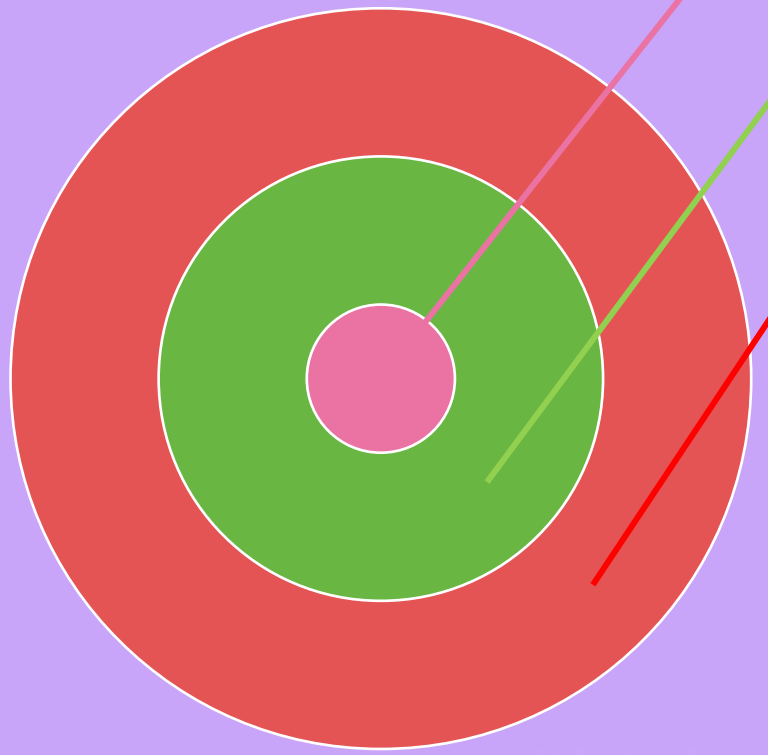
HELP, MY PATIENT HAS A LEG ULCER!

"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"

WHEN DOES A LEG ULCER BECOME CHRONIC?

Chronic leg ulcer definitions vary but NICE defines a chronic leg ulcer as taking more than 6 weeks to heal (NICE, 2015).

THE CHALLENGE

40% of people with leg ulcers did not receive a **vascular assessment**

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

+

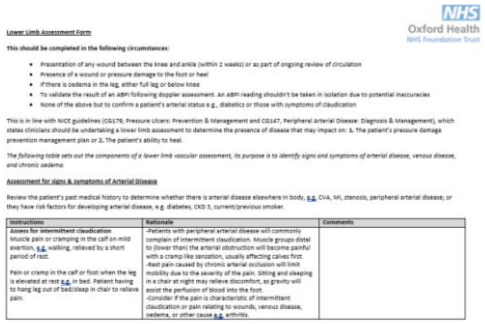
ABPI Readings + Pulse Sounds / Waveforms

+

PMH, medication and bloods

=

Holistic Vascular Assessment



Lower Limb Assessment Form

NHS Oxford Health NHS Foundation Trust

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 3, current/previous smoker.

Instructions	Rationale	Comments
Assess for intermittent claudication Muscle pain or cramping in the calf on mild exertion, e.g. walking, relieved by a short period of rest. 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. -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. Consider if the pain is characteristic of intermittent claudication or pain relating to wounds, venous disease, oedema, or other cause e.g. arthritis.	

NHS
Oxford Health
NHS Foundation Trust

Lower Limb Assessment Form

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LET'S GO THROUGH THE LOWER LIMB ASSESSMENT FORM TOGETHER

WHAT DO WE USE THE LOWER LIMB ASSESSMENT FOR?

- 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
- [ ] Venous
- [ ] Chronic Oedema

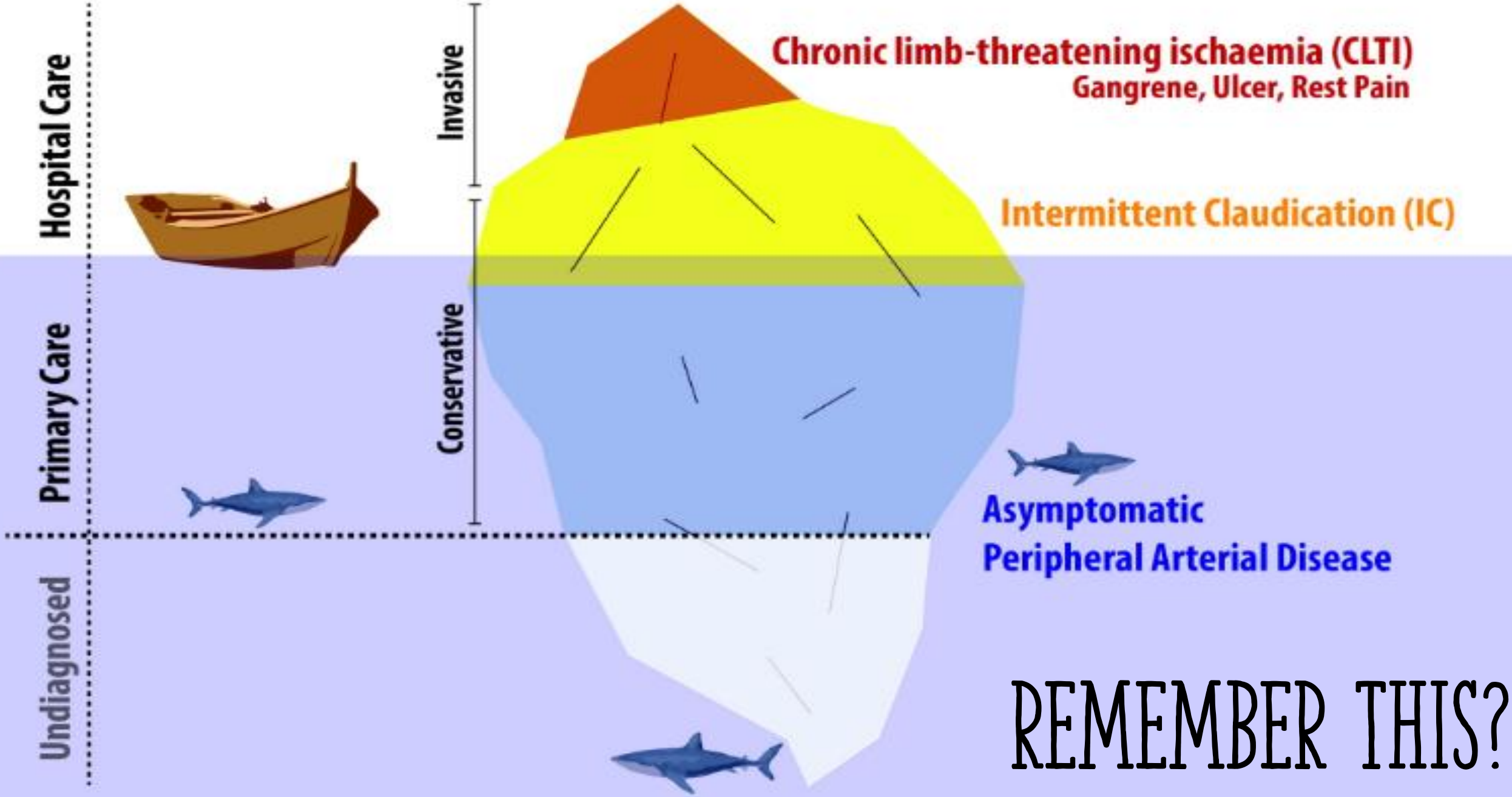
SIGNS AND SYMPTOMS OF ARTERIAL DISEASE

- Rest pain
- Intermittent claudication
- Skin necrosis
- Positive Buerger's sign
- Cool limbs
- Motor/sensory neuropathy
- Delayed capillary refill
- Hair loss
- Thickened toenails/slow growth
- Atrophy of the subcutaneous tissue
- Scaling

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 (necrosis)** potentially leading to amputation...

