FUNDAMENTALS OF LOWER LIMB MANAGEMENT – DAY 2

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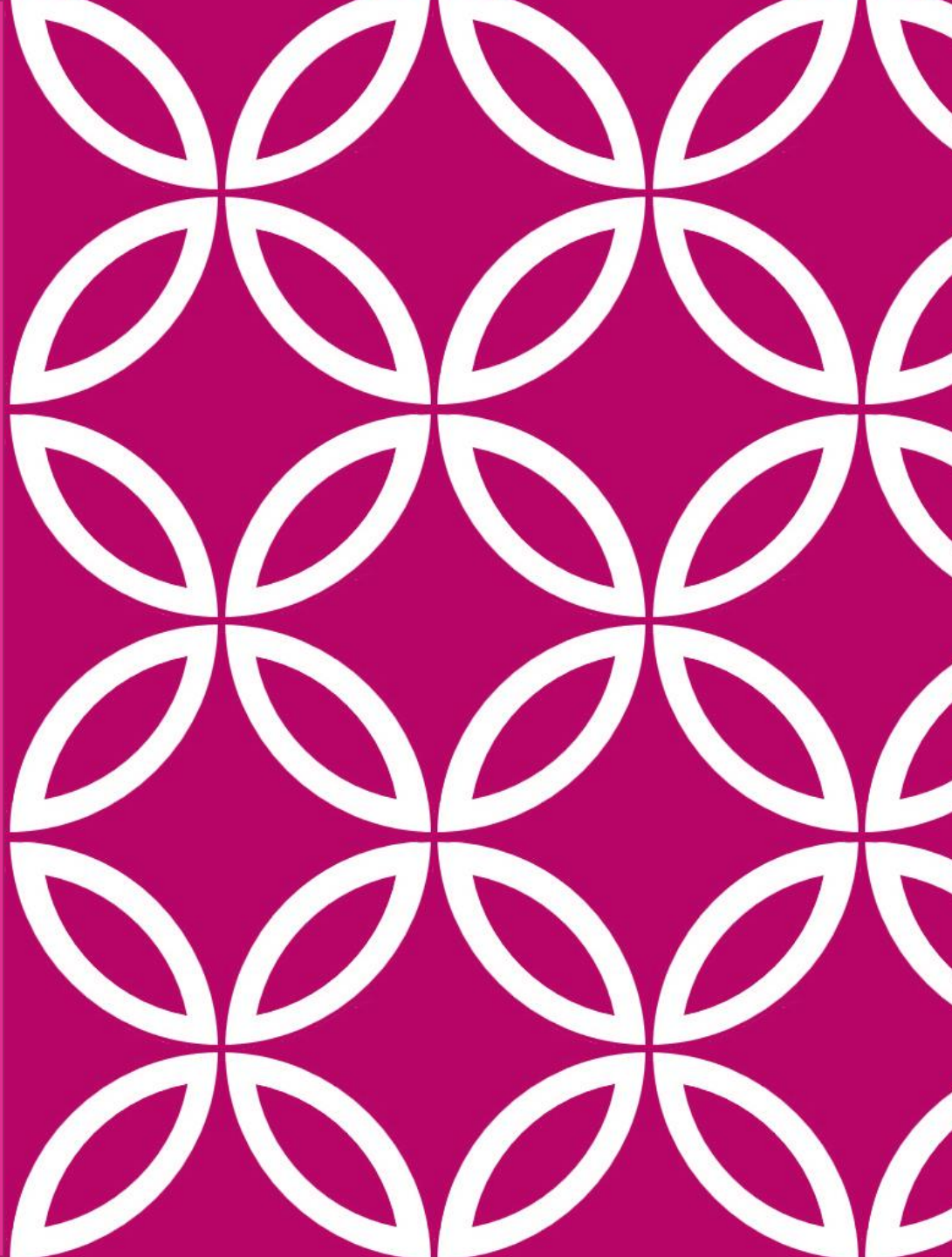


LEARNING OBJECTIVES

Introduction to local pathways.

Learn how to undertake a manual doppler assessment, identify pedal pulse types and calculate ankle brachial pressure index.

Understand the theory of graduated compression, La Place's Law and Pascal's Law

Exploration of the benefits of compression therapy and overcoming barriers to implementation

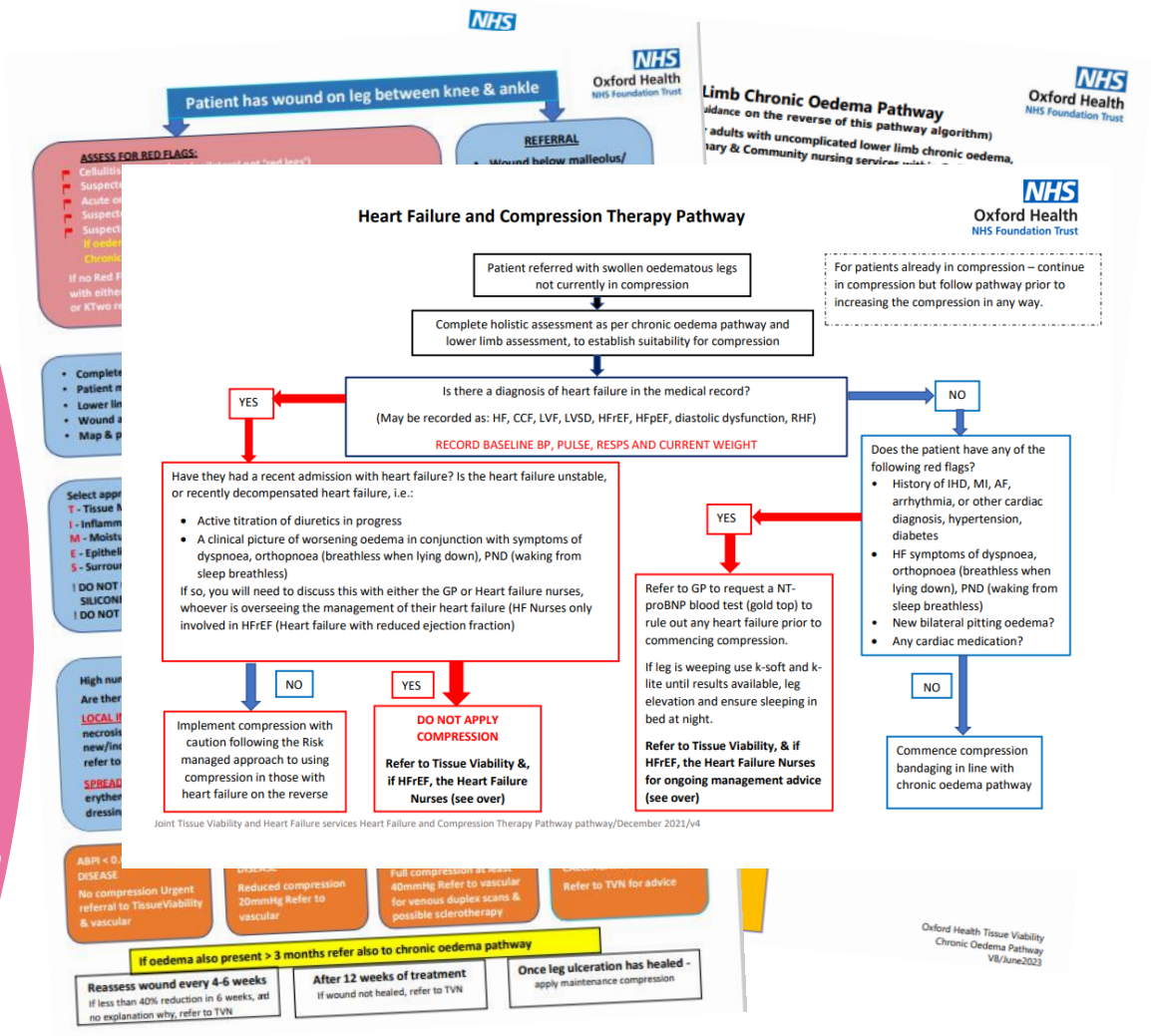
Introduction to effective application technique of Actico, K2 and Ko-Flex with an opportunity to practice under supervision

Practice effective application technique of below knee Actico, K-Two and Ko-Flex bandaging for venous leg ulceration and thigh high Actico bandaging for chronic, including stump bandaging to toes

Lower Limb Care Pathway

Giving clinicians confidence to compress

WHAT DID WE HAVE PREVIOUSLY?



Patient has wound on leg between knee & ankle

ASSESS FOR RED FLAGS:

REFERRAL

Limb Chronic Oedema Pathway

Heart Failure and Compression Therapy Pathway

Patient referred with swollen oedematous legs not currently in compression

For patients already in compression – continue in compression but follow pathway prior to increasing the compression in any way.

Complete holistic assessment as per chronic oedema pathway and lower limb assessment, to establish suitability for compression

Is there a diagnosis of heart failure in the medical record?

(May be recorded as: HF, CCF, LVF, LVSD, HFrEF, HFpEF, diastolic dysfunction, RHF)

RECORD BASELINE BP, PULSE, RESPS AND CURRENT WEIGHT

YES

NO

Have they had a recent admission with heart failure? Is the heart failure unstable, or recently decompensated heart failure, i.e.:

- Active titration of diuretics in progress
- A clinical picture of worsening oedema in conjunction with symptoms of dyspnoea, orthopnoea (breathless when lying down), PND (waking from sleep breathless)

If so, you will need to discuss this with either the GP or Heart failure nurses, whoever is overseeing the management of their heart failure (HF Nurses only involved in HFrEF (Heart failure with reduced ejection fraction)

Does the patient have any of the following red flags?

- History of IHD, MI, AF, arrhythmia, or other cardiac diagnosis, hypertension, diabetes
- HF symptoms of dyspnoea, orthopnoea (breathless when lying down), PND (waking from sleep breathless)
- New bilateral pitting oedema?
- Any cardiac medication?

YES

NO

Refer to GP to request a NT-proBNP blood test (gold top) to rule out any heart failure prior to commencing compression.

If leg is weeping use k-soft and k-lite until results available, leg elevation and ensure sleeping in bed at night.

Refer to Tissue Viability, & if HFrEF, the Heart Failure Nurses for ongoing management advice (see over)

Implement compression with caution following the Risk managed approach to using compression in those with heart failure on the reverse

DO NOT APPLY COMPRESSION

Refer to Tissue Viability &, if HFrEF, the Heart Failure Nurses (see over)

Commence compression bandaging in line with chronic oedema pathway

Joint Tissue Viability and Heart Failure services Heart Failure and Compression Therapy Pathway pathway/December 2021/v4

No compression Urgent referral to TissueViability & vascular

Reduced compression 20mmHg Refer to vascular

Full compression at least 40mmHg Refer to vascular for venous duplex scans & possible sclerotherapy

Refer to TVN for advice

If oedema also present > 3 months refer also to chronic oedema pathway

Reassess wound every 4-6 weeks
If less than 40% reduction in 6 weeks, and no explanation why, refer to TVN

After 12 weeks of treatment
If wound not healed, refer to TVN

Once leg ulceration has healed -
apply maintenance compression

Oxford Health Tissue Viability Chronic Oedema Pathway V8/June2023

HAVING SO MANY PATHWAYS CAN BE CONFUSING...

Is it safe to use compression if heart failure is suspected?

What if I have a patient with a wound, chronic oedema and a heart failure diagnosis?

How can I use more than one pathway at once?

Scan me to see the pathway!

Lower Limb Care Pathway

For people with lower limb oedema / lymphoedema, lymphorrhoea or ulceration including those with known or suspected heart failure

NHS Oxford Health NHS Foundation Trust

Initial Presentation

Are there any red flags present for the application of compression?
- Acute infection of leg or foot (e.g. increasing unilateral erythema, oedema, pain, heat, pus)
- Symptoms of sepsis
- Acute or chronic limb threatening ischaemia
- Suspected acute deep thrombosis (DVT)
- Suspected skin cancer
- Bleeding varicose veins

If any red flags present, do not apply compression and follow Guidance 1 overleaf

Are there any red flags present for ACUTE DECOMPENSATED HEART FAILURE
(acute deterioration of any of the below symptoms in the last 7 days)
- Increasing breathlessness (either at rest or on exertion)
- Presence of truncal oedema
- Increased reports of waking up due to breathlessness (PND)
- Rapid increase in weight
- Inability to lay flat due to breathlessness (orthopnoea)

If patient is already in established compression (i.e. not actively decongesting oedema from limbs) and has an acute episode of deteriorating heart failure – DO NOT REMOVE COMPRESSION

If any red flags present, do not apply compression and follow Guidance 2 overleaf

Immediate and Necessary Compression
Apply 20mmHg compression therapy to both legs, arrange for holistic lower limb assessment, including assessment of vascular status (E.g. ankle brachial pressure index (ABPI)
Depending on limb shape, apply hosiery liners, reduced compression bandage or wrap system, see Guidance 3

In addition to compression, if ulceration/lymphorrhoea present:
- Select appropriate dressing using TIMES wound assessment and formulary (see Guidance 4)
- Refer to AMBL2 tool to identify signs of infection

2 Weeks

Complete holistic lower limb assessment within 14 days, including assessment of vascular status (including ankle brachial pressure index (ABPI))
Depending on limb shape, and results of holistic lower limb assessment, where safe to do so apply compression bandage, hosiery or wrap system aiming to apply 40mmHg

NB Wraps are not to be used for patients with open wounds as there is no current evidence to support this

If chronic oedema present (with or without a wound and/or heart failure), has there been 2 or more episodes of cellulitis in the past year?

If yes, refer to GP for prophylactic antibiotic therapy (BLS Consensus Document on the Management of Cellulitis in Lymphoedema 2nd Edition, 2016; SCAN guidelines 2021,)

Diagnosis

For patients with peripheral arterial disease only
ABPI <0.6

For patients with suspected venous disease and peripheral arterial disease (mixed aetiology)
ABPI 0.6 to 0.8

For patients with suspected venous disease with adequate arterial supply
ABPI 0.81 - ≤ 1.3

For patients with other or uncertain aetiology ABPI >1.3

Treatment

Urgent referral to vascular
STOP COMPRESSION

Refer to vascular & Tissue Viability.
Continue with ≤ 20mmHg

Refer to vascular for venous duplex scans and possible sclerotherapy.
Heart Failure Red flags present (see Guidance 2): Patient to remain in ≤ 20mmHg compression and escalate to appropriate practitioner (e.g. GP or Heart Failure Nurses)
If evidence of Acute Cellulitis, **Bilateral or Soft** Pitting Oedema, follow staged approach to compression therapy. See Guidance 5.
If none of the above are present, apply 40mmHg of compression therapy to the affected limb(s).
Implement an ongoing heart failure red flag assessment care plan for patient and reassess red flags for acute decompensated heart failure after 14 days.
If no new signs of acute heart failure present, continue with 40mmHg.
Consider review requirements.

Consider calcification. Assess foot pulses, doppler waveform. If unsure consider referral to vascular & Tissue Viability.
Continue with ≤ 20mmHg

Compression Options

Regular limb shape/mild oedema
Apply leg ulcer hosiery kit if ulcer present.
If ulceration is extensive and/or very wet consider compression bandaging.
Educate patient on their condition and ongoing treatment.
Implement ongoing red flag assessment care plan

Moderate-severe oedema and/or distorted limb shape
Consider full leg (including toes & thighs) if swelling above the knee. Patient may require toe caps, stump bandaging and/or thigh high compression.
If patient able to self-care, consider referral to TV for an appropriate compression wrap system Apply short stretch compression bandage to decongest limb.
Educate patient on their condition and ongoing treatment.
Implement ongoing red flag assessment care plan

For maintenance garments refer to guidance

Wound Care

At every dressing change for ulceration/lymphorrhea:
Review for red flags.
Select appropriate dressing using TIMES wound assessment and formulary.
Refer to AMBL2 tool to identify signs of infection and management options.
Refer to exudate management pathway.
Offer analgesia if required.
If needed, treat skin conditions e.g. varicose eczema pathway.
If being treated with compression, review ankle circumference and adapt as appropriate

Offer appropriate nutritional and lifestyle advice.

Provide verbal and written advice about care.

Discuss and incorporate opportunities for supported self-management

At 4-weekly intervals (or more frequently, if concerned):
Monitor healing by:
Completing ulcer assessment.
Recording digital image(s) and comparing with previous images.
Measuring ankle circumference for reduction in limb swelling.
Review effectiveness of treatment plan and escalate if deteriorating or no progress towards healing.
If <40% wound area reduction at 4 weeks, refer to Tissue Viability

At 12 weeks:
Monitor healing by:
Completing comprehensive reassessment.
Recording a digital image and comparing with previous images.
Measuring ankle circumference for reduction in limb swelling.
If wound remains unhealed at 12 weeks, refer to Tissue Viability

Guidance 1
DO NOT APPLY COMPRESSION

- Treat infection
- If symptoms of sepsis, immediately escalate
- If patient has limb threatening ischaemia refer urgently to vascular service
- If the patient has diabetes and the wound is on the foot refer urgently to OCDEM
- Any other urgent concerns discuss with GP urgently
- Refer to Tissue Viability
- Prior to referral, consider if patient is in the last few days of life

Guidance 2
DO NOT APPLY COMPRESSION
Escalate to appropriate practitioner

If leg is weeping use wadding and retention bandage until results available, ensure regular leg elevation and ensure sleeping in bed at night.

Consideration:
If no previous diagnosis of heart failure, but it is suspected*, Refer to GP to request a NT pro BNP blood test (gold top) to rule out heart failure
THEN
refer to Tissue Viability, & if HFrEF, the Heart Failure Nurses for ongoing management advice
Please refer to supporting Lower Limb Care Guidance booklet

Guidance 3
Consideration:
20mmHg compression options:

- Hosiery liners
- Reduced compression bandage system
- Wraps (under TV guidance)! Many wraps provide full not reduced compression, please seek TV advice before commencing this.

Guidance 5
Staged Approach to Compression Therapy starting with 20mmHg

- Continue with 20mmHg on both legs for 14 days
- Reassess red flags for acute decompensated heart failure assessment
- If no new signs of acute heart failure present, apply 40mmHg to one leg, below knee
- Reassess red flags for acute decompensated heart failure after 7 days
- If no new signs of acute decompensated heart failure apply 40mmHg to second leg, below knee
- Once below knee compression successfully implemented, apply thigh high compression if required, following the same staged approach
- Implement an ongoing red flag assessment care plan for patient

ABPI assessment for those with lymphoedema is not essential in the absence of significant cardiovascular risk factors and clinical signs or symptoms of PAD provided the vascular status has been thoroughly assessed.

Please refer to supporting Lower Limb Care Guidance booklet

Guidance 4
DO NOT USE ADHESIVE DRESSINGS ON LEGS EXCEPT FOR SILICONE BORDERED DRESSINGS!

DO NOT DEBRIDE A SUSPECTED ARTERIAL WOUND WITHOUT TV ADVICE

National Wound Care Strategy Programme: Lower Limb Recommendations

Best Practice Statement: The use of compression therapy for peripheral oedema: considerations in people with heart failure

BLS/LSN: Guidelines on the Management of Cellulitis in Lymphoedema

ABML2 Tool

Oxford Health Wound Care Formulary

References: National Wound Care Strategy Programme: (2023) Recommendations for Leg Ulcers. British Lymphology Society and Lymphoedema Support Network (2022) Guidelines on the Management of Cellulitis in Lymphoedema. South Central Antimicrobial Network (SCAN Guidelines). How to cite this document: Wounds UK (2023) Best Practice Statement: The use of compression therapy for peripheral oedema: considerations in people with heart failure. Wounds UK, London. Available to download from: www.wounds-uk.com.


INITIAL PRESENTATION:
RED FLAG ASSESSMENTS

1. Are there any red flags present for the application of compression?

2. Are there any red flags present for acute decompensated heart failure?

3. Immediate and necessary care

INITIAL PRESENTATION

Lower Limb Care Pathway

For people with lower limb oedema / lymphoedema, lymphorrhoea or ulceration including those with known or suspected heart failure

NHS Oxford Health NHS Foundation Trust

Initial Presentation

Are there any red flags present for the application of compression?
- Acute infection of leg or foot (e.g. increasing unilateral erythema, oedema, pain, heat, pus)
- Symptoms of sepsis
- Acute or chronic limb threatening ischaemia
- Suspected acute deep thrombosis (DVT)
- Suspected skin cancer
- Bleeding varicose veins

If any red flags present, do not apply compression and follow Guidance 1 overleaf

Are there any red flags present for ACUTE DECOMPENSATED HEART FAILURE
(acute deterioration of any of the below symptoms in the last 7 days)
- Increasing breathlessness (either at rest or on exertion)
- Presence of truncal oedema
- Increased reports of waking up due to breathlessness (PND)
- Rapid increase in weight
- Inability to lay flat due to breathlessness (orthopnoea)

If patient is already in established compression (i.e. not actively decongesting oedema from limbs) and has an acute episode of deteriorating heart failure – DO NOT REMOVE COMPRESSION

If any red flags present, do not apply compression and follow Guidance 2 overleaf

Immediate and Necessary Compression
Apply 20mmHg compression therapy to both legs, arrange for holistic lower limb assessment, including assessment of vascular status (E.g. ankle brachial pressure index (ABPI)
Depending on limb shape, apply hosiery liners, reduced compression bandage or wrap system, see Guidance 3

In addition to compression, if ulceration/lymphorrhoea present:
- Select appropriate dressing using TIMES wound assessment and formulary (see Guidance 4)
- Refer to AMBL2 tool to identify signs of infection

2 Weeks

Complete holistic lower limb assessment within 14 days, including assessment of vascular status (including ankle brachial pressure index (ABPI))
Depending on limb shape, and results of holistic lower limb assessment, where safe to do so apply compression bandage, hosiery or wrap system aiming to apply 40mmHg

NB Wraps are not to be used for patients with open wounds as there is no current evidence to support this

If chronic oedema present (with or without a wound and/or heart failure), has there been 2 or more episodes of cellulitis in the past year?

If yes, refer to GP for prophylactic antibiotic therapy (BLS Consensus Document on the Management of Cellulitis in Lymphoedema 2nd Edition, 2016; SCAN guidelines 2021,)

Diagnosis

For patients with peripheral arterial disease only
ABPI <0.6

For patients with suspected venous disease and peripheral arterial disease (mixed aetiology)
ABPI 0.6 to 0.8

For patients with suspected venous disease with adequate arterial supply
ABPI 0.81 - ≤ 1.3

For patients with other or uncertain aetiology ABPI >1.3

Treatment

Urgent referral to vascular
STOP COMPRESSION

Refer to vascular & Tissue Viability.
Continue with ≤ 20mmHg

Refer to vascular for venous duplex scans and possible sclerotherapy.
Heart Failure Red flags present (see Guidance 2): Patient to remain in ≤ 20mmHg compression and escalate to appropriate practitioner (e.g. GP or Heart Failure Nurses)
If evidence of Acute Cellulitis, **Bilateral or Soft** Pitting Oedema, follow staged approach to compression therapy. See Guidance 5.
If none of the above are present, apply 40mmHg of compression therapy to the affected limb(s).
Implement an ongoing heart failure red flag assessment care plan for patient and reassess red flags for acute decompensated heart failure after 14 days.
If no new signs of acute heart failure present, continue with 40mmHg.
Consider review requirements.

