NHS FORTH VALLEY

Management of Leg Ulcer and Compression Therapy Guidance for Lower Limb Care

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Author / Contact	Heather Macgowan (Tissue Viability Nurse Specialist- Team Lead) Rebecca Boyne (Tissue Viability Nurse) 01324 673747
Escalation Manager	Douglas High (Lead Nurse for Practice Development and Care Homes) Marissa Parker (Chief Nurse NMAHP)
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Contributing Authors:	Heather Macgowan TVNS/ Rebecca Boyne TVN
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Oct 2021	HMacgowan	Updated leg ulcer pathway added in line with the wound Care Strategy Programme version previously held on own site.	**2.0**
15/12/2025	Rebecca Boyne	Integration of Leg ulcer management Guidelines and Compression Therapy guidance, Document title changed to: Management of leg ulcer and Compression Therapy Guidance for lower limb care, Format changed to Clinical guidelines, Purpose and scope added, Red flag assessment for compression added, ABPI and TBPI Information added- including BlueDop and MESI Automated Doppler Machine. Procedure for ABPI added as appendix, Immediate and Necessary care- pre doppler Pathway added. Update to treatment options- information about appropriate products, Post doppler pathway added. Compression Therapy Decision making Pathway- prevention and following wound healing, Product reference pictures added, Compression Therapy Selection guide updated. Links to Compression therapy company websites for measuring charts and product information added. Quick Guide to compression decision making removed (information included in updated pathways) Leg ulcer Treatment algorithm. Lower Limb- Recommendations for clinical care removed. ABPI and Lower Limb Assessment recording form added as appendix. Flowchart Guidance for Ankle Brachial Pressure Index (ABPI) measurement using automated ABPI machine (MESI) added as appendix, Reference list updated. Addition of Chromic oedema and wet legs algorithm and management plan with visual Oedema Scale	3.0

Table of Contents

1. Purpose

The purpose of this guideline is to ensure consistent clinical practices and a cohesive approach in relation to the management of patients requiring compression therapy. With a particular focus in relation to the management of venous leg ulceration.

A venous leg ulcer is defined as an open lesion between the knee and ankle joint that occurs in the presence of venous disease and takes more than 2 weeks to heal (NICE 2021). It has been based on the recommendations from Wounds UK. Best Practice Statement: Holistic Management of Venous Leg Ulceration 2nd Edition (2022.), Wounds UK Best Practice Statement – Addressing the complexities in the management of venous leg ulcers (2019) and Wounds Uk Best Practice Statement the Use of compression therapy for Peripheral Oedema: considerations in Heart Failure (2023)

It reflects the current service provision and facilities available within NHS Forth Valley.

The terminology within this document is specific to leg ulcer management and a glossary of terms is given on page 33.

2. Scope

This guideline is for all trained nursing staff, to increase their knowledge and enable them to be more proficient and competent in the management of leg ulcers. Undertaking a thorough, holistic assessment, to obtain an accurate diagnosis which is the key to managing leg ulcers effectively (Wounds UK, 2022). Arterial assessment is an essential component of leg ulcer assessment and management (Hunter 2025) (Vowden and Vowden 2001). The most common of these is the Ankle Brachial Pressure Index (ABPI), which should be performed, to eliminate arterial disease, by appropriately trained practitioners.

Following this, appropriate compression bandages/compression system should only be applied by a nurse who has a good understanding of the principles of compression bandaging/systems and has had appropriate training and is competent in their application. Although no local competencies are currently available, the practitioner should refer to the NMC codes of conduct and accountability.

It is also necessary to have knowledge of the potential problems of bandaging/compression systems and of applying compression inappropriately to legs where the arterial circulation may already be compromised.

Nurses, proficient and competent in assessing leg ulceration can make recommendations, initiate treatment and refer to Tissue Viability service/other services as necessary.

More information on the Tissue Viability Service can be found here: NHS Forth Valley – Tissue Viability Website

3. Assessment of Leg Ulceration

The key to leg ulcer management is in the assessment – where aetiology of the ulcer is ascertained. Early intervention and treatment are beneficial (EWMA 2016)
When a patient presents with a leg ulcer of unknown aetiology a full holistic assessment should be carried out by a nurse competent in leg ulcer management, prior to the

application of any compression bandage systems. The Nursing and Midwifery Council Code of Conduct and Accountability should be considered.
NHS Forth Valley- Wound Management Formulary should be followed for appropriate dressing choice.

Ankle Brachial Pressure Index (ABPI) using a Doppler device is a non-invasive test that compares systolic blood pressure at the ankle with that at the brachial artery to assess arterial supply to the lower limb. It is essential along with holistic assessment in determining the aetiology of leg ulceration and guiding safe treatment.

It is necessary to record the following information and document on the appropriate leg ulcer assessment chart/wound recording sheet for your area, whether electronic or paper format. Please see Appendix 2 for ABPI Recording form. For community staff, FV Lower Limb and ABPI Assessment form is available on MORSE community documentation system.

Patient history Include:

- Co-morbidities such as diabetes, cardiac or renal disease, rheumatoid arthritis or other autoimmune diseases, obesity, malnutrition, existing medical conditions and usage of prescription drugs and Intravenous drug use, previous injury or surgery to the leg, should be obtained from patient and hospital/GP health records as this can influence future management.
- Vascular history e.g. previous deep vein thrombosis, pulmonary embolus, angina, myocardial infarct, stroke, renal/cardiac failure, previous arterial/venous surgery, previous leg ulceration.
- Presence of varicose veins, Lipodermatosclerosis, dermatitis, oedema, joint mobility
- General assessment taking into consideration lifestyle, quality of life, social and psychological factors which can influence healing (EWMA 2008)

Medications

- For example, immunosuppressant's, chemotherapy drugs, steroids, Nicorandil – amongst others that are known to delay wound healing. (Riddell A et al (2010)

Wound history

- Ulcer history – duration of current ulcer, number of episodes and cause onset of ulceration.
- Wound assessment – description of wound bed/tissue type, size, exudate levels, distribution of ulceration and position. (Refer to wound assessment chart).
- Wound measurements should be done and repeated every 4 weeks, this helps to ascertain increase or decrease in size of the ulcer.
- Photography of the wound and surrounding skin is a useful way of ensuring objective recording of the wound. For consistency the angle and position of affected limb should be in the same position each time a photograph is taken. A photograph consent form should be completed as per current Forth Valley Wound Management Formulary. Photograph can be stored electronically on patients' electronic notes system as appropriate.
- Previous dressing and management regimes as applicable.

4. Diagnosis and management of leg ulcer

Leg ulcers are a common chronic condition affecting around 1.5% of the adult population at any one time. This figure increases to 36 per 1000 in the over 65 age group (SIGN 2010) Guest et al (2015) found that the number of diagnosed venous leg ulcers equated to 1 in 170 adults.

Most leg ulcers are the result of venous or arterial disease but there are many contributing factors

- Venous Disease 76 %
- Arterial and venous disease 10-20%
- Arterial Disease 22%
- Rheumatoid Arthritis 9%
- Diabetes 5%

Other factors associated with leg ulceration include:

- Oedema
- Malignancy
- Blood disorders
- Infection
- Burns
- Traumatic injuries

4.1 Venous Leg Ulcer

A chronic venous leg ulcer is defined as *"an open lesion between the knee and the ankle joint and occurs in the presence of venous disease and takes more than two weeks to heal" (NICE 2021)."*

Clinical signs of venous disease are normally present e.g. varicose veins, cellulitis, ankle flare, venous dermatitis, Lipodermatosclerosis, oedema, medial / lateral ulcer in lower gaiter area. ABPI would normally be 0.8 -1.3.

In the absence of significant arterial disease and presence of venous disease, the correct application of graduated multi-layer bandaging can be the most effective means of healing uncomplicated venous leg ulcers, to reduce venous hypertension. Compression therapy may be safely applied in patients with ABPI of 0.8- 1.3(Wounds UK BPS 2022).

4.2 Arterial ulcer

Generally, there is an absence of signs of venous disease, with signs and symptoms of possible reduced arterial supply – pale /dusky discolouration of the lower limb/foot, reduced capillary refill and absence or difficult to locate foot pulses. Intermittent claudication/rest pain, pain in lower limb on elevation, foot or digital lesions, shiny/hairless skin to the leg, leg ulcer that fails to progress with appropriate treatment, significant/sudden deterioration in the leg ulcer/limb, e.g. colour change and pain/wound breakdown, cool to touch. The ABPI would normally be 0.5-0.8. If ABPI ≤ 0.5 and symptoms present – urgent referral to vascular services for consideration of further investigation is required.

In those patients with diabetes or calcification of the arteries, calculating the ABPI is unreliable, where the ABPI may appear misleadingly high. Consider Toe doppler or use of Blue Dop to obtain more accurate information.

4.3 Mixed Aetiology

Any combination of the following, contributing to the ulcer:

- Venous disease, arterial disease, diabetes, rheumatoid disease, or other contributing factors
- ABPI between 0.8 – 1.0 (same as venous)
- Atypical ulceration

4.4 Atypical Ulceration

Frequently signs of venous or arterial disease are absent and a history of the lesion healing and recurring may be given. Consider other causes including malignancy.

5. Management of leg ulceration

See Immediate and Necessary Care Pre and Post Doppler Treatment Pathway on page 19

5.1 Dressing selection

Dressing selection for leg ulceration should be guided by comprehensive wound assessment and clinical judgement. Key factors include tissue type, exudate levels, pain, odour, and signs of infection. The aim is to create an optimal healing environment while protecting peri-wound skin and managing symptoms. Clinicians should refer to the NHS Forth Valley Wound Management Formulary to ensure evidence-based product choice. NICE (2019) also recommends the use of UrgoStart Plus TLC matrix dressings on Venous leg ulcers due to their proven benefits in healing rates and cost-effectiveness; however, their application must be based on individual wound assessment and professional judgement. UrgoStart Plus treatment range should be used for a minimum of 10 weeks to allow optimum healing environment.