(NICE, 2022)


Hospital Care
Primary Care
Undiagnosed
Invasive
Conservative
Chronic limb-threatening ischaemia (CLTI)
Gangrene, Ulcer, Rest Pain
Intermittent Claudication (IC)
Asymptomatic
Peripheral Arterial Disease
REMEMBER THIS?

WHAT IS REST PAIN?

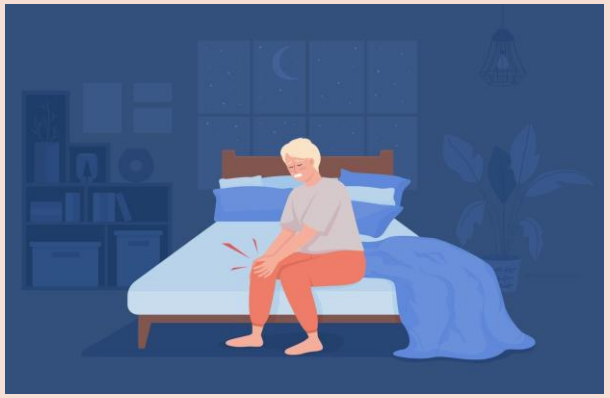
- When the arteries are severely narrowed/blocked, even at rest the arteries cannot supply enough blood to the legs – progressive arterial occlusion.
- The part of the body furthest away from the heart is affected first (e.g. the toes and feet).

PROGRESSION OF REST PAIN

1

Pain at night when legs horizontal

2

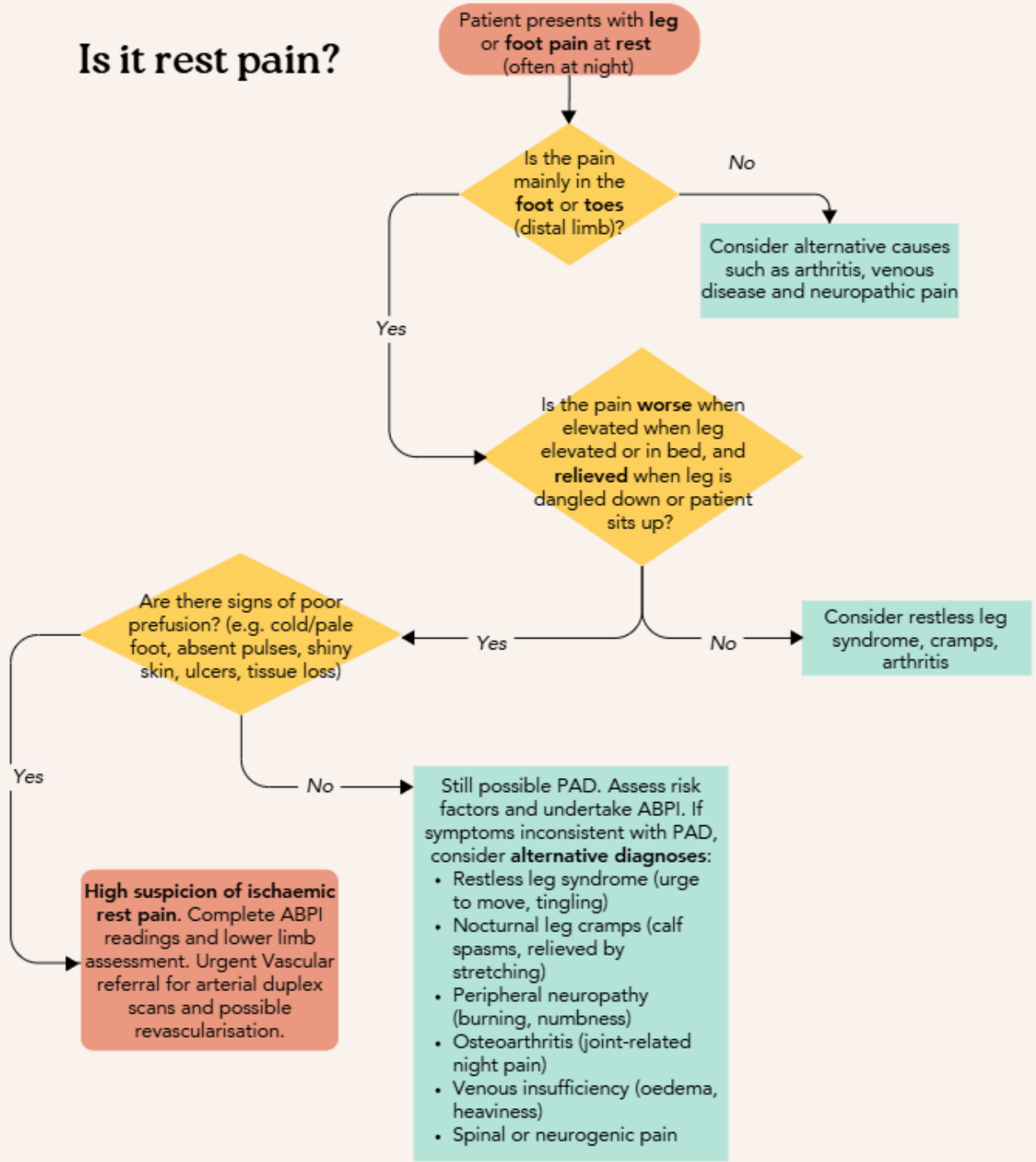


Dangling legs or sleeping in chair

3

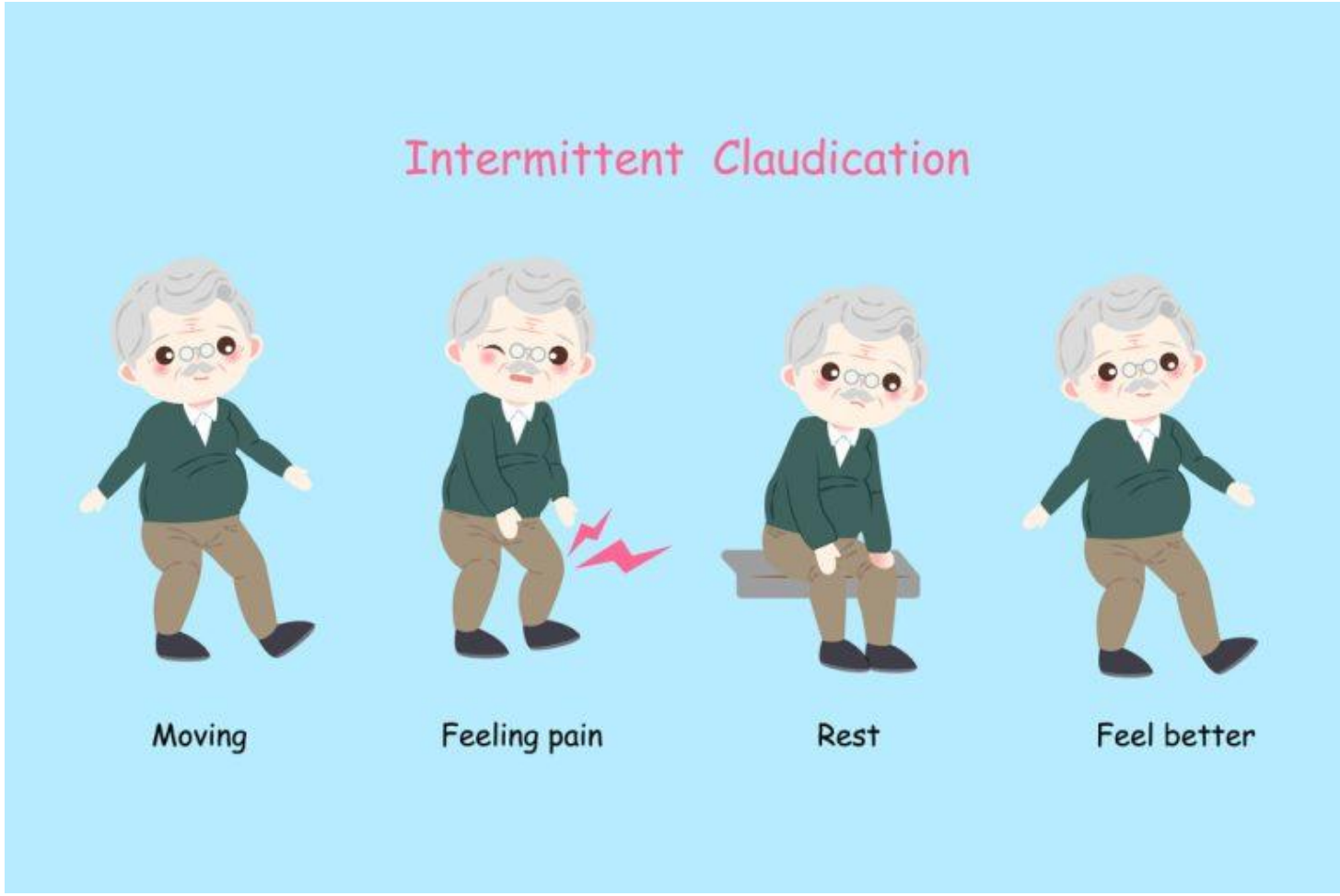
Difficulty sleeping & day pain

Is it rest pain?