Consider calcification. Assess foot pulses, doppler waveform. If unsure consider referral to vascular & Tissue Viability.
Continue with ≤ 20mmHg

Compression Options

Regular limb shape/mild oedema
Apply leg ulcer hosiery kit if ulcer present.
If ulceration is extensive and/or very wet consider compression bandaging.
Educate patient on their condition and ongoing treatment.
Implement ongoing red flag assessment care plan

Moderate-severe oedema and/or distorted limb shape
Consider full leg (including toes & thighs) if swelling above the knee. Patient may require toe caps, stump bandaging and/or thigh high compression.
If patient able to self-care, consider referral to TV for an appropriate compression wrap system Apply short stretch compression bandage to decongest limb.
Educate patient on their condition and ongoing treatment.
Implement ongoing red flag assessment care plan

For maintenance garments refer to guidance

Wound Care

At every dressing change for ulceration/lymphorrhea:
Review for red flags.
Select appropriate dressing using TIMES wound assessment and formulary.
Refer to AMBL2 tool to identify signs of infection and management options.
Refer to exudate management pathway.
Offer analgesia if required.
If needed, treat skin conditions e.g. varicose eczema pathway.
If being treated with compression, review ankle circumference and adapt as appropriate

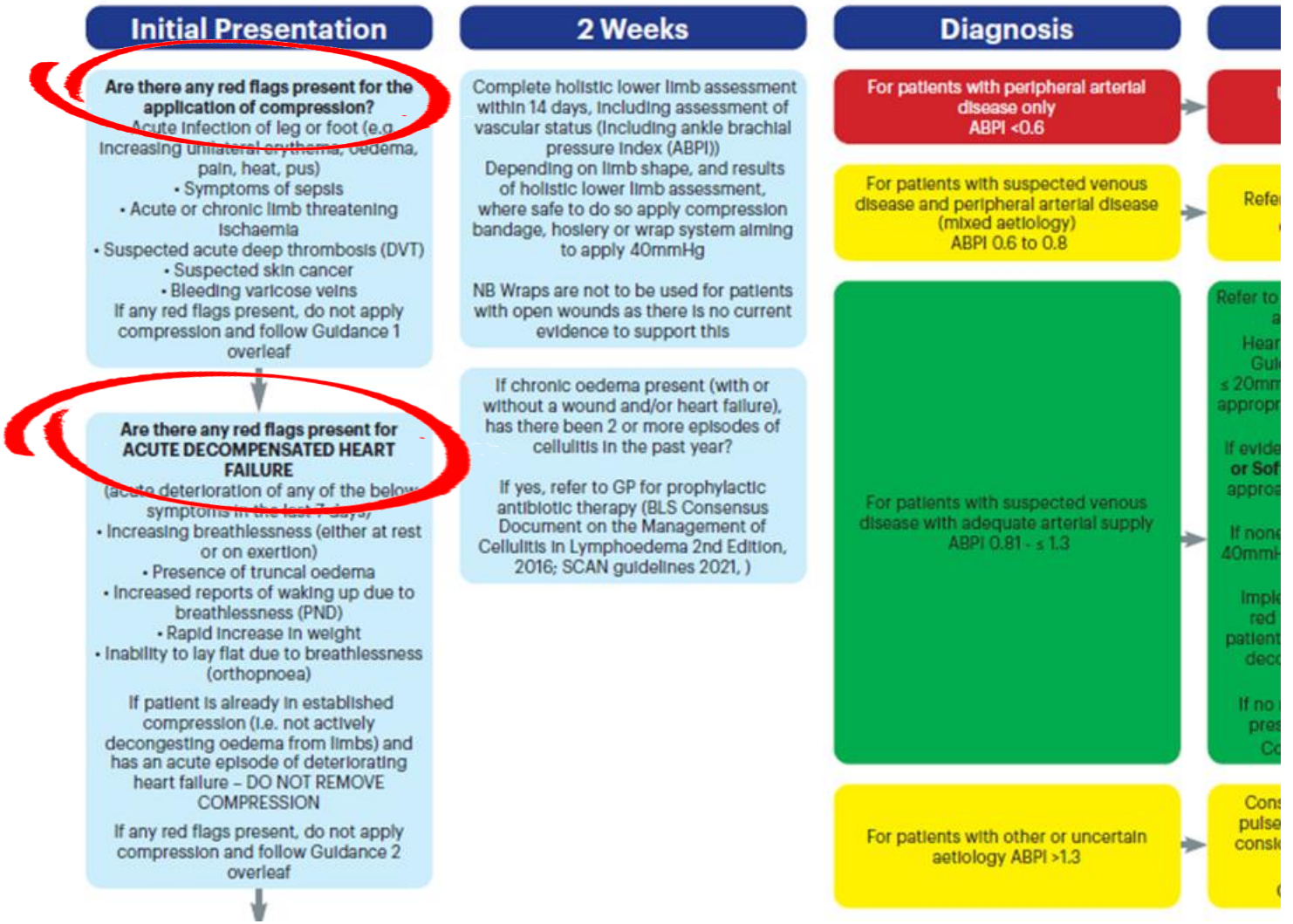
Offer appropriate nutritional and lifestyle advice.

Provide verbal and written advice about care.

Discuss and incorporate opportunities for supported self-management

At 4-weekly intervals (or more frequently, if concerned):
Monitor healing by:
Completing ulcer assessment.
Recording digital image(s) and comparing with previous images.
Measuring ankle circumference for reduction in limb swelling.
Review effectiveness of treatment plan and escalate if deteriorating or no progress towards healing.
If <40% wound area reduction at 4 weeks, refer to Tissue Viability

At 12 weeks:
Monitor healing by:
Completing comprehensive reassessment.
Recording a digital image and comparing with previous images.
Measuring ankle circumference for reduction in limb swelling.
If wound remains unhealed at 12 weeks, refer to Tissue Viability


Initial Presentation
2 Weeks
Diagnosis
Are there any red flags present for the application of compression?
Acute infection of leg or foot (e.g. increasing unilateral erythema, oedema, pain, heat, pus)
• Symptoms of sepsis
• Acute or chronic limb threatening ischaemia
• Suspected acute deep thrombosis (DVT)
• Suspected skin cancer
• Bleeding varicose veins
If any red flags present, do not apply compression and follow Guidance 1 overleaf
Are there any red flags present for ACUTE DECOMPENSATED HEART FAILURE
(acute deterioration of any of the below symptoms in the last 7 days)
• Increasing breathlessness (either at rest or on exertion)
• Presence of truncal oedema
• Increased reports of waking up due to breathlessness (PND)
• Rapid increase in weight
• Inability to lay flat due to breathlessness (orthopnoea)
If patient is already in established compression (i.e. not actively decongesting oedema from limbs) and has an acute episode of deteriorating heart failure – DO NOT REMOVE COMPRESSION
If any red flags present, do not apply compression and follow Guidance 2 overleaf
Complete holistic lower limb assessment within 14 days, including assessment of vascular status (including ankle brachial pressure index (ABPI))
Depending on limb shape, and results of holistic lower limb assessment, where safe to do so apply compression bandage, hosiery or wrap system aiming to apply 40mmHg
NB Wraps are not to be used for patients with open wounds as there is no current evidence to support this
If chronic oedema present (with or without a wound and/or heart failure), has there been 2 or more episodes of cellulitis in the past year?
If yes, refer to GP for prophylactic antibiotic therapy (BLS Consensus Document on the Management of Cellulitis in Lymphoedema 2nd Edition, 2016; SCAN guidelines 2021,)
For patients with peripheral arterial disease only
ABPI <0.6
For patients with suspected venous disease and peripheral arterial disease (mixed aetiology)
ABPI 0.6 to 0.8
For patients with suspected venous disease with adequate arterial supply
ABPI 0.81 - ≤ 1.3
For patients with other or uncertain aetiology ABPI >1.3

INITIAL PRESENTATION

This pathways details the immediate and necessary care all patients with lower limb wounds should receive as recommended in the National Wound Care Strategy: Recommendations for Leg Ulceration (2023)

The ‘red flag assessment for application of compression’ comes from these recommendations

The newly added ‘red flag assessment for acute decompensated heart failure’ comes from the best practice statement - The use of compression therapy for peripheral oedema: considerations in people with heart failure (2023)

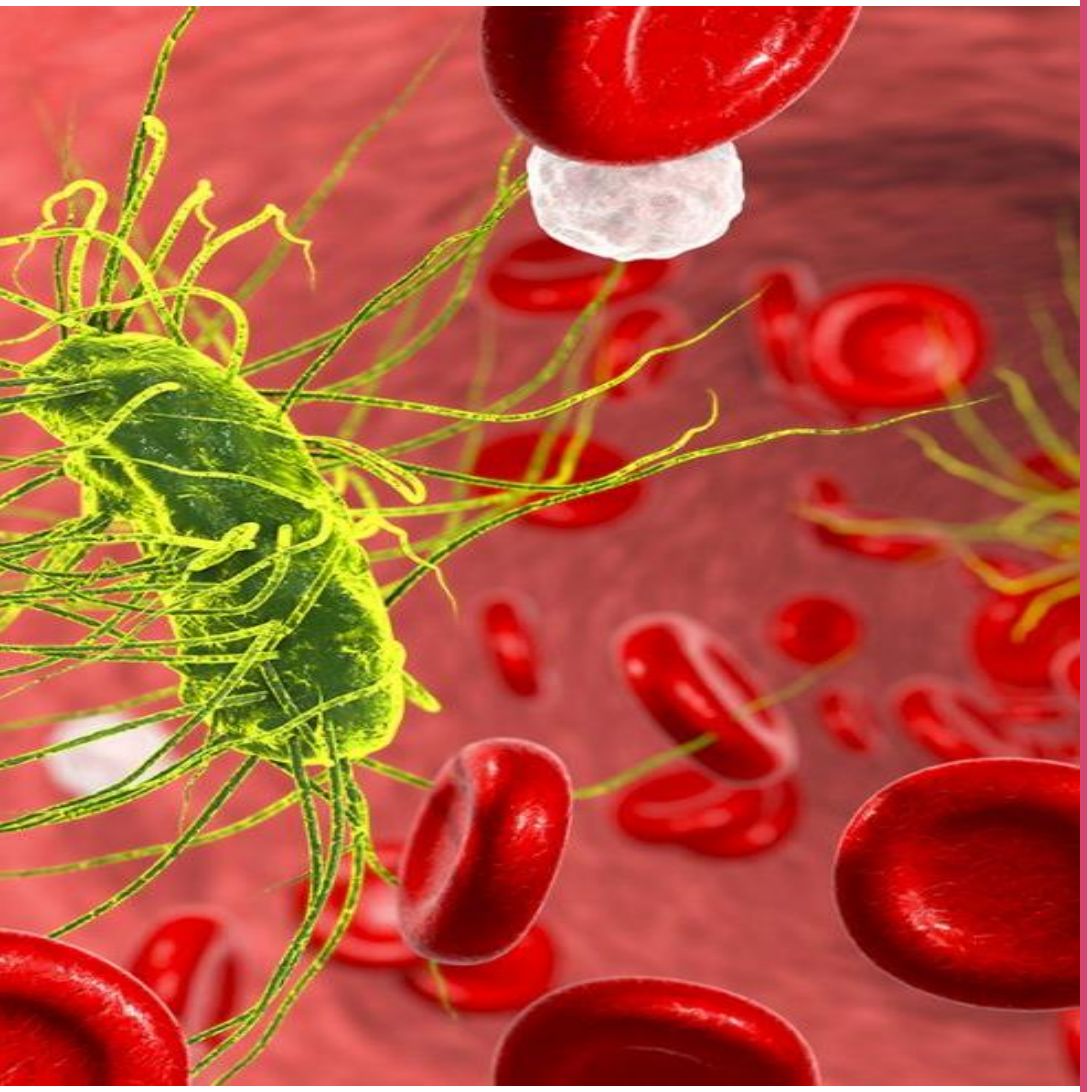
This new red flag assessment is designed to support clinicians to identify patients with acute decompensated heart failure who are not suitable for compression therapy, whilst also supporting them to implement compression safely for patients that may have stable known or suspected heart failure

ARE THERE ANY RED FLAGS PRESENT FOR THE APPLICATION OF COMPRESSION?

- Acute infection of the leg or foot
- Symptoms of sepsis
- Acute or chronic limb-threatening ischaemia
- Suspected acute deep vein thrombosis (DVT)
- Suspected skin cancer
- Bleeding varicose veins

ACUTE INFECTION / CELLULITIS

- Discolouration with clear demarcated edges.
- ‘Orange peel’ appearance
- Pain in the limb/skin, which is worse on touch
- Warm to touch
- Oedema - elimination of fine wrinkles
- Purulent exudate/pus
- Raised temperature;
- Tachycardia
- General malaise
- Increase in CRP bloods



SEPSIS

- Shivering, having fever or being very cold
- Confusion, slurred speech or not making sense
- Being sleepy or difficult to rouse
- Blue, pale or blotchy skin, lips or tongue
- Rash that does not fade when you roll a glass over it
- Breathing difficulties
- Increased breathlessness
- Raised temperature, pulse and respirations/deranged vital signs.

ACUTE & CHRONIC ISCHAEMIA

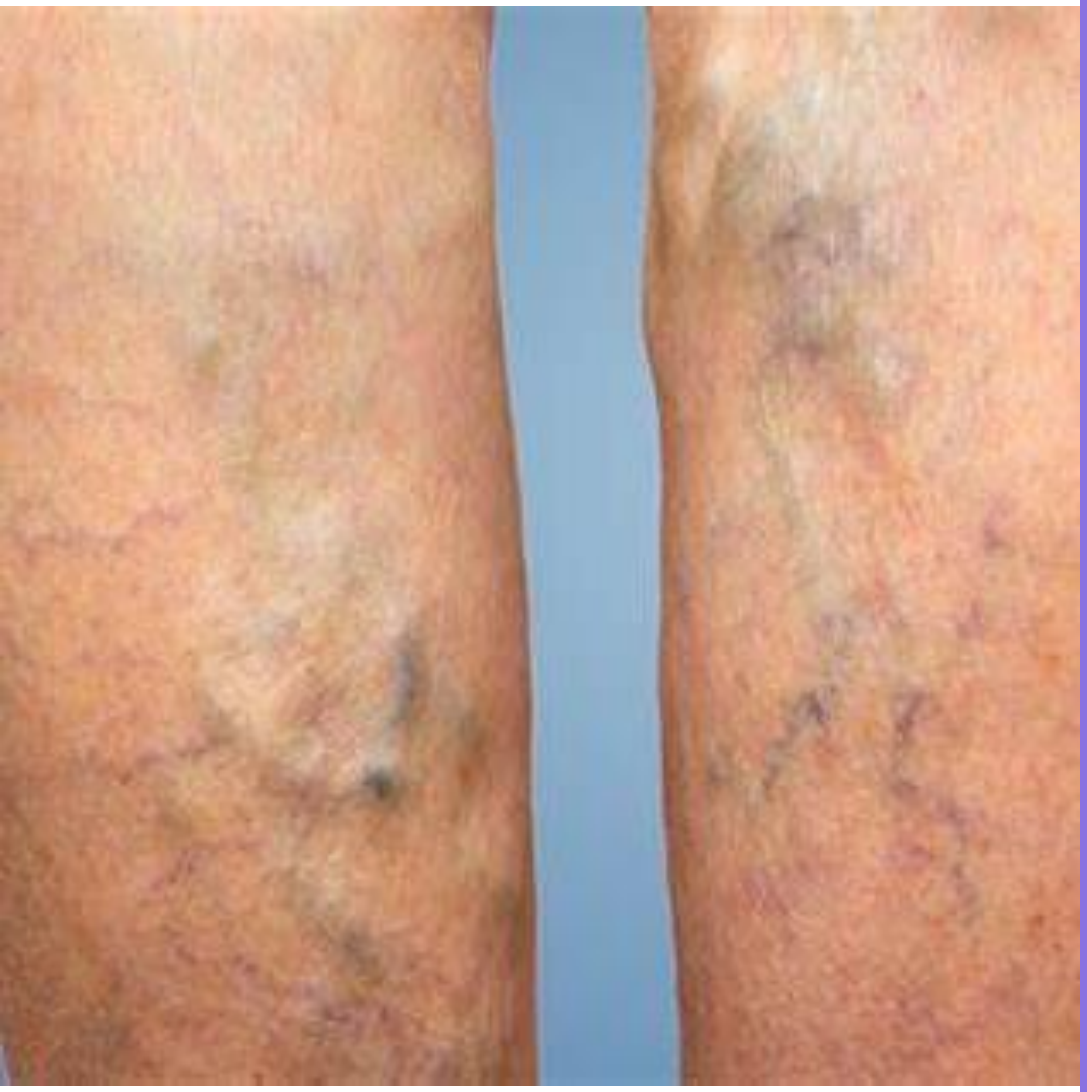
- When the blood supply to the limb is interrupted; it indicates the presence of acute or chronic arterial disease.
- Within 24 hours = acute
- Within a few weeks = chronic
- results in tissue ischaemia causing tissue loss, such as gangrene of the toes.
- Often associated with severe pain, especially at night.

ACUTE DEEP VEIN THROMBOSIS (DVT)

- Unilateral oedema
- Sudden (over 12 hours) onset of unilateral oedema
- Pain on flexing the ankle
- Red/purple discolouration
- Affected area is warm to the touch
- Not yet treated with anticoagulation

SUSPECTED SKIN CANCER

- Lumps, blemishes or marks that change, such as in shape, size, texture
- Crusty, oozing or bleeding lesions
- Itch, tenderness or pain



BLEEDING VARICOSE VEINS

- Can occur suddenly
- Brisk bleeding from varicose veins can be profusive and severe, particularly when the foot is dependent.
- Blood may pulsate from the vein.
- Bleeding may be exacerbated if there is vasodilation.

If any of these **red flag symptoms** are present, do **NOT** apply compression!

1. Are there any red flags present for the application of compression?

2. Are there any red flags present for acute decompensated heart failure?

3. Immediate and necessary care

INITIAL PRESENTATION

Let's Take It Back To That Anatomy And Physiology...

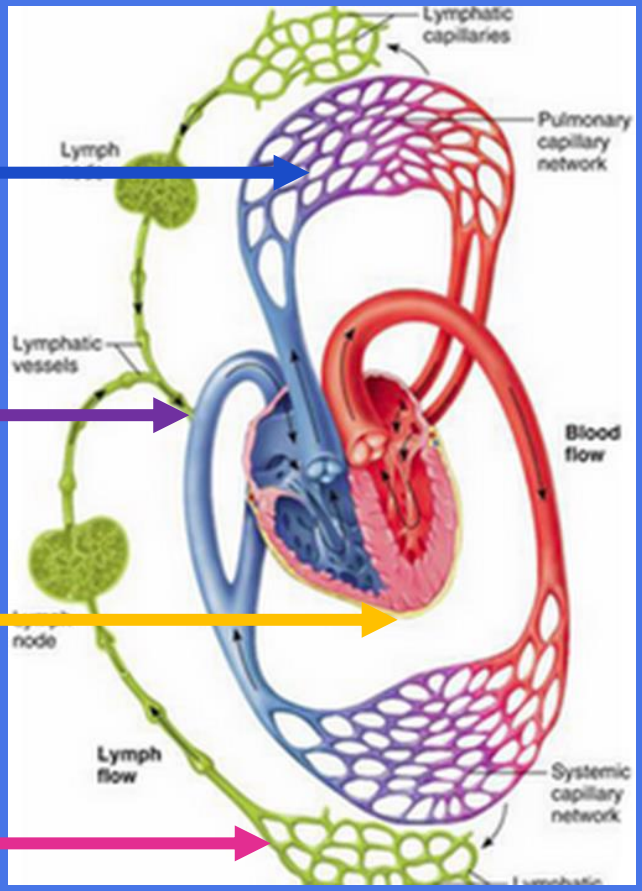
HOW DOES COMPRESSION THERAPY AFFECT HEART FAILURE PATIENTS?

As the heart is not pushing this volume round efficiently, it can lead to an accumulation of fluid in the lungs and peripheries

This fluid moves up the lymphatic system and is dumped back into the superior vena cava (the main vein)

The heart then has to manage this additional fluid, which is challenging when the heart is not working effectively

When we apply compression therapy, we are pushing the excess interstitial fluid into the lymphatic system



Compensated Heart Failure

Absent or minimal symptoms

Despite underlying disease, the heart literally 'compensates' for damage to the cardiac muscle to the extent that the patient may be partially or wholly unaware of the problem.

Decompensated Heart Failure

Deterioration of relatively stable heart failure.

As the disease progresses, it becomes difficult for patients to retain their previous lifestyle

COMPENSATED VS DECOMPENSATED HEART FAILURE

ARE THERE ANY RED FLAGS PRESENT FOR ACUTE DECOMPENSATED HEART FAILURE?

(ACUTE DETERIORATION OF ANY OF THE BELOW SYMPTOMS IN THE LAST 7 DAYS)

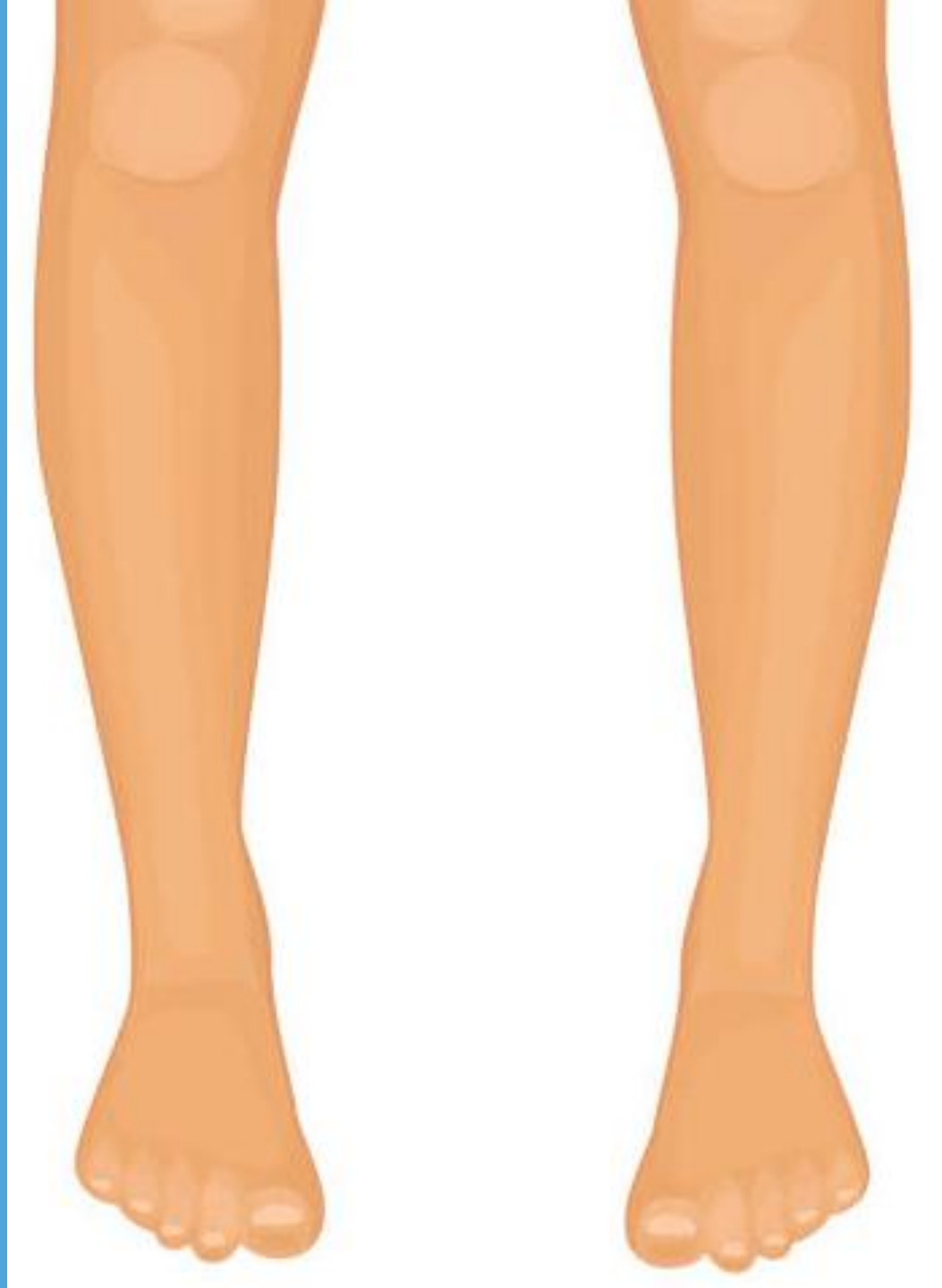
- Increasing breathlessness (either at rest or on exertion)
- Presence of truncal oedema
- Increased report of waking up dure to breathlessness (PND)
- Rapid increase in weight
- Inability to lay flat due to breathlessness (orthopnoea)

If any of these **red flag symptoms** for heart failure have worsened in the last 7 days, do **NOT** apply compression!

If the leg is weeping, use K-Soft and K-Lite, ensure regular leg elevation and ensure sleeping in bed at night.

If no previous diagnosis of heart failure, but it is suspected, refer to doctor for NTPro-BNP blood test.

IF A PATIENT HAS NO OEDEMA BUT A DIAGNOSIS OF HEART FAILURE, CAN COMPRESSION THERAPY BE APPLIED?



If the patient is already in established/long term compression therapy and has an acute episode of deteriorating heart failure, should compression therapy be removed?

There may be temptation to attribute the deterioration of heart failure symptoms to the compression and remove the bandaging.

However, this is not recommended as it will increase the lower limb oedema, putting the legs at risk of blistering, leaking and ulceration.

It is advised that the compression be maintained and that that the patient is referred to the appropriate heart failure specialist.

1. Are there any red flags present for the application of compression?

2. Are there any red flags present for acute decompensated heart failure?

3. Immediate and necessary care

INITIAL PRESENTATION

IMMEDIATE AND NECESSARY CARE

- Apply 20mmHg compression therapy to BOTH legs
- Depending on limb shape and exudate levels (if wound present), apply hosiery liners, reduced compression bandage or wrap system.

NB: Most wrap garments are designed to apply 40mmHg, therefore, wraps are to be used under TV guidance only! Please seek TV advice before commencing.

PLEASE NOTE!