6. Red Flag Assessment for Applying Compression Therapy

6.1 What is Compression therapy?

Patients who present with lower limb ulceration should be considered for immediate compression therapy to reduce the risk of chronicity (Wounds UK, 2016). Although venous ulcers are the most common leg ulcer aetiology, many patients present with a number of other contributory comorbidities, so lower limb ulceration is often multi-factorial. Individuals with mixed aetiology, with Ankle Brachial Pressure Index (ABPI) between 0.5 and 0.8 can also benefit from the use of modified compression, under the care of a specialist team (Harding et al, 2015, Wounds UK, 2016).

Compression therapy is the main choice and gold standard therapy for the prevention and management of venous leg ulcers (O'Meara et al, 2012; Harding et al, 2015; Wounds UK, 2019; NICE, 2017). Compression applies graduated pressure to the leg with the highest pressure at the ankle, gradually reducing towards the knee. Compression increases venous blood flow up the leg allowing fluid to drain from the tissues into the venous and lymphatic system, thereby reducing oedema (Moffatt et al, 2007).

Compression therapy can be perceived as painful and, in practice, healthcare professionals often avoid using compression in patients with painful ulceration (Wounds UK, 2016). However, compression can relieve pain associated with venous disease and delaying treatment can cause patients more harm. The risks of not actively treating with compression include delayed healing, increased pain and discomfort and increased financial costs. (Wounds UK, 2022)

While it is important to use the highest level of compression possible, quality of life is a vital issue, and patient needs, requirements and wishes should be considered. The choice of bandage or hosiery system therefore requires selection on an individual basis.

Compression hosiery is most commonly used post-ulcer healing to control oedema and reduce venous hypertension, both of which help prevent ulcer recurrence. However, compression hosiery may also be used when there are early signs of venous insufficiency to help prevent the development of an ulcer (Wounds UK, 2015). For active ulceration there are options of compression hosiery kits, compression wrap systems and compression bandage systems. Compression therapy,whether using bandages or hosiery, is fundamental to venous ulcer healing, ulcer prevention, oedema control and Lymphoedema.

The recommendation for wounds on the leg to be treated with mild compression is based on the British Lymphology Society view that, providing people with 'RED FLAG' symptoms (such as the symptoms of arterial insufficiency) are excluded, the benefits of first line mild compression outweigh the risks, even for people without obvious signs of venous insufficiency. In most clinical situations, it is not possible to precisely measure the level of compression that is applied since this is dependent on several factors including ankle circumference, choice of compression system and clinician skill. For the purpose of this guidance, 'mild graduated compression' is defined as a compression system that is intended to apply 20mmHg or less at the ankle. This is based on the World Union of Wound Healing Societies definition of 'mild graduated compression' and is intended to illustrate what is meant as 'mild graduated compression' rather than being a precise level of compression required.

Assess Red Flags for the application of compression therapy
Are any of the below red flags present?
Acute infection (e.g., increasing unilateral erythema, swelling, pain, pus, heat)
Signs or symptoms of SEPSIS
Acute or chronic limb threatening ischaemia (e.g., PAD in combination with rest pain, gangrene, or lower limb ulceration >2 weeks duration)
Suspected acute deep vein thrombosis (DVT)
Suspected skin cancer
Bleeding varicose veins

If any of the above red flags are present, do not apply compression therapy and follow the guidance below:

- Treat Infection as per local guidelines
- Immediately escalate
- Refer urgently to Vascular service if limb threatening ischaemia is present
- Any other urgent concerns should be discussed with GP
- Prior to referral consider if the patient is in the last weeks of life

7. ABPI and TBPI Doppler Assessment

It is safe to apply 20mmHg of compression to both legs if patients do not present with any of the red flag symptoms. Then arrange for the patient to undergo a full holistic lower limb assessment including vascular status, for example ABPI or TBPI. This should be completed within 14 days including assessment of vascular status.

A full holistic assessment is important to ensure the appropriate management of lower limb conditions. This should include the patients' medical history, current medications, mobility, skin condition, current use of creams or emollients and red flag assessment.

See Appendix 1. ABPI and Lower limb assessment recording form.

If doppler is unable to be carried out for whatever reason or may be more appropriate for toe doppler or BlueDop then please refer to Tissue Viability Service.

7.1 Ankle Brachial Pressure Index

The ankle brachial pressure index (ABPI) is a non-invasive method for assessing peripheral arterial perfusion calculated by comparing the blood pressure in the upper arm (brachial artery) to the blood pressure in the lower limb.

See Appendix 1 for Standard Operating Procedure on ABPI Assessment.

7.2 MESI Automated doppler

The **MESI ABPI MD** is an automated, cuff-based device that measures Ankle Brachial Pressure Index in about one minute. It uses oscillometric technology with three cuffs (arm and both ankles) to provide accurate, reproducible results without a handheld Doppler. Built-in algorithms detect issues like calcified arteries, and results can be stored or printed for documentation. Ideal for quick PAD screening and pre-compression assessments.

Please see Appendix 3: Flowchart for ABPI Measurement using automated ABPI Machine.

7.3 Toe Brachial Pressure Index

The toe brachial pressure index is also a non-invasive method for assessing blood flow and perfusion through the arteries in the feet and toes. This can also be used when the results of an ABPI are inconclusive.

	Full Compression	Reduced Compression	Vascular Referral
	No arterial risk	Mixed arterial risk	Arterial disease
ABPI	0.8 – 1.3	0.5 – 0.8	<0.5
TBPI	>0.7	0.64 – 0.7	<0.64

7.4 BlueDop

BlueDop is a wireless Doppler system that measures Dorsalis Pedis and Posterior Tibial arteries, providing a mean ABI (ABIm) and detailed waveform analysis in a simple color-coded report to indicate disease severity. Its advanced algorithm and visual triage make vascular assessment quick and accurate. If a specialist Doppler assessment is required, refer to the Tissue Viability team.
Other investigations such as Duplex scanning or MRI angiograms may be carried out to assess the extent of venous/arterial disease, at the discretion of a Consultant vascular surgeon.

The ABPI should be repeated at 3, 6 or 12 monthly intervals, to ensure the arterial status has not worsened, depending on risk factors and healing progress (Furlong, 2015) (Wounds UK 2019)

- High risk (those with diabetes, PAD or poor mobility): review 3-monthly
- Medium risk: review 6-monthly
- Low risk (Stable patients in compression with good knowledge of their condition): review yearly (Furlong,2015)
-

8. Compression bandaging systems

The following are suggested regimen for various ulcer types. These bandage systems should only be used following a comprehensive assessment by a practitioner who is experienced in leg ulcer management.

8.1 Four Layer Bandage System

Graduated compression, in this system, is built up over the four layers and for treatment of venous leg ulcers can stay in place for up to one week. The compression is graduated so there is more compression around the ankle /gaiter area and slightly less towards the knee. If the ulcer is heavily exuding refer to the Wound Management Formulary for superabsorbent dressings, it may require more frequent changes and initially it is beneficial to renew it after a few days as a means of assessing the skin for pressure damage.
Prior to choosing the bandage system, it is necessary to measure the ankle circumference, as the combination of bandages varies according to the ankle measurements.

ANKLE CIRCUMFERENCE	EXAMPLE OF BANDAGE REGIME
Less than 18 cm	2 or more rolls of wool padding, 1 Crepe, 1 light compression bandage, 1 Cohesive
18 – 25 cm	1 roll of wool padding, 1 Crepe, 1 light compression bandage, 1 Cohesive
25 – 30 cm	1 roll of wool padding, 1 high compression bandage, 1 Cohesive
Greater than 30 cm	Seek advice from specialist nurses

Note that the ankle circumference may reduce slightly during treatment and should be checked at regular intervals.

Method of application

Ideally the first bandage application should be when the leg is free from any swelling or swelling reduced from leg elevation in bed overnight, such as first thing in the morning – oedematous skin is vulnerable and prone to damage. Prior to applying the bandage system, the patient should be encouraged to maintain the foot at right angles to the leg. It

is also useful at this stage of treatment to ensure the patient is well informed of the need for compression bandaging to aid compliance.

LAYER 1 – Wool Padding
This layer may be considered the most important, as its main function is protection. Padding should be applied to cover the achilles tendon and bony prominences and of the forefoot. It is not necessary to pad the underside of the foot, REMEMBER the patient needs to apply footwear! Spiral application of wool from ankle to below knee, it is good practice to apply two layers for added protection, or to apply an extra layer over the tibial crest. Regardless of the bandage regimen chosen, a layer of wool padding should always be applied.

LAYER 2 – Light Conformable e.g. Crepe
Beginning at the base of the toes, hold the bandage under the foot and apply one turn around the foot, the next turn catches the point of the heel and then fill the gap at the instep. The bandage should continue up the leg in a spiral, maintaining 50% overlap and 50% stretch. Cut off any surplus bandage and secure with tape.

LAYER 3 – Light compression (Class 3a 14-17mmHg)
Application is the same as layer 2, but after the foot turns, a figure of eight application is employed; this allows the bandage to conform to the limb shape. Maintaining a 50% extension is necessary to achieve the correct pressure.
If this layer is applied in a spiral, it is sometimes known as a “modified four-layer system” and allows a slight reduction in pressure.

LAYER 4 – Cohesive (Class 3b 18-24mmHg)
Once again, application is the same as layer 2. This layer also adds durability to the system.

ALTERNATIVES
The following are alternatives to the four-layer bandage system:

8.2 Long Stretch Bandages (elastic)
This type of bandage is particularly useful for the larger leg.

These bandages provide **high levels** of compression in one layer (40mmHg) and should be applied over a layer of wool padding. The elastic fibres of this bandage give continuous pressure whether at rest or exercise. Advice from Specialist service should be sought prior to application of this bandage type.
Example – Tensopress

8.3 Short stretch bandages
In this bandage, sustained high pressures are avoided and this may be the bandage of choice when dealing with an ulcer of mixed aetiology or those with a painful ulcer in the early stages of treatment.