WHAT IS INTERMITTENT CLAUDICATION?

- Exercised-induced ischaemic leg pain.
- Pain in the calf, thigh or buttock muscles on walking
- 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

1

Early stage:

Pain occurs at quite long distance

2

Established stage:

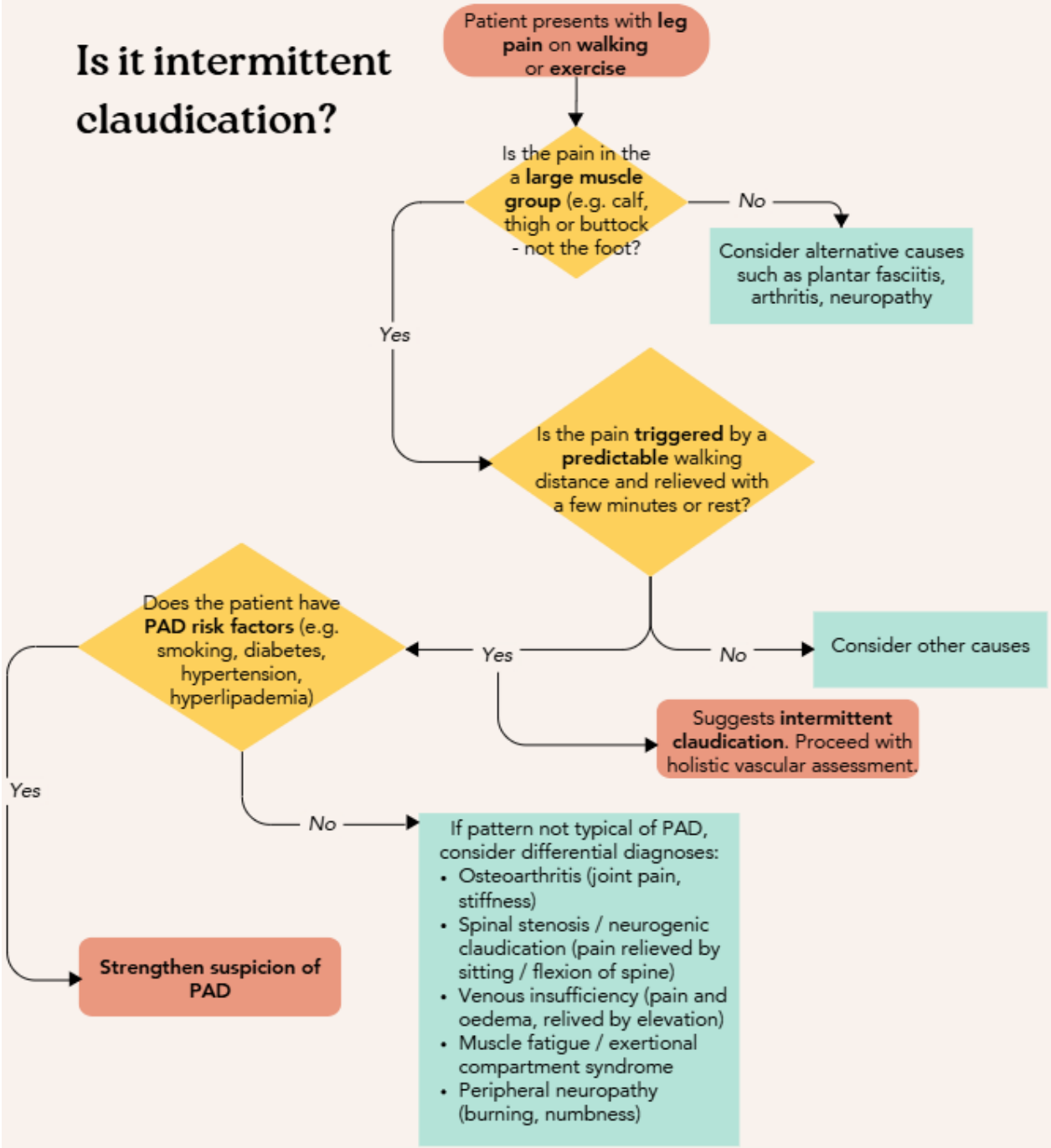
Pain occurs at shorter distances

3

Advanced stage:

Can only walk very short distances

Is it intermittent claudication?



PERIPHERAL ARTERIAL DISEASE AND PAIN

- Be a detective, investigate the pain!
- Don't take answers at face value, ask questions.
- Consider differential diagnoses, check the patient's PMH.
- Refer to NICE (2022) documentation - Peripheral arterial disease - What else might it be?

Patient information leaflet (Legs Matter, 2022)

SKIN NECROSIS (GANGRENE)

- Necrotic tissue is devitalised, dead tissue. It often appears black but can appear brown if hydrated (Wilson, 2012).
- Necrosis is a result of tissue losing its blood supply, essential nutrients and oxygen to the cells (Vuolo, 2009).
- Necrotic tissue acts as a culture, providing an ideal breeding ground for bacteria (Eagle, 2009; Wilson, 2012).
- It may also prevent accurate assessment and can be more extensive that apparent and may mask underlying damage (Vuolo, 2009).

NECROTIC TISSUE AND VASCULAR INSUFFICIENCY

- Generally, the presence of necrotic tissue is known to delay wound healing, however there are exceptions to this.
- In the absence of an adequate vascular supply, tissue regeneration can be inhibited or absent.
- The removal of necrotic tissue can expose underlying structures and may cause desiccation and bacterial invasion.
- This could lead to further tissue death, and the wound size may increase.
- In these circumstances the clinician should leave the necrotic tissue alone as it will decrease the possibility of bacterial growth and lead to auto amputation of the area.

Eagle (2009)

NECROTIC TISSUE AND VASCULAR INSUFFICIENCY

- An example of non-intervention can be found in patients who have peripheral arterial disease and developed dry ischaemic necrosis of the toes.
- Attempts to rehydrate necrotic tissue in this instance could lead to moist necrosis which could also lead to the wound becoming infected.
- The wound should be treated with extreme caution; it should be covered with a 'dry' dressing (e.g. Atrauman or Cutimed Sorbact Contact) and an urgent referral to Vascular should be made.
- Delay in referring a patient could be limb threatening.

Eagle (2009)

BUERGER'S TEST

Step 1 – Elevate the leg:

- The patient lies supine, and you elevate one leg to about 45–60 degrees.
- Observe the colour of the foot.
- In a healthy person, the foot stays pink/brown even when elevated.

Step 2 – Note for pallor

- In someone with arterial insufficiency, the foot becomes pale on elevation because blood flow cannot overcome gravity.

Step 3 – Sit the patient up and dangle the leg:

- Allow the leg to hang down.
- Observe the colour change.
- In arterial disease, the foot first appears blue/pale brown (due to deoxygenated blood pooling) and then becomes deep red/brown (reactive hyperemia) as blood rushes back.

A positive test is when:

- The foot becomes pale on elevation, and
- When dependent, it becomes ruborous (dark red/brown).

ATROPHY OF THE SUBCUTANEOUS TISSUES & SMOOTH, SHINY SKIN

* Consider if smooth, shiny skin is due to oedema!