- Do **NOT** debride a suspected arterial wound without TV advice.
- Do **NOT** use adhesive dressings on legs.
- **Exception** – Kliniderm Foam Silicone Border.
- Specifically for use on skin tears and on low to moderate exuding wounds under compression hosiery only.

Cosmopor Transparent
(Formerly Hydrofilm Plus)

Softpore

Biatain Super Adhesive

2 WEEKS

Lower Limb Care Pathway

For people with lower limb oedema / lymphoedema, lymphorrhoea or ulceration including those with known or suspected heart failure

NHS Oxford Health NHS Foundation Trust

Initial Presentation

Are there any red flags present for the application of compression?
- Acute infection of leg or foot (e.g. increasing unilateral erythema, oedema, pain, heat, pus)
- Symptoms of sepsis
- Acute or chronic limb threatening ischaemia
- Suspected acute deep thrombosis (DVT)
- Suspected skin cancer
- Bleeding varicose veins

If any red flags present, do not apply compression and follow Guidance 1 overleaf

Are there any red flags present for ACUTE DECOMPENSATED HEART FAILURE
(acute deterioration of any of the below symptoms in the last 7 days)
- Increasing breathlessness (either at rest or on exertion)
- Presence of truncal oedema
- Increased reports of waking up due to breathlessness (PND)
- Rapid increase in weight
- Inability to lay flat due to breathlessness (orthopnoea)

If patient is already in established compression (i.e. not actively decongesting oedema from limbs) and has an acute episode of deteriorating heart failure – DO NOT REMOVE COMPRESSION

If any red flags present, do not apply compression and follow Guidance 2 overleaf

Immediate and Necessary Compression
Apply 20mmHg compression therapy to both legs, arrange for holistic lower limb assessment, including assessment of vascular status (E.g. ankle brachial pressure index (ABPI)
Depending on limb shape, apply hosiery liners, reduced compression bandage or wrap system, see Guidance 3

In addition to compression, if ulceration/lymphorrhoea present:
- Select appropriate dressing using TIMES wound assessment and formulary (see Guidance 4)
- Refer to AMBL2 tool to identify signs of infection

2 Weeks

Complete holistic lower limb assessment within 14 days, including assessment of vascular status (including ankle brachial pressure index (ABPI))
Depending on limb shape, and results of holistic lower limb assessment, where safe to do so apply compression bandage, hosiery or wrap system aiming to apply 40mmHg

NB Wraps are not to be used for patients with open wounds as there is no current evidence to support this

If chronic oedema present (with or without a wound and/or heart failure), has there been 2 or more episodes of cellulitis in the past year?

If yes, refer to GP for prophylactic antibiotic therapy (BLS Consensus Document on the Management of Cellulitis in Lymphoedema 2nd Edition, 2016; SCAN guidelines 2021,)

Diagnosis

For patients with peripheral arterial disease only
ABPI <0.6

For patients with suspected venous disease and peripheral arterial disease (mixed aetiology)
ABPI 0.6 to 0.8

For patients with suspected venous disease with adequate arterial supply
ABPI 0.81 - ≤ 1.3

For patients with other or uncertain aetiology ABPI >1.3

Treatment

Urgent referral to vascular
STOP COMPRESSION

Refer to vascular & Tissue Viability.
Continue with ≤ 20mmHg

Refer to vascular for venous duplex scans and possible sclerotherapy.
Heart Failure Red flags present (see Guidance 2): Patient to remain in ≤ 20mmHg compression and escalate to appropriate practitioner (e.g. GP or Heart Failure Nurses)
If evidence of Acute Cellulitis, **Bilateral or Soft** Pitting Oedema, follow staged approach to compression therapy. See Guidance 5.
If none of the above are present, apply 40mmHg of compression therapy to the affected limb(s).
Implement an ongoing heart failure red flag assessment care plan for patient and reassess red flags for acute decompensated heart failure after 14 days.
If no new signs of acute heart failure present, continue with 40mmHg.
Consider review requirements.

Consider calcification. Assess foot pulses, doppler waveform. If unsure consider referral to vascular & Tissue Viability.
Continue with ≤ 20mmHg

Compression Options

Regular limb shape/mild oedema
Apply leg ulcer hosiery kit if ulcer present.
If ulceration is extensive and/or very wet consider compression bandaging.
Educate patient on their condition and ongoing treatment.
Implement ongoing red flag assessment care plan

Moderate-severe oedema and/or distorted limb shape
Consider full leg (including toes & thighs) if swelling above the knee. Patient may require toe caps, stump bandaging and/or thigh high compression.
If patient able to self-care, consider referral to TV for an appropriate compression wrap system Apply short stretch compression bandage to decongest limb.
Educate patient on their condition and ongoing treatment.
Implement ongoing red flag assessment care plan

For maintenance garments refer to guidance

Wound Care

At every dressing change for ulceration/lymphorrhea:
Review for red flags.
Select appropriate dressing using TIMES wound assessment and formulary.
Refer to AMBL2 tool to identify signs of infection and management options.
Refer to exudate management pathway.
Offer analgesia if required.
If needed, treat skin conditions e.g. varicose eczema pathway.
If being treated with compression, review ankle circumference and adapt as appropriate

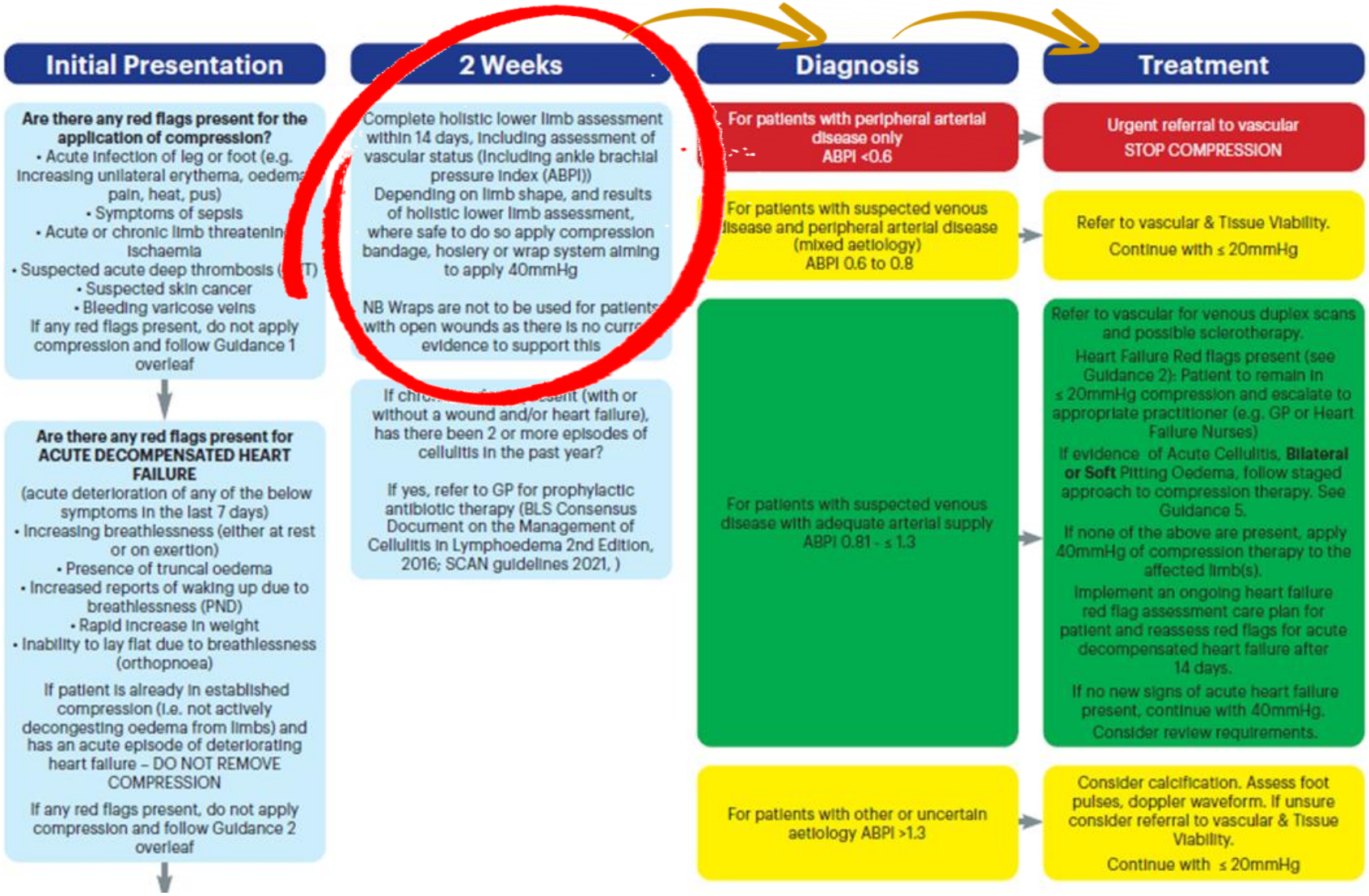
Offer appropriate nutritional and lifestyle advice.

Provide verbal and written advice about care.

Discuss and incorporate opportunities for supported self-management

At 4-weekly intervals (or more frequently, if concerned):
Monitor healing by:
Completing ulcer assessment.
Recording digital image(s) and comparing with previous images.
Measuring ankle circumference for reduction in limb swelling.
Review effectiveness of treatment plan and escalate if deteriorating or no progress towards healing.
If <40% wound area reduction at 4 weeks, refer to Tissue Viability

At 12 weeks:
Monitor healing by:
Completing comprehensive reassessment.
Recording a digital image and comparing with previous images.
Measuring ankle circumference for reduction in limb swelling.
If wound remains unhealed at 12 weeks, refer to Tissue Viability


Initial Presentation
2 Weeks
Diagnosis
Treatment
Are there any red flags present for the application of compression?
• Acute infection of leg or foot (e.g. increasing unilateral erythema, oedema pain, heat, pus)
• Symptoms of sepsis
• Acute or chronic limb threatenin ischaemia
• Suspected acute deep thrombosis (T)
• Suspected skin cancer
• Bleeding varicose veins
If any red flags present, do not apply compression and follow Guidance 1 overleaf
Are there any red flags present for ACUTE DECOMPENSATED HEART FAILURE
(acute deterioration of any of the below symptoms in the last 7 days)
• Increasing breathlessness (either at rest or on exertion)
• Presence of truncal oedema
• Increased reports of waking up due to breathlessness (PND)
• Rapid increase in weight
• Inability to lay flat due to breathlessness (orthopnoea)
If patient is already in established compression (i.e. not actively decongesting oedema from limbs) and has an acute episode of deteriorating heart failure – DO NOT REMOVE COMPRESSION
If any red flags present, do not apply compression and follow Guidance 2 overleaf
Complete holistic lower limb assessment within 14 days, including assessment of vascular status (including ankle brachial pressure index (ABPI))
Depending on limb shape, and results of holistic lower limb assessment, where safe to do so apply compression bandage, hosiery or wrap system aiming to apply 40mmHg
NB Wraps are not to be used for patients with open wounds as there is no curr evidence to support this
If chr ent (with or without a wound and/or heart failure), has there been 2 or more episodes of cellulitis in the past year?
If yes, refer to GP for prophylactic antibiotic therapy (BLS Consensus Document on the Management of Cellulitis in Lymphoedema 2nd Edition, 2016; SCAN guidelines 2021,)
For patients with peripheral arterial disease only
ABPI <0.6
Urgent referral to vascular
STOP COMPRESSION
For patients with suspected venous disease and peripheral arterial disease (mixed aetiology)
ABPI 0.6 to 0.8
Refer to vascular & Tissue Viability.
Continue with ≤ 20mmHg
For patients with suspected venous disease with adequate arterial supply
ABPI 0.81 - ≤ 1.3
Refer to vascular for venous duplex scans and possible sclerotherapy.
Heart Failure Red flags present (see Guidance 2): Patient to remain in ≤ 20mmHg compression and escalate to appropriate practitioner (e.g. GP or Heart Failure Nurses)
If evidence of Acute Cellulitis, Bilateral or Soft Pitting Oedema, follow staged approach to compression therapy. See Guidance 5.
If none of the above are present, apply 40mmHg of compression therapy to the affected limb(s).
Implement an ongoing heart failure red flag assessment care plan for patient and reassess red flags for acute decompensated heart failure after 14 days.
If no new signs of acute heart failure present, continue with 40mmHg.
Consider review requirements.
For patients with other or uncertain aetiology ABPI >1.3
Consider calcification. Assess foot pulses, doppler waveform. If unsure consider referral to vascular & Tissue Viability.
Continue with ≤ 20mmHg

2 WEEKS

A FULL HOLISTIC VASCULAR ASSESSMENT SHOULD BE UNDERTAKEN WITHIN 14 DAYS OF INITIAL PRESENTATION

THIS SHOULD INCLUDE AN ABPI ASSESSMENT USING A HANDHELD DOPPLER

THIS ENABLES CLINICIANS TO DIAGNOSE THE WOUND/LIMB AETIOLOGY, AND INCREASE COMPRESSION LEVELS WHERE ASSESSMENT SUPPORTS TO OPTIMISE WOUND MANAGEMENT

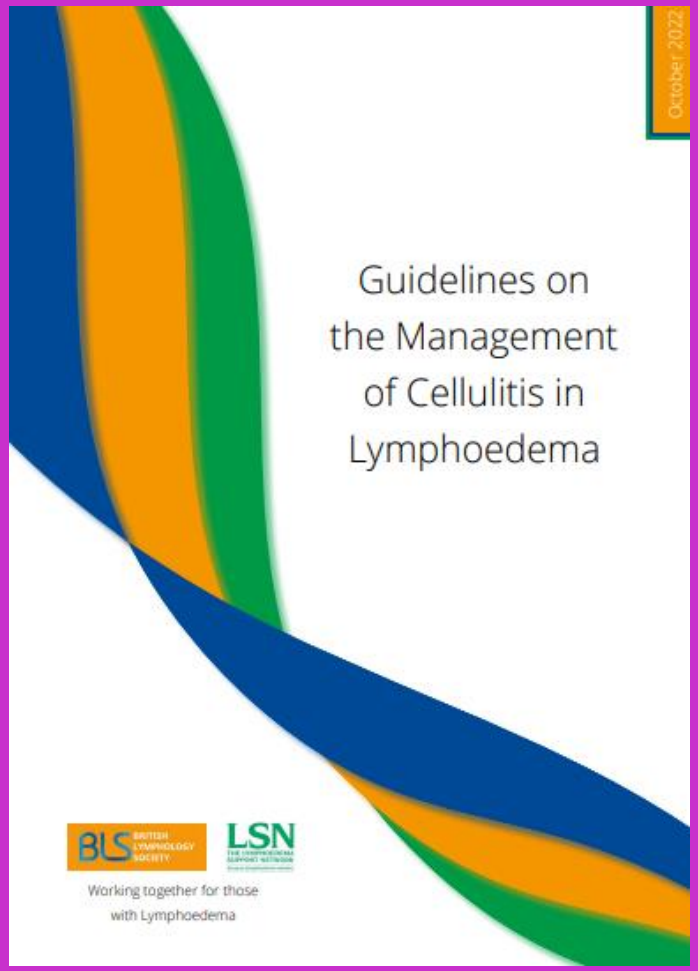
WITHIN 14 DAYS

- Complete a holistic lower limb assessment.
- Doppler (ABPI readings + pedal pulse sounds or waveforms).
- Lower limb assessment form.
- Past medical history
- Depending on limb shape, and results of overall holistic lower limb assessment, where safe to do so, apply compression bandage hosiery or wrap system aiming to apply 40mmHg.
- NB – Wraps are NOT to be used for patients with open wound as there is no current evidence to support this.

ABPI assessment for those with lymphoedema is not essential in the absence of significant cardiovascular risk factors and clinical signs or symptoms of PAD **provided the vascular status (LLA + PMH) has been thoroughly assessed.**

OEDEMA AND CELLULITIS

- If chronic oedema present (with or without a wound and/or heart failure), has there been two or more episode of cellulitis in the past year?
- If yes, refer to GP for prophylactic antibiotic therapy.
- Guidelines on the Management of Cellulitis in Lymphoedema – British Lymphology Society
- NICE Guidance



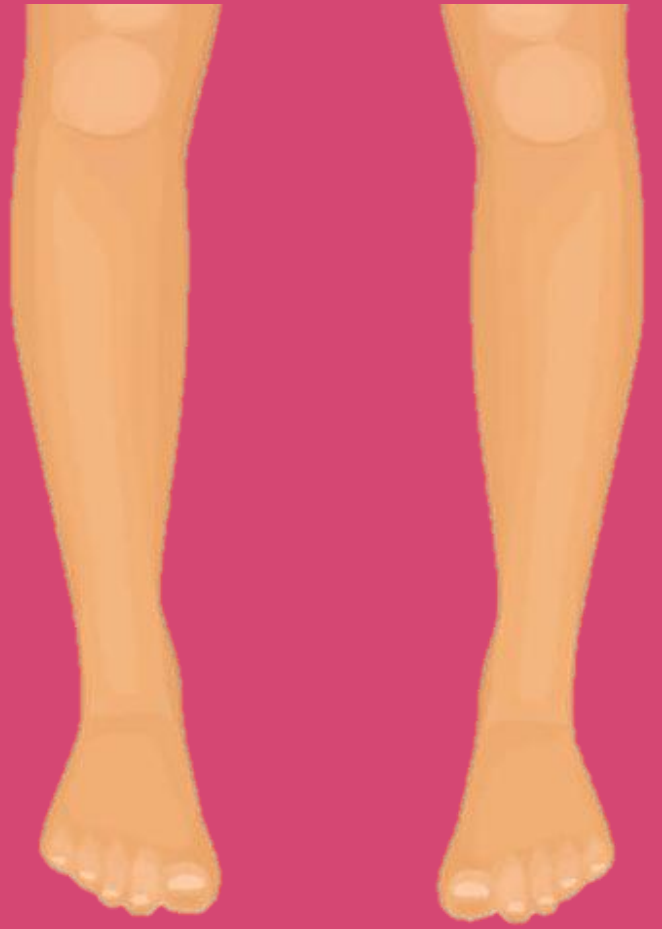
DIAGNOSIS AND TREATMENT

ABPI <0.6 – peripheral arterial disease. STOP COMPRESSION. Urgent referral to Vascular for arterial duplex scans and possible intervention.

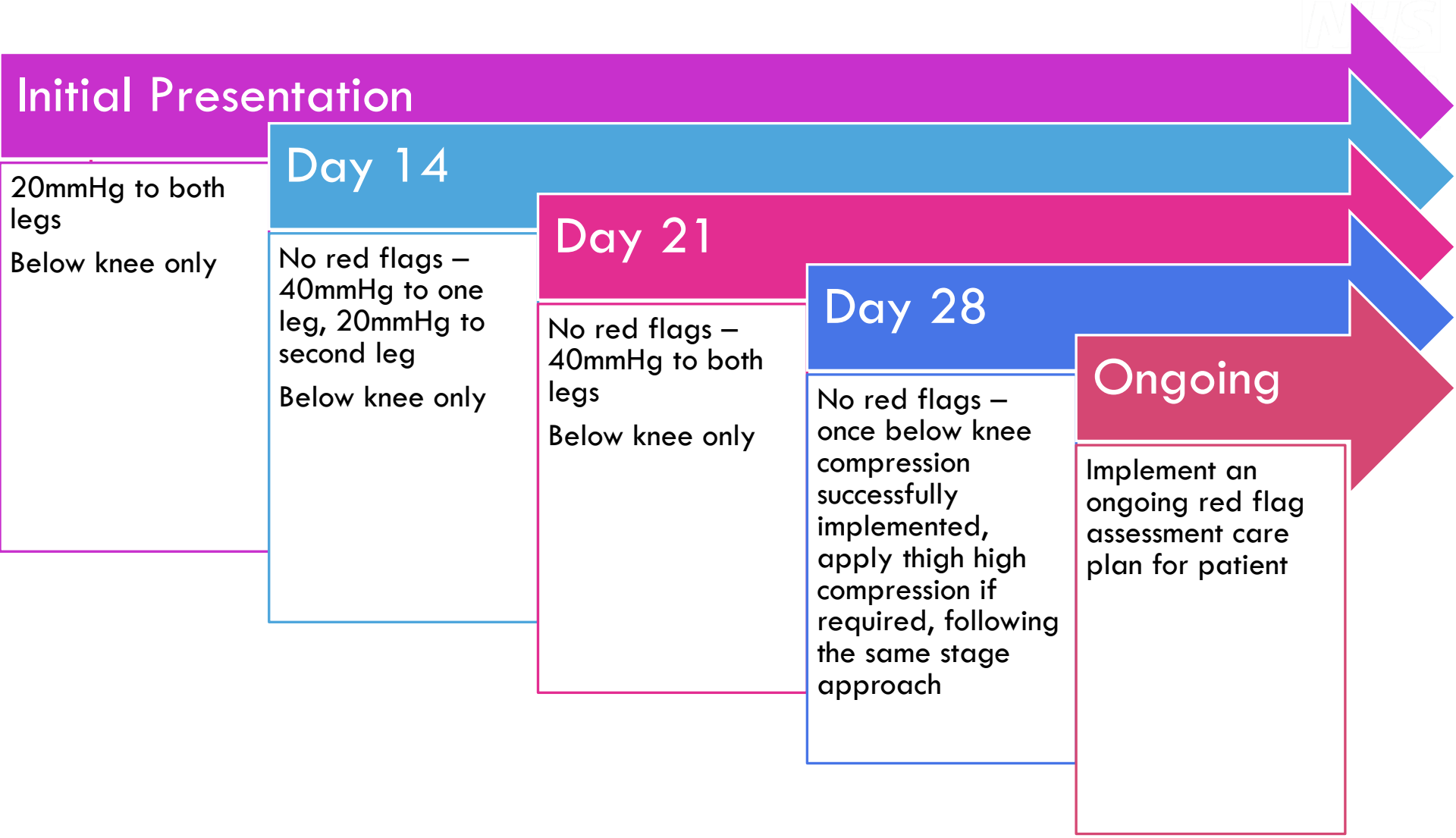
ABPI 0.6-0.8 – suspected mixed disease. Continue with 20mmHg compression. Routine referral to Vascular and TV.

ABPI 0.81 - ≤ 1.3 – suspected venous disease. If no red flags present, apply 40mmHg. Routine referral to Vascular for venous duplex scans and possible sclerotherapy.

ABPI >1.3 – consider arterial wall calcification. Continue with 20mmHg compression. Assess pulses/waveforms. Routine referral to Vascular and TV.



WHAT IF THERE IS EVIDENCE OF ACUTE CELLULITIS, BILATERAL OR SOFT PITTING OEDEMA?



STAGED APPROACH TO COMPRESSION

4-WEEKLY INTERVALS (OR MORE FREQUENTLY, IF CONCERNED), MONITOR HEALING BY:

- Completing ulcer assessment
- Recording digital images and comparing with previous images
- Measure ankle circumference for reduction in limb swelling
- Review effectiveness of treatment plan and escalate if deteriorating or no progress towards healing
- If <40% wound area reduction at 4 weeks, refer to Tissue Viability
- If wound remains unhealed at 12 weeks, refer to Tissue Viability

HOW CAN WE TELL IT'S WORKING?

Don't forget to take photos along the way!

Regular photos and measurements not only help to inform your care plan, it can also help to keep patients feeling positive about how things are going.

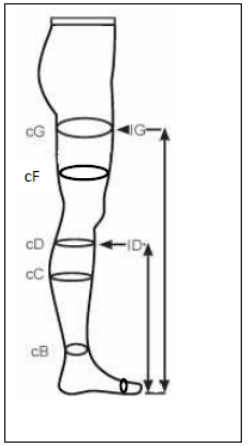
Lymphoedema management can be incredibly intense and time-consuming, so these small wins can make a BIG difference to your patient's engagement with their care!

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


ONWARD REFERRALS?

