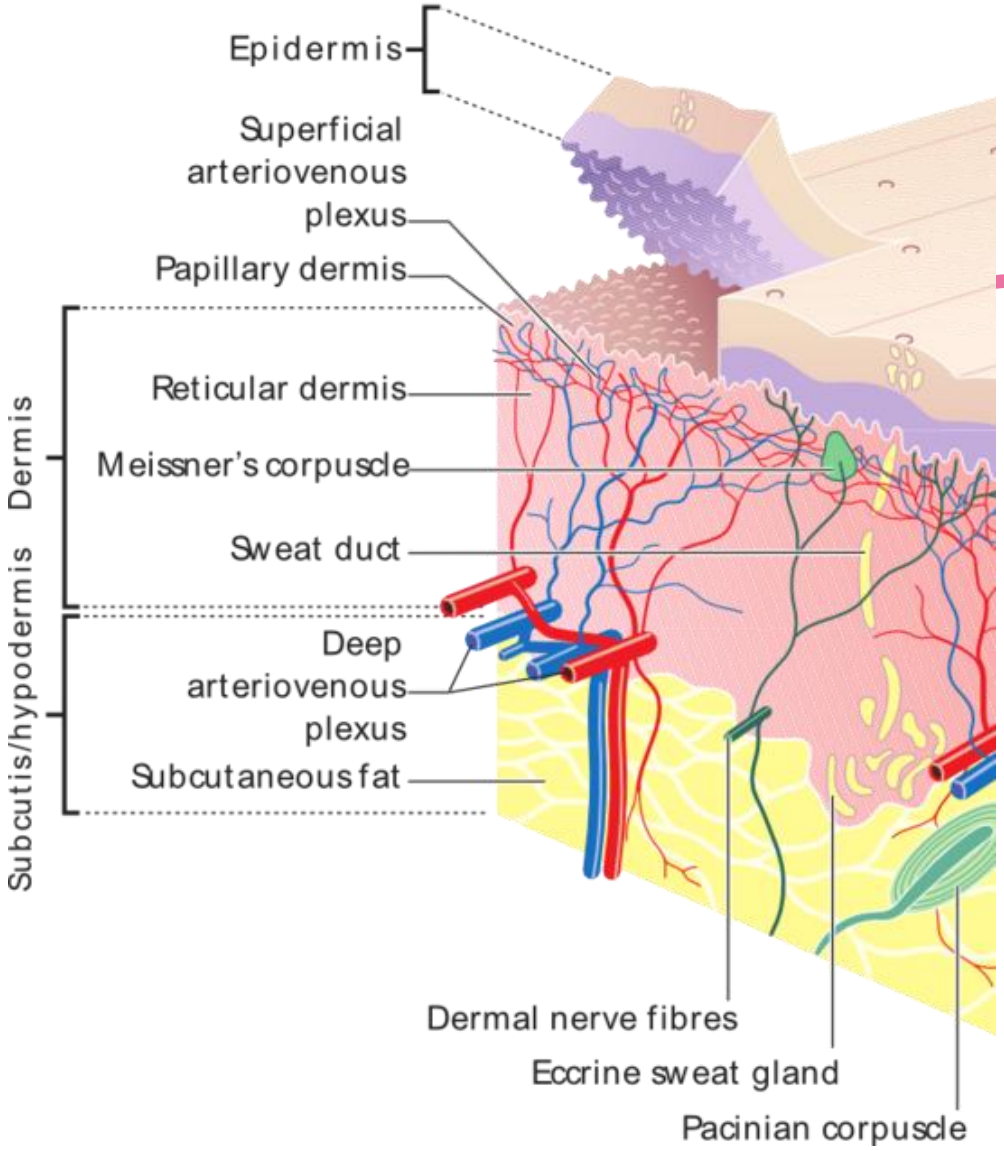
# POSITIVE BUERGER'S SIGN

- **Pallor upon elevation** – arterial pressure in the lower leg/foot is insufficient to overcome the forces of gravity. The skin is not receiving enough oxygen-rich blood so changes to white/blue/pale brown.
- **Dependent rubor** – the colour of the skin changes darkens from white/blue/brown to red/dark brown/black as the blood becomes deoxygenated as it travels through ischaemic tissue (post-hypoxic vasodilation).

# ATROPHY OF THE SUBCUTANEOUS TISSUES

- Peripheral arterial disease is commonly accompanied by musculoskeletal abnormalities including generalised loss of skeletal muscle mass, strength, and physical performance–also called sarcopenia (McDermott et al (2007); Cruz-Jentoft and Saya (2019).



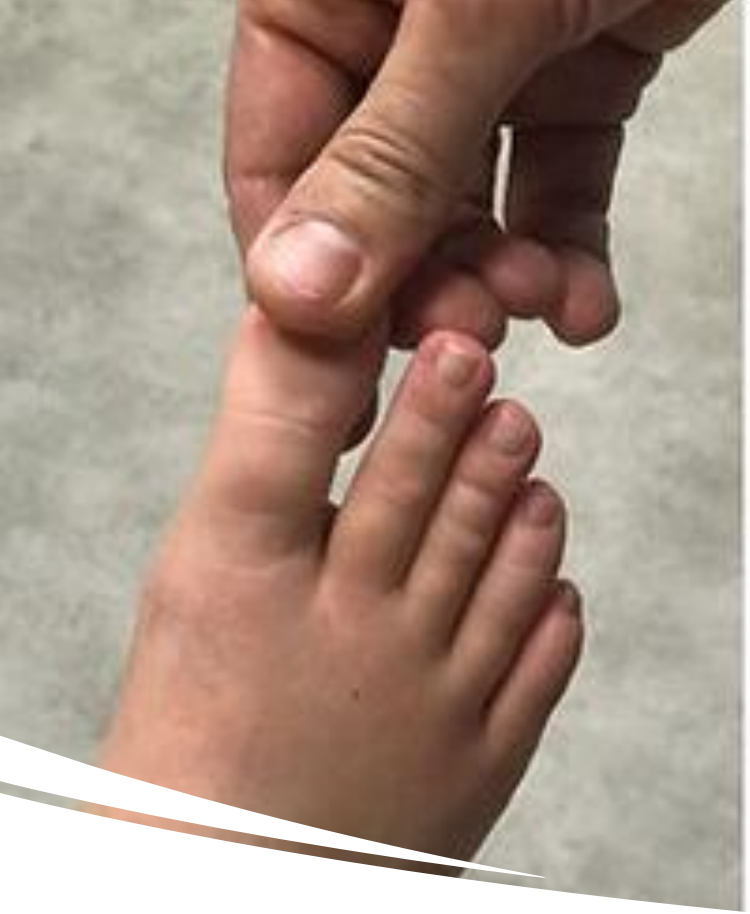



# SCALING

Blood vessels in the papillary layer of the skin provide nutrients and remove cellular waste products

Arterial disease = insufficient blood supply, reduced regeneration of skin cells and buildup of waste products

# QUESTION: HOW DO YOU ASSESS CAPILLARY REFILL TIME?



# CAPILLARY REFILL TIME

- Apply pressure to the tip of the big toe whilst the patient is supine for 5 secs.
- Good cardiac output and digital perfusion = <3 secs.
- >5 secs = abnormal, poor peripheral perfusion.