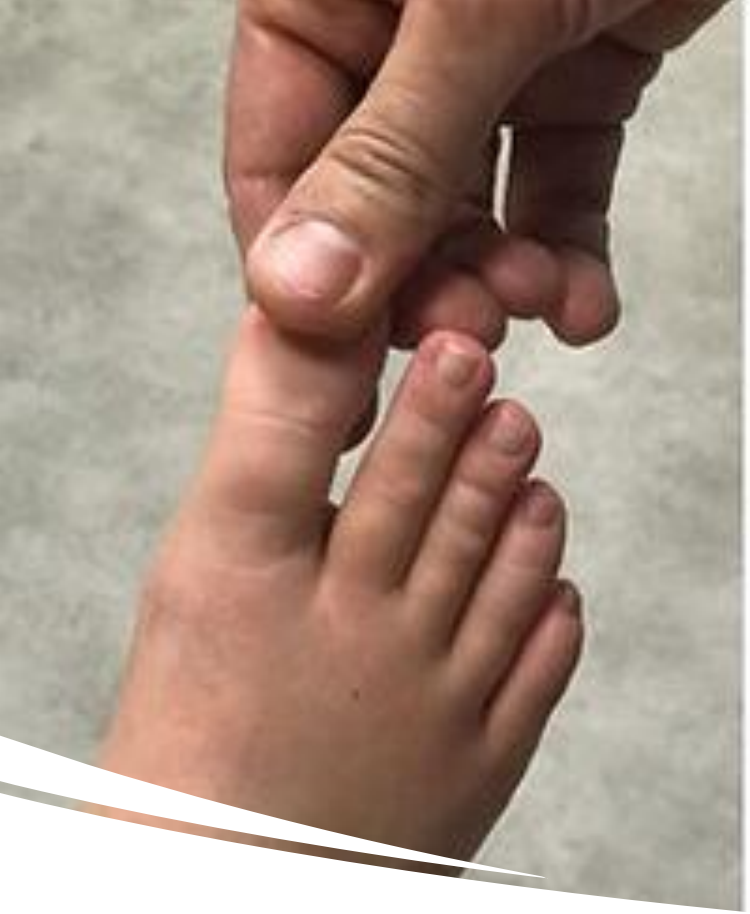
- Chronic ischaemia (lack of oxygen and nutrients) leads to wasting (atrophy) of tissues that depend on a healthy blood supply.
- Over time, this causes:
  - Loss of subcutaneous fat
  - Thinning of the skin
  - Muscle wasting
- Chronic ischemia → decreased nutrient and oxygen delivery → impaired repair and maintenance of tissues → atrophy of skin, fat, and muscle.

Feature	Mechanism	Clinical Appearance
Skin atrophy	Chronic ischaemia	Thin, shiny, hairless skin
Subcutaneous tissue loss	Tissue starvation	Bony appearance of limb
Muscle wasting	Reduced oxygen and use	Thinner calf or thigh

SCALING

- In PAD, arterial blood flow to the limb is reduced, leading to:
- ↓ Oxygen and nutrient delivery
- ↓ Skin cell turnover and repair
- ↓ Sebaceous and sweat gland function
- As a result, the skin becomes:
- Dry (xerotic)
- Thin and fragile
- Scaly or flaky, because old keratinised cells are not shed or replaced normally

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.
- Gradual or abrupt change in temperature?
- Hot – infection?
- 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.

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

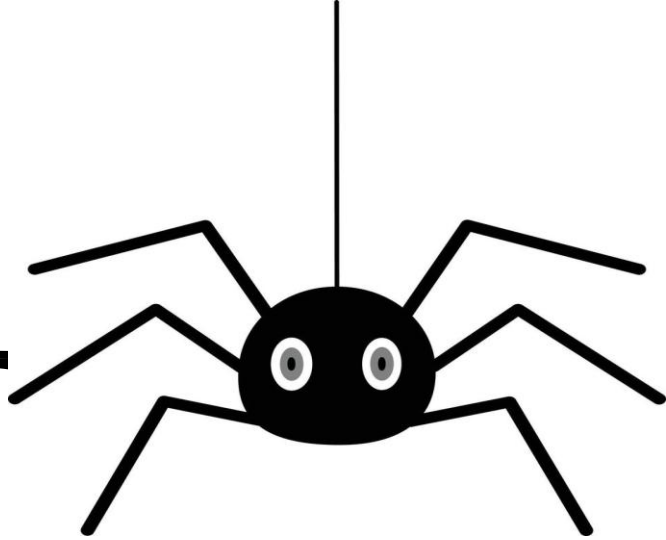
Early Lymphovenous disease

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

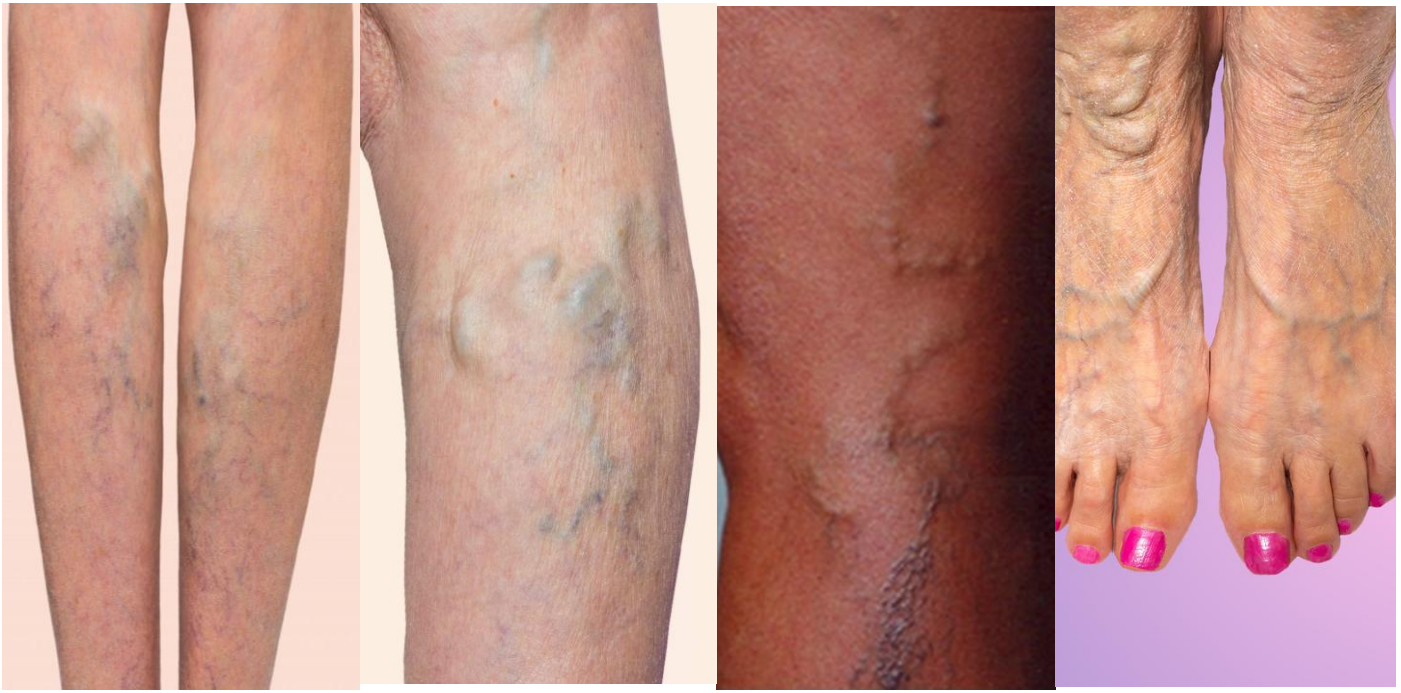
- Distention of the small veins of the foot around the ankle.
- Caused by venous hypertension, blood pools around the ankle due to gravity and poor venous return

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

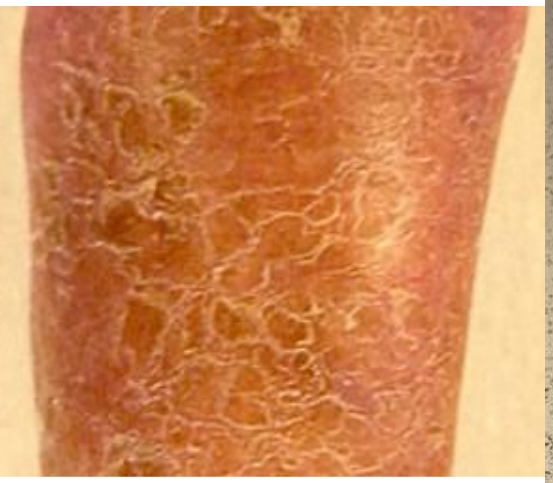
Early Lymphovenous disease

MILD 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

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, SCALING OR JUST DRY SKIN?