Lower Limb Care Pathway

For people with lower limb oedema / lymphoedema, lymphorrhoea or ulceration including those with known or suspected heart failure

NHS Oxford Health NHS Foundation Trust

Initial Presentation

Are there any red flags present for the application of compression?
- Acute infection of leg or foot (e.g. increasing unilateral erythema, oedema, pain, heat, pus)
- Symptoms of sepsis
- Acute or chronic limb threatening ischaemia
- Suspected acute deep thrombosis (DVT)
- Suspected skin cancer
- Bleeding varicose veins

If any red flags present, do not apply compression and follow Guidance 1 overleaf

Are there any red flags present for ACUTE DECOMPENSATED HEART FAILURE
(acute deterioration of any of the below symptoms in the last 7 days)
- Increasing breathlessness (either at rest or on exertion)
- Presence of truncal oedema
- Increased reports of waking up due to breathlessness (PND)
- Rapid increase in weight
- Inability to lay flat due to breathlessness (orthopnoea)

If patient is already in established compression (i.e. not actively decongesting oedema from limbs) and has an acute episode of deteriorating heart failure – DO NOT REMOVE COMPRESSION

If any red flags present, do not apply compression and follow Guidance 2 overleaf

Immediate and Necessary Compression
Apply 20mmHg compression therapy to both legs, arrange for holistic lower limb assessment, including assessment of vascular status (E.g. ankle brachial pressure index (ABPI)
Depending on limb shape, apply hosiery liners, reduced compression bandage or wrap system, see Guidance 3

In addition to compression, if ulceration/lymphorrhoea present:
- Select appropriate dressing using TIMES wound assessment and formulary (see Guidance 4)
- Refer to AMBL2 tool to identify signs of infection

2 Weeks

Complete holistic lower limb assessment within 14 days, including assessment of vascular status (including ankle brachial pressure index (ABPI))
Depending on limb shape, and results of holistic lower limb assessment, where safe to do so apply compression bandage, hosiery or wrap system aiming to apply 40mmHg

NB Wraps are not to be used for patients with open wounds as there is no current evidence to support this

If chronic oedema present (with or without a wound and/or heart failure), has there been 2 or more episodes of cellulitis in the past year?

If yes, refer to GP for prophylactic antibiotic therapy (BLS Consensus Document on the Management of Cellulitis in Lymphoedema 2nd Edition, 2016; SCAN guidelines 2021,)

Diagnosis

For patients with peripheral arterial disease only
ABPI <0.6

For patients with suspected venous disease and peripheral arterial disease (mixed aetiology)
ABPI 0.6 to 0.8

For patients with suspected venous disease with adequate arterial supply
ABPI 0.81 - ≤ 1.3

For patients with other or uncertain aetiology ABPI >1.3

Treatment

Urgent referral to vascular
STOP COMPRESSION

Refer to vascular & Tissue Viability.
Continue with ≤ 20mmHg

Refer to vascular for venous duplex scans and possible sclerotherapy.
Heart Failure Red flags present (see Guidance 2): Patient to remain in ≤ 20mmHg compression and escalate to appropriate practitioner (e.g. GP or Heart Failure Nurses)
If evidence of Acute Cellulitis, **Bilateral or Soft** Pitting Oedema, follow staged approach to compression therapy. See Guidance 5.
If none of the above are present, apply 40mmHg of compression therapy to the affected limb(s).
Implement an ongoing heart failure red flag assessment care plan for patient and reassess red flags for acute decompensated heart failure after 14 days.
If no new signs of acute heart failure present, continue with 40mmHg.
Consider review requirements.

Consider calcification. Assess foot pulses, doppler waveform. If unsure consider referral to vascular & Tissue Viability.
Continue with ≤ 20mmHg

Compression Options

Regular limb shape/mild oedema
Apply leg ulcer hosiery kit if ulcer present.
If ulceration is extensive and/or very wet consider compression bandaging.
Educate patient on their condition and ongoing treatment.
Implement ongoing red flag assessment care plan

Moderate-severe oedema and/or distorted limb shape
Consider full leg (including toes & thighs) if swelling above the knee. Patient may require toe caps, stump bandaging and/or thigh high compression.
If patient able to self-care, consider referral to TV for an appropriate compression wrap system Apply short stretch compression bandage to decongest limb.
Educate patient on their condition and ongoing treatment.
Implement ongoing red flag assessment care plan

For maintenance garments refer to guidance

Wound Care

At every dressing change for ulceration/lymphorrhea:
Review for red flags.
Select appropriate dressing using TIMES wound assessment and formulary.
Refer to AMBL2 tool to identify signs of infection and management options.
Refer to exudate management pathway.
Offer analgesia if required.
If needed, treat skin conditions e.g. varicose eczema pathway.
If being treated with compression, review ankle circumference and adapt as appropriate

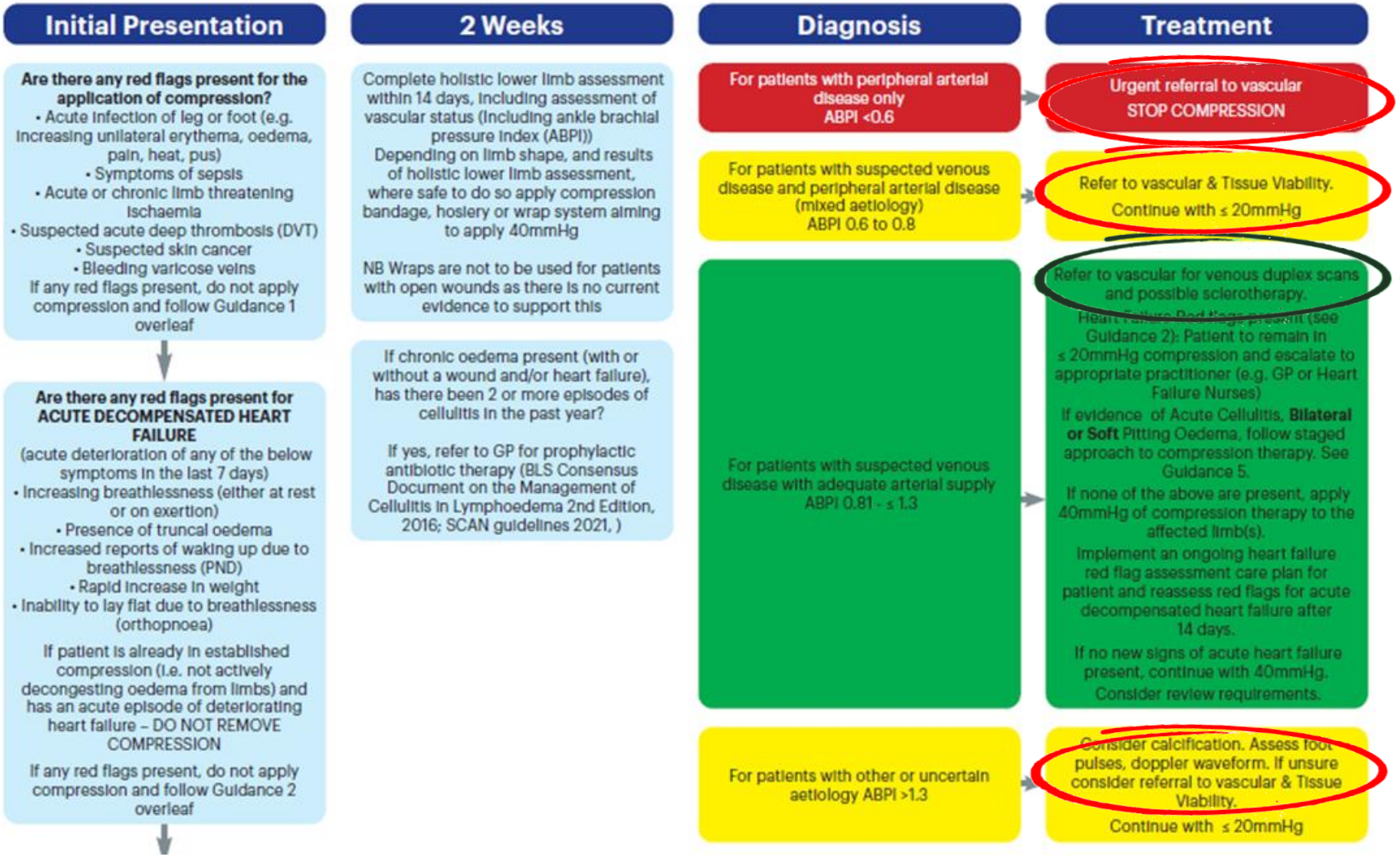
Offer appropriate nutritional and lifestyle advice.

Provide verbal and written advice about care.

Discuss and incorporate opportunities for supported self-management

At 4-weekly intervals (or more frequently, if concerned):
Monitor healing by:
Completing ulcer assessment.
Recording digital image(s) and comparing with previous images.
Measuring ankle circumference for reduction in limb swelling.
Review effectiveness of treatment plan and escalate if deteriorating or no progress towards healing.
If <40% wound area reduction at 4 weeks, refer to Tissue Viability

At 12 weeks:
Monitor healing by:
Completing comprehensive reassessment.
Recording a digital image and comparing with previous images.
Measuring ankle circumference for reduction in limb swelling.
If wound remains unhealed at 12 weeks, refer to Tissue Viability


Initial Presentation
2 Weeks
Diagnosis
Treatment
Are there any red flags present for the application of compression?
• Acute infection of leg or foot (e.g. increasing unilateral erythema, oedema, pain, heat, pus)
• Symptoms of sepsis
• Acute or chronic limb threatening ischaemia
• Suspected acute deep thrombosis (DVT)
• Suspected skin cancer
• Bleeding varicose veins
If any red flags present, do not apply compression and follow Guidance 1 overleaf
Are there any red flags present for ACUTE DECOMPENSATED HEART FAILURE
(acute deterioration of any of the below symptoms in the last 7 days)
• Increasing breathlessness (either at rest or on exertion)
• Presence of truncal oedema
• Increased reports of waking up due to breathlessness (PND)
• Rapid increase in weight
• Inability to lay flat due to breathlessness (orthopnoea)
If patient is already in established compression (i.e. not actively decongesting oedema from limbs) and has an acute episode of deteriorating heart failure – DO NOT REMOVE COMPRESSION
If any red flags present, do not apply compression and follow Guidance 2 overleaf
Complete holistic lower limb assessment within 14 days, including assessment of vascular status (including ankle brachial pressure index (ABPI))
Depending on limb shape, and results of holistic lower limb assessment, where safe to do so apply compression bandage, hosiery or wrap system aiming to apply 40mmHg
NB Wraps are not to be used for patients with open wounds as there is no current evidence to support this
If chronic oedema present (with or without a wound and/or heart failure), has there been 2 or more episodes of cellulitis in the past year?
If yes, refer to GP for prophylactic antibiotic therapy (BLS Consensus Document on the Management of Cellulitis in Lymphoedema 2nd Edition, 2016; SCAN guidelines 2021,)
For patients with peripheral arterial disease only
ABPI <0.6
Urgent referral to vascular
STOP COMPRESSION
For patients with suspected venous disease and peripheral arterial disease (mixed aetiology)
ABPI 0.6 to 0.8
Refer to vascular & Tissue Viability.
Continue with ≤ 20mmHg
For patients with suspected venous disease with adequate arterial supply
ABPI 0.81 - ≤ 1.3
Refer to vascular for venous duplex scans and possible sclerotherapy.
Heart Failure Red flags present (see Guidance 2): Patient to remain in ≤ 20mmHg compression and escalate to appropriate practitioner (e.g. GP or Heart Failure Nurses)
If evidence of Acute Cellulitis, Bilateral or Soft Pitting Oedema, follow staged approach to compression therapy. See Guidance 5.
If none of the above are present, apply 40mmHg of compression therapy to the affected limb(s).
Implement an ongoing heart failure red flag assessment care plan for patient and reassess red flags for acute decompensated heart failure after 14 days.
If no new signs of acute heart failure present, continue with 40mmHg.
Consider review requirements.
For patients with other or uncertain aetiology ABPI >1.3
Consider calcification. Assess foot pulses, doppler waveform. If unsure consider referral to vascular & Tissue Viability.
Continue with ≤ 20mmHg


HOW CAN TISSUE VIABILITY HELP?

TISSUE VIABILITY

The TV service provides advice, support and advanced treatments for patients with complex wounds across the county of Oxfordshire.

We are a small team of 7 Tissue Viability Nurses (TVNs), 1 Tissue Viability Nursing Associate (TVNA) and 2 administrative assistants.

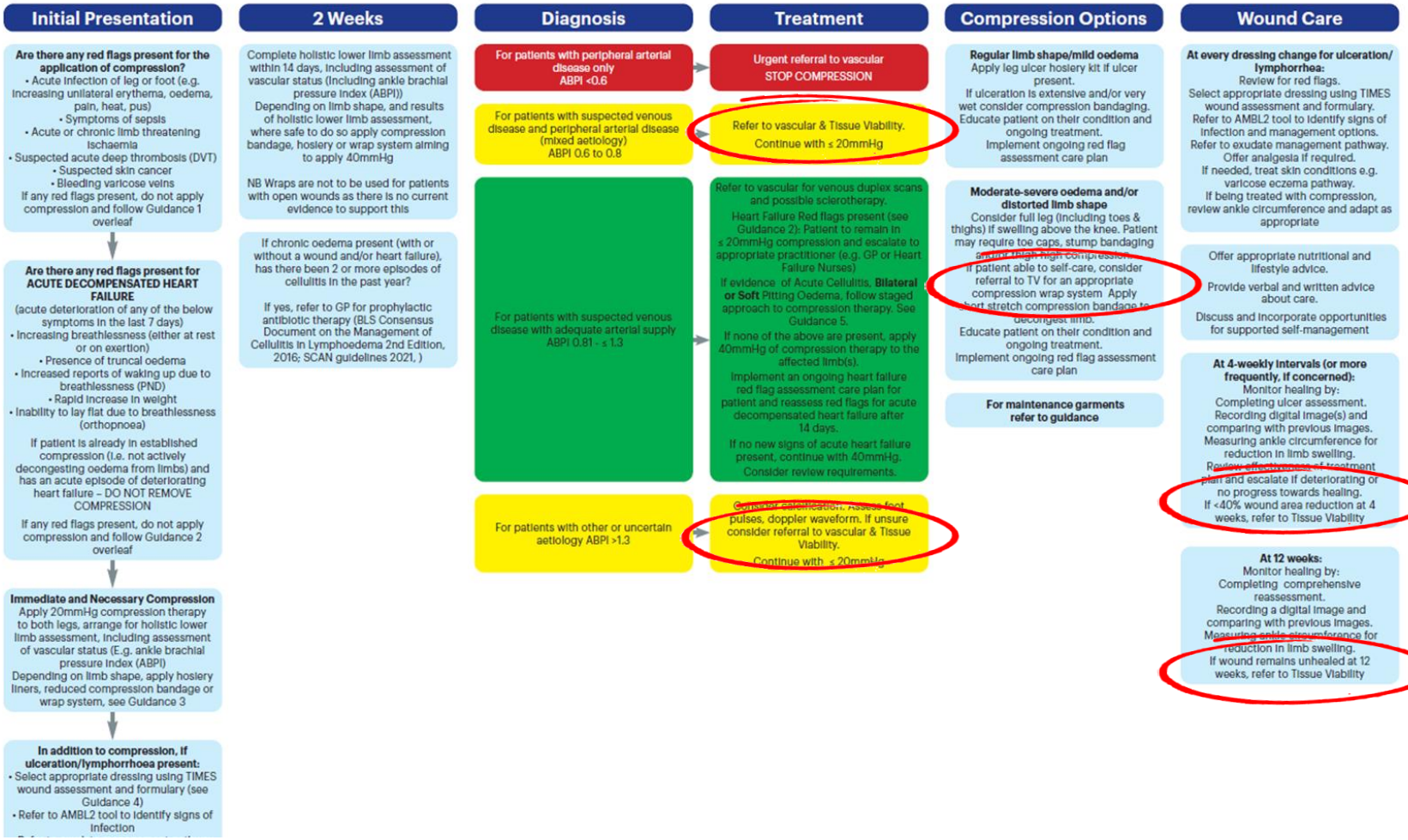
We support clinicians within district nursing, practice nursing, nursing homes, community hospitals, mental health wards, and other Oxford Health services.

TISSUE VIABILITY

You can refer patients in using the online form on our website or Tissue Viability Referral Pro-forma on EMIS.

Referrals should be emailed to tissueviabilityadmin@oxfordhealth.nhs.uk alongside photos of the wound and for lower limb concerns/ulceration details of the holistic lower limb assessment.

There are also a host of Tissue Viability resources available on our website for clinicians to refer to: https://www.oxfordhealth.nhs.uk/tissue-viability/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If patient is already in established compression (i.e. not actively decongesting oedema from limbs) and has an acute episode of deteriorating heart failure – DO NOT REMOVE COMPRESSION
If any red flags present, do not apply compression and follow Guidance 2 overleaf
Immediate and Necessary Compression
Apply 20mmHg compression therapy to both legs, arrange for holistic lower limb assessment, including assessment of vascular status (E.g. ankle brachial pressure index (ABPI)
Depending on limb shape, apply hosiery liners, reduced compression bandage or wrap system, see Guidance 3
In addition to compression, if ulceration/lymphorrhoea present:
• Select appropriate dressing using TIMES wound assessment and formulary (see Guidance 4)
• Refer to AMBL2 tool to identify signs of infection
2 Weeks
Complete holistic lower limb assessment within 14 days, including assessment of vascular status (Including ankle brachial pressure index (ABPI))
Depending on limb shape, and results of holistic lower limb assessment, where safe to do so apply compression bandage, hosiery or wrap system aiming to apply 40mmHg
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If yes, refer to GP for prophylactic antibiotic therapy (BLS Consensus Document on the Management of Cellulitis in Lymphoedema 2nd Edition, 2016; SCAN guidelines 2021,)
Diagnosis
For patients with peripheral arterial disease only ABPI <0.6
For patients with suspected venous disease and peripheral arterial disease (mixed aetiology) ABPI 0.6 to 0.8
For patients with suspected venous disease with adequate arterial supply ABPI 0.81 - ≤ 1.3
For patients with other or uncertain aetiology ABPI >1.3
Treatment
Urgent referral to vascular STOP COMPRESSION
Refer to vascular & Tissue Viability.
Continue with ≤ 20mmHg
Refer to vascular for venous duplex scans and possible sclerotherapy.
Heart Failure Red flags present (see Guidance 2): Patient to remain in ≤ 20mmHg compression and escalate to appropriate practitioner (e.g. GP or Heart Failure Nurses)
If evidence of Acute Cellulitis, Bilateral or Soft Pitting Oedema, follow staged approach to compression therapy. See Guidance 5.
If none of the above are present, apply 40mmHg of compression therapy to the affected limb(s).
Implement an ongoing heart failure red flag assessment care plan for patient and reassess red flags for acute decompensated heart failure after 14 days.
If no new signs of acute heart failure present, continue with 40mmHg. Consider review requirements.
Consider calcification. Assess foot pulses, doppler waveform. If unsure consider referral to vascular & Tissue Viability.
Continue with ≤ 20mmHg
Compression Options
Regular limb shape/mild oedema
Apply leg ulcer hosiery kit if ulcer present.
If ulceration is extensive and/or very wet consider compression bandaging.
Educate patient on their condition and ongoing treatment.
Implement ongoing red flag assessment care plan
Moderate-severe oedema and/or distorted limb shape
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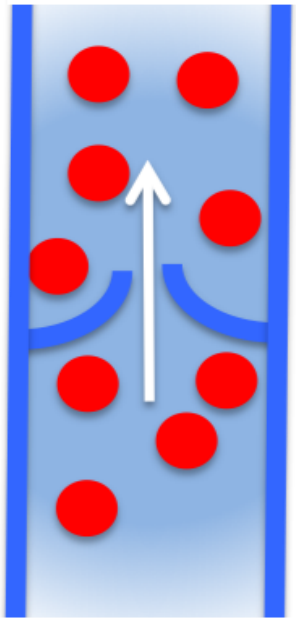
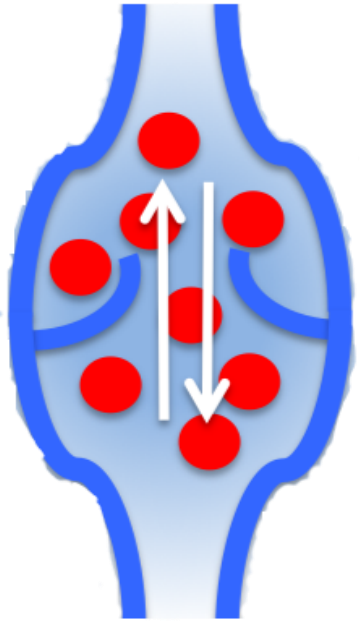
For maintenance garments refer to guidance
Wound Care
At every dressing change for ulceration/lymphorrhea:
Review for red flags.
Select appropriate dressing using TIMES wound assessment and formulary.
Refer to AMBL2 tool to identify signs of infection and management options.
Refer to exudate management pathway.
Offer analgesia if required.
If needed, treat skin conditions e.g. varicose eczema pathway.
If being treated with compression, review ankle circumference and adapt as appropriate
Offer appropriate nutritional and lifestyle advice.
Provide verbal and written advice about care.
Discuss and incorporate opportunities for supported self-management
At 4-weekly intervals (or more frequently, if concerned):
Monitor healing by:
Completing ulcer assessment.
Recording digital image(s) and comparing with previous images.
Measuring ankle circumference for reduction in limb swelling.
Review effectiveness of treatment plan and escalate if deteriorating or no progress towards healing.
If <40% wound area reduction at 4 weeks, refer to Tissue Viability
At 12 weeks:
Monitor healing by:
Completing comprehensive reassessment.
Recording a digital image and comparing with previous images.
Measuring ankle circumference for reduction in limb swelling.
If wound remains unhealed at 12 weeks, refer to Tissue Viability

QUESTION: WHAT IS THIS SKIN CONDITION?



Healthy
Valves with
correct blood
flow



Damaged
Valves with
incorrect blood
flow

WHAT IS VARICOSE ECZEMA?

- Also known as venous, gravitational or stasis eczema.
- Affects 70% of people over 70 years old (National Eczema Society)
- An inflammatory condition associated with venous insufficiency affecting one or both legs
- Caused by damaged valves in veins allowing backflow of blood causing increased pressure and fluid leaking into tissue which results in an inflammatory response.
- If left untreated, the skin can break down to form ulcers.

CHRONIC OR ACUTE VARICOSE ECZEMA?

CLINICAL FEATURES

Can affect the skin in patches or be circumferential around the leg

Likely to be accompanied by other venous symptoms

Oedema may also be present

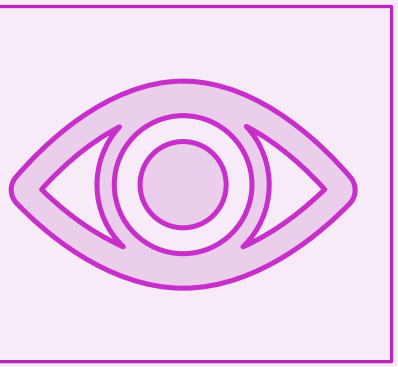
Acute

- Inflamed, wet, weepy and itchy areas. Sometimes vesicles can break down into superficial lesions

Chronic

- Dry, scaly, itchy patches

CHRONIC OR ACUTE VARICOSE ECZEMA?



Visual assessment of the skin

Patient history

Look for signs of venous disease

Lower limb assessment and doppler

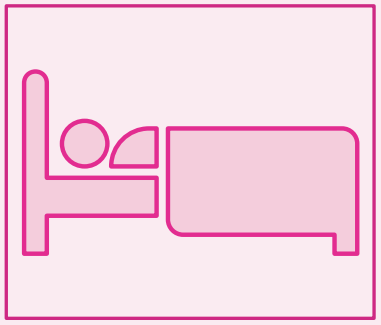
VARICOSE ECZEMA ASSESSMENT

Apply compression therapy for effective venous return! (40mmHg = gold standard)

Good skin care - No soap! Use emollient as a soap substitute

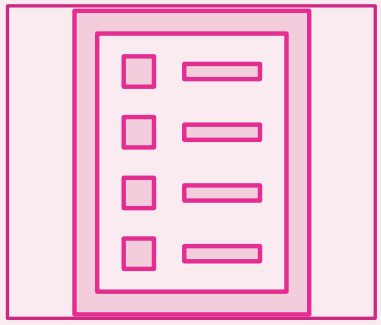
Remove hyperkeratosis so topical treatment can get to the inflamed eczema underneath

Apply a urea-based leave-on emollient



Elevation at rest and sleep in bed

Mobilise – stimulate calf/foot muscle



Acute or chronic unresolving episodes may require a more intensive period of treatment – the pathway!