Studies have shown that short stretch bandages are also capable of achieving pressures of 35 – 45 mmHg at the ankle. They offer high pressure when patient is active and low resting pressure. When patients are ambulatory, this pressure is increased by the pumping action of the calf muscles against the non-elastic short stretch bandage. The pressure is

directed back to the leg where it acts on the deep venous system (Morales-Labarca & Ramirez Castro 2023)

Close supervision is still required and care taken to avoid pressure damage. As with any other bandage system, a layer or more of wool padding should be applied to the leg before the bandage. Application – from base of toe to knee, 50% overlap, 50% extension.

Examples: Elastocrepe, Actico

8.4 Two-layer bandage system
This type of bandage system gives compression over two layers and doesn't have the bulk of the traditional 4-layer system. The inner and outer layers adhere to each other and reduce the likelihood of slippage. However, caution should be exercised as there is minimal padding under the compression. It is a particularly useful system to use when the patient continues to work or is required to wear safety footwear.

Examples- 3M Coban 2-layer bandage systems; an inelastic system, Urgo K2- a layer of inelastic bandage with elastic bandage on top. Lite or reduced compression versions are also available providing between 18-23mmHg.

8.5 Compression Wraps
There is rising recognition of the value compression wraps may offer in the management of oedema, leg ulcer management and other disorders of the circulatory system.

Available in a variety of forms, these devices essentially consist of fabric sheets made from one or more components with limited extensibility, which are applied to affected limbs and held in place with Velcro fastenings.

Unlike multilayer bandaging systems, wraps can be replaced or adjusted by patients themselves, which increases their acceptability and therefore, it is assumed, improves patient compliance, while reducing the need for professional interventions. There is strong evidence that compression wraps, and other compression therapies significantly improve healing rates for venous leg ulcers compared to **no compression**. Adjustable, Velcro-based compression wraps are an effective option, offering several advantages over traditional bandages.

8.6 Ulcer Healing Kits
Leg Ulcer Hosiery Kits are an alternative to compression bandaging, delivering full therapeutic compression. They support patient self-care, reduces nursing time to care, and eliminates clinical variation in application technique.

These are used to provide compression for healing leg ulcers to avoid using bulky bandages. The kits compose of an inner liner stocking and an outer stocking which generally provides a 40mmHg compression in the two layers. A two-layer hosiery kit can be the first-line treatment for patients with a normal limb shape, no oedema and a wound exudate that is low to moderate and contained within the provided wound dressings. (Ashby et al 2014)

Benefits include:

- Optimal 40mmHg compression for effective VLU healing

- Simple to apply consistently and safely
- Much less bulky than compression bandages or wraps which could aid compliance.
- Requires minimal training and can be reapplied by the patient, carer and other members of the multi-disciplinary team

9. Types and Indications for Compression Hosiery

When a venous leg ulcer has healed, maintenance and prevention of recurrence is vital. As soon as the patient has healed, the maintenance phase of management should commence. (BPS 2016 and 2019)

A Cochrane review also indicated that the use of adequate compression post-healing will prevent recurrence (Nelson and Bell-Syer, 2014). Lifelong compression therapy is still gold standard to prevent the recurrence of VLUs (Franks et al, 2016; Todd, 2018)

Compression hosiery is available in three classes: I, II, III. Class III being the firmest, and Class I being the lightest. They are also available in circular knit and flat knit.

- The leg should be measured around the ankle and calf and the appropriate size, type and class of stocking selected.
- **Bandages should continue to be used until the compression stockings are available**.
- One pair of stockings is required for each leg
- A variety of compression stockings are available on GP prescription, including Made to measure (MTM).

If patients are out with the size selector – may require referral to Specialist Hosiery Clinic, referral criteria on Tissue Viability Referrals Page.

Before prescribing compression garments, the class must be specified (Wounds UK, 2015). The compression classes relate to the amount of mmHg (millimetre of mercury) of compression provided in the garment. The values of mmHg differ depending on where they are made.

British Standard garments provide less compression than German RAL (often referred to as European standard) alternatives. The table below highlights the different compression classifications and levels of compression:

	Class 1	**Class 2**	**Class 3**
British Standard	**14 – 17 mmHg** light	**18 – 24 mmHg** moderate	**25 – 35 mmHg** firm
RAL Standard	**18 – 21 mmHg** moderate	**23 – 32 mmHg** firm	**34 – 46 mmHg** very firm

The compression class is usually determined based on the severity of the patient's symptoms, following a holistic assessment, inclusive of a vascular assessment and considerations of other comorbidities along with patient preferences and tolerances (Harding, 2015).

Continued lifelong use of these stockings is important to prevent recurrence of leg ulcers. Patients require education on the risk of ulcer recurrence, the importance of good skin

care and exercise as able, to optimise their ongoing self-care. (BPS 2016) Consideration requires to be given to the best form of preventative compression considering donning and doffing capabilities due to dexterity, pain, obesity to name a few (Hughes & Green 2019)

The compression hosiery should be renewed every 6 months. (2 pairs every 6 months or 4 pairs per year)

9.1 British Standard Hosiery

British standard is highly elastic and therefore are not suitable for patients with moderate limb swelling/oedema but suitable for a 'normal' shaped leg, with little oedema. Three months guarantee.

9.2 RAL Standard Hosiery

RAL garments are stiffer allowing for better management of oedema and have a manufacturer guarantee of six months.
More choices in sizes (extra wide calf sizes and shoe size available)

There are also two methods of manufacturing hosiery to consider when making selection flat-knit or circular-knit:

Often the choice of style is depending on the individual need of the patient. Elwell (2016) identified that it is important to include patients in the decision-making process to ensure that the selected garments are deemed acceptable for patients' daily activities to aid concordance. Hosiery application can be difficult, however, to be effective they need to be worn. One of the biggest influencers on garment selection is whether patients can get the garment on and off. A degree of dexterity is required and individual factors, such as comorbidities, need to be considered along with the provision of applicator aids where appropriate (National Institute for Health and Care Excellence, 2013).

9.3 Flat-Knit Compression Hosiery

Flat-knit garments are knitted flat on a machine, then sewn into a leg shape with a seam. This results in a stiffer garment, which is particularly helpful in patients with lymphoedema or chronic oedema, distorted limb shapes and deep skin folds as the fabric is less pliable and is less likely to dig in skin folds or roll down causing damage to the skin (Anderson and Smith, 2014).

The garment lies over joints and oedematous areas instead of collecting in skin creases like a tourniquet. Suitable for patients with a high BMI. These can be applied over ulcers if exudate is fully contained in the dressing. Flat knit is usually used for made-to-measure garments because it can be more readily adapted to limb shape distortion (Lymphoedema Framework, 2006).

9.4 Circular-Knit Compression Hosiery

Circular-knit hosiery is knitted with a single weft thread on a cylinder producing a seamless stocking. The fabric tends to be finer, and patients often find these garments cosmetically more acceptable to wear, which helps with concordance (Stanton et al, 2019). The elastic nature of circular-knit garments means that the compression is at its highest at the narrowest part of the limb, which is usually at the ankle. This means that circular-knit hosiery can often be contraindicated for patients with misshapen limbs, or where the narrowest part of the limb is not the ankle.

10. Antenatal Patients

Antenatal patients with painful, troublesome varicose veins during pregnancy may be provided with compression hosiery, for relief of symptoms and prevention of further complications.

Midwifery teams have been taught on how to undertake stocking or maternity compression tights measurements to allow for timeous receipt of garments during pregnancy. For more complex cases, Midwife, Obstetrician or Physiotherapist can make the referral to the TV Specialist hosiery clinic. A completed TV referral should be sent to the Tissue Viability Service prior to seeing the patient.

If the patient is 28 to 36 weeks gestation, 2 pairs should be issued for the affected legs, if 36 weeks or more then one pair is issued.

No ABPI assessment is necessary for the majority of these patients. However approximately 10 months following delivery of the baby, if the varicose veins are still problematic, a referral can be made by the patients GP to the vascular surgeon, for further assessment and consideration of treatment therapies.

11. Management of Oedema

Chronic Oedema is a common problem particularly in venous disease. It is the responsibility of the GP and community nurse to assess and treat the oedema in the first instance.

Following a comprehensive leg ulcer assessment and definitive diagnosis, renal/cardiac failure and **hypoalbuminemia or any other cause** should be excluded by venous blood sampling, history and examination.

It is helpful if the patient can elevate legs to level of hips, or to rest in bed, with foot of bed elevated slightly 6-10cm, prior to having bandaging applied. Patients who sleep in a chair at night will be more prone to dependant oedema and should be educated on why it is necessary to go to bed at night to encourage venous return to help reduce oedema.

Treatment can be initiated using reduced compression, gradually increasing to full multi-layer system. Once the oedema has significantly reduced the patient should be measured and fitted with appropriate compression hosiery.

Management of these patients frequently lies in the medical management and identifying the underlying cause, e.g. renal/cardiac disease, liver failure, venous insufficiency, dependent oedema, impaired lymphatic drainage where referral to the Lymphoedema Service would be appropriate, by completing the Lymphoedema referral via SCI Gateway.