# ASSESS SKIN TEMPERATURE

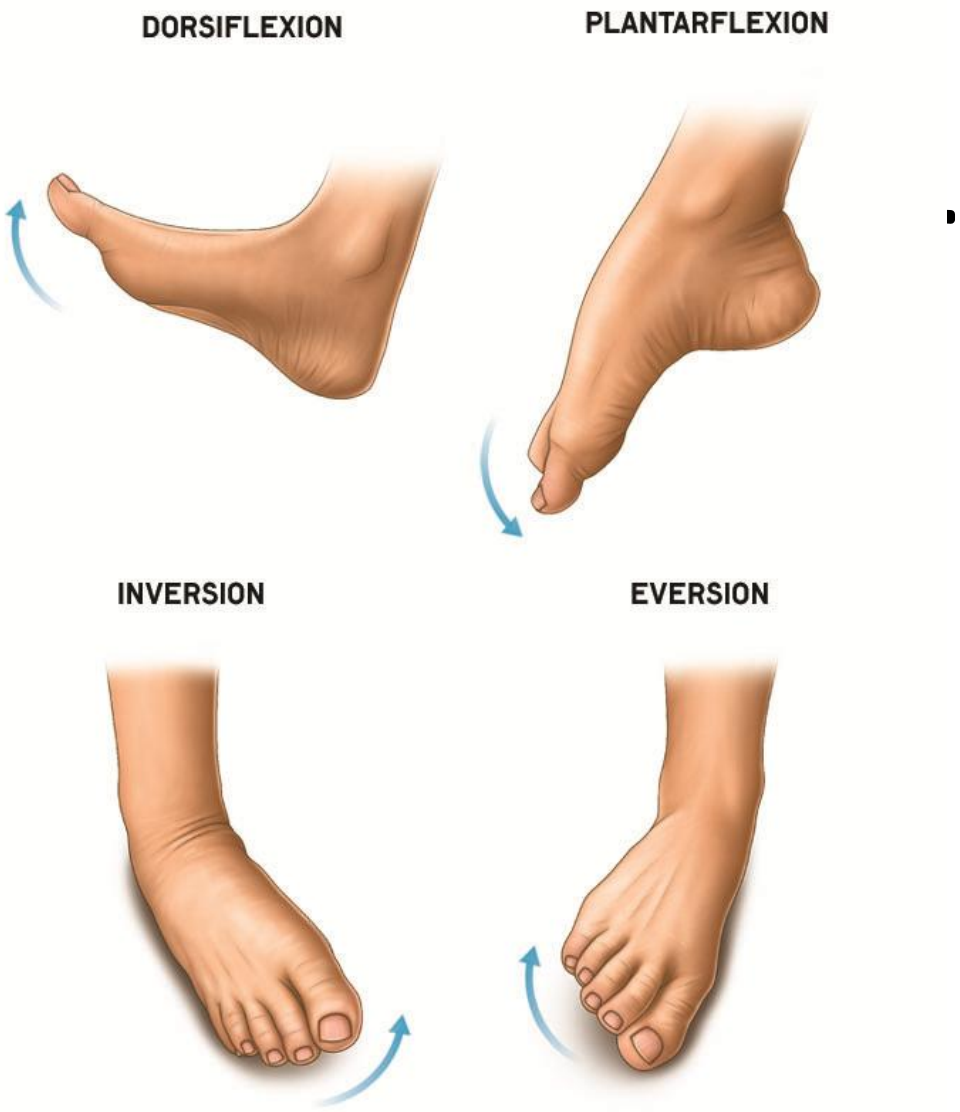
- Use the back of your hands to check skin temperature of both limbs – they should be warm and similar in temperature.
- Start at the toes and work up the legs, assessing both limbs simultaneously.
- Note any changes in temperature and whether there is a gradual or abrupt change.
- There may be an obvious demarcation in temperature. Assess for areas of the limb that have either a rise or fall in temperature.
- Severe arterial insufficiency will result in an obvious demarcation in temperature (cool limb).
- Consider the context e.g. if feet are cool due to the environment or oedema.

# SENSORY NEUROPATHY

- Check sensation – is the limb/foot numb?
- Non-ischaemic reasons for loss of sensation need ruling out such as diabetic neuropathy, spinal cord injury.
- PNs may have access to monofilaments.

# MOTOR NEUROPATHY

- Assess ankle movement – check flexion and extension of the foot and toes.
- Muscle function may be reduced by a compromised arterial blood supply.
- Non-ischaemic reasons for poor movement need ruling out such as arthritis, oedema, previous surgery, and lack of use.



# SMOOTH OR SHINY SKIN

- Skin that looks smoothy or glossy may be a sign that skin cells aren't getting enough nutrients due to PAD.
- Consider if these skin changes are due to oedema

# DO YOU THINK THICKENED TOENAILS AND HAIR LOSS IN ISOLATION ARE A SIGN OF SIGNIFICANT ARTERIAL DISEASE?

# SIGNS AND SYMPTOMS OF LYMPHOVENOUS DISEASE

**Note**: These are separated into venous and oedema symptoms in the lower limb assessment form

# LYMPHOVENOUS DISEASE IS PROGRESSIVE

**Early Lymphovenous disease**

- Requires preventative treatment
- The aim is to slow down or control venous disease from getting worse over time

**Established Lymphovenous disease**

- More established signs and symptoms
- The aim is to alleviate the deterioration of venous disease symptoms and to provide more effective support for venous failure

**Advanced Lymphovenous disease**

- Patients present with severe venous disease signs and symptoms
- The aim is intensive management of the underlying skin condition and skin care

# LYMPHOVENOUS DISEASE IS PROGRESSIVE

**Early Lymphovenous disease - PREVENTION**

- Tired, achy, heavy legs
- Spider veins
- Corona phlebectatica
- Mild/moderate varicose veins
- Mild/moderate hyperkeratosis
- Haemosiderin staining/hyperpigmentation
- Mild varicose eczema

**Established Lymphovenous disease - EARLY/MEDIUM INTERVENTION**

- Moderate varicose eczema
- Atrophie blanche
- Induration
- Moderate/severe varicose veins
- Moderate/severe hyperkeratosis
- Healed ulcer
- Recurring ulcer/open ulcer
- Cellulitis

**Advanced Lymphovenous-disease - INTENSIVE MANAGEMENT**

- Lipodermatosclerosis
- Chronic oedema/lymphoedema
- Severe hyperkeratosis
- Skin folds
- Papillomatosis
- Lymphangiomata
- Lymphorrhoea

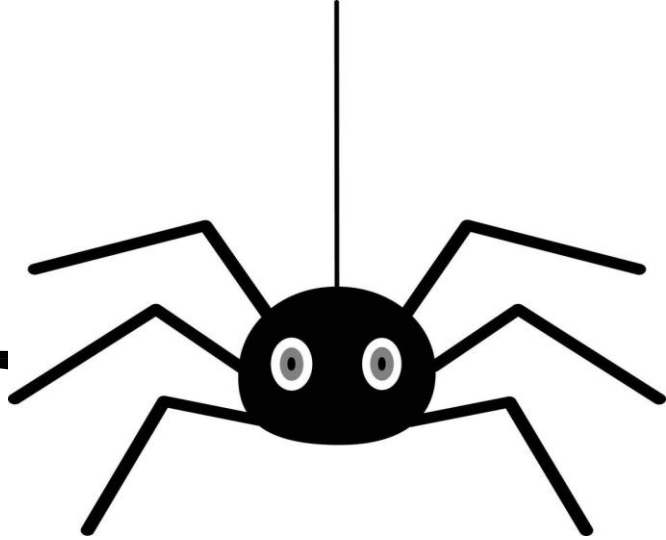
Early Lymphovenous disease

# TIRED, ACHY, HEAVY LEGS

- Legs that become tired quickly, ache and/or feel heavy after periods of standing or immobility.
- Caused by early venous hypertension (increased pressure in the venous system), poor venous return, valvular incompetence and lack of muscle pump activity.