VARICOSE ECZEMA TREATMENT

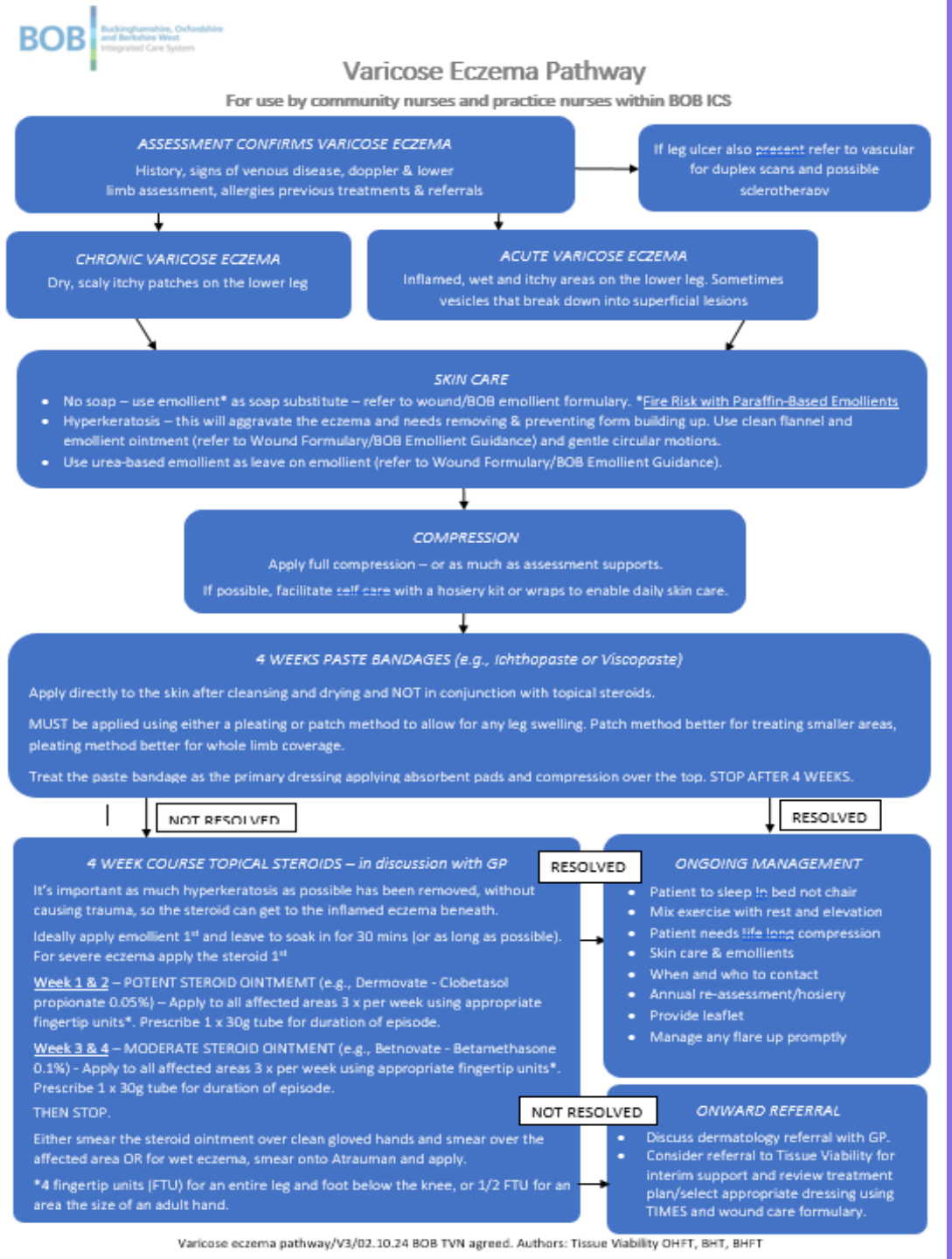
Further information available from the National Eczema Society: (www.eczema.org)

WHY IS THERE A NEW PATHWAY?

- Previously, steroid ointment was the first line treatment on the Varicose Eczema Pathway.
- TVNs identified a lot of repeated and/or prolonged use which can have a negative impact on the skin.
- Steroid use also having variable results.
- Lots of anecdotal evidence and first-hand experience of paste bandages being successful.

PASTE BANDAGES BENEFITS

- Various types - Ichthopaste, Viscopaste & Zipzoc
- All contain Zinc Oxide. Benefits = soothes irritation, reduces wound debris, improves healing rate, promotes epithelisation. Provides antioxidant, antifungal and antibacterial action.
- Ichthopaste has the addition of Ichthammol which is said to possess anti-itch, antifungal and antibacterial properties. Also improves blood flow to the skin.
- Ichthopaste is the chosen bandage for Oxfordshire.



NEW
VARICOSE ECZEMA PATHWAY

BOB Buckinghamshire, Oxfordshire and Berkshire West Integrated Care System

NHS Oxford Health

Varicose Eczema Pathway

For use by community nurses and practice nurses within BOB ICS

ASSESSMENT CONFIRMS VARICOSE ECZEMA

History, signs of venous disease, doppler & lower limb assessment, allergies previous treatments & referrals

If leg ulcer also present refer to vascular for duplex scans and possible sclerotherapy

CHRONIC VARICOSE ECZEMA

Dry, scaly itchy patches on the lower leg

ACUTE VARICOSE ECZEMA

Inflamed, wet and itchy areas on the lower leg. Sometimes vesicles that break down into superficial lesions

SKIN CARE

- No soap – use emollient* as soap substitute – refer to wound/BOB emollient formulary. *Fire Risk with Paraffin-Based Emollients
- Hyperkeratosis – this will aggravate the eczema and needs removing & preventing form building up. Use clean flannel and emollient ointment (refer to Wound Formulary/BOB Emollient Guidance) and gentle circular motions.
- Use urea-based emollient as leave on emollient (refer to Wound Formulary/BOB Emollient Guidance).

COMPRESSION

Apply full compression – or as much as assessment supports.

If possible, facilitate self care with a hosiery kit or wraps to enable daily skin care.

4 WEEKS PASTE BANDAGES (e.g., Ichthopaste or Viscopaste)

Apply directly to the skin after cleansing and drying and NOT in conjunction with topical steroids.

MUST be applied using either a pleating or patch method to allow for any leg swelling. Patch method better for treating smaller areas, pleating method better for whole limb coverage.

Treat the paste bandage as the primary dressing applying absorbent pads and compression over the top. STOP AFTER 4 WEEKS.

NOT RESOLVED

4 WEEK COURSE TOPICAL STEROIDS – in discussion with GP

It's important as much hyperkeratosis as possible has been removed, without causing trauma, so the steroid can get to the inflamed eczema beneath.

Ideally apply emollient 1st and leave to soak in for 30 mins (or as long as possible). For severe eczema apply the steroid 1st

Week 1 & 2 – POTENT STEROID OINTMEMT (e.g., Dermovate - Clobetasol propionate 0.05%) – Apply to all affected areas 3 x per week using appropriate fingertip units*. Prescribe 1 x 30g tube for duration of episode.

Week 3 & 4 – MODERATE STEROID OINTMENT (e.g., Betnovate - Betamethasone 0.1%) - Apply to all affected areas 3 x per week using appropriate fingertip units*. Prescribe 1 x 30g tube for duration of episode.

THEN STOP.

Either smear the steroid ointment over clean gloved hands and smear over the affected area OR for wet eczema, smear onto Atrauman and apply.

*4 fingertip units (FTU) for an entire leg and foot below the knee, or 1/2 FTU for an area the size of an adult hand.

RESOLVED

RESOLVED

ONGOING MANAGEMENT

- Patient to sleep In bed not chair
- Mix exercise with rest and elevation
- Patient needs life long compression
- Skin care & emollients
- When and who to contact
- Annual re-assessment/hosiery
- Provide leaflet
- Manage any flare up promptly

NOT RESOLVED

ONWARD REFERRAL

- Discuss dermatology referral with GP.
- Consider referral to Tissue Viability for interim support and review treatment plan/select appropriate dressing using TIMES and wound care formulary.

PASTE BANDAGE APPLICATION

- Apply as primary dressing under compression/retention bandage.
- Due to Ichthopaste & Viscopaste not having elastic fibres, application needs to allow for swelling.
- Patch method = cut strips and apply to affected areas.
- Pleat method = fold bandage back on itself to create a pleat as you wrap around the limb.

Product	Size	Pip code	E-procurement
Ichthopaste Bandages	7.5cm x 6m	033-2668	EFA 051

ORDER VIA HALO OR EPROCUERMENT

CAUTIONS

Patch testing is recommended for sensitive skin

Do not use if known sensitivity or allergy to Zinc Oxide, gelatine or other ingredients e.g. Ichthammol

Increases absorption – emollient/steroid

HOW MUCH STEROID OINTMENT SHOULD YOU APPLY?

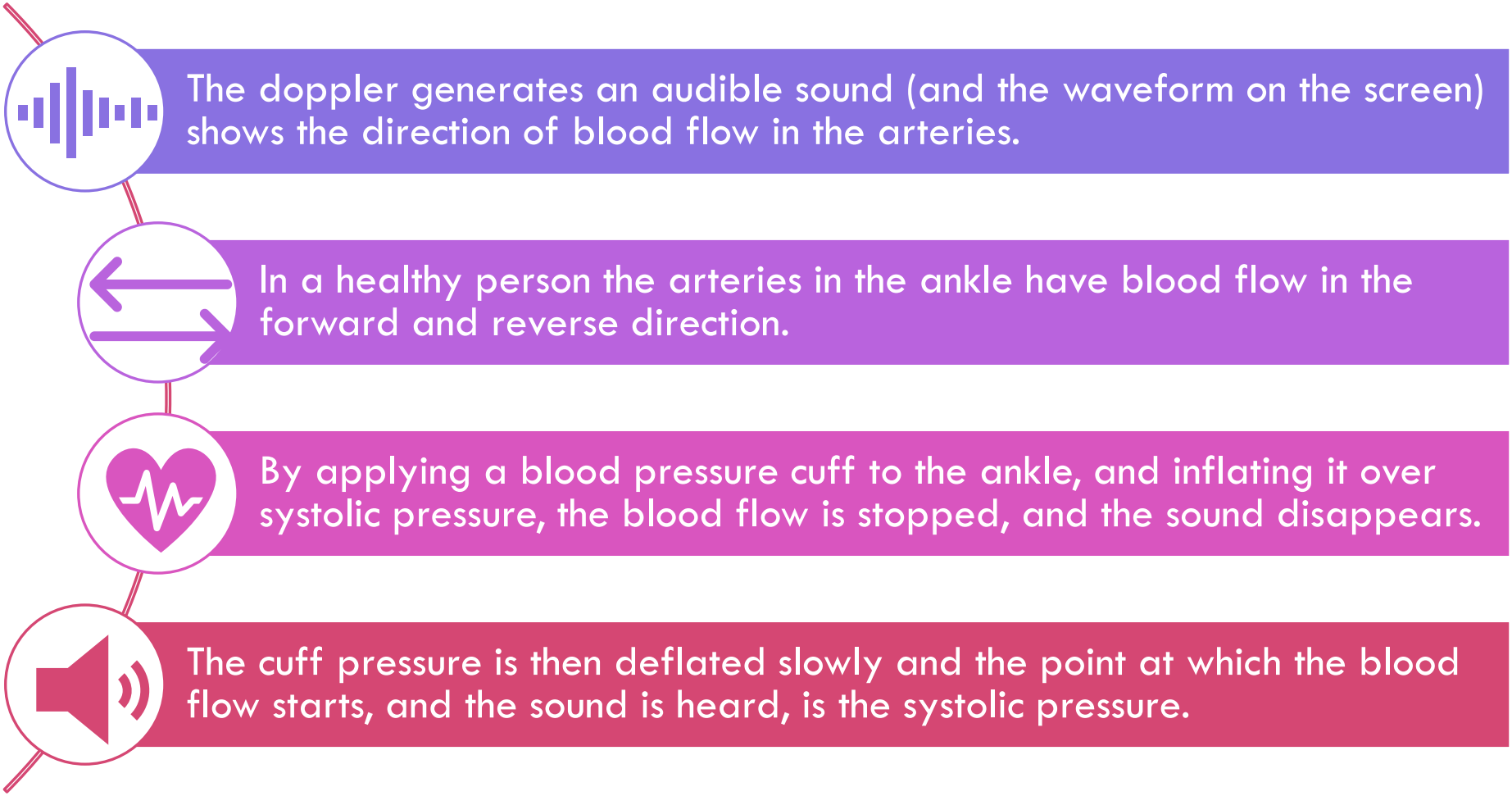
- Apply steroid ointment to all affected areas using 4 fingertip units (FTU) for a leg and foot below the knee or ½ FTU for an area the size of an adult hand.

DOPPLER

Let's improve this statistic!

40% OF PEOPLE WITH LEG ULCERS DO NOT RECEIVE AN ABPI ASSESSMENT (GUEST, 2019)

THE PRINCIPLES OF DOPPLER ULTRASOUND



DOPPLER PROBES & FREQUENCIES

The rule of thumb is:

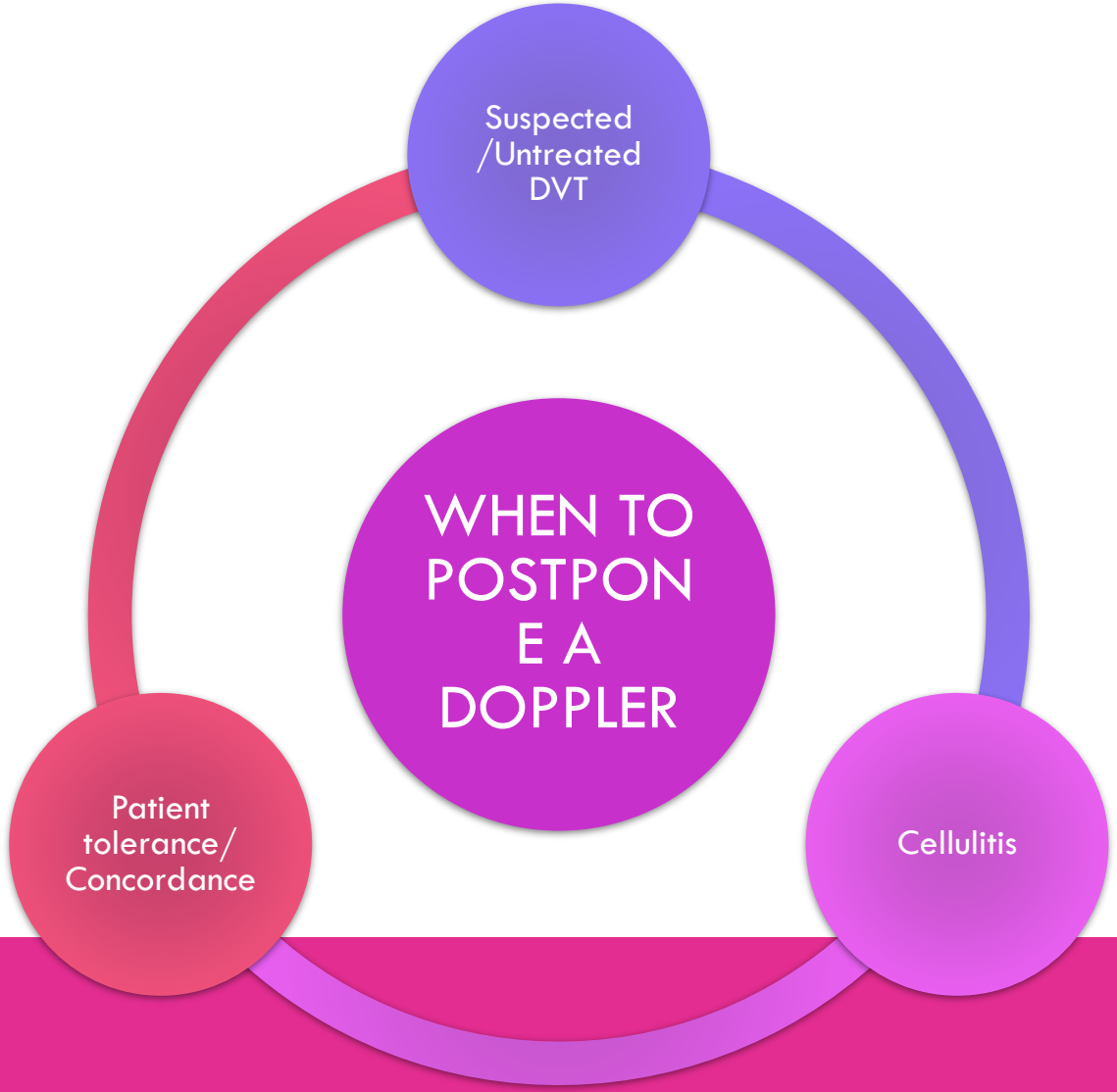
The **LOWER** the frequency

The **DEEPER** the penetration

The **LARGER** the probe head

A 5MHz Doppler probe for oedematous limbs and deep lying vessels. (35mm range – suitable for when oedema is present)

An 8MHz Doppler probe for easier detection of peripheral vessels and calcified arteries (20mm range)



WHEN TO POSTPONE A DOPPLER

PREPARATION OF THE PATIENT

Preparation prevents incorrect readings!

- Explain and reassure patient of the procedure
- Ask the patient to refrain from smoking for 10 mins prior
- Ensure ambient temperature of the room is comfortable
- Remove any tight clothing from both arms and legs
- Cover any open lesions with a sterile field from a dressing pack
- Rest the patient in the supine position for at least 20 minutes (manual doppler)

DOPPLER PROCEDURE

1. Lay the patient as flat as possible for 20 mins to ensure systolic BP is not artificially elevated due to stress or exercise.

2. Place sphyg cuff around arm. Apply gel over the brachial pulse.

3. Hold 8MHz doppler probe gently over the brachial pulse until a good signal is obtained.

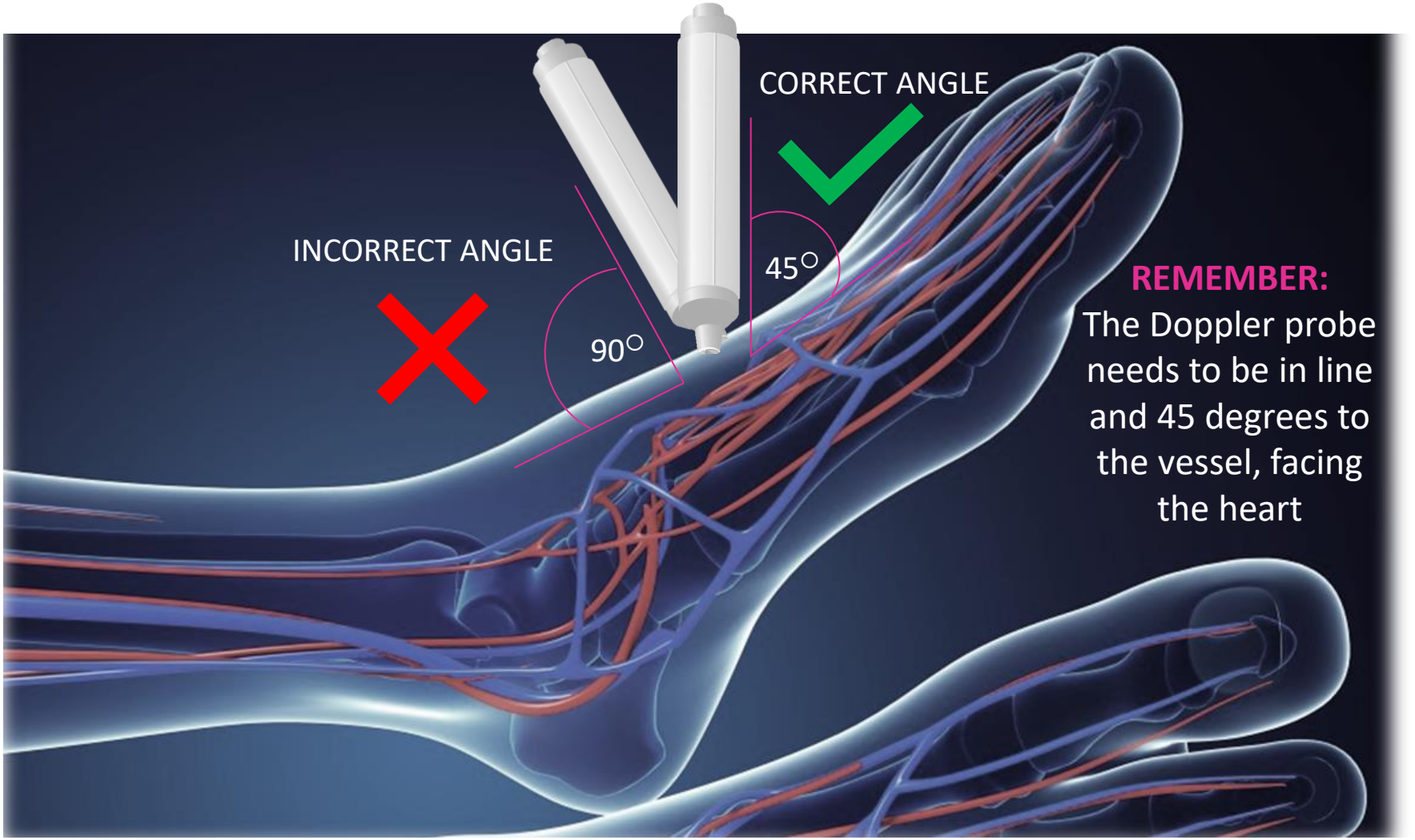
4. Inflate the cuff until the signal disappears. Gradually lower the pressure until the signal returns. This is the Brachial Systolic Pressure.

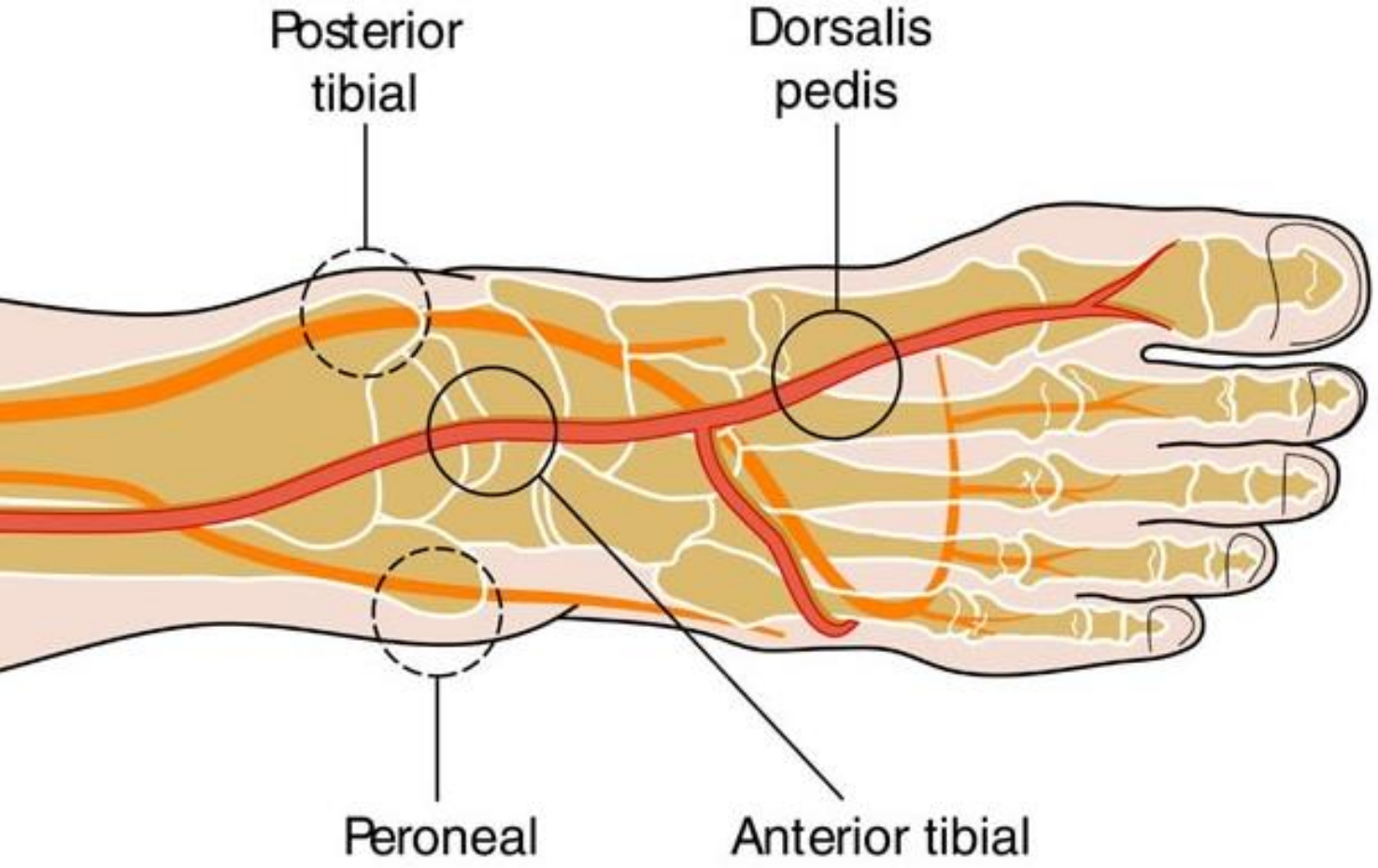
5. Repeat these stages using the other arm. Take the highest of the readings.

6. Place the sphygmomanometer cuff around the leg immediately above the ankle

7. Locate the pedal pulse using the probe. Inflate the cuff until the signal disappears. Deflate the cuff until the signal returns. This is the Ankle Systolic Pressure.

PROBE POSITIONING





All guidelines concur that at least 2 pulses should be assessed for each foot

Normally these are:

(1) Posterior tibial OR peroneal

(2) Dorsalis pedis OR anterior tibial

The peroneal can be most difficult to find.