	Scaling	Hyperkeratosis	Dry skin (xerosis)
Underlying cause	PAD, poor skin nutrition	CVI, hypertension, epidermal thickening	Reduced hydration or lipid content of skin
Typical location	Toes, feet, anterior shin (distal limb)	Medial/lower leg and around ankles	Generalised
Skin appearance	Thin, shiny, pale, fine, dry scales	Thickened, rough, warty-like plaques, brownish pigmentation	Dry, flaky, whit scales, may show cracking
Temperature	Cool	Warm	Normal
Colour changes	Pallor on elevation, dependent rubor	Haemosiderin staining	Normal or slightly pink
Hair distribution	Reduced or absent	Usually present	Usually present
Pulses	Reduced or absent	Normal	Normal
Associated features	trophy, delayed healing, ulcers on pressure points/toes	Lipodermatosclerosis, venous ulcers, oedema	Itchiness, mild irritation, no vascular signs
Pain	Rest pain, intermittent claudication	Usually painless unless ulcerated	Mild itch or tightness
Example description	“Shiny, hairless, scaly foot with cool skin”	“Thick, dark, rough skin to gaiter area”	“Dry, flaky skin on legs in winter”






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.

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.

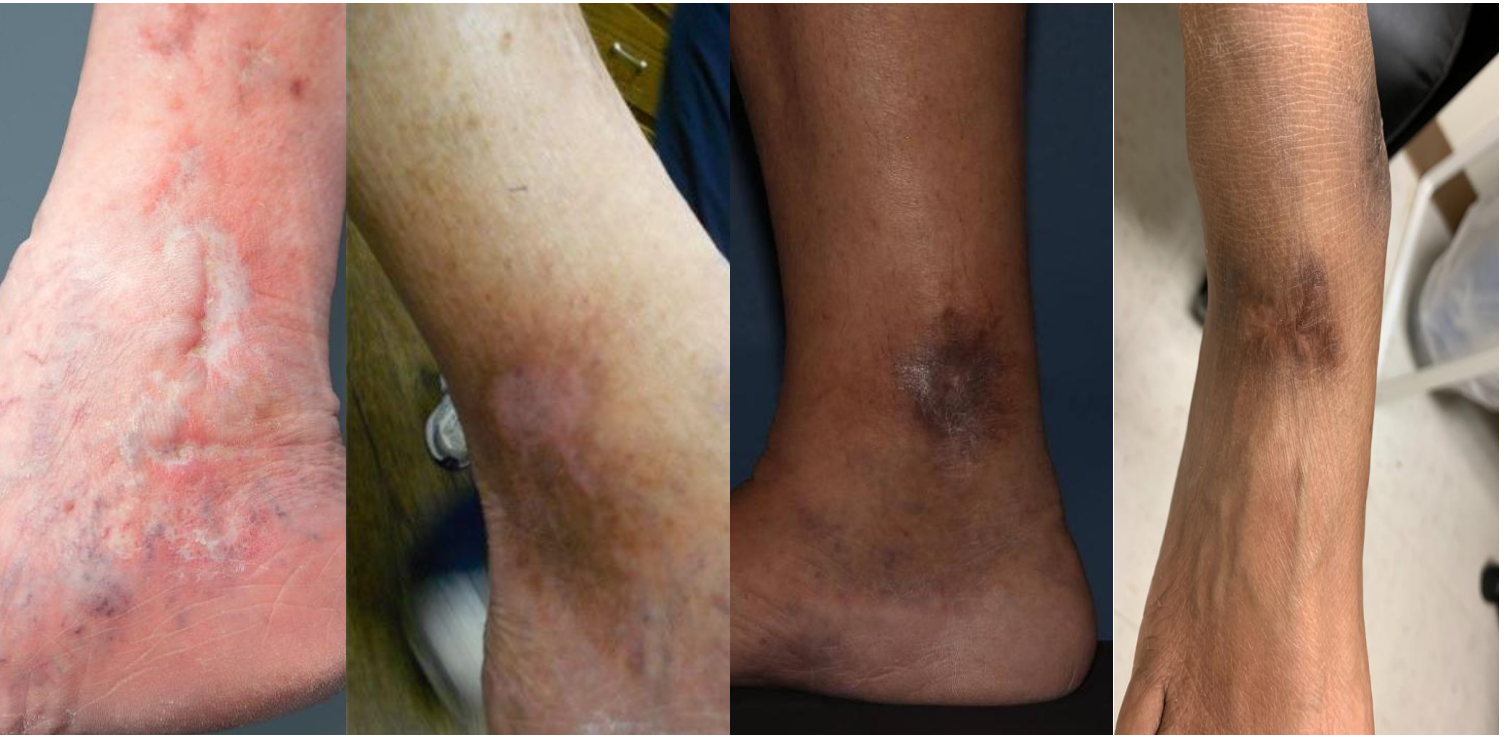
Established Lymphovenous disease

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)

'IMFLAMMATORY LEGS' OR CELLULITIS?

The Lymphoedema Support Network (2022)

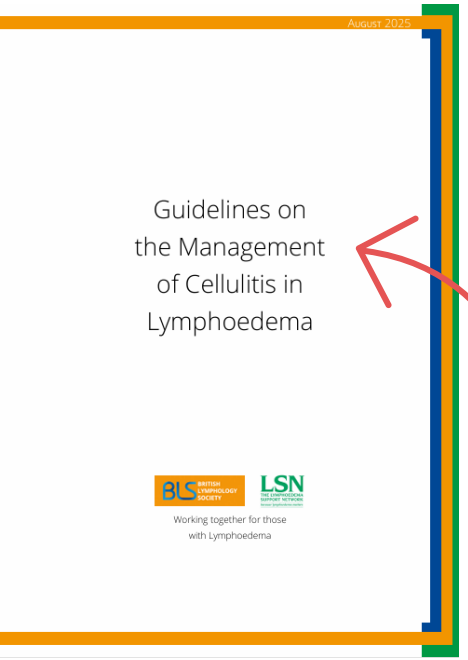
Symptom	Inflammatory Legs	Cellulitis
Definition	Chronic inflammatory response to venous insufficiency often misdiagnosed as cellulitis.	Acute and potentially serious Infection of the skin and subcutaneous tissue, most commonly caused by bacteria
Both legs are the same	Very common	Very rare
Temperature/ 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

THINK CELLULITIS IF:

- Change is rapid
- Erythema is unilateral
- Limb is hot and painful
- Looks worse day by day
- Unwell patient
- Lesion has a clear entry point
- Inflammatory markers rising
- Tender to touch
- Improves with antibiotics
- Spreading edges

'INFLAMMATORY LEGS' OR CELLULITIS?

CELLULITIS IN PATIENTS WITH CHRONIC OEDEMA



BLS & LSN, 2025

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

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

HOW DO WE DIAGNOSE CELLULITIS IN THIS GROUP OF PATIENTS?

HOW DO WE DIAGNOSE CELLULITIS IN THIS GROUP OF PATIENTS?