Early Lymphovenous disease

# SPIDER VEINS



- Also called telangiectasis and thread veins.
- Mild elevated venous pressure causes dilated superficial capillaries on the skin, which get their name due to their shape as they resemble spider legs

Early Lymphovenous disease

# CORONA PHLEBECTATICA - ANKLE FLARE, CUPS & STASIS SPOTS

Stasis spots

- Purple/black coloured areas/spots that disappear when pressed with a finer
- Caused by venous hypertension and burst epidermal capillaries

Ankle flare

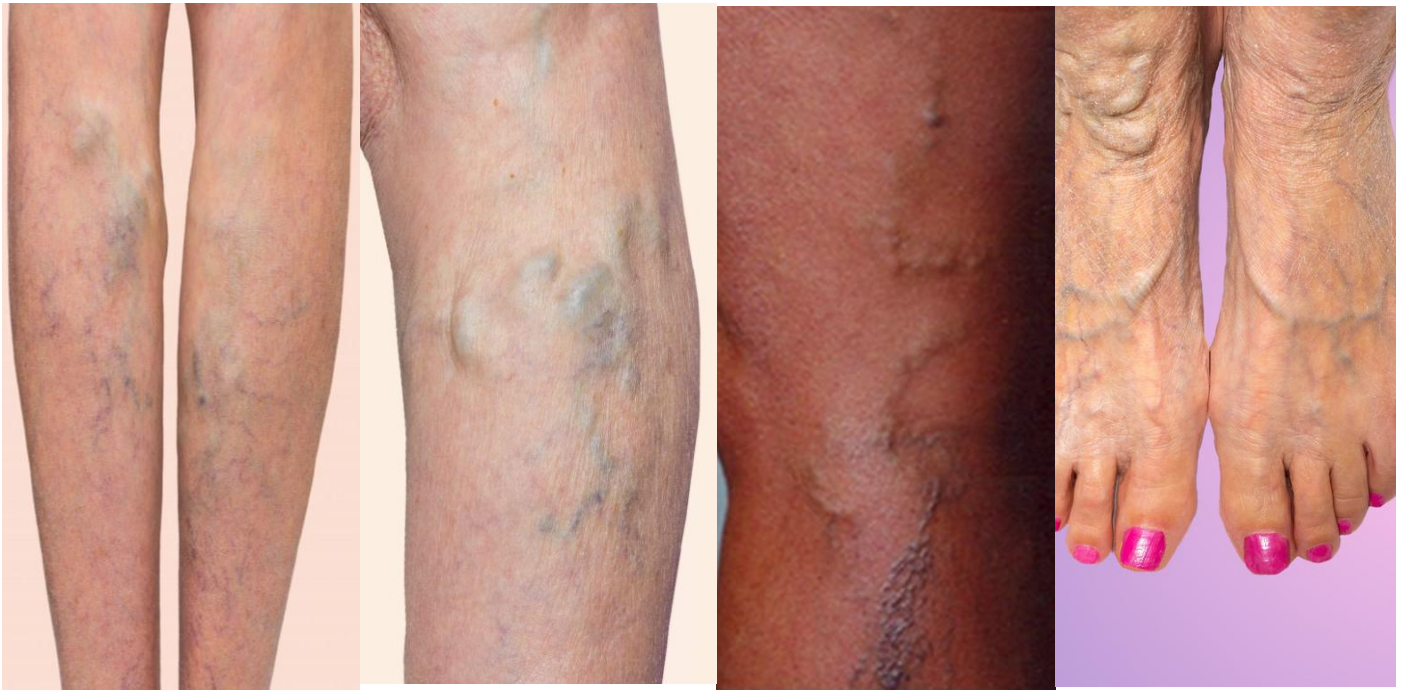
- Distention of the small veins of the foot around the ankle.
- Caused by venous hypertension, blood pools around the ankle due to gravity and poor venous return

Cups

- Cupular-shaped swelling to the plantar arch that disappear with limb elevation
- Dilation of the triangular-shaped veins at the plantar arch

Early Lymphovenous disease

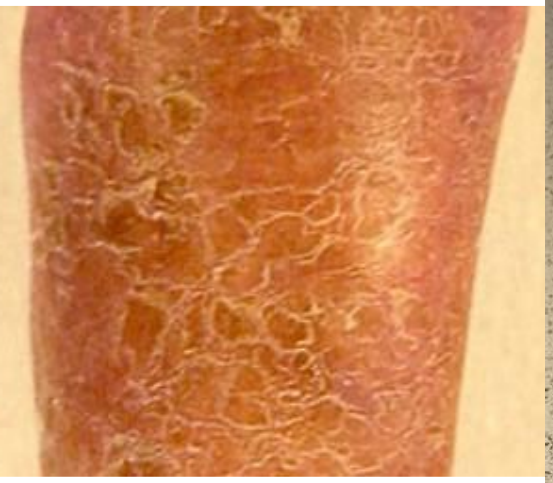
# MILD TO MODERATE VARICOSE VEINS



- Swollen and enlarged veins, that may be lumpy, bulging, cord-like or twisted in appearance, and blue or dark purple in colour often causing pain.
- Veins enlarge due to malfunction of valves causing improper flow of blood, and pooling as a result

Early Lymphovenous disease

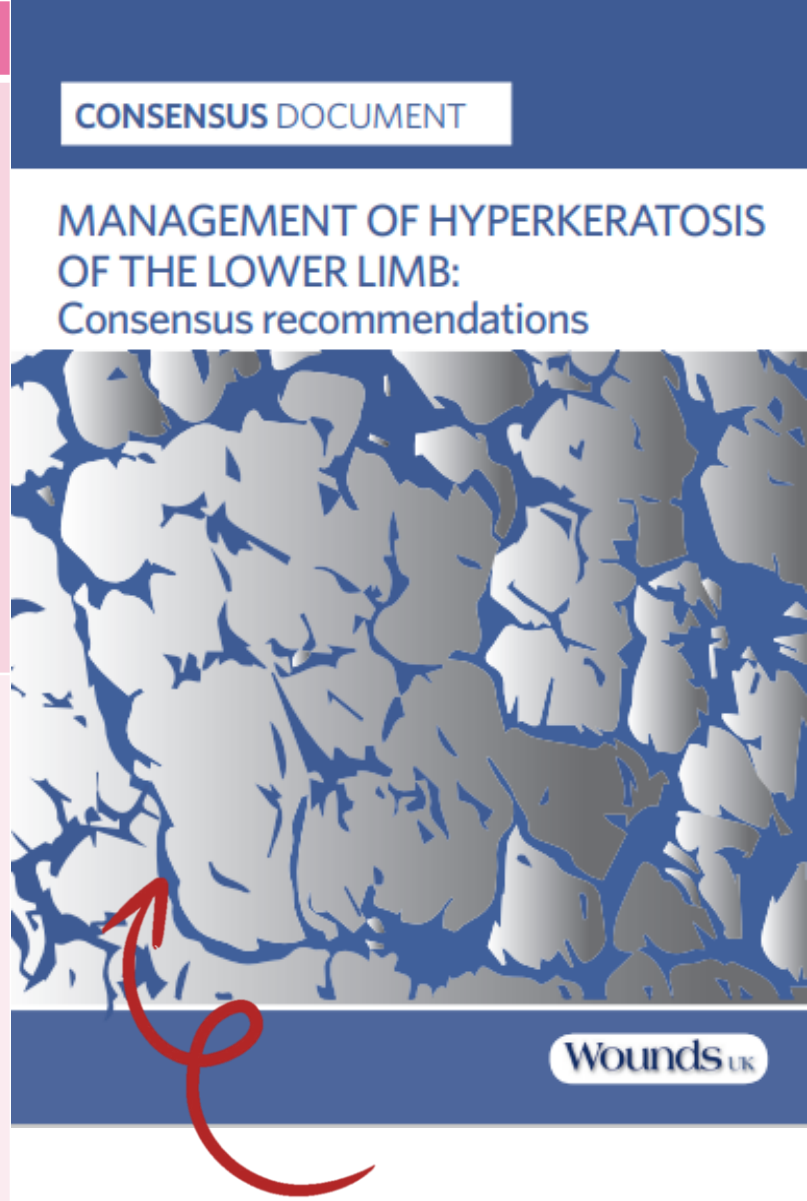
# MILD/MODERATE HYPERKERATOSIS



- Dry, scaly patches of skin caused by abnormal thickening of the outer layer of the skin.