Stages of Oedema

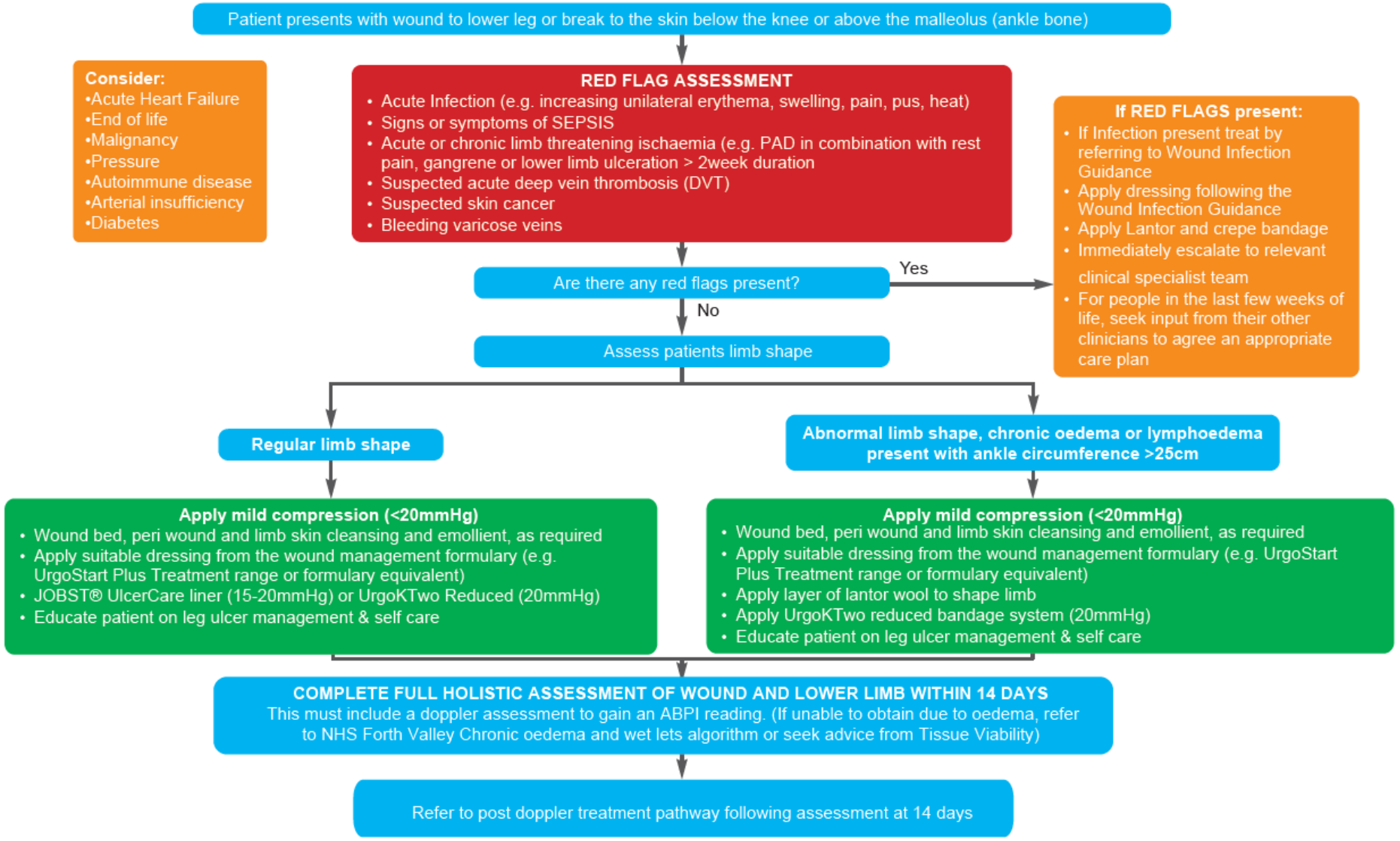
12. Compression Guidance

A full holistic lower limb assessment and ABPI/TBPI should be carried out prior to application ofcompression.

Type of Garment	Overview	Product Examples	Visual example
Compression Liners and Ulcer Kits **Levels of compression will vary depending on product and class**	Hosiery kits are complete solutions designed to provide patients with compression graduated from toe to knee, in the form of hosiery	JOBST® UlcerCare JOBST® UlcerCare Liners Mediven® HosieryKits Urgo® Altipress	 
Compression Wrap Systems **Levels of compression will vary depending on product and class**	Compression wrap devices mimic short stretch bandages and are recommended for patients with lower limb oedema and/or lymphoedema,also for the management of venous disease	JOBST® FarrowWrap Mediven® Juxta-Fit L&R® Readywrap Haddenhams® EasyWrap Sigvaris® Compreflex JUZO® ACS Compression Wrap	
Compression Bandages **Levels of compression will vary depending on product and class**	Below-knee compression graduated from toe to knee, in the form of bandaging, is a keycomponent of treatment in venous leg ulceration, chronic oedema or lymphoedema in the absence of arterial disease	Solventum™ Coban™ Actico® Compression Bandage Urgo® K-two compression bandage	  
RAL Flat-Knit Garments **Levels of compression will vary depending on product and class**	RAL standard compression hosiery is recommended for patients with lower leg oedema or lymphoedema associated with or without ulceration in the absence of arterial disease	JOBST® Elvarex® JOBST Confidence Haddenham Custom fit Mediven® Mondi/ cosy JUZO® Expert	
Circular-Knit Garments **Levels of compression will vary depending on product and class**	Circular-knit or Ready-to-wear hosiery for the treatment of MILD to MODERATE oedema and venous disease in the absence of arterial disease	JOBST® Opaque JOBST® Ultrasheer JOBST® For men (ambition/ explore) Mediven® elegance Mediven® Duomed soft Mediven® plus Urgo® Altiform or Altiven	 

Other brands and products are available, please select these on the suitability for your patient.

13. Immediate and Necessary Care Pre Doppler Pathway

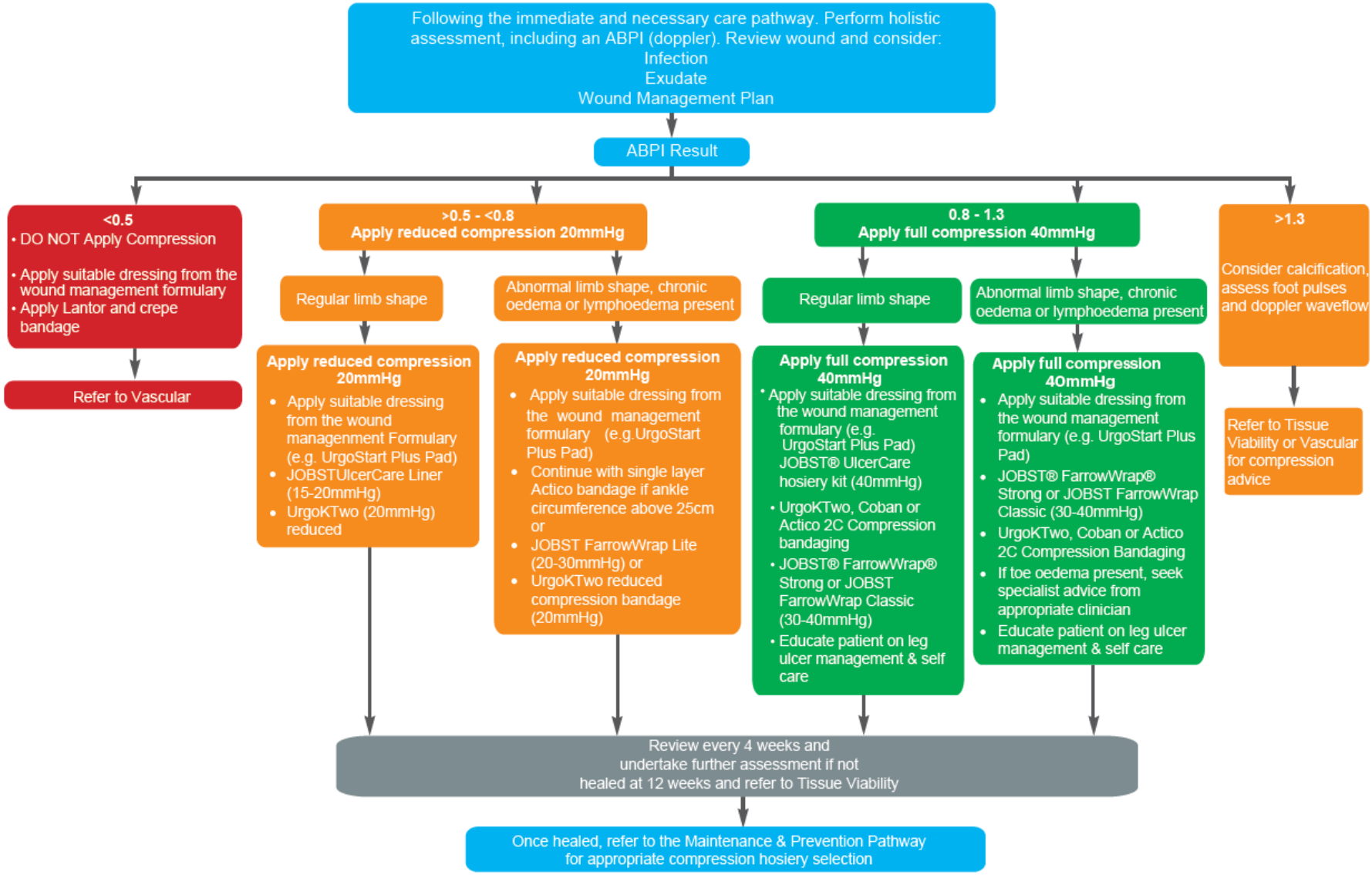


13.1 Initial Treatment – Assessment Immediate and Necessary Care Treatment Options

	Compression	Sizes	Use	Precautions / Contraindications	Product Information
No Oedema/ Mild Oedema	JOBST® Ulcer Care Replacement Liners (15-20mmHg)	Please refer to individual company size guide	RED FLAG ASSESSMENT and Immediate and Necessary Care should be followed No / low exudate Compression liners, as well as holding a wound dressing in place, provides mild, graduated compression for ambulatory and non-ambulatory patients Can be worn for 24 hours per day Remove daily if possible, to check over all skin care	Severe arterial insufficiency, congestive heart failure (decompensated), cutaneous infections, dermatitis in the acute or exudative stage, diabetic ulcers	
	Activa Liner x2 (10mmHg each)			This system may be unsuitable where there is heavy exudate and for large wounds. For large or irregular shaped limbs, it may be more appropriate to use compression bandages. Padding and bandages are recommended for patients with very small limbs or with bony prominences. Diabetic patients, unless after specialist referral and under strict supervision. Arterial insufficiency, arterial disease and ischaemia, according to vascular assessment. ABPI of <0.8 unless after specialist referral and under strict supervision and regular follow-up. Congestive cardiac failure as compression could lead to cardiac overload. Peripheral neuropathy. Rheumatoid arthritis. Known sensitivity to the fabric of the stockings.	
	Activa class 1 (14-17mmHg)				
Moderate Oedema	UrgoKTwo™ Reduced (20mmHg) Multi-layer compression bandagekit	Ankle circumference: 18cm-25cm	RED FLAG ASSESSMENT and Immediate and Necessary Care should be followed. Mod / high exudate 2-layer elastic compression bandages recommended for patients with venous ulceration	Always refer to manufactures application instructions	
		Ankle circumference :25cm-32cm			

Other brands and products are available, please select these on the suitability for your patient.