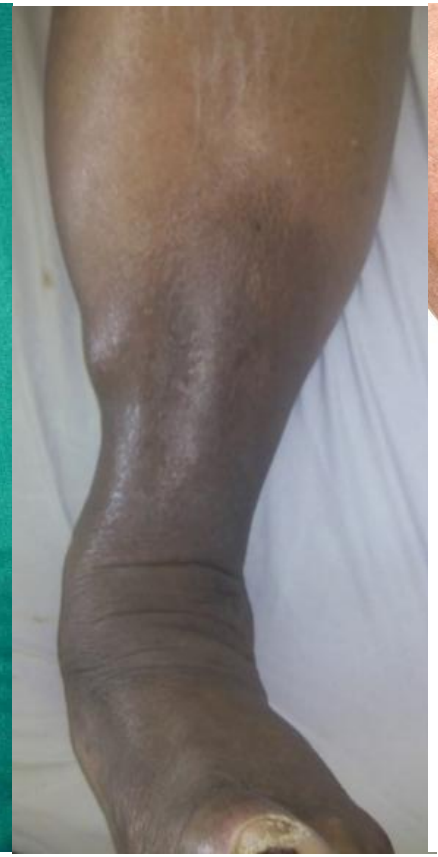
- Core diagnostic features of cellulitis include pain, warmth, swelling, erythema,
- However, in oedema:
- The rash may be blotchy rather than well defined
- Swelling may increase suddenly compared with baseline
- Systemic features may be mild or absent in some cases

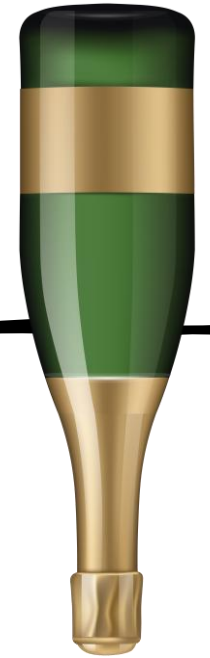
- Look for a trigger or portal for entry – these significantly increase the likelihood that erythema/discolouration represents true cellulitis rather than inflammation:
- Cracked skin
- Weeping spider veins
- Inter-digital fungal infection
- Wounds or ulcers
- Breaks in the skin

BLS & LSN (2025)

Advanced Lymphovenous disease

LIPODERMATOSCLEROSIS

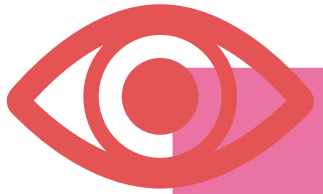




Upside-down champagne bottle

- 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

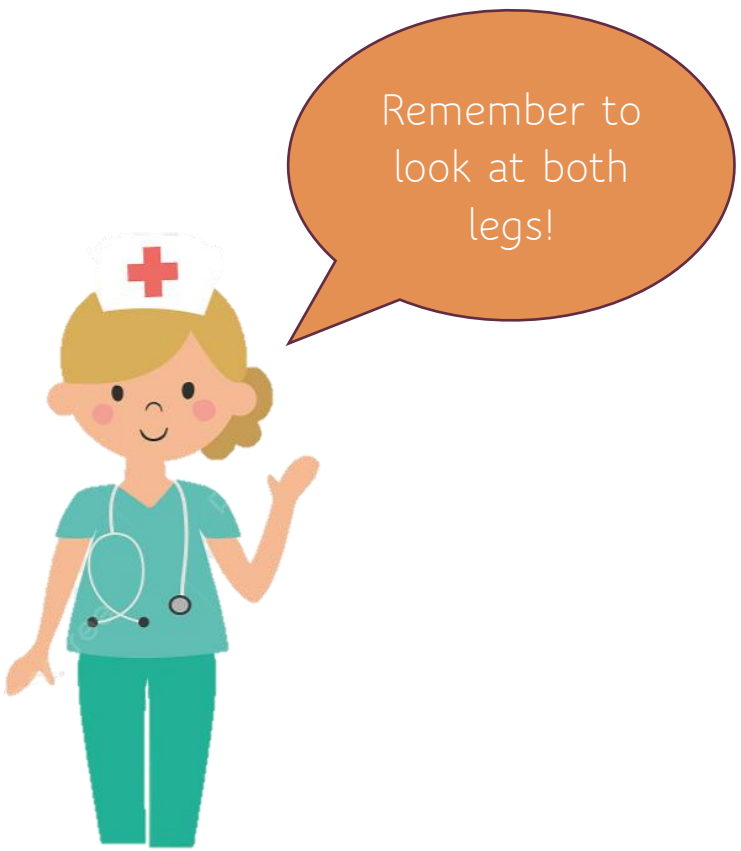
- When did it start?
- Medical history?
- Medication?
- Family history?
- Unresolved by elevation or diuretics?

FEEL

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

IS THERE OEDEMA PRESENT HERE?

STAGES OF LYMPHOEDEMA



WHAT DO YOU SEE HERE? WHAT WOULD YOU DO?

DO YOU SEE THIS IN PRACTICE?

REMEMBER TO ADDRESS THE WHOLE LEG!

OEDEMATOUS TOES - STEMMER'S TEST

Positive stemmer
(oedema present)

Positive
stemmer
(oedema)

PITTING OEDEMA (SOFT/PLIABLE)

BASELINE LIMB MEASUREMENTS

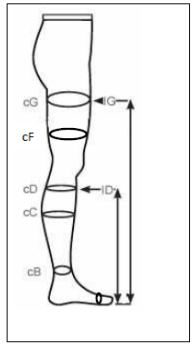
- Misshapen legs with skin folds - Take photograph of leg and mark on photograph where to measure