# IS IT HYPERKERATOSIS OR SCALING?

| Condition | Signs/Symptoms |
|---|---|
| Hyperkeratosis  | • May present as red, dry, skin with brown or grey thick, scaly patches that do not flake away when the skin is brushed.<br>• May cover small, isolated areas or the entire circumference of the lower leg.<br>• Scales can be lifted easily without causing bleeding after soaking and regular emollient use.<br>• Commonly seen in combination with haemosiderin staining, varicose ecezma, lipodermatosclerosis and oedema.<br>• Can be associated with odour due to the presence of bacteria and fungi. |
| Dry skin / crust / scaling  | • Crust is normally secondary to leakage from the skin or a wound that has dried out, or a build up of dried skin or wound care products.<br>• Fine, dry skin flakes without multiple layers.<br>• Associated with excessive exudate on the skin; crusts dissolve on washing and do not recur when the exudate is under control<br>• Tends to be more distal, especially on the feet and toes.<br>• Skin may also be shiny, cool with loss of hair.<br>• Fine, dry parchment-like scaling |








# IS IT HYPERKERATOSIS OR SCALING?

Early Lymphovenous disease

# HAEMOSIDERIN STAINING / HYPERPIGMENTATION

- A brown or rust discolouration of the skin around the gaiter area.
- Venous hypertension results in the escape of haemoglobin-containing red blood cells into the tissues which break down, producing an iron-containing pigment which builds up to produce brown deposits in the skin.

Early Lymphovenous disease

# MILD VARICOSE ECZEMA / VENOUS DERMATITIS

- Common inflammatory skin condition.
- Prolonged venous hypertension leads to stasis, leaking of fluid and blood products into the surrounding tissues causing inflammation

# MODERATE VARICOSE ECZEMA / VENOUS DERMATITIS

Established Lymphovenous disease

Established Lymphovenous disease

# ATROPHIE BLANCHE




- Smoothy, ivory-white plaques in the skin that contain fibrin deposits and collagen that may be speckled with spider veins and are prone to ulcer formation.
- Caused by localised occlusion of small blood vessels/hypoxia in the dermis due to poor microcirculation from venous disease resulting in lack of oxygen and nutrient flow to the areas.

Established Lymphovenous disease

# INDURATION

- Firm, hardened area of tissue with loss of elasticity and pliability.
- Looks smooth and shiny.
- Many causes including inflammation, chronic venous insufficiency, chronic oedema and infection.

Established Lymphovenous disease

# MODERATE/SEVERE VARICOSE VEINS

- Swollen, enlarged veins that are bulging, twisted, often blue or dark purple visible under the skin.
- Caused by valve incompetence in superficial veins, venous reflux, elevated venous pressure (venous hypertension) and dilated vessels.

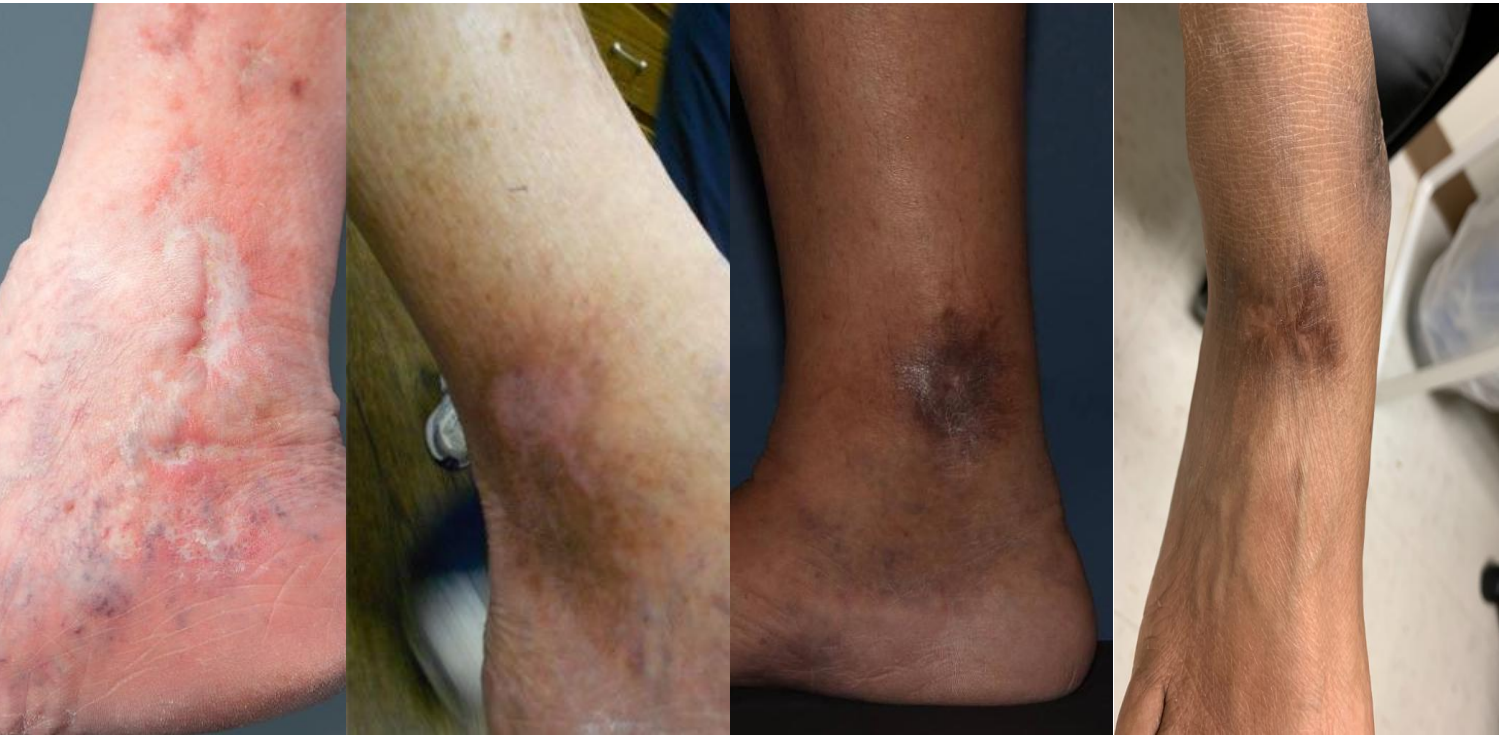
Established Lymphovenous disease

# MODERATE/SEVERE HYPERKERATOSIS

- More marked than mild/moderate hyperkeratosis.
- A chronic skin condition which presents as a build-up and over proliferation of thick, rough, waxy, hard brown scales on the outer layer of the skin (stratum corneum), increasing the risk of cellulitis.
- Caused by excess keratin production secondary to long-standing skin stress (inflammation), chronic venous insufficiency.

Established Lymphovenous disease

# HEALED ULCER



- A previous skin break or ulcer in the gaiter area that has healed.
- .Indicates past significant venous disease, possibly venous hypertension or trauma that disrupted skin integrity.
- Risk of recurrence

Established Lymphovenous disease

# RECURRING/OPEN ULCER




- A wound in the gaiter area which either hasn't healed after several weeks or one that keeps coming back.
- Poor venous return – high venous pressure, skin breakdown, possible infection, underlying venous insufficiency or lmphovenous disease.