14. Post Doppler Treatment Pathway

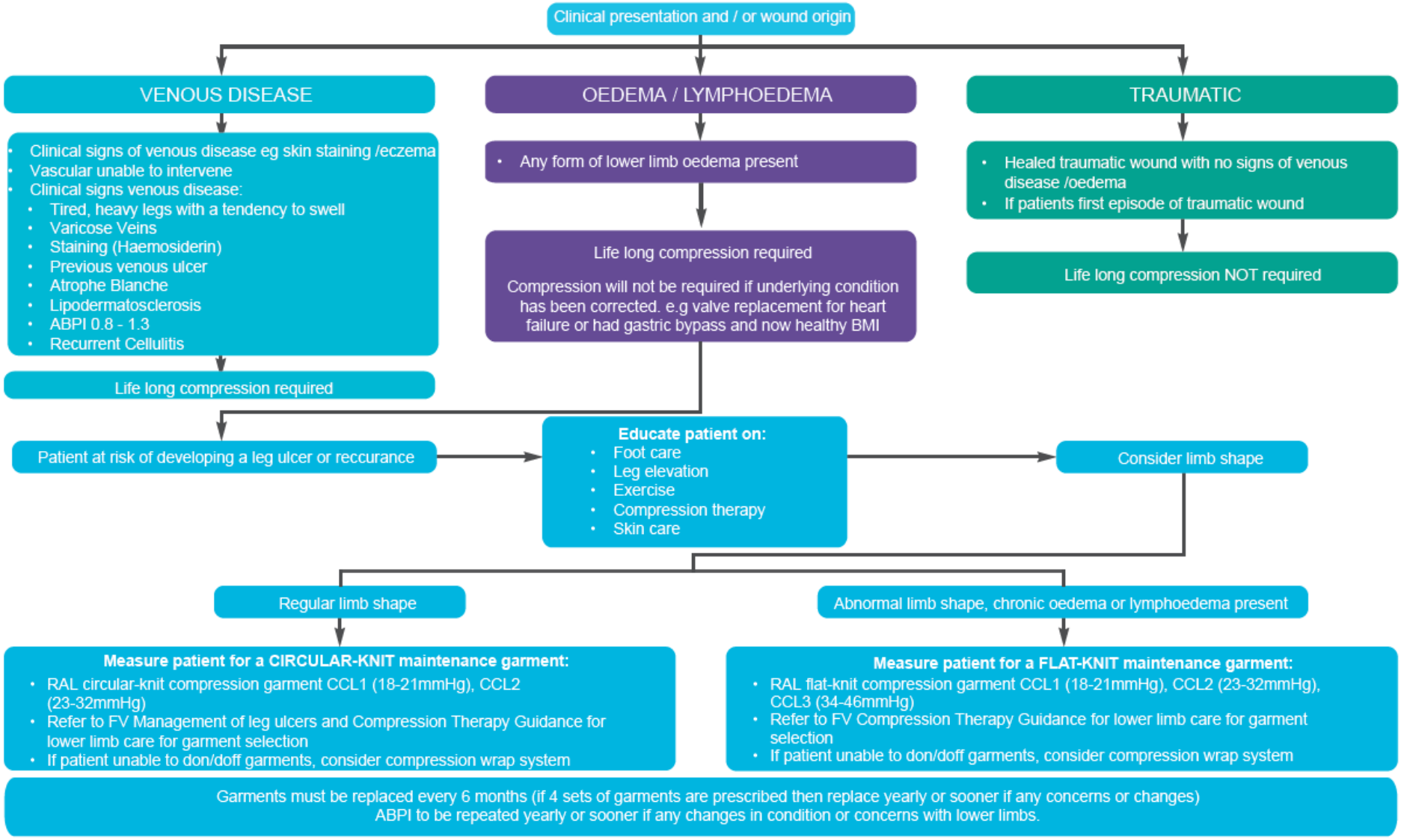


14.1 Good Limb Shape with No or Mild/ Moderate Oedema			
Good Limb Shape	No Oedema	Activa™ Leg Ulcer Kit (40mmHg)	
	Mild / Moderate Oedema	JOBST® UlcerCare Kit (40mmHg)	
		ActiLymph™Leg Ulcer Kit (40mmHg)	
		JOBST® FarrowWrap® 4000 (30-40mmHg)	
		JOBST® FarrowWrap®Lite (20-30 mmHg)/ Strong (30-40mmHg)	
		L&R™ ReadyWrap (30-40mmHg)	
	High Exudate	UrgoKTwo™multi-layer (40mmHg) compression bandagekit	
		Actico® (40mmHg)	
		Coban 2 (35-40mmHg)	

14.2 Abnormal Limb shape and/ or Moderate to Severe Oedema			
Abnormal Limb Shape	Moderate Oedema	L&R™ ReadyWrap (30-40mmHg)	
		JOBST® FarrowWrap® Strong (30–40mmHg)	
	Skin Foldsand/or Severe Oedema	JOBST® FarrowWrap® Classic (30–40mmHg)	
		Actico® (40mmHg)	
		Coban 2 (35-40mmHg)	
		L&R™ ReadyWrap (30-40mmHg)	
	High Exudate	Actico® (40mmHg)	
		Coban 2 (35-40mmHg)	

Other brands and products are available, please select these on the suitability for your patient.

15. Compression Therapy Decision Making Pathway for prevention and following Leg Ulcer Healing



15.1 Good Limb Shape with No or Mild/ Moderate Oedema

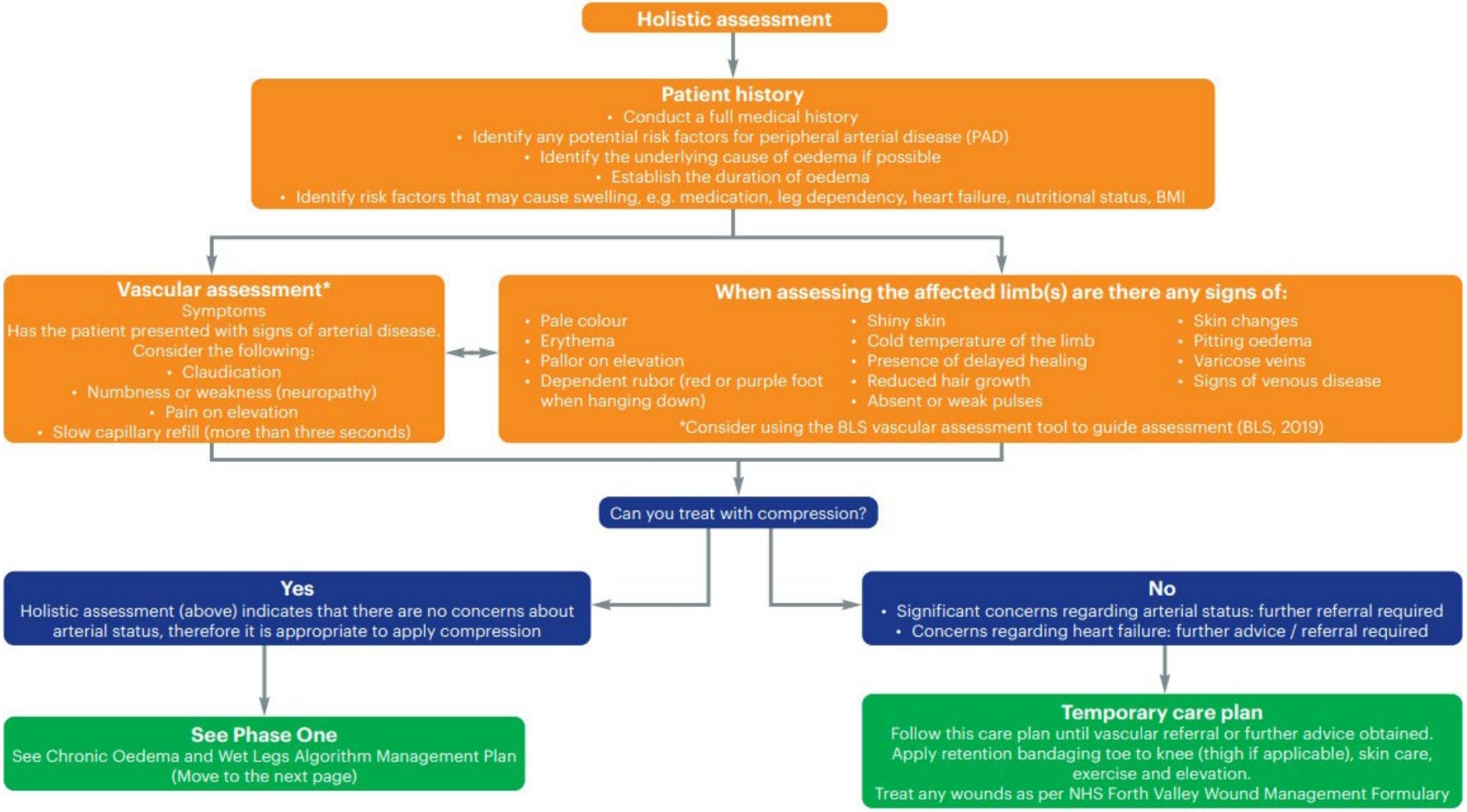
Good Limb Shape	No Oedema	Activa™ British Standard	British Standard CCL1 14 – 17mmHg CCL2 18 – 24mmHg CCL3 25 – 35mmHg	
		JOBST® UlcerCare	40mmHg	
	Mild / Moderate Oedema	JOBST® Opaque	RAL CCL1 18 – 21mmHg CCL2 23 – 32mmHg	
		JOBST® forMenExplore		
		L&R ActiLymph™		
		URGO ® Altiform	British Standard CCL1 14 – 17mmHg CCL2 18 – 24mmHg CCL3 25 – 35mmHg	