ARTERIES OF THE FOOT

FINDING PEDAL PULSES

Posterior tibial

- Inner malleolus

Dorsalis pedis

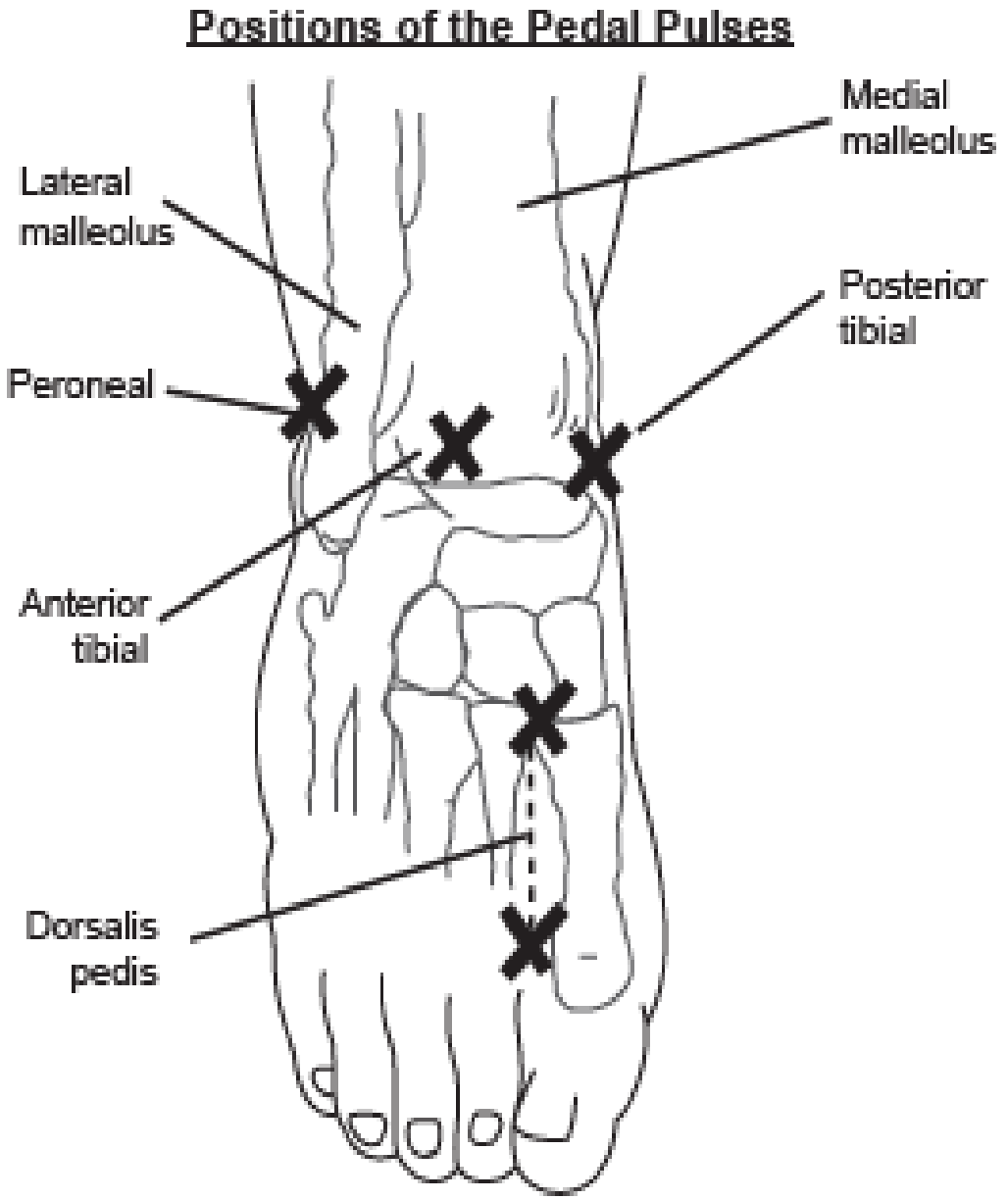
- Between the 1st and 2nd metatarsals

Anterior tibial

- Front of the malleolus

Peroneal

- Outer malleolus



Posterior tibial artery

Dorsalis pedis and anterior tibia artery

Peroneal artery

DOPPLER TROUBLESHOOTING

Gravity & Perfusion

- If you cannot hear pulses, ask the patient to sit upright with legs hanging over the edge of the bed – gravity may assist perfusion

Find Pulses Sitting Up

- Find pedal pulses when the patient is sitting up, mark them with a pen and then try again when the patient is laying flat

Sounds of normal artery

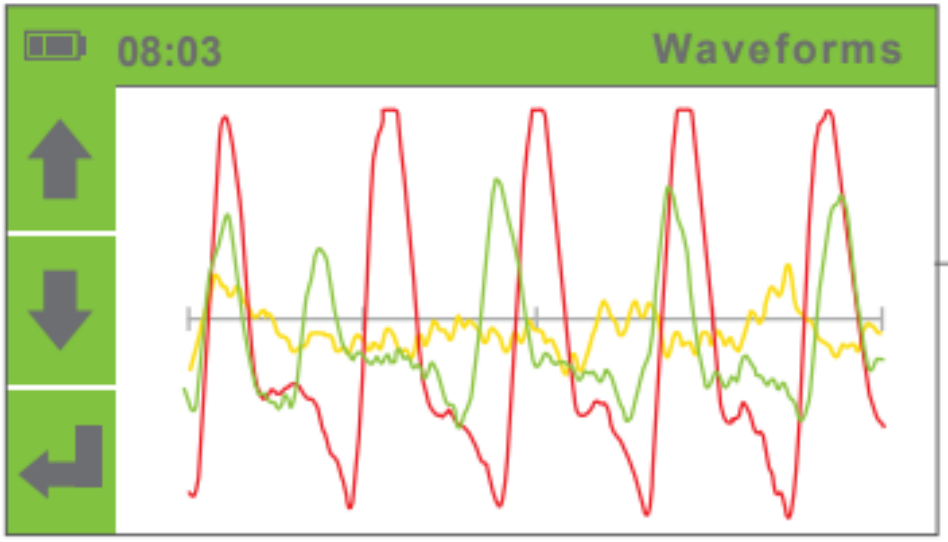
Sounds of normal vein

NORMAL ARTERY VS NORMAL VEIN SOUNDS

INTERPRETING PEDAL PULSE SOUNDS AND WAVEFORMS

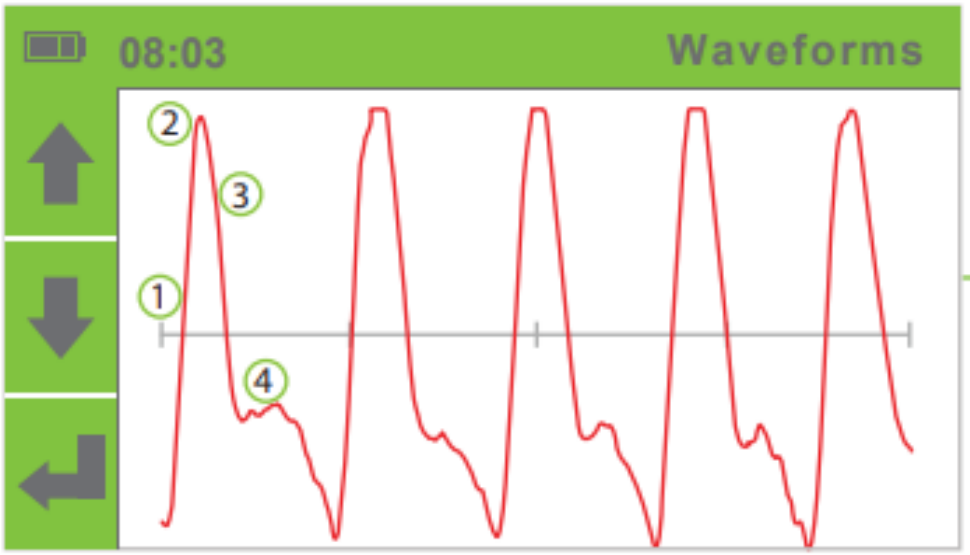
ABPI readings alone can be unreliable or inaccurate. Sometime it is not always possible to obtain an ABPI reading.

Pulse sounds/waveforms can help to support your assessment alongside completion of a lower limb assessment form.



Pulse Volume Recording is an essential addition to ABI measurement. The waveforms are interpreted by pattern recognition and determine the severity of Peripheral Arterial Disease.

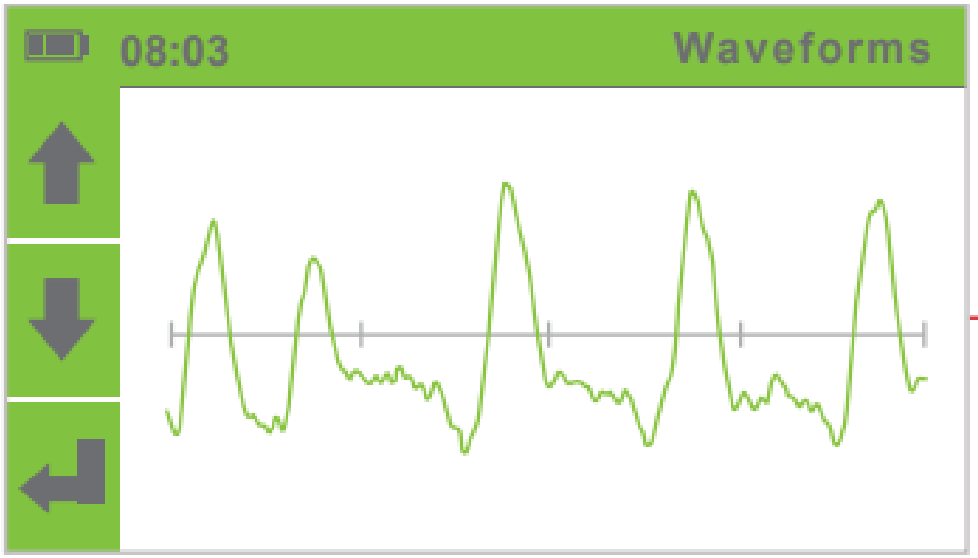
PVR WAVEFORMS



Normal PVR will display:

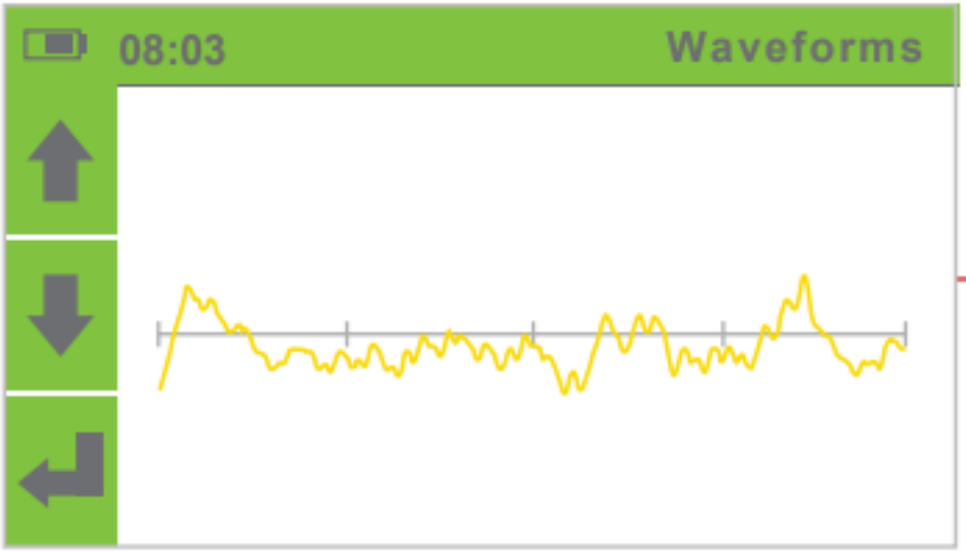
1. A rapid rise in the upstroke during systole
2. A very sharp peak
3. A gradual downstroke
4. A presence of dichrotic notch

NORMAL PULSE VOLUME READING WAVEFORM & SOUNDS – TRIPHASIC - 3 PHASES



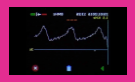
An absence of the dichrotic notch, a smaller amplitude, decreased slope and rounding of the systolic peak are the initial signs of a possible abnormality - measured ABI value is lower than the one with normal PVR.

LOW PULSE VOLUME READING WAVEFORM AND SOUNDS – BIPHASIC - 2 PHASES



A flattened PVR waveform or a PVR without the typical shape is an indicator of severe PAD. The absence of the pulsations caused by occlusions in the artery makes it impossible to calculate the ankle pressures. Instead of ABI value, the device will display a "PAD" result, indicating severe disease. The result is confirmed with non-typical, flattened PVR waveform, similar to the picture on the left.

SEVERE PULSE VOLUME READING WAVEFORM AND SOUNDS – MONOPHASIC - 1 PHASE



BEFORE USING AN AUTOMATED ABPI MEASUREMENT DEVICE

There is not enough evidence to recommend routine adoption of the automated ankle brachial pressure index (ABPI) measurement devices to detect peripheral arterial disease in people with leg ulcers (NICE, 2023).

However, NICE (2023) agreed that the automated devices already purchased by the NHS and implemented within a care pathway can continue to be used, so long as bases using automated measures educate the users on the NICE (2023) recommendations and collect data to show their impact on people with leg ulcers.

National Institute for Heath and Care Excellence (2023). Diagnostic guidance (DG52): Automated ankle brachial pressure index measurement devices to detect peripheral arterial disease in people with leg ulcers.

NOW IT'S YOUR TURN – DOPPLER PRACTICE!

WHAT ARE WE CALCULATING?

ABPI stands for Ankle Brachial Pressure Index

A ratio of the systolic blood pressure at the ankle to the systolic blood pressure in the arm

HOW TO CALCULATE ANKLE BRACHIAL PRESSURE INDEX (ABPI)

To calculate the ABPI, you need to measure the ankle systolic pressure and the brachial systolic pressure in millimetres of mercury (mmHg).

Then you need to divide the highest pressure of either the posterior tibial artery, dorsalis pedis/anterior tibial artery or peroneal artery at the ankle by the highest brachial pressure in either arm.

$$\text{ABPI} = \frac{\text{Ankle systolic pressure}}{\text{Highest brachial systolic pressure}}$$

ABPI CALCULATION EXAMPLE

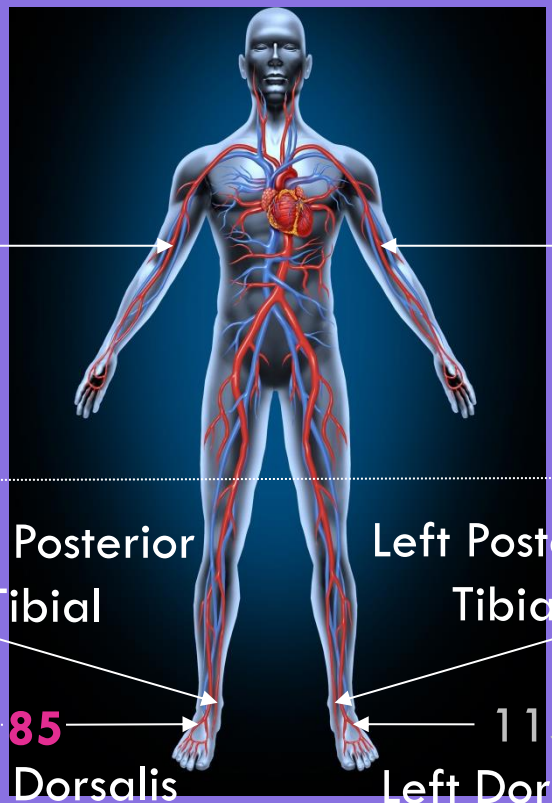
	Brachial	Dorsalis Pedis	Posterior Tibial	Peroneal	ABPI
Right:	145mmHg	85mmHg	80mmHg	80mmHg	?
Left:	150mmHg	115mmHg	120mmHg	117mmHg	?

Left ABPI = (highest pressure of either **left** dorsalis pedis, posterior tibial or peroneal) ÷ (highest brachial pressure).

Right ABPI = (highest pressure of either **right** dorsalis pedis, posterior tibial or peroneal) ÷ (highest brachial pressure).

Remember 'leg over arm'

ABPI CALCULATION



Right Brachial

145

Left Brachial

150

Right ABPI

$= \frac{85}{150}$

$= 0.57$

Left ABPI

$= \frac{120}{150}$

$= 0.80$

Right Posterior Tibial

80

Left Posterior Tibial

120

85

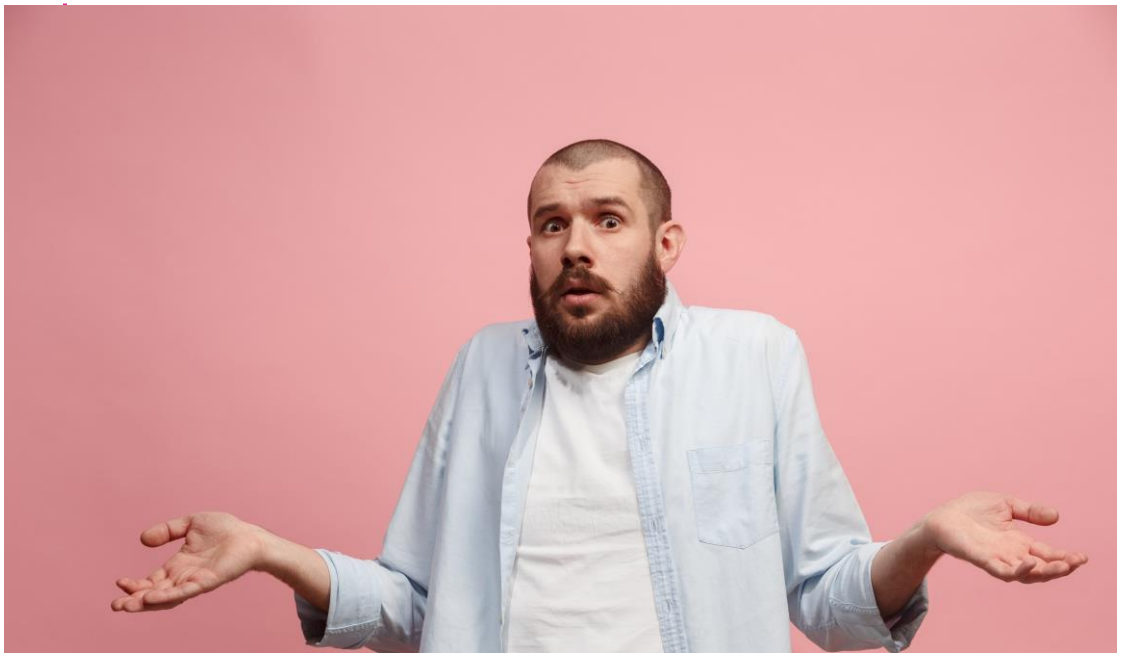
Right Dorsalis Pedis

115

Left Dorsalis Pedis

INTERPRETATION OF ABPI

<0.6	0.6 – 0.8	0.81 – ≤ 1.3	>1.3
• Severe peripheral arterial disease • Do **NOT** apply compression therapy • Urgent referral to Vascular • Re-doppler every 3 months	• Suspected mixed disease • Apply mild 20mmHg compression • Routine referral to Vascular & TV • Re-doppler every 3 months (sooner if ischaemic symptoms develop)	• Suspected venous disease • If no red flags present, apply high 40mmHg compression • Routine Vascular referral • Re-doppler every 12 months (sooner if ischaemic symptoms develop)	• Consider arterial wall calcification • Assess pulses/ waveforms • Apply mild 20mmHg compression • Routine referral to Vascular & TV • Re-doppler every 3 months



HELP! I CAN'T GET A DOPPLER!

Focus on clinical assessment, rather than relying on an ABPI alone.

Ignoring the symptoms or delaying treatment while awaiting an ABPI may lead to a deterioration of the condition.

Provided vascular status has been thoroughly assessed ABPI measurements for patients who present with lymphoedema are not necessarily required.

If there are concerns in terms of reduced arterial flow, complete a referral for further vascular assessment through both the TV team and vascular.

WHY SHOULD I CARRY OUT DOPPLER?

To establish if arterial disease is present, the severity and monitor deterioration over time (objective method of assessing arterial blood supply to the legs)

To assess suitability for compression therapy to prevent arterial occlusion and ischaemia

To gain information on healing protentional

95% of leg ulcers develop due circulation issues - to understand what is going on with the vascular system

To help diagnose aetiology

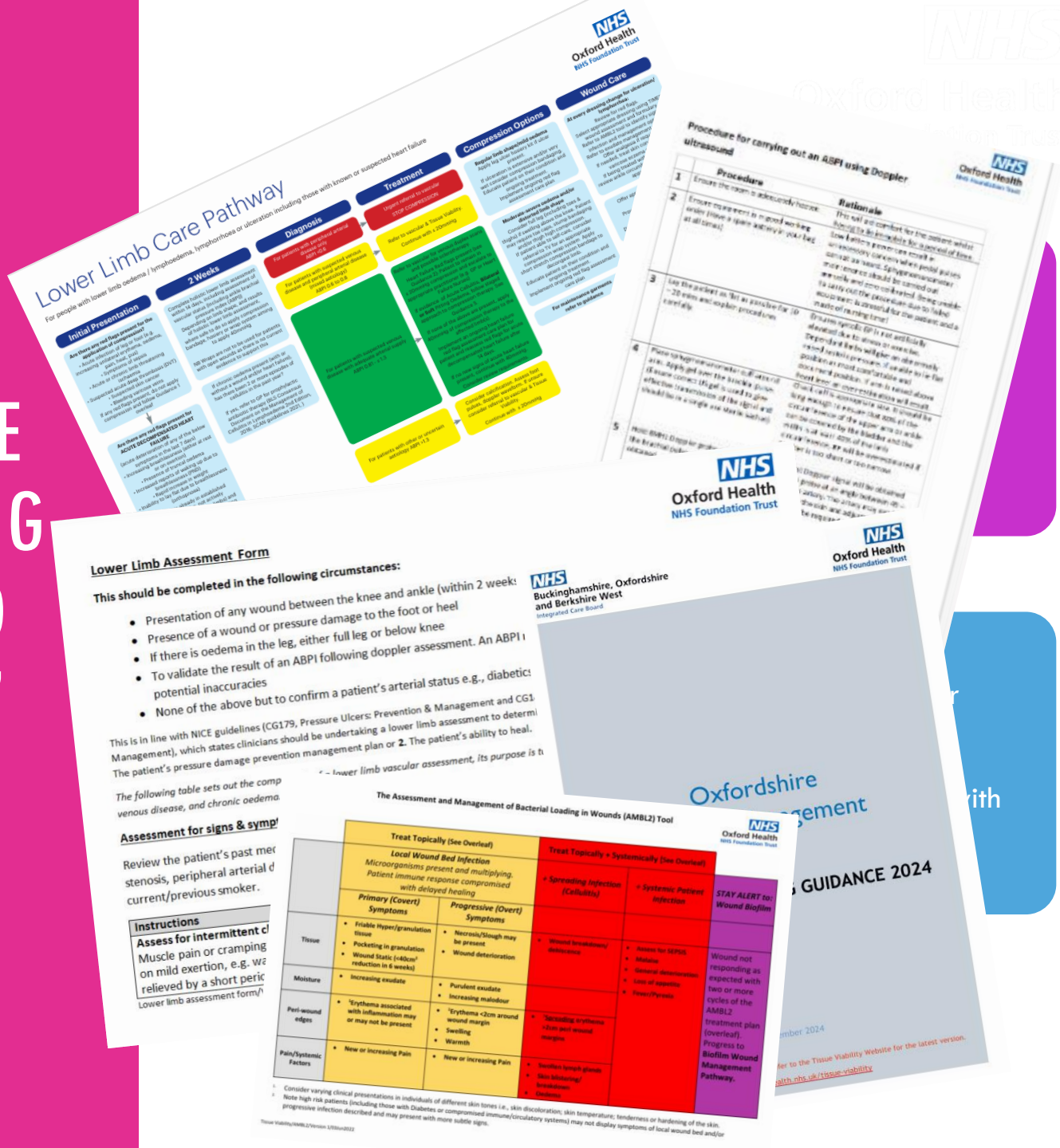
Palpation of foot pulses is not sufficient

To address underlying issues and identify correct treatment

To establish if there is a good blood supply before undertaking debridement

Best practice – supported by NICE guidelines, NWCSP and written in local policy

“WHAT’S THE WORST THING THAT COULD HAPPEN…”



QUICK QUIZ!