Established Lymphovenous disease

# 'INFLAMMATORY LEGS' OR CELLULITIS?

28% of 425 patients with confirmed cellulitis has a concurrent skin disease, commonly varicose eczema. If the varicose eczema had been identified and treated in a timely manner, this could have prevented cellulitis from occurring
(Levell, Wingfield and Garioch, 2011)

# 'INFLAMMATORY LEGS' OR CELLULITIS?

The Lymphoedema Support Network (2022)

| Symptom | Red Legs | Cellulitis |
|---|---|---|
| Definition | Chronic inflammatory response to venous insufficiency often misdiagnosed as cellulitis. | Acute and potentially serious Infection of the skin and subcutaneous tissue, most commonly caused by bacteria |
| Both legs are the same | Very common | Very rare |
| Temperature/ Fever | No | Yes |
| Feeling Unwell/ General Malaise | No | Yes |
| Pain | May be tender | Yes |
| Spreading erythema (>2cm from wound border if wound present) | No - redness throughout both legs, normally below the knee but does not spread. Appears purple/grey in darker skin tones so is more difficult to identify | Yes |
| Hot to the touch | May feel warmer | Yes |
| Treatment | Good skin care and emollient therapy, exercise, leg elevation and compression. Will **NOT** resolve with antibiotic therapy | Antibiotic therapy |

# 'INFLAMMATORY LEGS' OR CELLULITIS?

# CELLULITIS IN PATIENTS WITH CHRONIC OEDEMA

Patients with chronic oedema are at a far greater risk of developing cellulitis

Impaired local immune surveillance/response

Protein-rich lymphatic fluid is thought to facilliate bacterial growth

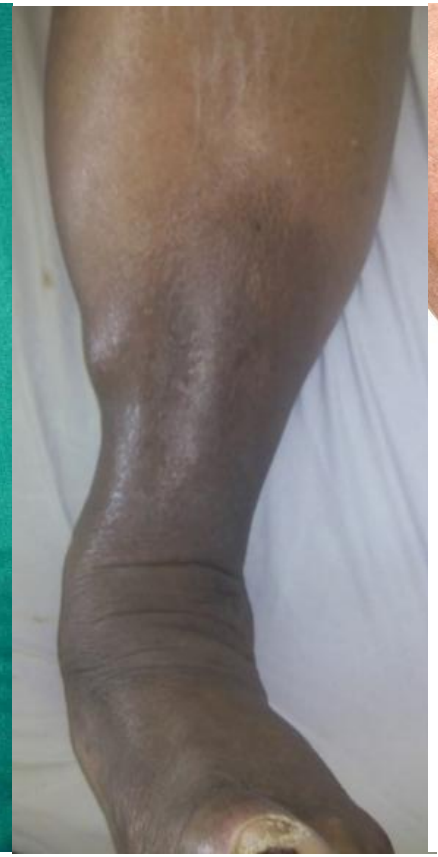
Patients may present atypically from those without chronic oedema - may have normal white blood cell count, C-reactive protein level and may not have a temperature.

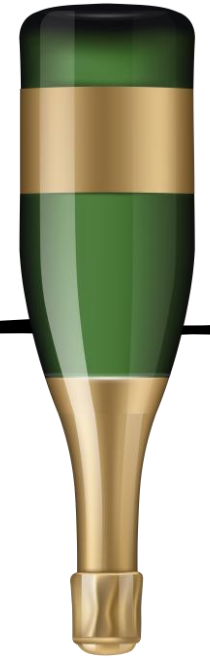
How do we diagnose cellulitis in this group of patients?

What shapes our care for patients with chronic oedema with cellulitis?

Advanced Lymphovenous disease

# LIPODERMATOSCLEROSIS





Upside-down champagne bottle

- Thickening and hardening of the subcutaneous tissues of the lower leg
- When fibrous tissues replace the fatty layer, oedema remains above this area giving it the appearance of an upside-down champagne bottle.
- Chronic venous insufficiency results in the progressive deposition of fibrin and in severe cases, the lymphatics become damaged.

# ASSESSING FOR SIGNS OF CHRONIC OEDEMA

## LOOK

- Where does the oedema start?
- Where does it stop?
- Toes? Ankles? Knees? Thighs? Waist?
- Bilateral or unilateral?

## LISTEN

- When did it start?
- Medical history?
- Medication?
- Family history?
- Unresolved by elevation or diuretics?

## FEEL

- How does it feel?
- Soft and pitting?
- Firm and fibrotic?
- Positive Stemmer sign?

# OEDEMATOUS TOES - STEMMER'S TEST

Positive stemmer

Positive stemmer

# WHAT DO THE STAGE OF LYMPHOEDEMA LOOK LIKE?

# PITTING OEDEMA

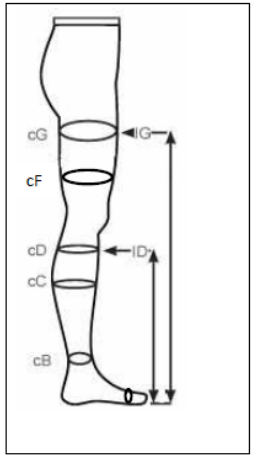
# BASELINE LIMB MEASUREMENTS

Patient label

NHS
Oxford Health
NHS Foundation Trust

Please measure the limb before each application of compression bandaging - **LEFT / RIGHT LEG** (delete as appropriate)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DATE | | | | | | | | | |
| cG | | | | | | | | | |
| cF | | | | | | | | | |
| cD | | | | | | | | | |
| cC | | | | | | | | | |
| cB | | | | | | | | | |
| Circumference around base of toes | | | | | | | | | |




Lower Limb measurement form/Tissue Viability/V3/Nov2019

- Misshapen legs with skin folds - Take photograph of leg and mark on photograph where to measure