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

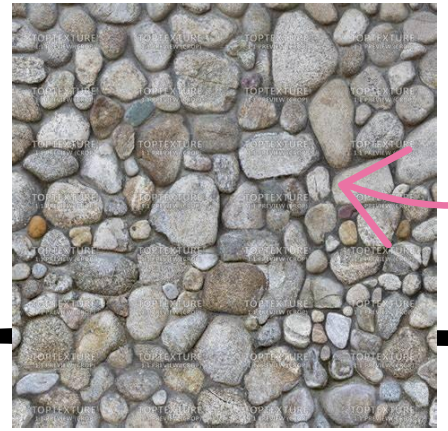
Advanced Lymphovenous disease

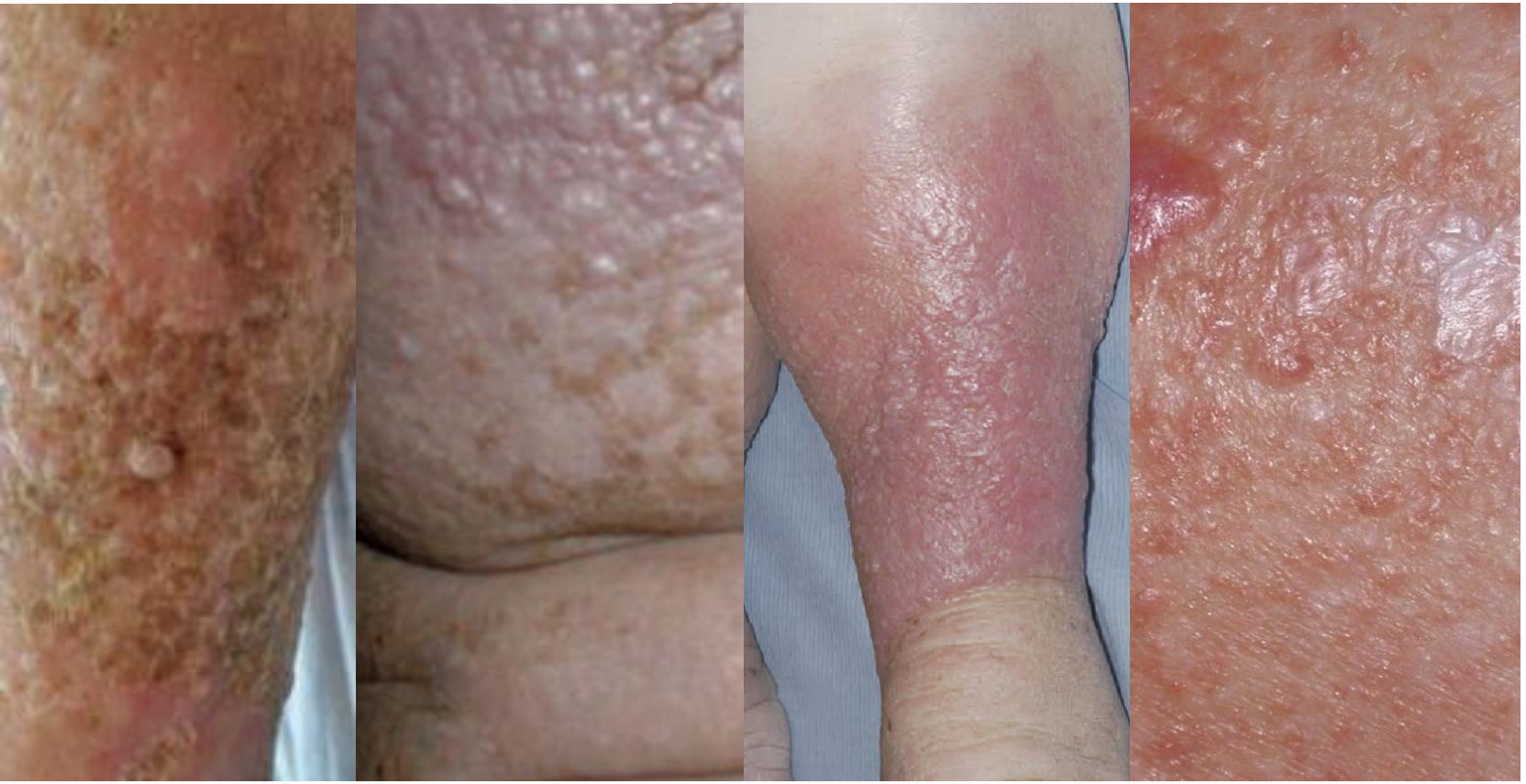
SKIN FOLDS

- 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

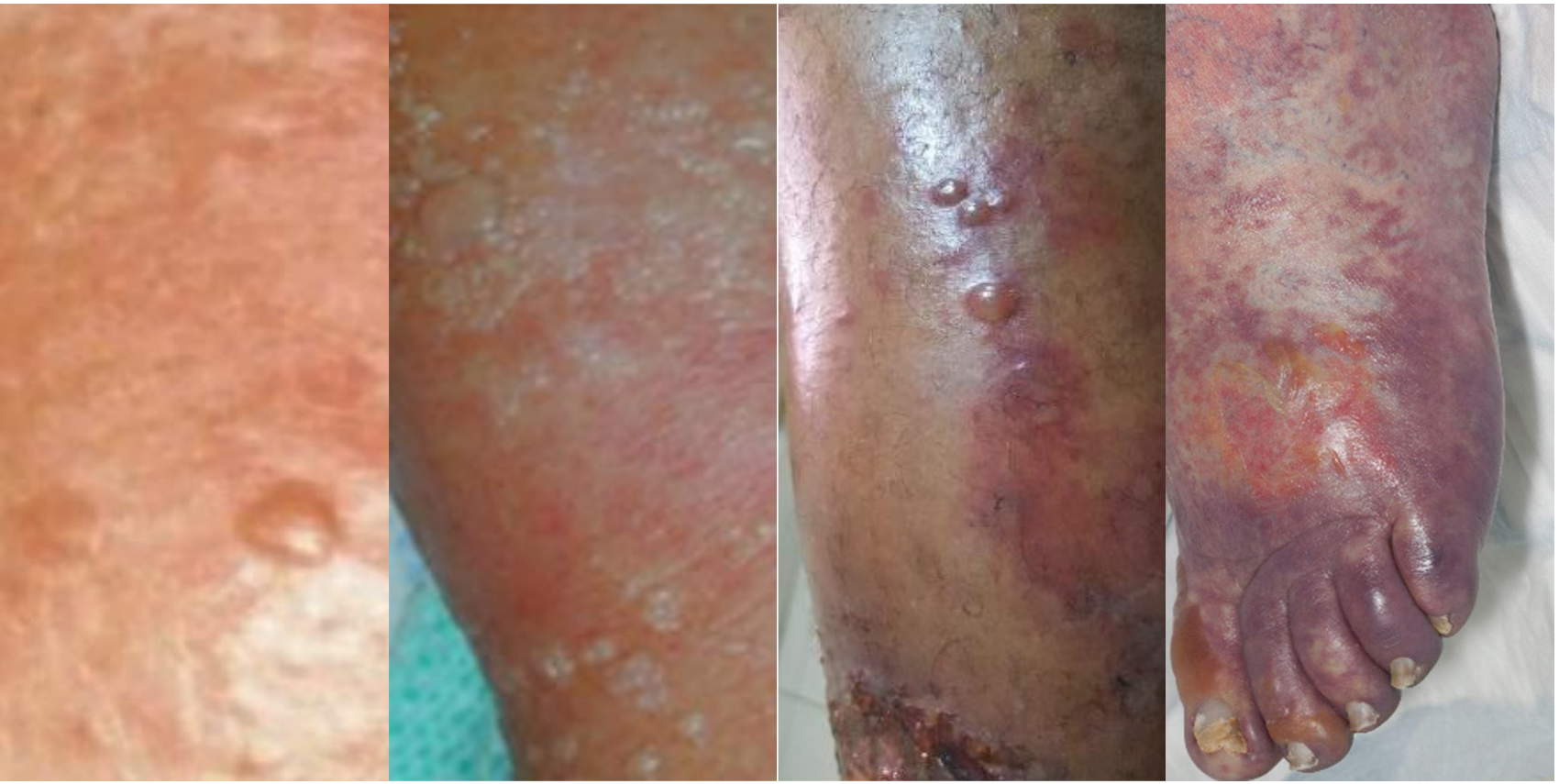




- Warty growths on the skin.
- Cobblestone-like appearance.
- Cause by dilated lymphatics and fibrous tissue secondary to lymphatic damage
- Often seen in conjunction with oedema/lymphoedema

Advanced Lymphovenous disease

LYMPHANGIOMATA



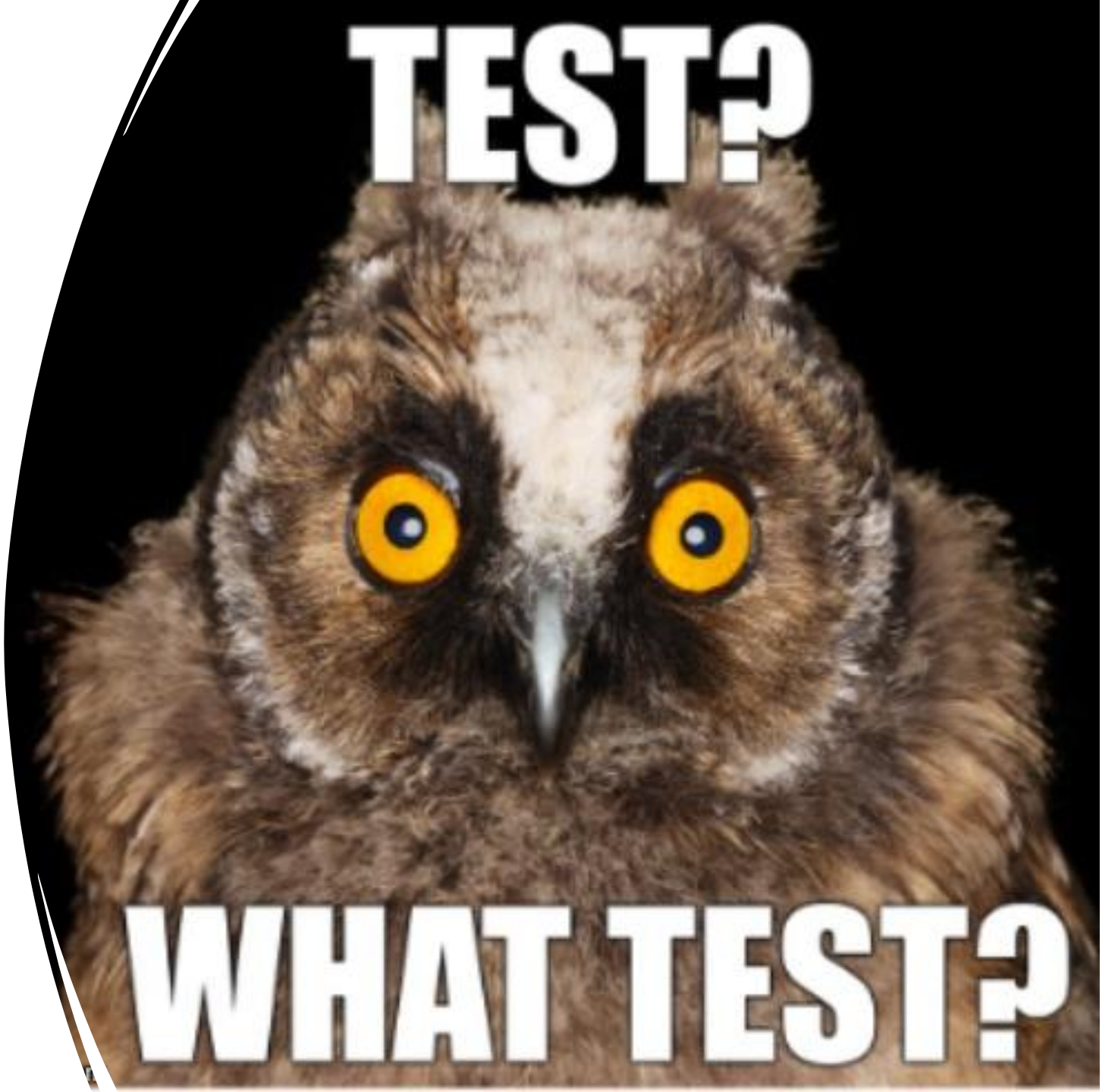
- Small projections which appear like blisters on the skin (lymphatic blisters)
- Caused by dilated lymphatic capillaries in the dermis, increased interstitial fluid and impaired lymph drainage.
- These may leak or be fragile