15.2 Abnormal Limb shape and/ or Moderate to Severe Oedema

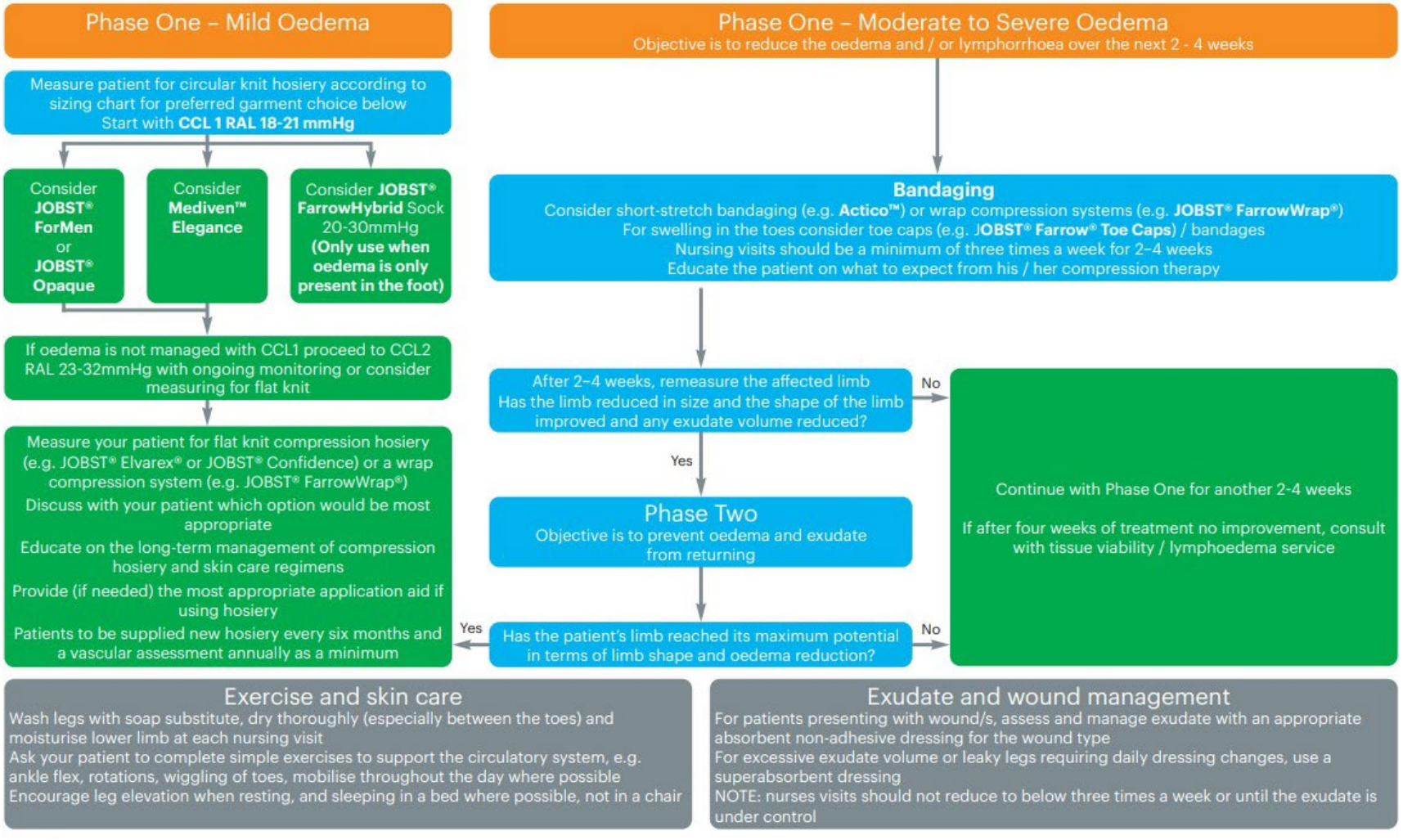
Abnormal Limb Shape	Moderate Oedema	JOBST® Confidence	RAL CCL1 18 – 21 mmHg CCL2 23 – 32 mmHg CCL3 34 – 46 mmHg	
		JOBST® Elvarex®	RAL CCL1 18 – 21 mmHg CCL2 23 – 32 mmHg CCL3 34 – 46 mmHg	
		JOBST® Elvarex®Soft	RAL CCL1 18 – 21 mmHg CCL2 23 – 32 mmHg CCL3 34 – 46 mmHg	
		L&R ActiLymph™ MTM Ease and Jura	EUROPEAN CCL1 18-21mmHg CCL2 23-32mmHg CCL3 34-46mmHg	
	Skin Folds and / or Severe Oedema	JOBST® Elvarex®	RAL CCL1 18 – 21 mmHg CCL2 23 – 32 mmHg CCL3 34 – 46 mmHg	
		JOBST® Confidence	RAL CCL1 18 – 21 mmHg CCL2 23 – 32 mmHg CCL3 34 – 46 mmHg	
		JOBST® FarrowWrap® Strong / Classic	30-40mmHg	
		ActiLymph®	EUROPEAN CCL1 18-21mmHg CCL2 23-32mmHg CCL3 34-46mmHg	
		ReadyWrap®	30-40mmHg	
		L&R ActiLymph™ MTM Ease and Jura	EUROPEAN CCL1 18-21mmHg CCL2 23-32mmHg CCL3 34-46mmHg	

Other brands and products are available, please select these on the suitability for your patient.

16. Chronic oedema and wet legs algorithm Assessment



17. Chronic oedema and wet legs Algorithm Management Plan



18. Compression in Heart Failure

Heart failure is a complex clinical condition with increasing prevalence due to the rising incidence of cardiovascular disease and an ageing population (Urbanek et al, 2020). Symptoms can develop quickly or gradually over weeks and months, including shortness of breath, fatigue, swelling in the legs, ankles and feet, and rapid or irregular heartbeat.

Oedema is one of the fundamental features of heart failure. A patient with decompensated heart failure may experience peripheral or pulmonary oedema, which is characterised by excess fluid collecting in the lungs, or swelling in the feet, ankles, legs, hands and arms, respectively. Compression therapy is the gold standard of care for treating lower limb oedema and ulceration; however, uncorrected knowledge gaps and misconceptions surrounding its use for patients with heart failure can deter healthcare professionals from applying it.

18.1 What is decompensated heart failure?

Decompensated heart failure (DHF) occurs when symptoms from heart failure are severe enough to require immediate medical attention. It can happen suddenly without a prior heart failure diagnosis or result from worsening symptoms in someone already diagnosed with heart failure. Common symptoms include shortness of breath, swollen legs and ankles, fatigue, and trouble breathing while lying flat. Unlike compensated heart failure, where symptoms are stabilised, DHF demands prompt medical care for the symptoms experienced. While there's no cure for heart failure, treatments are available to reduce or relieve some symptoms.

18.2 Red Flag Assessment for Acute Decompensated Heart Failure

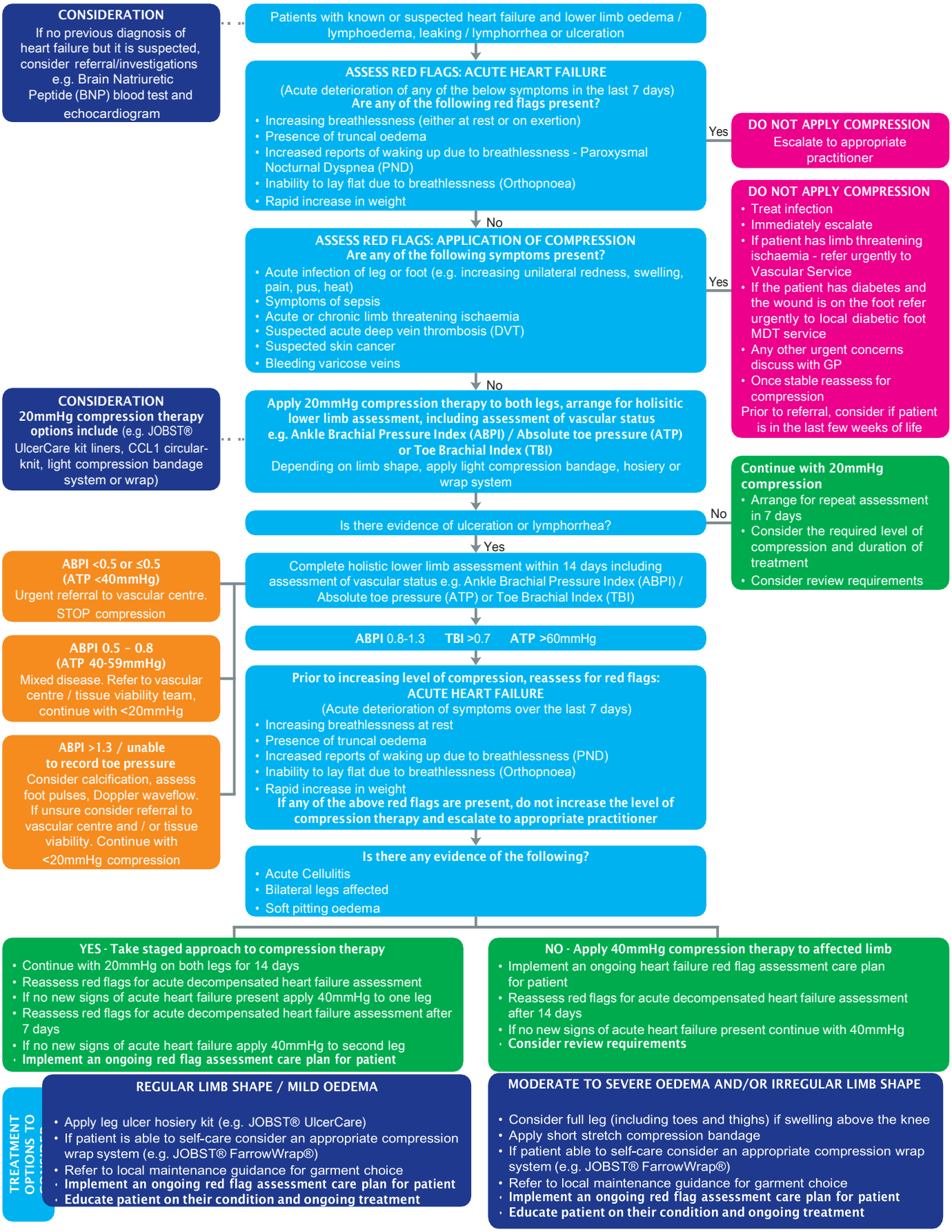
Assessment of Red Flag symptoms is important to determining the next steps of the patients care pathway, in the absence of the below red flags the patient assessment should move to assessing symptoms prior to application of Compression therapy