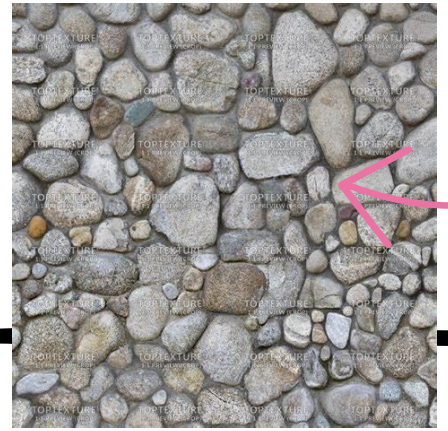
Advanced Lymphovenous disease

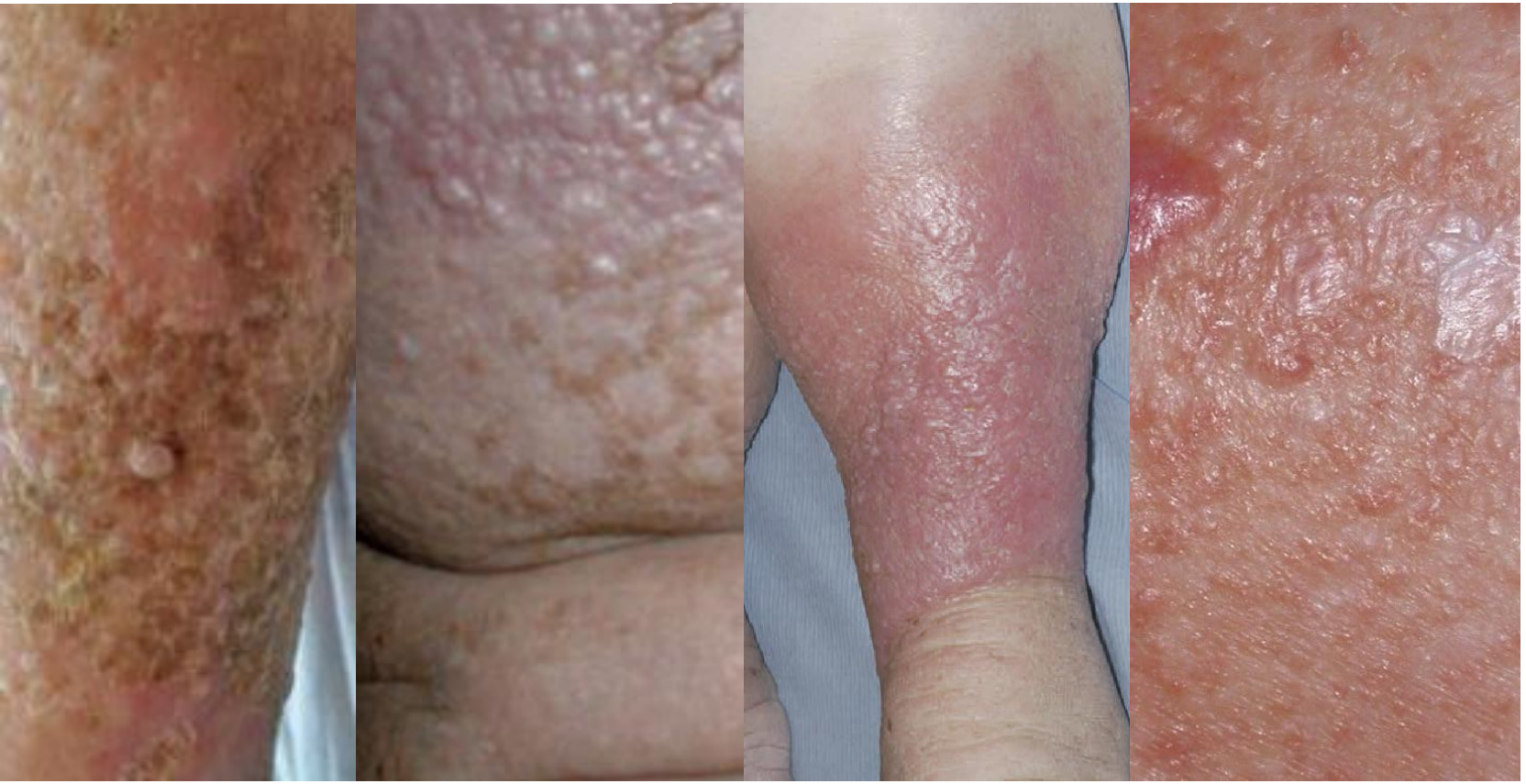
# SKIN FOLDS

- Skin which, in severe cases, overhangs in a pendulous fashion.
- Caused by extra fluid in very swollen limbs resulting in stretching of the skin.

Advanced Lymphovenous disease

# PAPILLOMATOSIS

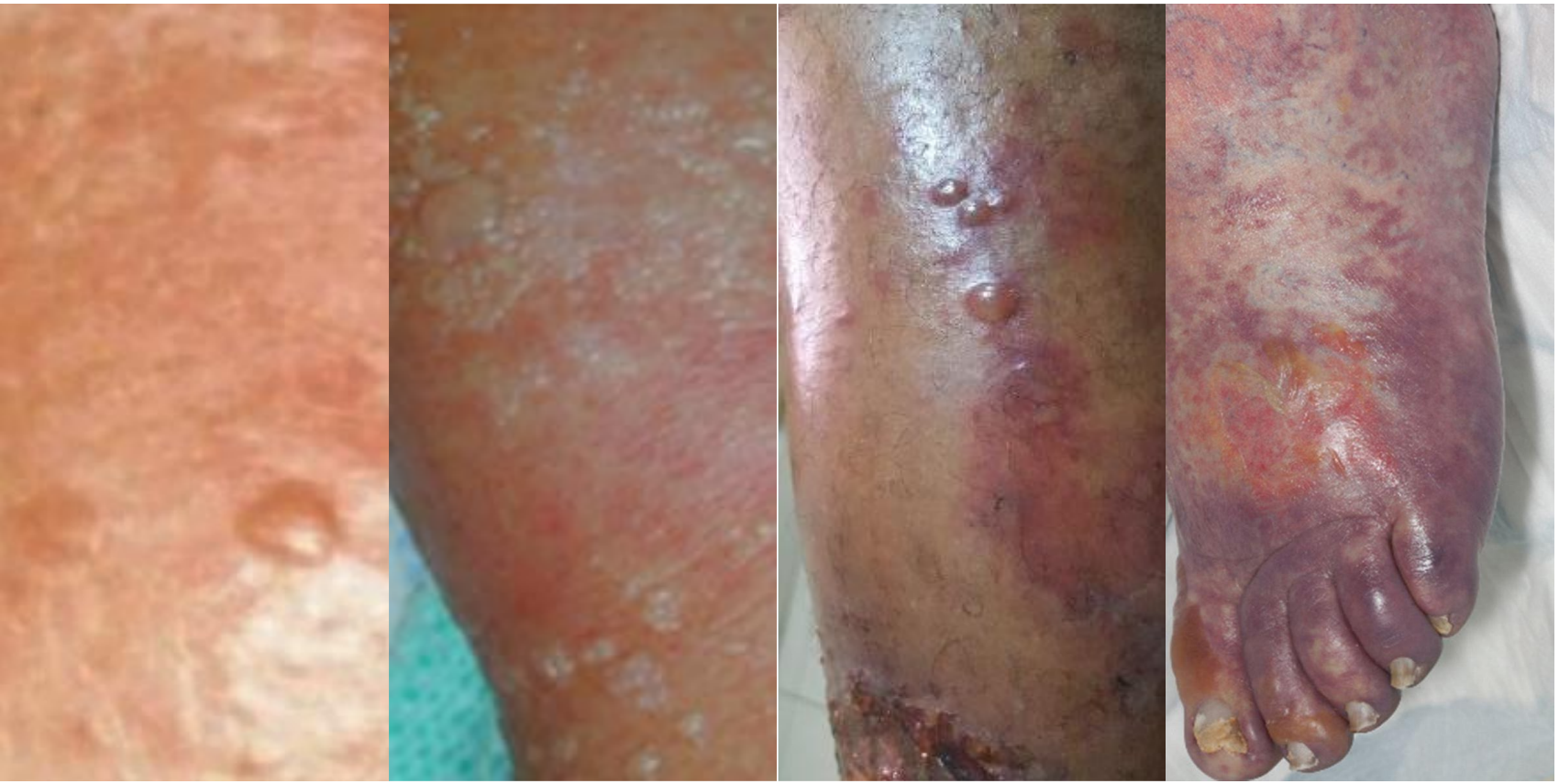




- Warty growths on the skin.
- Cobblestone-like appearance.
- Cause by dilated lymphatics and fibrous tissue secondary to lymphatic damage
- Often seen in conjunction with oedema/lymphoedema