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

- Capillary refill time = 2 seconds
- Negative Buerger's sign
- Warm skin, no sudden changes
- Hair loss
- Thickening of toenails

Venous signs

- Spider veins
- Corona phlebectatica
- Varicose veins
- Hyperkeratosis
- Atrophie blanche
- Haemosiderin staining

DO YOU SUSPECT VENOUS, ARTERIAL OR MIXED DISEASE?

Arterial signs

- Rest pain
- Intermittent claudication
- Skin necrosis
- Capillary refill time = 6 seconds
- Positive Buerger's sign
- Very cool left limb, right limb warm
- Hair loss
- Thickened toenails

Venous signs

- None

DO YOU SUSPECT VENOUS, ARTERIAL OR MIXED DISEASE?

Arterial signs

- Capillary refill time = 5 seconds
- Positive Buerger's sign
- Cold, shiny legs,
- Motor and sensory neuropathy
- Scaling
- Atrophy of the subcutaneous tissue

Venous signs

- Tired, achy, heavy legs
- Corona phlebectatica
- Varicose veins
- Haemosiderin staining
- Induration
- Varicose eczema

DO YOU SUSPECT VENOUS, ARTERIAL OR MIXED DISEASE?

DO YOU SUSPECT VENOUS, ARTERIAL OR MIXED DISEASE?

Remember this?

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

LET'S TAKE A LOOK INSIDE THE BODY...

ACTIVITY

Comorbidities and wound healing – What's slowing this wound?

SCENARIOS FOR EACH GROUP

- **Group 1** – 78-year-old patient with a lower limb wound. History of diabetes, poor mobility, COPD, malnutrition and mild cognitive impairment.
- **Group 2** – 99-year-old patient with chronic oedema. History of heart failure, chronic kidney disease stage 5, obesity and asthma.
- **Group 3** – 32-year-old patient with a lower limb wound. History of Crohn's disease, excessive alcohol intake, illicit IV drug use and high blood pressure.
- **Group 4** – 87-year-old patient with a lower limb wound and chronic oedema. History of foot deformity, homelessness, dehydration, anaemia and atrial fibrillation

- Task – 5 minutes

1. Which 3 comorbidities most affect healing here?
2. How does each one impact wound healing?
3. One practical action to reduce risk or support healing.

- Feedback – 5 minutes
- Each group to share one key point

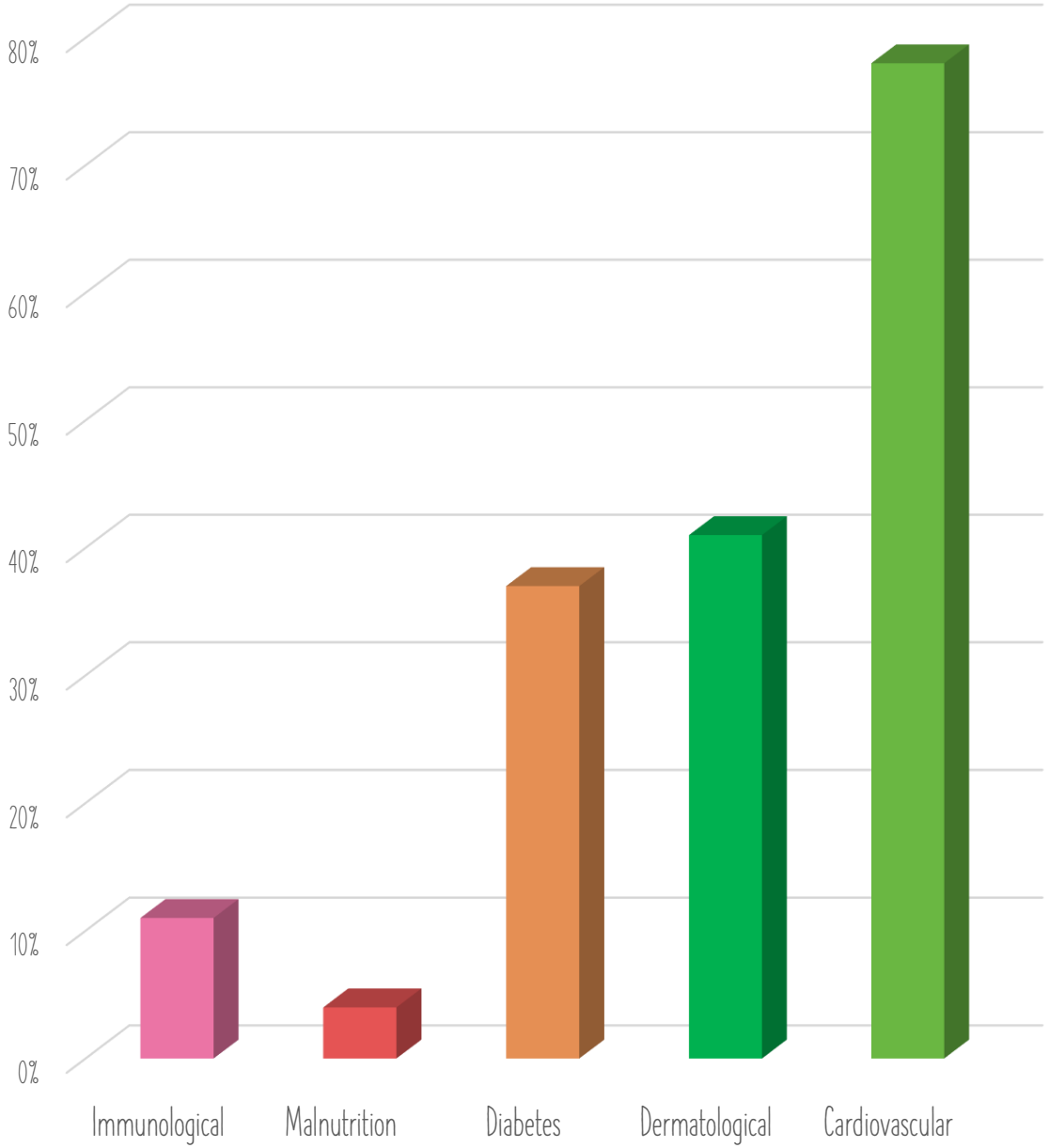
REMEMBER...

Wounds don't fail to heal… patients face barriers.
Our role is to identify and reduce them!

FACTORS THAT MAY IMPACT ON WOUND HEALING

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