Question 1	How often should you repeat a doppler assessment if an ABPI is 0.7?
Question 2	What does an ABPI of 0.85 indicate?
Question 3	Who should you send a referral to if an ABPI is <0.6?
Question 4	Is compression therapy advocated in patients with an ABPI of >1.3 as an interim measure?
Question 5	What ABPI range suggests mixed disease?
Question 6	How many mmHg can be applied if an ABPI is 1.2?


GUESS WHAT?
IT'S TIME FOR LUNCH

ROBUST EVIDENCE SUGGESTS COMPRESSION THERAPY CAN **DOUBLE** THE CHANCE OF VENOUS ULCERATION HEALING WITHIN **12 WEEKS** BUT VARIATION IN CARE MEANS ONLY **47%** OF THOSE AFFECTED HEAL WITHIN **12 MONTHS**

IMPACT OF COMPRESSION THERAPY

Lymphatic system

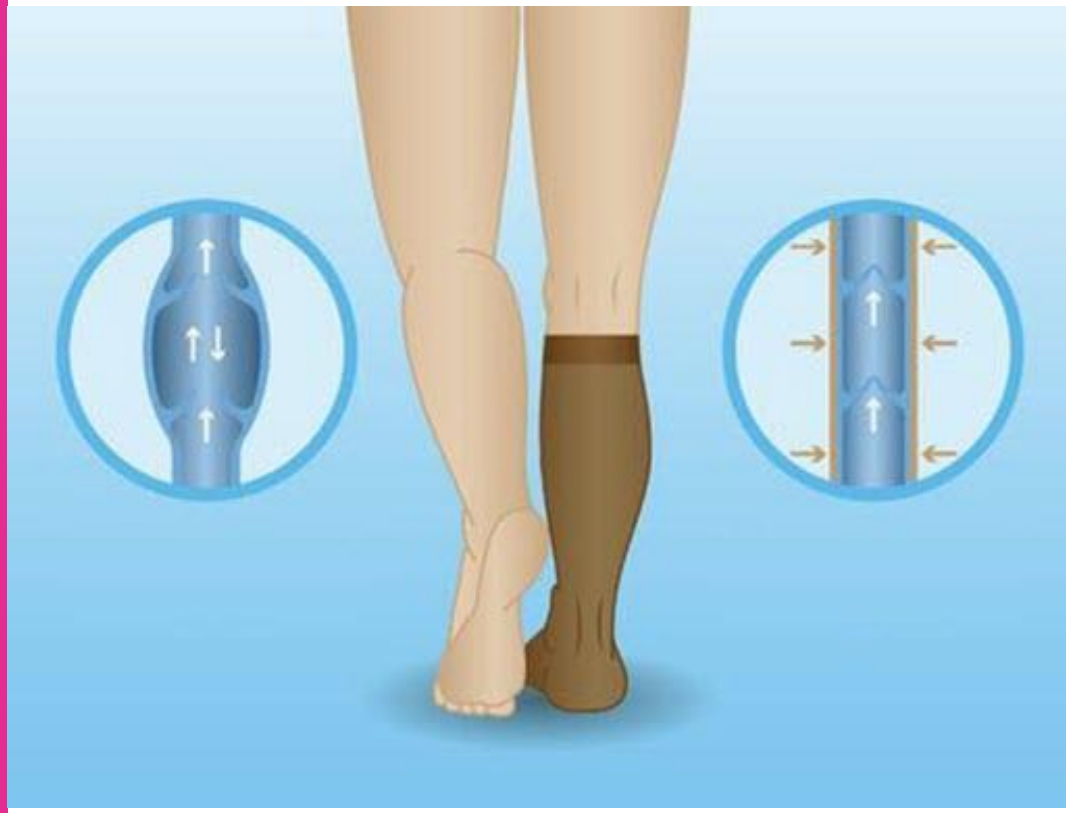
- Breakdown of fibrosis
- Decreased fluid filtration from capillaries into tissue
- Decreased formation of excess interstitial fluid
- Decreased lymphatic load
- Enhanced muscle pump
- Increased frequency and amplitude of lymph-collector contractions
- Shifting of fluid into areas with better lymphatic function

Venous system

- Improved venous return
- Maximised calf muscle pump
- Reduced matrix metalloproteinase (MMPs) levels
- Reduced venous reflux
- Reduces venous hypertension
- Improve symptoms of lipodermatosclerosis and papillomatosis
- Restores valve function

COMPRESSION THERAPY

- The key to healing a venous leg ulcer and preventing recurrence is the use of strong compression therapy.
- This is essential to restore normal return of venous blood flow back to the heart and is achieved by applying an external force or support to the limb.
- This support allows damaged valvles in the leg veins to close and reduces pooling in the veins by directing venous blood in the right direction back towards the heart.



THE LAWS OF COMPRESSION

La Place's Law

This law frequently used to calculate sub-bandage pressures of compression systems and is summarized as: pressure (mmHg) = tension (Kgf) x number of layers x 4620 circumference (cm) x bandage width (cm)

Pascal's Law

"Pressure at a point has infinite direction, and thus a pressure change at any point in a confined incompressible fluid is transmitted throughout the fluid such that the same change occurs everywhere."

LA PLACE'S LAW

The pressures exerted by a compression bandage are influenced by four factors:

1

Tension

↑ tension = ↑ pressure

↓ tension = ↓ pressure

2

Number of layers

↑ layers = ↑ pressure

↓ layers = ↓ pressure

3

Limb circumference

↑ limb = ↓ pressure

↓ limb = ↑ pressure

4

Bandage width

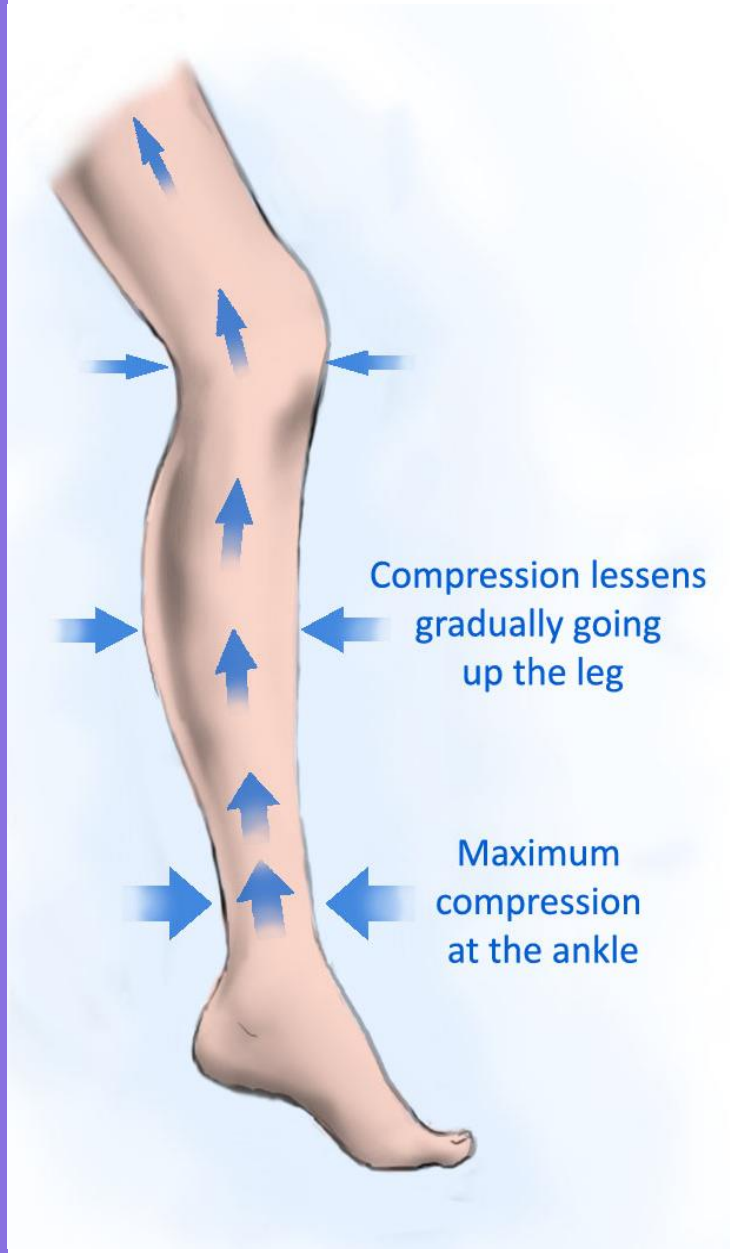
↑ width = ↓ pressure

↓ width = ↑ pressure

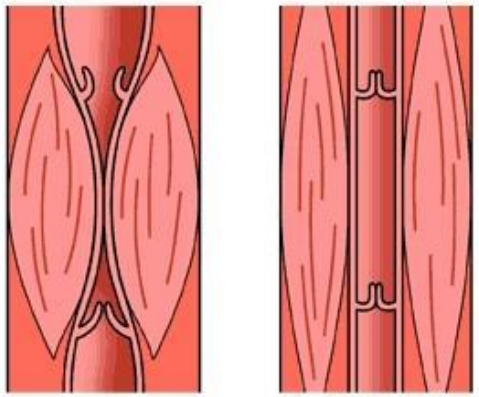
FOLLOW MANUFACTURER'S INSTRUCTIONS

GRADUATED COMPRESSION

- Graduated compression is when the bandages are applied at the correct compression up the leg.
- The pressure falls as the circumference of the leg increases (Le Place's Law).
- Maximum compression is at the ankle as it is furthest away from the heart.
- There should be an 8-10cm increase in calf circumference compared to the ankle circumference to ensure efficient venous return (La Place's Law).
- This is why correct limb shaping/padding is SO important!



WORKING & RESTING PRESSURES



Working Pressure

When the muscle pump is active and expands it presses against the bandage. The resistance of the bandage 'presses back' against the muscle

When the muscle pump relaxes it is not pressing against the bandages. There is no resistance from the bandages.

Resting Pressure

SHORT STRETCH VS LONG STRETCH BANDAGING

Inelastic (short stretch) bandage

- High working pressure (100% stretch when mobilising)
- Low resting pressure
- Suitable for mobile patients with good calf muscle pump

Elastic (long stretch) bandage

- Maintains a constant pressure all of the time by 'squeezing' the muscle, even when resting
- Suitable for less mobile patients with no calf muscle pump

OXFORD HEALTH COMPRESSION BANDAGING

	Actico 	K-Two 	Ko-Flex 	K-Two4 Reduced 
Elastic or inelastic?	Inelastic	Elastic	Elastic	Elastic
Short or long-stretch?	Short-stretch	Short and long-stretch	Long-stretch	Short and long-stretch
Working pressure	High	Constant	Constant	Constant
Resting pressure	Low	Constant	Constant	Constant
mmHg	High 40mmHg	High 40mmHg	Mild 20mmHg	Mild 20mmHg
Single or multi-layer?	Single layer with K-Soft	Multi-layer	Single layer with K-Lite & K-Soft	Multi-layer
Ankle circumference	Suitable for < and > 25cm	Suitable for < and > 25cm	Suitable for < 25cm	Suitable for > 25cm

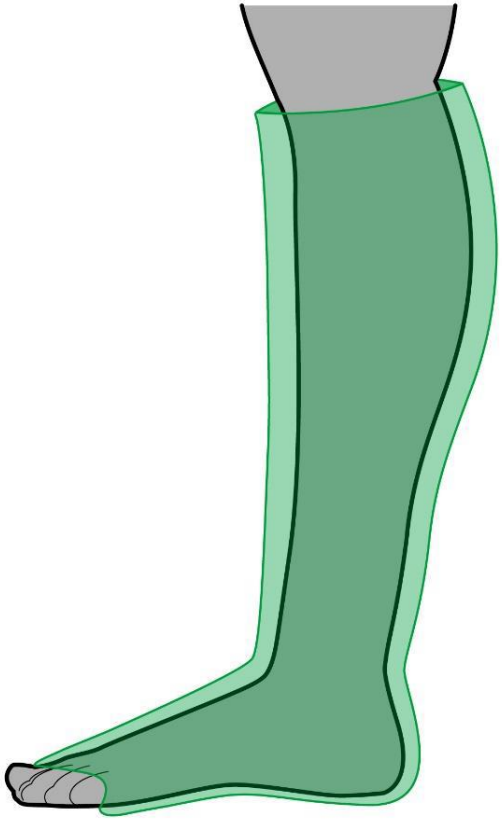
COMPRESSION PRESSURE

Compression pressure is the dosage of our treatment and should be adjusted to individual needs. The ideal compression device should provide a tolerable resting pressure and a pressure high enough to counteract gravity in an upright position

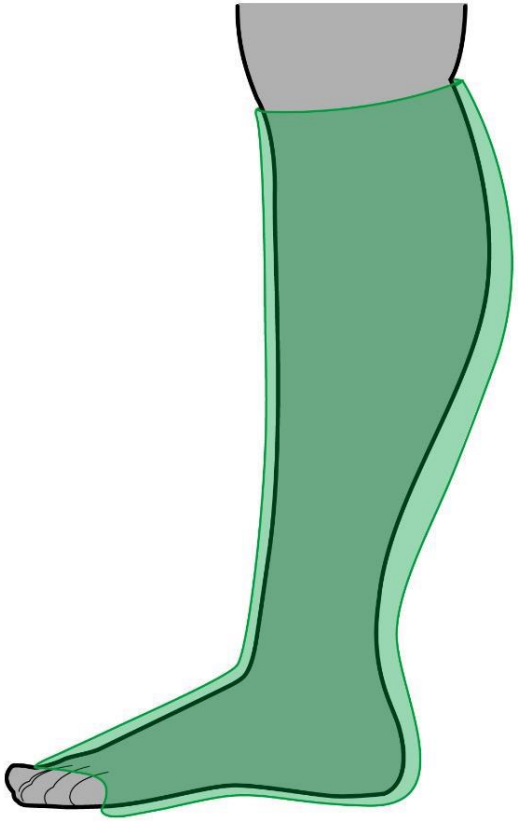
(Partsch and Mortimer, 2015)

SUB-BANDAGE PADDING

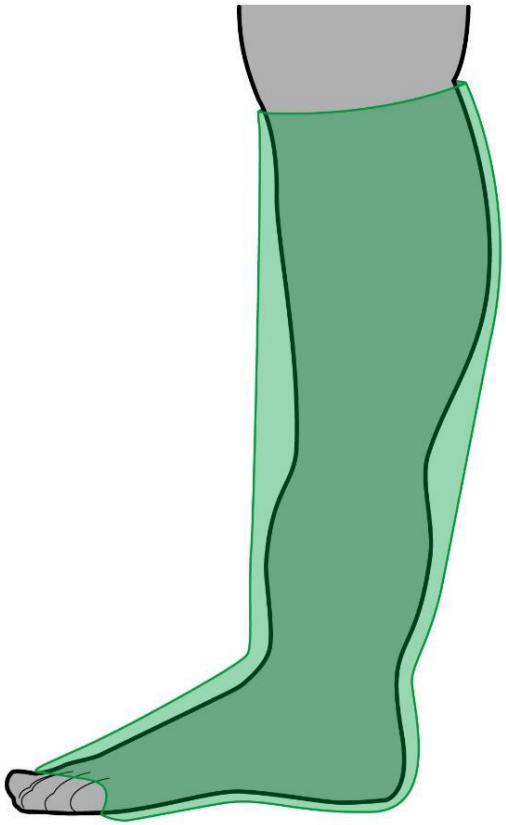
SUITABLE PADDING FOR DIFFERENT LIMB SHAPES AND SIZE



'NORMAL' LEG



PRONOUNCED CALF MUSCLE



FIBROSIS OF THE ANKLE

PRESSURE DAMAGE CAUSED BY INSUFFICIENT PADDING

DO NOT OVER-PAD WITH WADDING




INCORRECT PADDING APPLICATION

YOUR TURN! COMPRESSION BANDAGE DEMONSTRATION AND PRACTICE FOR VENOUS ULCERATION

Patient factors

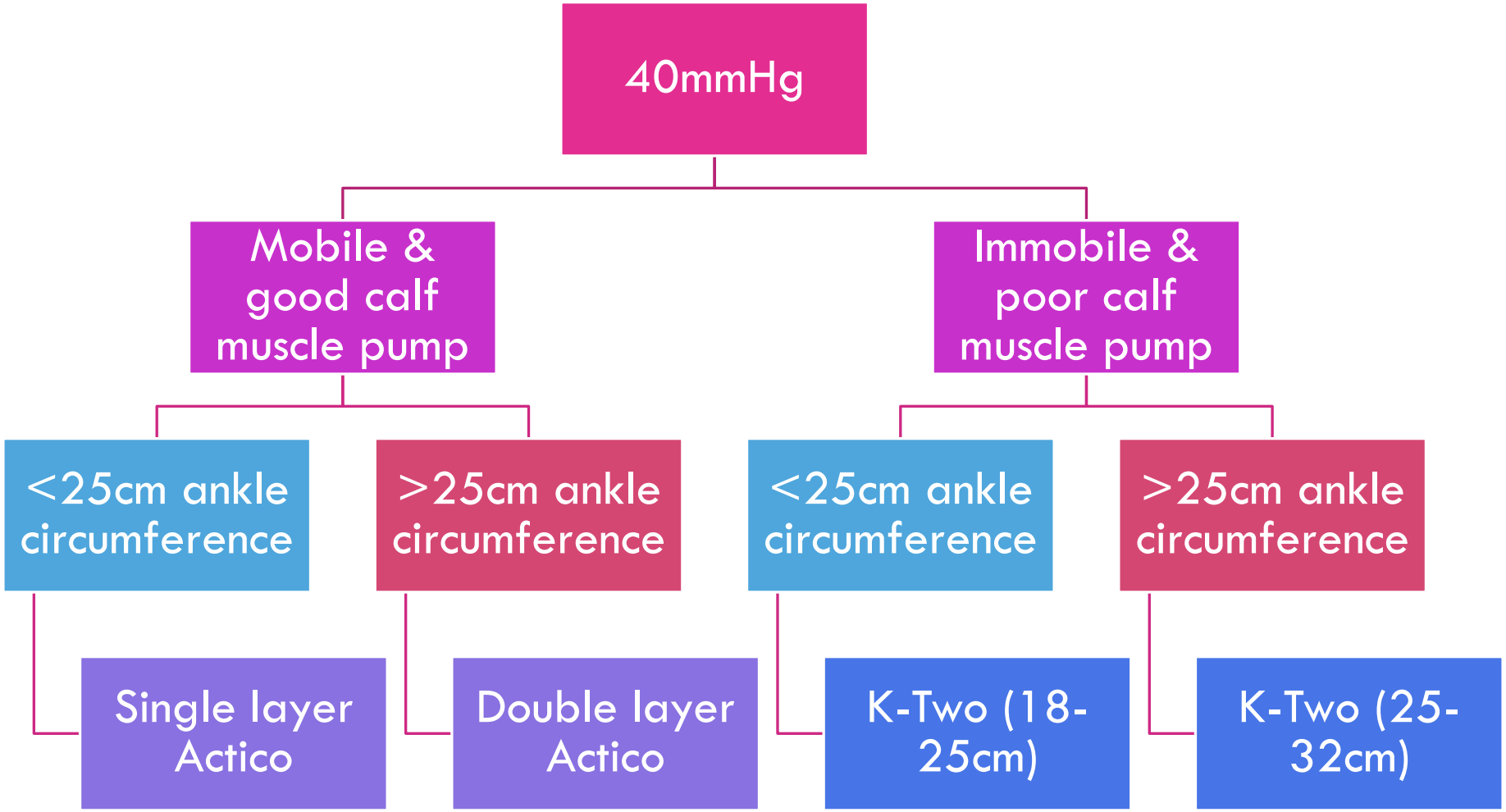
- Activity level
- Ankle circumference
- Dexterity
- Disease pathology
- Lifestyle
- Mobility
- Skin texture (hard/soft)
- Wound size, duration and complexity

Compression factors

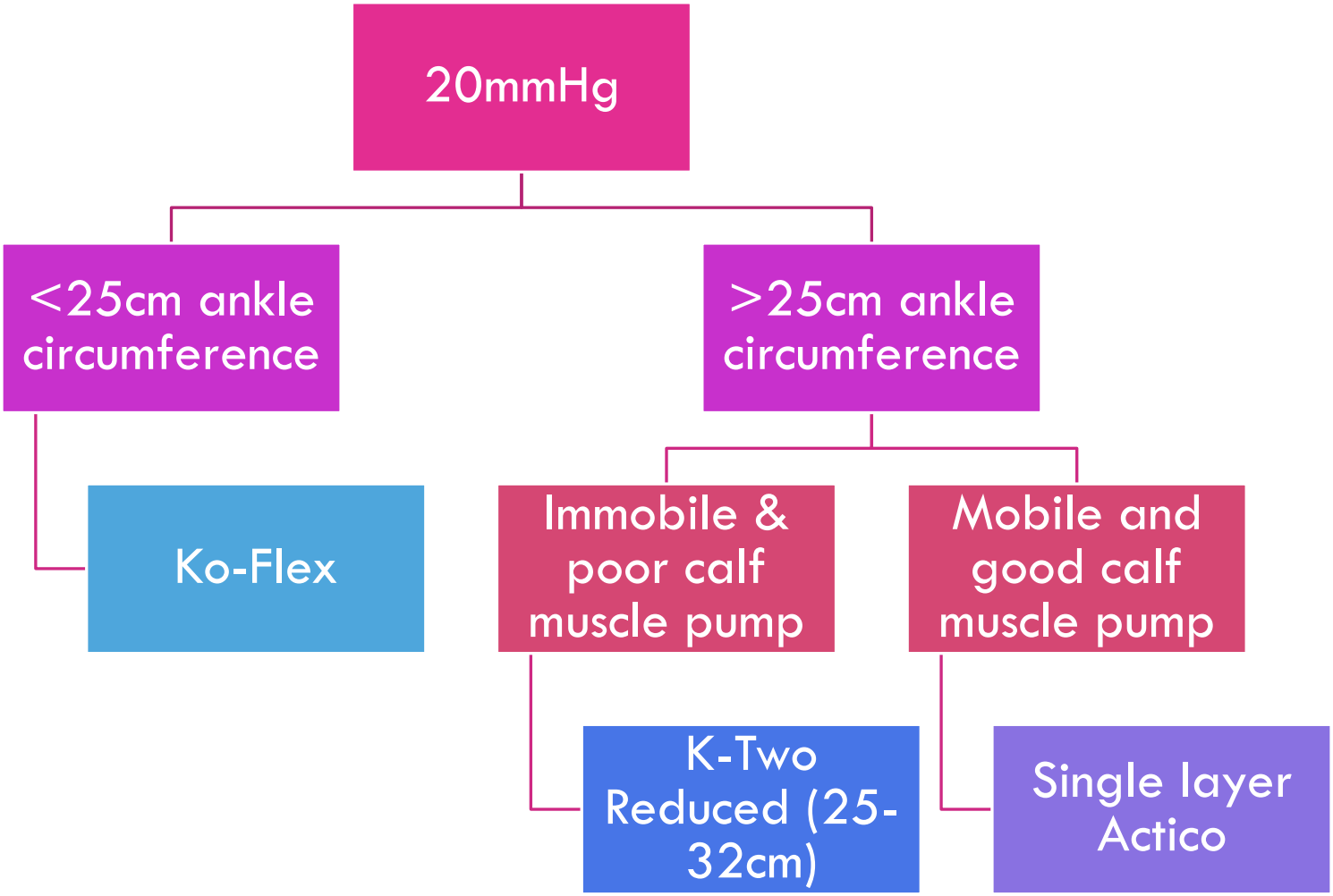
- Compression strength
- Consistency of pressure over time
- Durability
- Dynamic profile (elasticity or stiffness)
- Ease of application
- Slippage
- System type

HOW DO I DECIDE WHICH COMPRESSION BANDAGING TO USE?