Advanced Lymphovenous disease

# LYMPHANGIOMATA



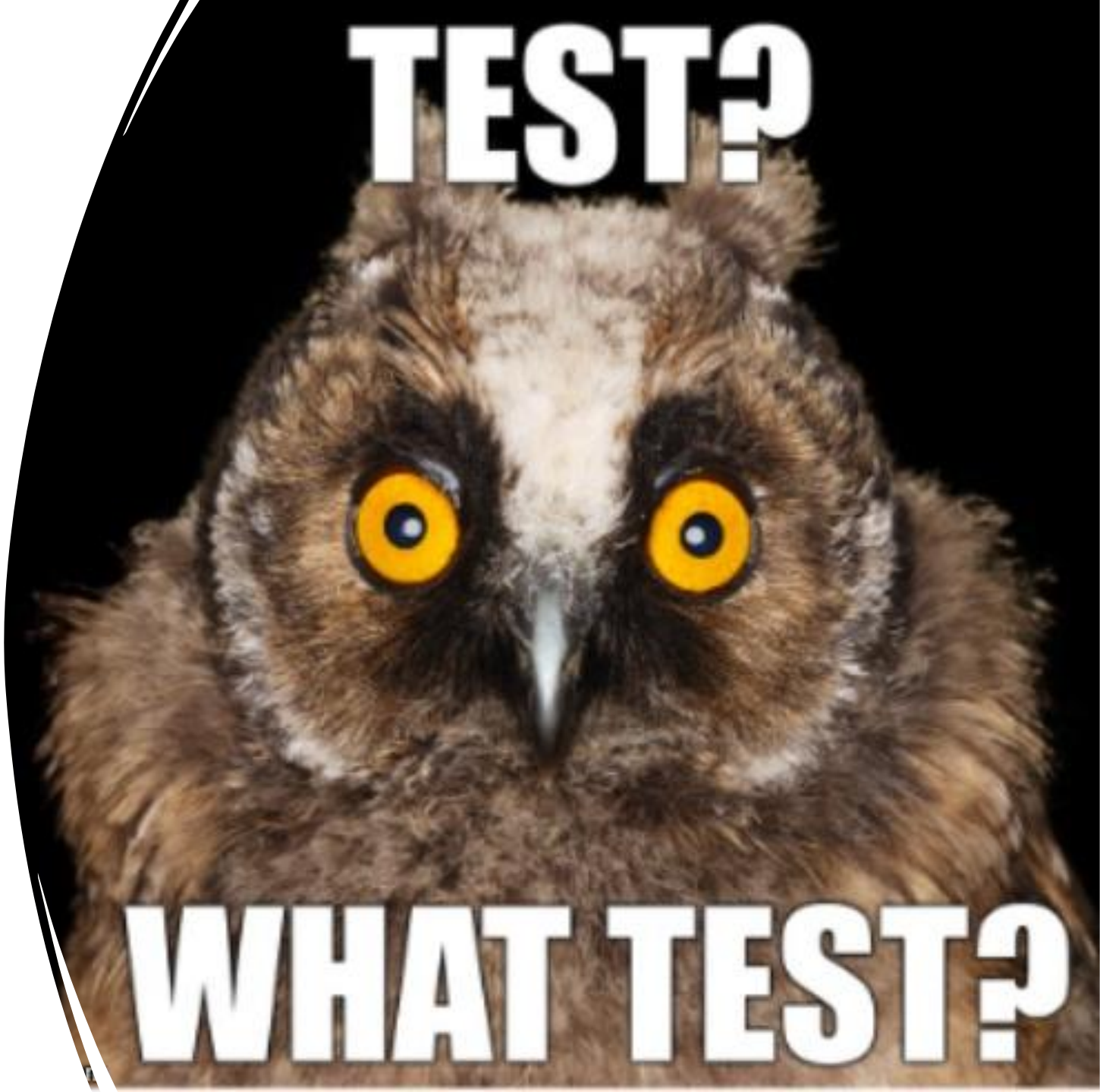
- Small projections which appear like blisters on the skin (lymphatic blisters)
- Caused by dilated lymphatic capillaries in the dermis, increased interstitial fluid and impaired lymph drainage.
- These may leak or be fragile

Advanced Lymphovenous disease

# LYMPHORRHOEA

- Leakage (continuous weeping) of lymph fluid from skin surface, legs become “wet”
- Causd by lymphatic overload, compromised skin integrity, high interstitial fluid pressure, impaired skin barrier.
- Normally seen in conjunction with chronic oedema/lymphoedema

# LET'S TEST YOUR KNOWLEDGE!



# DO YOU SUSPECT VENOUS, ARTERIAL OR MIXED DISEASE?

| Arterial signs | | Venous signs | |
|---|---|---|---|
| Rest pain | Nil | Spider veins | Yes |
| Intermittent claudication | Nil | Ankle flare | Yes |
| Necrosis | Nil | Varicose veins | Yes |
| Capillary refill time | 2 seconds | Hyperkeratosis | Yes |
| Positive Buerger's sign | Nil | Atrophie blanche | Nil |
| Skin temperature | Warm, equal and no sudden changes | Haemosiderin staining | Yes |
| Motor/sensory neuropathy | Nil | Induration | Nil |
| Hair loss | Yes | Varicose eczema | Nil |
| Scaling | Nil | | |
| Atrophy of the subcutaneous tissue | Nil | | |
| Thickening of toenails | Yes | | |

# DO YOU SUSPECT VENOUS, ARTERIAL OR MIXED DISEASE?

| Arterial signs | | Venous signs | |
|---|---|---|---|
| Rest pain | Yes | Spider veins | Nil |
| Intermittent claudication | Yes | Ankle flare | Nil |
| Necrosis | Yes | Varicose veins | Nil |
| Capillary refill time | 6 seconds | Hyperkeratosis | Nil |
| Positive Buerger's sign | Yes | Atrophie blanche | Nil |
| Skin temperature | Cold, shiny | Haemosiderin staining | Nil |
| Motor/sensory neuropathy | Nil | Induration | Nil |
| Hair loss | Yes | Varicose eczema | Nil |
| Scaling | Nil | | |
| Atrophy of the subcutaneous tissue | Yes | | |
| Thickening of toenails | Nil | | |

# DO YOU SUSPECT VENOUS, ARTERIAL OR MIXED DISEASE?

| Arterial signs | | Venous signs | |
|---|---|---|---|
| Rest pain | Nil | Spider veins | No |
| Intermittent claudication | Nil | Ankle flare | Yes |
| Necrosis | Nil | Varicose veins | Yes |
| Capillary refill time | 5 seconds | Hyperkeratosis | Nil |
| Positive Buerger's sign | Nil | Atrophie blanche | Nil |
| Skin temperature | Cold, shiny legs | Haemosiderin staining | Yes |
| Motor/sensory neuropathy | Yes | Induration | Nil |
| Hair loss | Nil | Varicose eczema | Yes |
| Scaling | Yes | | |
| Atrophy of the subcutaneous tissue | Nil | | |
| Thickening of toenails | Yes | | |

# DO YOU SUSPECT VENOUS, ARTERIAL OR MIXED DISEASE?

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# DO YOU SUSPECT VENOUS, ARTERIAL OR MIXED DISEASE?

# CAN YOU NAME ANY CHARACTERISTICS OF ARTERIAL WOUNDS AND VENOUS WOUNDS? HOW DO THEY PRESENT?

# VENOUS VS ARTERIAL ULCER CHARACTERISTICS

| Venous | Arterial |
| --- | --- |
| Variable size | Small and deep wound bed |
| Irregular, sloping margins | Punched out, sharply demarcated edges |
| Fibrinous, granulating base | Necrosis may be present |
| Usually around the gaiter area | Usually around the malleolus, feet or toes |
| High levels of exudate | Dry/low levels of exudate |
| May be painful | Pain when walking or at rest |