Red flag Assessment for Acute Decompensated Heart Failure (Acute deterioration of any of the below symptoms in the last 7 days)
Are any of the below red flags present?
Increasing breathlessness (either at rest of on exertion)
Presence of truncal oedema
Increased reports of waking up due to breathlessness (PND)
Inability to lay flat due to breathlessness (Orthopnoea)
Rapid increase in weight

If any of the red flags are present, do not apply compression and escalate to appropriate practitioner e.g. Heart failure specialist (Aitkin et al, 2022).

19. Guidance for Compression therapy for patients with heart failure

If patient is already established in compression and has an acute episode of deteriorating heart failure- DO NOT REMOVE COMPRESSION (Wounds UK, 2023) Best Practice Statement- The Use of compression therapy for peripheral oedema: considerations in people with heart failure.



20. Toe Compression

Off The Shelf			
Toe Caps	**JOBST® Farrow®Toe Caps**	XS – L 15 – 20mmHg 20 – 30mmHg	
	Haddenham® Microfine Toe Caps	XS- XL 20-36mmHg	
	Custom-Fit		
	JOBST® Elvarex® Plus RAL CCL 1-2	Refer to JOBST Elvarex Plus Order Form	
	JOBST® Elvarex® Soft Seamless RAL CCL 1-2	Refer to JOBST Elvarex Soft Seamless Order Form	
Toe Bandages	**Mollelast™ Toe bandages**	4cm x 4m	
	Coban Toe Bandage Lite	2.5cm x 3.5m	
Toe Wraps	**L&R Ready Wrap toe**		

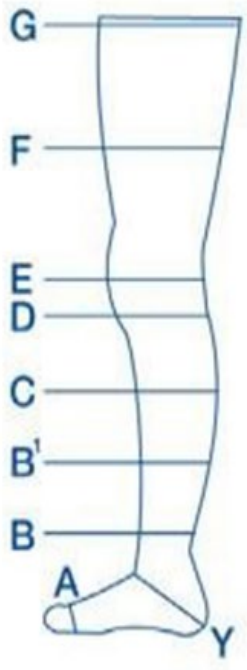
Other brands and products are available, please select these on the suitability for your patient.

21. Hosiery Aids

Product		Application guide
ACTI-GLIDE™ One size		ACTI-GLIDE Instructions
EZY-AS™ Small Medium Large Extra Large		EZY-AS Instructions
Medi™ Butler One size		Medi Butler Instructions
Sigvaris Melany X Small Small Medium Large		Sigvaris Melany Instructions
Sigvaris Rolly		Sigvaris Rolly Instructions
Rubber gloves		If you can wear rubber gloves, they will help you to grip the fabric and make it easier to put on the stocking

Other brands and products are available, please select these on the suitability for your patient.

22. Supporting Information



G: Circumference at widest part of upper thigh, below gluteal fold

F: Middle of thigh

E: Middle of patella / back of knee
D: Fibula head (two finger-widths below patella)

C: Maximum circumference of calf
B': Transition to calf (Achilles tendon)
B: Narrowest circumference above ankle

Y: Heel / ankle flex with maximum dorsiflexion
A: Metatarsal joint of toe

Tips for measuring
Try to measure first thing in the morning when oedema is at its minimum or immediately after removing compression garment
Take measurements directly against the skin for accuracy
If the patient has skin folds, do not measure into skin folds but place tape measure on top of skin fold
Take measurements for each leg as they may differ is size

23. Links to Websites for Measuring Charts and further product information

Other brands and products are available, please select these on the suitability for your patient.

medi

HAEDENHAM

JOBST

sigvaris

Juzo

URGO MEDICAL Healing people®

24. Links to videos for compression bandaging

Coban

- 3M™ Coban™ 2 Layer Compression System
- Compression Therapy and 3M™ Coban™ 2 Two-Layer Compression System - YouTube
- Compression System Application Video. Thin, fragile leg.

Urgo K2

- Urgo Medical | UrgoKTwo and UrgoKTwo Reduced (Also available in latex free)
- HOW TO APPLY URGOKTWO - COMPRESSION FOR LEG ULCERS

Actico

- Actico Below Knee Application Guide
- Actico full leg bandaging

25. Glossary of Terms

Term	Definition
ABPI	Ankle Brachial Pressure Index is part of the assessment process and gives an indication of the blood flow to the feet and lower legs.
Absolute Toe Pressure (ATP)	Absolute toe pressure- Systolic pressure in the toe.
Ankle Flare	An ankle flare is a reddish, web-like pattern of tiny veins (spider veins) appearing on the ankle, signalling venous insufficiency (poor blood flow back to the heart) or an old injury flaring up, often from weakened muscles or unhealed issues, causing swelling, pain, and stretching of blood vessels.
Antenatal	before birth; during or relating to pregnancy.
Arterial	Pertaining to the arteries.
Atrophie Blanche	Atrophie blanche (AB) refers to distinctive ivory-white, atrophic scars on the lower legs.
Buerger's test	Buerger's Test is a clinical examination for arterial insufficiency, assessing leg blood flow in two stages: Elevation Pallor (legs go pale when raised, Buerger's Angle < 20 means severe ischemia) and Reactive Hyperemia (feet turn dusky red/dark pink when lowered due to dilated vessels trying to get oxygen)
Brain Natriuretic peptide (BNP)	Brain Natriuretic Peptide (BNP) is a hormone released by the heart, primarily from the ventricles, when it's stretched and working hard, often due to increased blood volume or pressure.
Compression	In medicine, compression means applying pressure to the body, either externally with garments/bandages (like for swelling/circulation).
Deep Vein Thrombosis (DVT)	DVT (Deep Vein Thrombosis) is serious condition where a blood clot forms in a deep vein, usually in the leg, blocking blood flow and causing pain, swelling, redness, and warmth.
Dulpex Scan	A duplex scan is a non-invasive test using sound waves to create detailed images of blood vessels (arteries and veins) to check blood flow, identify blockages, narrowing, or faulty valves.
Eczema	Eczema is a common, chronic skin condition causing red, itchy, dry, and inflamed skin
Erythema	Erythema is the medical term for redness of the skin or mucous membranes, caused by increased blood flow in superficial capillaries due to injury, infection, inflammation, or irritation, appearing pink, red, or purple.
Haemosiderin stain	Hemosiderin staining is a reddish-brown discoloration of the skin, often on the lower legs, caused by iron from leaked red blood cells accumulating in tissues.
Hosiery	Hosiery is a broad term for knitted or woven legwear, including socks, stockings, tights and knee highs.
Hyperkeratosis	Hyperkeratosis is the medical term for the abnormal thickening of the skin's outer layer (stratum corneum) due to excessive production of keratin, a protective protein.
Hypoalbuminemia	Hypoalbuminemia is a condition marked by low levels of albumin protein in the blood
Intermediate Claudication	Intermittent claudication (IC) is exercise-induced leg pain, cramping, or fatigue due to poor blood flow from narrowed arteries, usually caused by atherosclerosis (hardening of the arteries).
Ischaemia	Ischemia is a less-than-normal amount of blood flow to part of your body

Leg ulcer	Defined as an open lesion between knee and ankle joints that remains unhealed for at least 2 weeks (NICE 2013)
Lipodermatosclerosis	Brownish purple discolouration around the leg ulceration
lymphoedema	Lymphoedema is a chronic condition causing swelling from lymph fluid buildup due to a damaged or faulty lymphatic system
lymphorrhoea	Lymphorrhoea is the leakage of lymphatic fluid (lymph) through the skin, often appearing as beads of clear fluid from swollen limbs or areas, commonly called "wet legs" with lymphoedema
malignancy	refers to cancerous conditions
Oedema	Abnormal infiltration of the tissues with fluid
Orthopnoea	Orthopnoea (or orthopnea) is shortness of breath (dyspnoea) that occurs when lying flat, forcing a person to sit or stand up for relief
Paroxysmal Nocturnal Dyspnea (PND)	Paroxysmal nocturnal dyspnea (PND) is a sudden, severe shortness of breath and coughing that wakes you from sleep
TBPI	Toe Brachial Pressure Index is part of the assessment process and gives an indication of the blood flow to the feet and lower legs
Thrombophlebitis	inflammation of the wall of a vein with associated thrombosis, often occurring in the legs during pregnancy.
Varicose veins	Dilated veins
Vascular	Refers to blood vessels
Venous	Pertaining to the veins

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Appendix 1. Procedure for Assessment of Ankle Brachial Pressure Index (ABPI)

1. Purpose/ Background

Lack of appropriate clinical assessment in patients with limb ulceration in the community has often led to long periods of ineffective treatment (Anderson, 2024). The role of the Doppler ultrasound in detecting arterial insufficiency is considered an essential part of the assessment process for chronic leg ulcer management (Wounds UK, 2024). It should be used in conjunction with the medical history, physical assessment and clinical presentation of the ulcer. The aim of this document is to ensure safe and standardised care when carrying out ABPI Doppler.