WHICH COMPRESSION BANDAGING SHOULD I CHOOSE FOR… LEG ULCERATION



WHICH COMPRESSION BANDAGING SHOULD I CHOOSE FOR… LEG ULCERATION

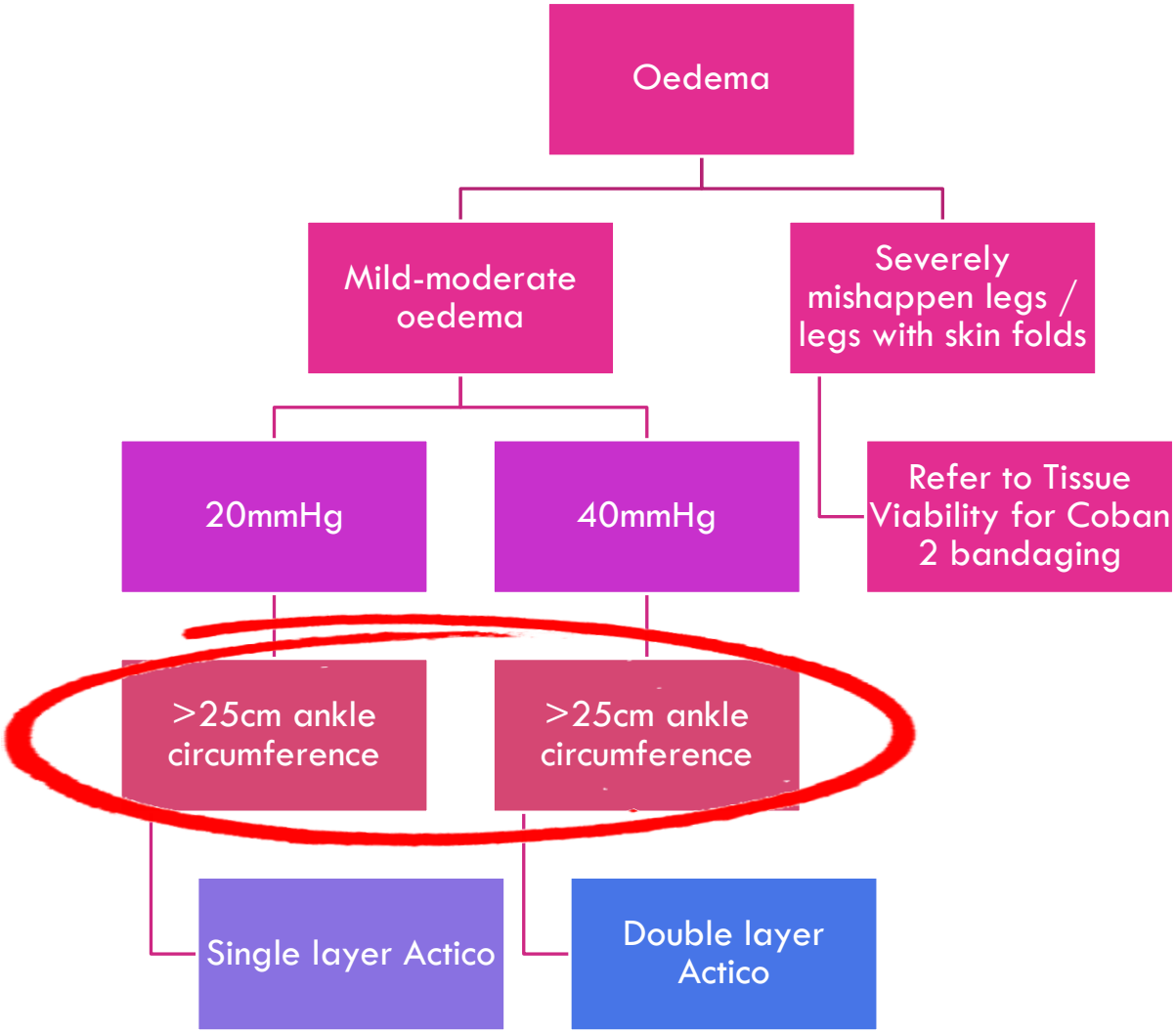


Ever seen a giraffe with oedema?

Always opt for a SHORT-STRETCH compression bandaging system to manage chronic oedema

STATIC STIFFNESS INDEX (SSI)

WHICH COMPRESSION BANDAGING SHOULD I CHOOSE FOR…CHRONIC OEDEMA?



ASSESSING THE SEVERITY OF OEDEMA HELPS TO DETERMINE OUR TREATMENT

Where is the oedema? (toes, ankles, calves, knees, thighs, hips)

What does the oedema feel like? (Soft, pitting, firm, fibrotic)

Skin changes? (hyperkeratosis, ulceration, papillomatosis, lymphorrhoea – refer to the CHROSS checker tool)

Positive Stemmer sign?

Skin folds? (minor, moderate, severe)

SEVERE OEDEMA, MISSHAPEN LIMBS AND SKIN FOLDS

Refer to Tissue Viability for Coban bandaging.

Lauren Frost (3M rep) to support with Coban application

Coban compression bandaging is ordered via Tissue Viability

IS THE COMPRESSION THERAPY EFFICACIOUS?

BASELINE LIMB MEASUREMENTS

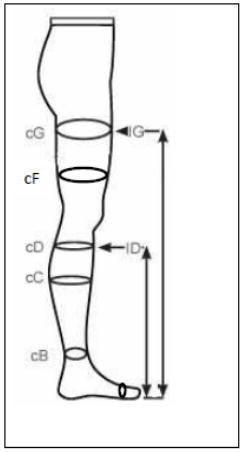
Misshapen legs with skin folds - Take photograph of leg and mark on photograph where to measure

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

GOALS OF AN IDEAL COMPRESSION SYSTEM

- Adapt to cope with limb distortion
- Allow the patient to wear appropriate clothing and footwear
- Avoid causing allergic reactions (non-sensitising)
- Deliver sufficient active pressure for standing and walking
- Deliver tolerably low lying pressure
- Encourage safe, accurate and consistent application
- Enhance calf muscle function
- Last up to 7 days
- Stay in place until next application
- Permit the patient mobilise

QUICK COMPRESSION QUIZ!

Question 1	Sandy is 42 years old, fit, visits the GP practice for wound care, has an ABPI of 1.1 and an ankle circumference of 24cm. Which compression bandaging wound you choose?
Question 2	Fred has an ankle circumference of 30cm. Your colleague applies a single layer of Actico. How many mmHg is being applied to Fred's leg?
Question 3	Dorothy has an ankle circumference of 22cm and Adam has an ankle circumference of 29cm. They are both wearing single layer Actico. Who has a higher amount of compression on ther leg?
Question 4	Bev is 94 years old, has to be hoisted in and out of bed, has an ankle circumference of 27cm and is suitable for high 40mmHg compression. Which compression bandaging wound you choose?
Question 5	Arthur has an ABPI of 0.97 and an ankle circumference of 31cm. Should you apply 1 or 2 layers of Actico?

BANDAGING FOR CHRONIC OEDEMA

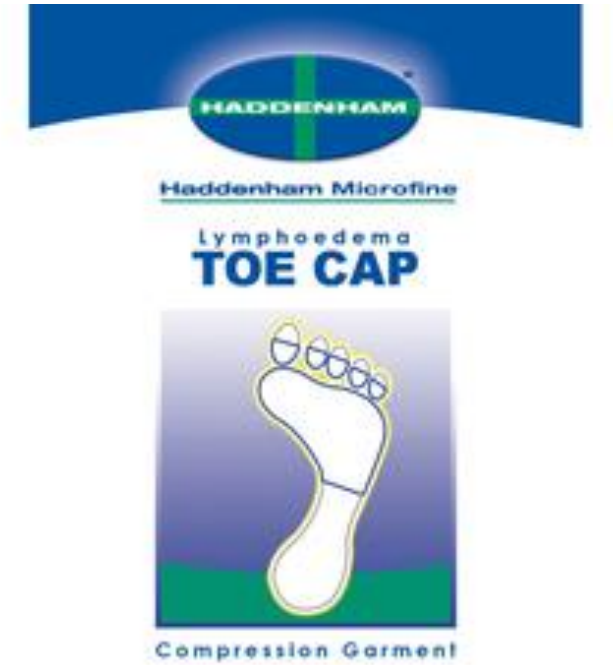
- Decongestion of limb
- Aid healing of ulcers
- Help mobility
- Reduce discomfort/pain
- Actico bandaging (using chronic oedema technique)

OEDEMA DECONGESTION SUCCESS! JANUARY 2014

OEDEMA DECONGESTION SUCCESS! FEBRUARY 2015

VIP
(VERY IMPORTANT POINT)
DON'T FORGET THE TOES!

- Podiatry?
- Stump bandaging (wet toes)
- Toe caps (dry toes)
- Closed toe Hosiery



OPTIONS?

1. Stump bandaging
   - For weeping or very deformed toes

2. Toe garments – Haddenham microfine toe caps
   - Off the peg – measure circumference at ball of foot
   - Use under bandages
   - Trim to fit – seams on outside

MANAGING CHALLENGING TOES WITH STUMP BANDAGING

- Washing and drying
- Fungal infections!
- Toe sandwiches
- Toe creases

TECHNIQUE

Demonstration and then your turn!

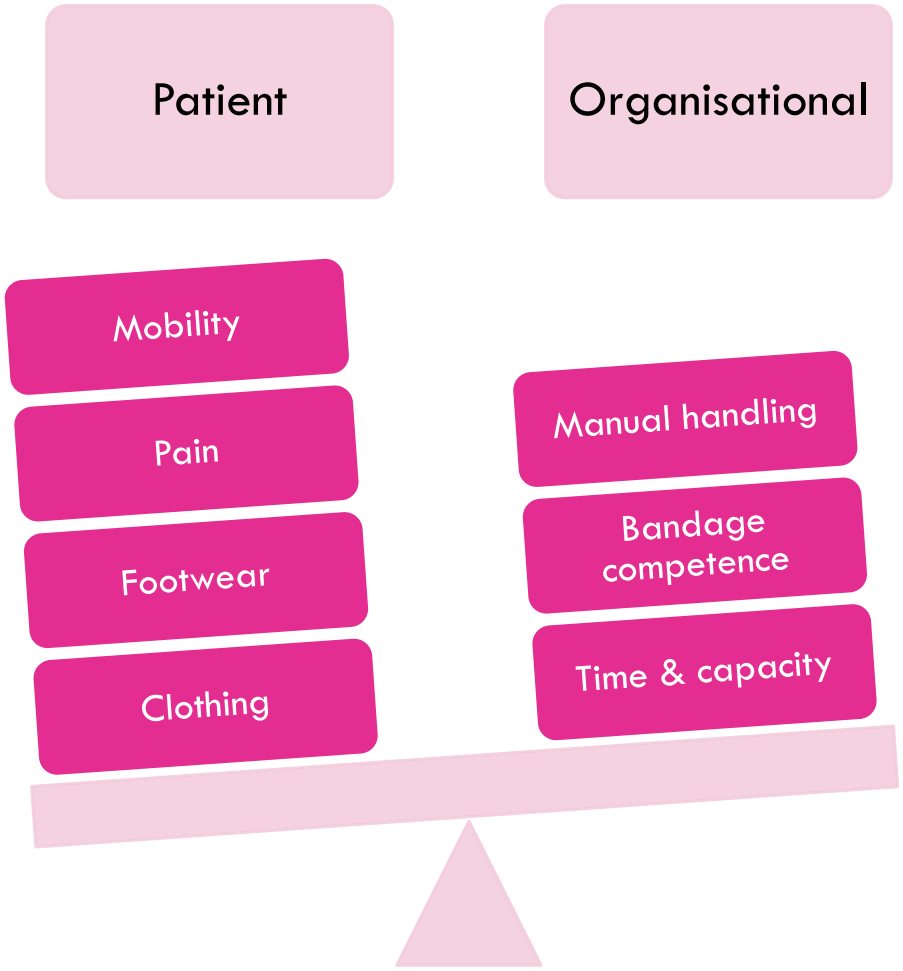
You will need:

- Wadding bandage
- Actico (8x6)
- Actico (10x6)
- Actico (12x6) – if doing thigh-high
- Scissors

- Bing Videos

DISCUSSION:
WHAT ARE THE BARRIERS TO COMPRESSION THERAPY AND HOW CAN WE RESOLVE THEM?

CHALLENGES WITH APPLYING BANDAGING



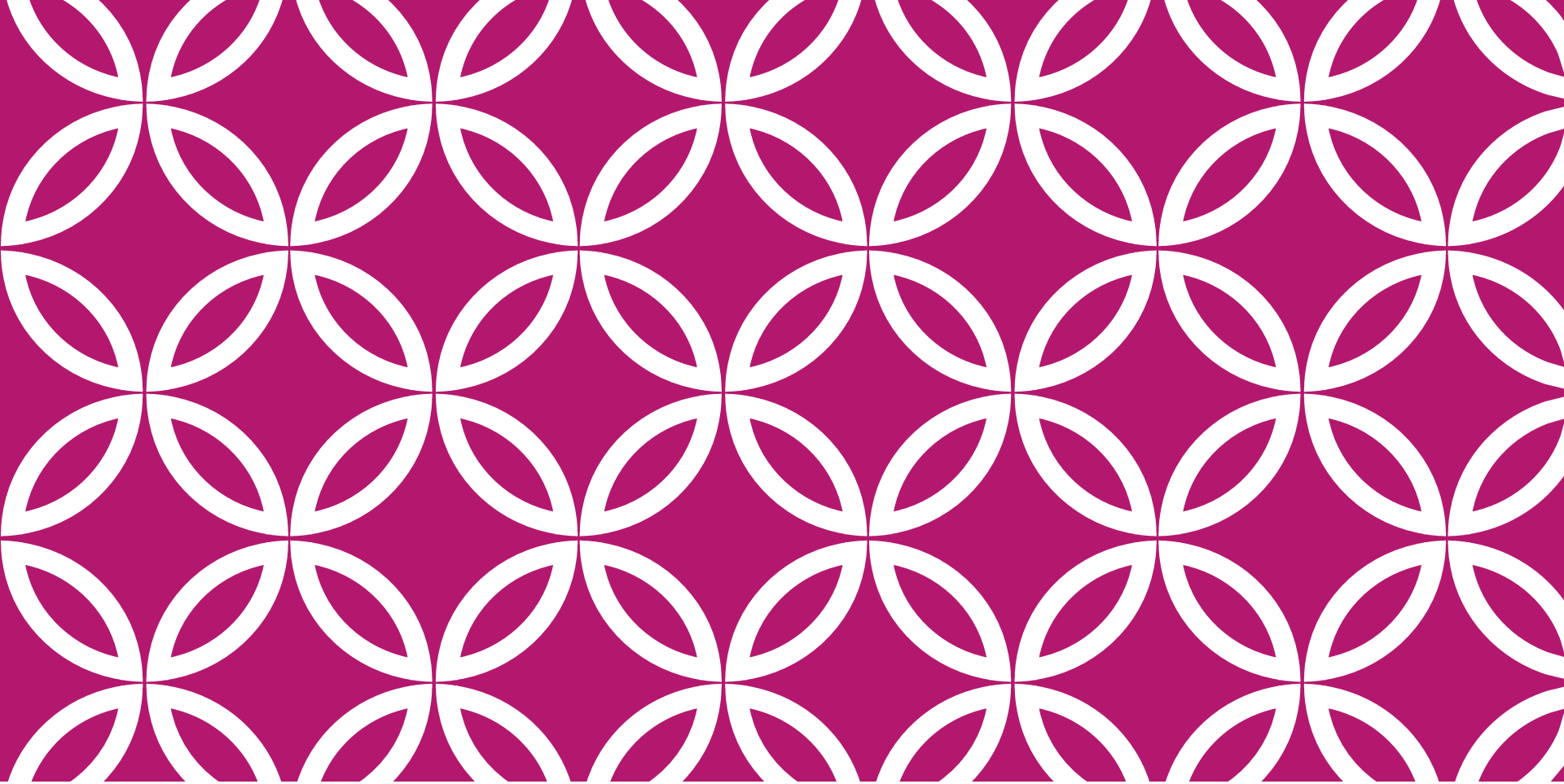
CHALLENGES WITH APPLYING THIGH-HIGH BANDAGING

Patient

- Clothing & Footwear - check appropriate clothing and footwear prior to commending bandaging
- Pain - Explore reasons for pain and consider use of analgesia
- Mobility – consider use of alternative compression therapies
- Continence – consider continence assessment and management, consider alternative compression therapies

Organisational

- Time/Staffing capacity - Plan to start decongestion bandaging when there is enough staff capacity to see it through until the end
- Competency - Where possible consider joint visits to get staff who are not used to using Actico get an opportunity to do this skill under supervision
- Manual Handling - Consider patient's environment, allow plenty of space, consider double-up visits for very large limbs to reduce twisting/stretching.



MAINTENANCE

STANDARDS?

The two main standards of compression hosiery used in the UK are:

British Standard	European Standard
British standard compression garments are made from fine, light fabrics and are circular knit. In limbs with a graduated shape, British standard compression garments provide effective compression to prevent ulceration, heal venous leg ulcers and prevent recurrence. However, they are only suitable for patients without oedema.	If oedema is present, European standard compression hosiery can be used. European standard hosiery is also circular knit but delivers a greater level of compression (mmHg) and is made from a stiffer fabric than British Standard circular knit hosiery. It can be used to prevent ulceration, heal venous leg ulcers and prevent recurrence in a limb with oedema. It can also be used to manage chronic oedema in a limb that has previously been decongested with multi-layer bandaging.

CLASS?

Class	British Standard	European Standard	Class
1	14–17 mmHg	18–21 mmHg	1
2	18–24 mmHg	23–32 mmHg	2
3	25–35 mmHg	34–46 mmHg	3

BUT IT'S NOT ALL ABOUT THE CLASS!

Circular knit garments

- (E.g. Activa, Actilymph)
- Circular knit garment has a horizontal stretch
- Suitable for patients with very mild chronic oedema
- NOT suitable for patients with moderate-severe chronic oedema
- No seam
- Off-the-peg sizes
- Stretched horizontally so rings of fabric can cause a tourniquet effect

Flat knit garments

- (E.g. Actilymph MTM, Jobst Elvarex)
- Flat knit garments offer a 'stiffness' which circular knit garments don't have – this helps to 'hold the oedema'
- Suitable for patient's with moderate-severe chronic oedema
- Has a seam up the back where garment has been stitched together
- Made to measure – contour to your patients so no uncomfortable digging in/rolling down/tourniquets

CHROSS CHECKER TOOL

Prevention	Spider veins ☐	NO ☐	Activa® British Standard hosiery† Mild: Class 1 (14–17mmHg) ☐ Moderate: Class 2 (18–24mmHg) ☐
	Ankle flare ☐		
	Mild/moderate hyperkeratosis ☐	YES ☐	ActiLymph® European Class hosiery†† Mild: Class 1 (18–21mmHg) ☐ Moderate: Class 2 (23–32mmHg) ☐
	Mild/moderate varicose veins ☐		
	Hyperpigmentation ☐		
	Venous dermatitis ☐		
Early/medium intervention	Varicose eczema ☐	NO ☐	Activa® British Standard hosiery† Moderate: Class 2 (18–24mmHg) ☐ Severe: Class 3 (25–35mmHg) ☐ Activa® Leg Ulcer Hosiery Kit ☐
	Atrophie blanche ☐		
	Induration ☐		
	Moderate/severe varicose veins ☐		
	Moderate/severe hyperkeratosis ☐		
	Healed ulcer*/** ☐	YES ☐	ActiLymph® European Class hosiery†† Moderate: Class 2 (23–32mmHg) ☐ Severe: Class 3 (34–46mmHg) ☐ ActiLymph® Hosiery Kit ☐
	Recurring ulcer/open ulcer*/** ☐		
	Cellulitis*** ☐		
Intensive management	Lipodermatosclerosis (acute or chronic) ☐	NO ☐	Activa® British Standard hosiery† Severe: Class 3 (25–35mmHg) ☐
	Chronic oedema/lymphoedema ☐	YES ☐	ActiLymph® European Class hosiery†† Moderate: Class 2 (23–32mmHg) ☐ Severe: Class 3 (34–46mmHg) ☐ ActiLymph® Hosiery Kit ☐ ActiLymph® MTM Ease or MTM Dura Moderate: Class 2 (23–32mmHg) ☐ Severe: Class 3 (34–46mmHg) ☐
	Severe hyperkeratosis ☐		
	Skin folds ☐		
	Papillomatosis ☐		
	Lymphangiomata ☐		
	Lymphorrhoea (wet legs) ☐		

Compression Hosiery & Wraps

Treatment

First Line:
Leg ulcer hosiery kit

Second Line:
Bandaging

Maintenance

First line:
Hosiery

Second Line:
Wraps

MEASURING TIPS FOR MTM HOSIERY

- Include all the oedema in your garment (E.g. if knee is oedematous opt for a thigh-high garment)
- Measurement charts differ between brands and types of hosiery so always check you are using the right one!
- Take measurements early in the day where possible
- Measure both legs
- Check positioning
- Measuring tapes – accuracy is important!
- Open toe or closed toe?
- Garments should be replaced every 6 months – prescribers are responsible for reassessing and remeasuring

Choosing shoes

1. Fastening (lace or Velcro)

2. Sturdy heel counter

3. Rocker sole that bends where your foot bends

Top tips

- ☑ Choose a shoe with a removable insole for extra room
- ☑ Leave a thumb width gap at the end of the shoe to allow your toes to move
- ☑ Shoes with a wide opening allow for easier access for your feet

APPLICATION BY FORMAL CARERS

If the patient is unable to apply the hosiery independently and there is no relative, friend or informal carer available to assist, formal care can be applied for via a Delegated Health Care Tasks form.

If the application is successful, the shared care team will source and fund the care.

A referral should be made even if there is an existing care package, as carers will need the funding and the time allocated to deliver this care.

The referrer will be responsible for providing the training to the carers and for ongoing monitoring of the care.

The Shared Care Team can be contacted:
By phone on 01865 904201
By fax on 01865 261754
By email: shared.care@oxfordhealth.nhs.uk

LIFESTYLE CHANGES - HELP WITH FOOTWEAR

- Personal independence payment
- Adult disability payment
- VAT relief on certain goods if you have a disability
- Shoe Aid
- Talk to patient about lower cost shoes

ACHIEVING COMPETENCE

PRACTICE

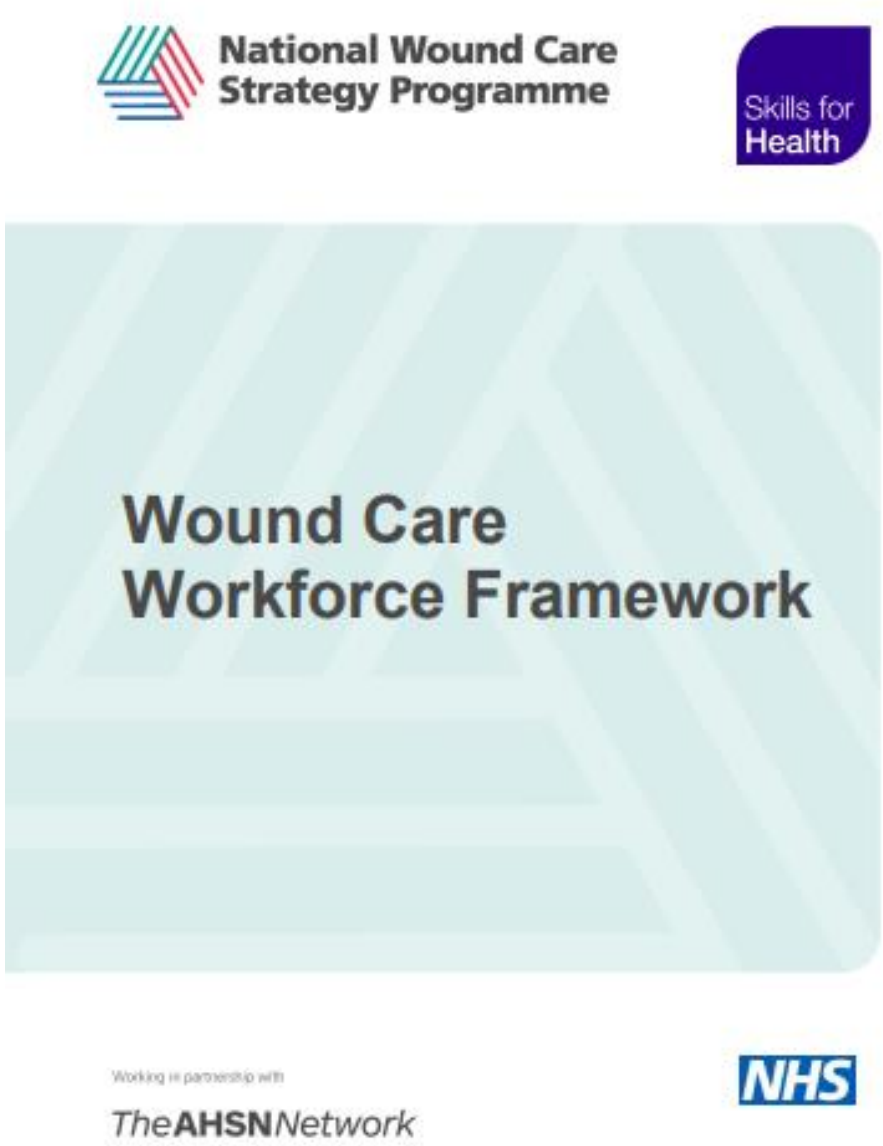
FURTHER TRAINING

CONTACT L+R AND URGO REPS

ACHIEVE COMPETENCY SIGN-OFF

SELF-EVALUATE

MONITOR COLLEAGUES



NWCSP CORE CAPABILITIES FRAMEWORK


ESCAPE
ROOM

QUESTIONS?

YOUR FEEDBACK IS IMPORTANT TO US!

PLEASE SCAN THE QR CODE AND COMPLETE THE EVALUATION