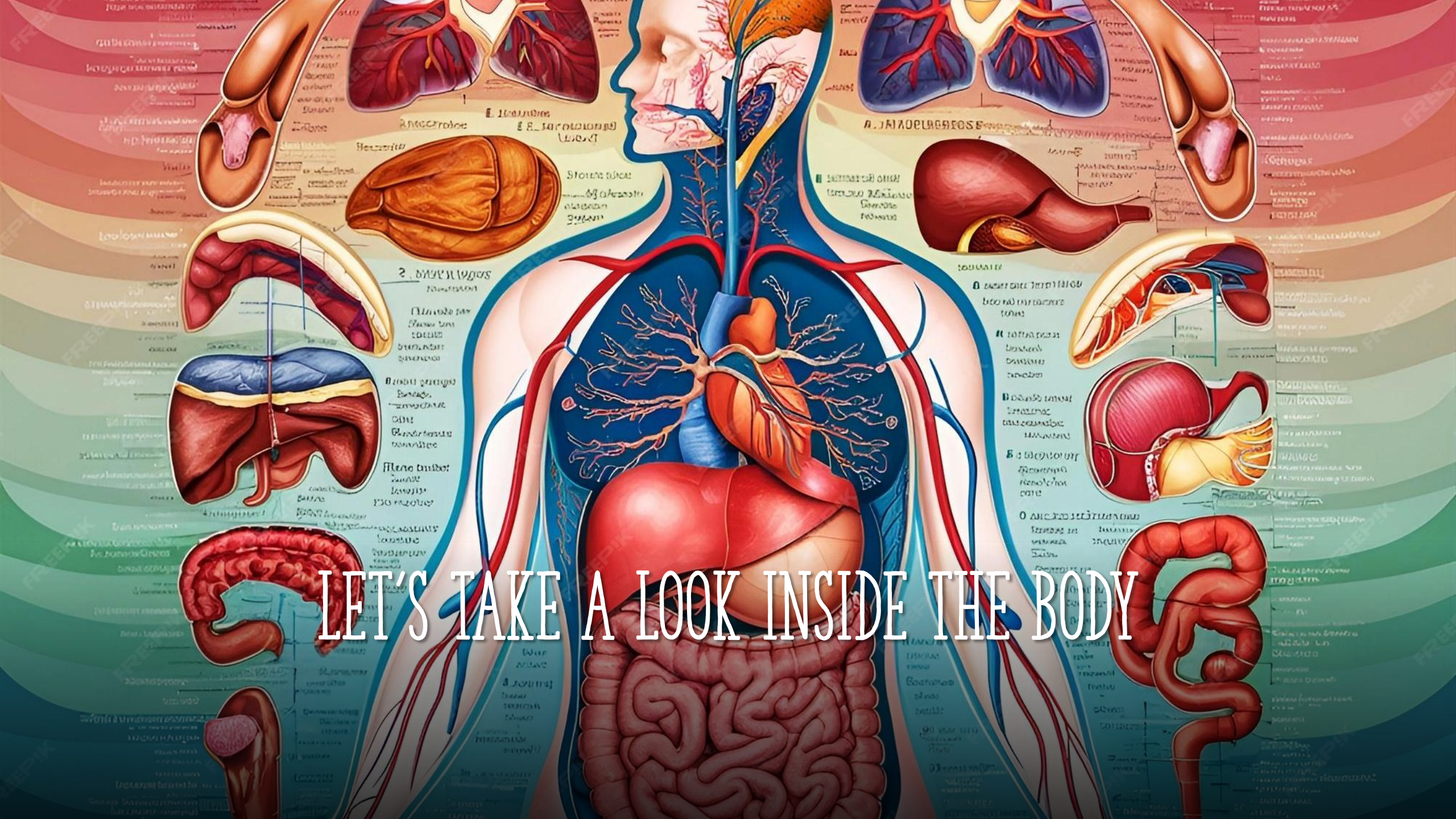
Wounds UK, 2011

# PUNCHED OUT, SHARPLY DEMARCATED EDGES




# Remember this?

Look at the **WHOLE** patient, not just the **HOLE** in the patient


LET'S TAKE A LOOK INSIDE THE BODY

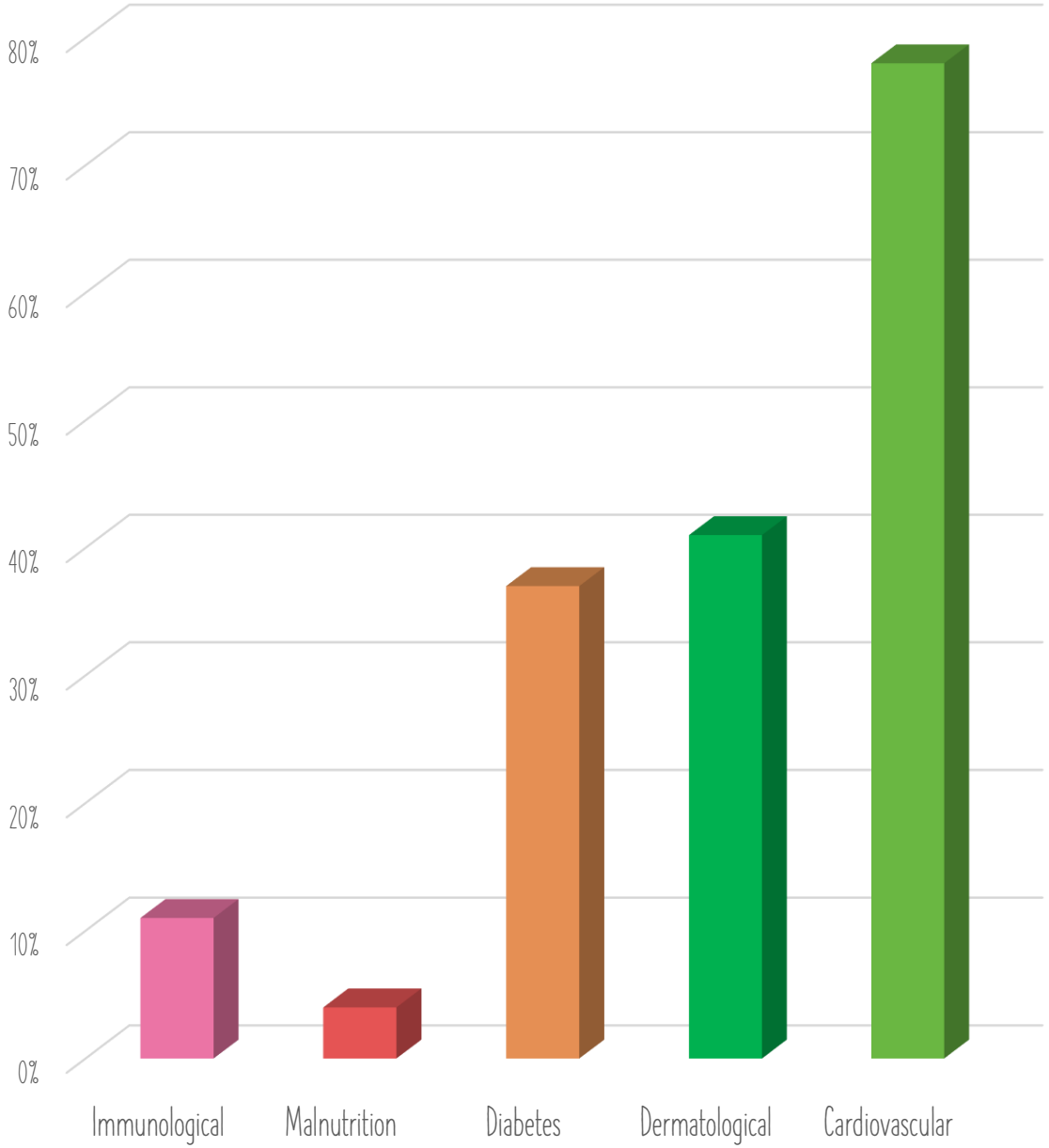
# 5-MINUTE ACTIVITY

Name as many comorbidities as you can that may impact/delay wound healing.

# FACTORS THAT MAY IMPACT ON WOUND HEALING

| Patient-related factors | Wound-related factors | Organisation-related factors |
|---|---|---|
| • Age >65 years<br>• Chronic disease/comorbidities<br>• Medication<br>• Lifestyle<br>• Psychological stress<br>• Health and social requirements<br>• Pain<br>• Tolerance to treatment<br>• Refusal of care<br>• Environment | • Duration<br>• Cause/aetiology<br>• Size<br>• Shape<br>• Wound bed condition<br>• Moisture level (exudate)<br>• Ischaemia/perfusion<br>• Inflammation/infection<br>• Contamination/foreign body<br>• Anatomical location<br>• Ongoing local mechanical stress, pressure or trauma<br>• Deformity<br>• Treatment response | Healthcare system<br>Availability<br>Accessibility<br>Suitability<br>Effectiveness<br>Cost/reimbursement<br>Communication<br>Healthcare profession skill and knowledge |

Percentage of patients with a comorbidity prior to developing a leg ulcer




# WHY ARE WE SO CONCERNED WITH OTHER COMORBIDITIES?

- Physical factors, such as diabetes, obesity, malnutrition, increased age (60+), and even reduced mobility, have an impact on healing.
- Correcting, where possible, the underlying wound pathology and any comorbidities is a central feature of wound management.
- If the underlying disease cannot be corrected or is difficult to manage, wound healing can be delayed.


LUNCH
BREAK!