2. Scope

This applies to all registered nurses working within NHS Forth Valley who manage lower limb ulceration and chronic oedema assessment.

3. Responsibility

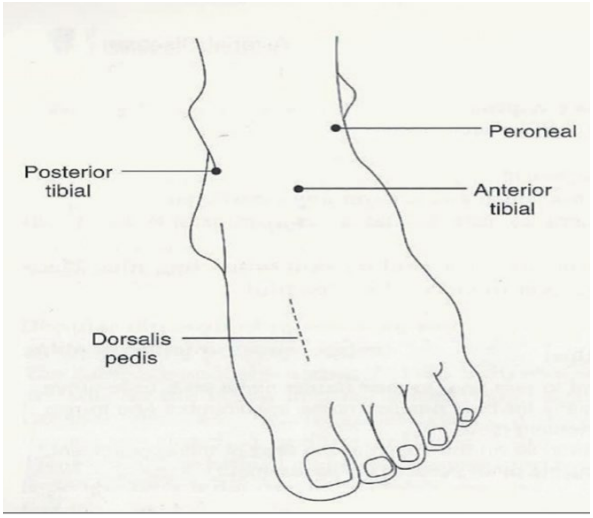
All trained nurses are responsible for reading this document and able to say they have an understood this document and will comply with the instructions within.

4. Procedure

It is the individual staff member's responsibility to ensure they work within their level of competence. This procedure should only be carried out by staff who are trained and competent to do so.

- 4.1 Introduce all staff to the patient. Confirm the patients name and date of birth. Explain to the patient what they can expect from the assessment. Do not perform doppler ultrasound if suspicion of DVT as it will be painful and may dislodge the clot.
- 4.2 Rest patient for at least 15 minutes before commencing the procedure. Patient should lie flat. However, if patient has problems with this due to breathing or arthritis, lie the patient as flat as it is comfortably tolerated and document this in the patients record.
- 4.3 Place the blood pressure cuff around the patient's arm (the cuff should be the correct size for the limb)
- 4.4 Locate the brachial artery and apply a pea size amount of ultrasound gel- over it.
- 4.5 Switch on doppler. Hold probe at 45–60-degree angle to the blood vessel and direct it into the blood flow. If no sound is heard, try adjusting the angle of the probe. Do not press the probe down into the patient as this is uncomfortable and can compress the vessel.
- 4.6 Inflate the cuff while holding the probe over the pulse until any sound disappears. Slowly deflate the cuff and when the sound reappears this indicates systolic pressure. Document this figure.
- 4.7 Repeat the procedure for the other arm.
- 4.8 Cover ulcer with cling film and apply blood pressure cuff just above the malleoli to cover the gaiter area.

4.9 Locate the foot pulse (the posterior tibial, peroneal, anterior tibial or dorsalis pedis pulse points can be used)

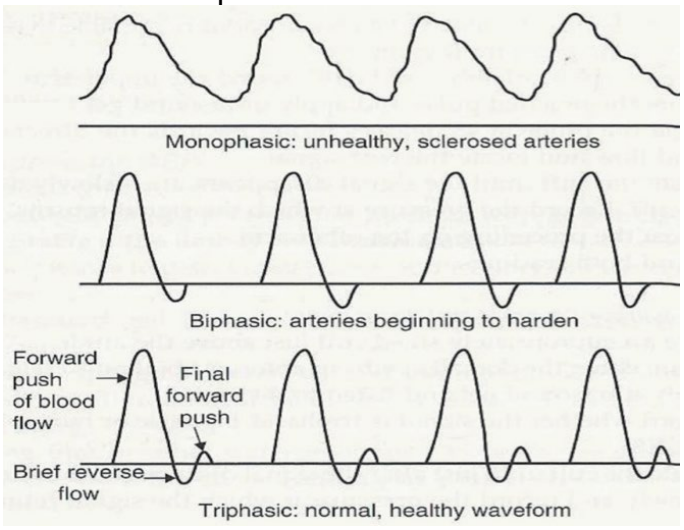


4.10 Apply Ultrasound gel and position the probe at 45–60-degree angle in the direction of blood flow.
4.11 Inflate cuff while holding the probe over the pulse until and sound disappears. Slowly deflate the cuff and when this sound reappears this indicates systolic pressure. Document this figure.
4.12 Locate a second foot pulse and repeat the procedure.
4.13 Repeat for the other limb
4.14 To calculate the left ABPI: Divide the highest of the two ankle readings for the left leg by the highest of the two brachial pressures.
4.15 To calculate the right ABPI: Divide the highest of the two ankle readings from the right leg by the highest of the two brachial pressures.

Ankle Brachial Pressure Index Calculation *(to be calculated for each leg)*

$$\frac{\text{Highest ankle pressure (PT or DP)}}{\text{Highest brachial pressure}} = \text{ABPI}$$

See Appendix 2: Doppler (ABPI) and Lower limb Assessment recording form.
Interpret the ABPI within the context of a full medical history, physical assessment and clinical presentation of the ulcer. Consider the pulse wave sound in the context of assessment.



The entire assessment should be documented and held within the patient's records, whether in paper form or uploaded to electronic records. This allows other health professionals to access

the assessment. Simply writing the ABPI results in the notes does not constitute good record-keeping practice as this does not consider the whole assessment and the ABPI is meaningless as a standalone assessment.
Patients should have another doppler assessment at 12 weeks if there are signs of delayed healing or poor healing. Once ulcer is healed this can be reassessed at 6 or 12 monthly intervals if ongoing compression. See Compression Therapy Decision Making Pathway for prevention and following wound healing. Repeat Assessments will depend on clinical presentation, history or if any changes to conditions or lower limb.
If there is no progress/improvement, the patient should be referred to Tissue Viability service for advice.
Criteria for referral to specialist services

- Suspicion of malignancy
- Critical lower limb ischaemia
- Peripheral arterial disease (ABPI <0.8 or >1.3)
- Vasculitis
- Atypical presentation of ulcers
- Suspected contact dermatitis or dermatitis resistant to topical steroids
- Non-healing ulcer despite appropriate treatment at 12-week review

Appendix 2: Doppler (ABPI) & lower limb Assessment recording form

DATE:_____

PATIENT NAME **CHI**_____

LIMB ASSESSMENT

Feet warm or cold (R) warm/cold (L) warm/ cold

Dorsalis pedis pulse able to be palpated (R) YES/NO (L) YES/NO

Posterior tibial pulse able to be palpated (R) YES/NO (L) YES/NO

Capillary refill _____seconds

SHAPE OF LEG _____

OEDEMA /PITTING OEDEMA (State where & where to)_____

ARTERIAL - Thin, shiny, hairless skin YES/NO

Cold/cool pale YES/NO

leg Dusky pink when dependent YES/NO

Pale on elevation YES/NO

Loss of sensation YES/NO

Positive Buerger's (R) YES/NO (L) YES/NO

PAIN NOCIEPTIVE – Throbbing, Dull, Nagging, Annoying Burning Sore (please circle)

PAIN NEUROPATHIC - Sharp, Stinging, Aching, Stabbing Pins & Needles, Shooting (please circle)

VENOUS –Varicose Veins, (R) YES/NO (L) YES/NO

Black/brown- (Haemosiderin) staining, YES/NO Where_____

Ankle flare (R) YES/NO (L) YES/NO

Eczema (varicose) (R) YES/NO (L) YES/NO

Hyperkeratosis (R) YES/NO (L) YES/NO

Atrophie blanche (R) YES/NO (L) YES/NO

Induration Lipodermatosclerosis (Hardness of the skin) (R) YES/NO (L) YES/NO

Dry skin (R) YES/NO (L) YES/NO Skin in good condition (R) YES/NO (L) YES/NO

Venous – Left/ Right DVT, Thrombophlebitis, (please circle)

Venous Surgery - State which leg & when, (i.e sclerotherapy)

_____

Arterial Vascular surgery YES/NO State what leg & when:_____

PMH - Intermittent claudication, Hypertension, Heart disease/TIA/Angina/MI CVA, Diabetes (please circle)

OTHER:_____

Peripheral vascular disease No /Yes

Rheumatoid conditions State what: _____

MEDICATION:_____

KNOWN ALLERGIES:

_____

COMPLETE ABPI/TOE DOPPLER AT YEARLY REVIEW OR N/A _____
NEXT DUE _____

SYSTOLIC PRESSURE	LEFT	TRI, BI OR MONOPHASIC SOUND OR MESI WAVEFORM	RIGHT	TRI, BI OR MONOPHASIC SOUND OR MESI WAVEFORM
BRACHIAL				
DORSALIS PEDIS				
POSTERIOR TIBIA				
OTHER (STATE)				
HIGHEST PEDAL				
BLUE DOP ABI				
BLUE DOP PERFUSION PRESSURE				
HIGHEST ANKLE Divided by HIGHEST BRACHIAL				
= ABPI				

AETIOLOGY	TICK
Venous	
Arterial	
Mixed	

PROBE SIZE USED	TICK
5 MHz	
8 MHz	

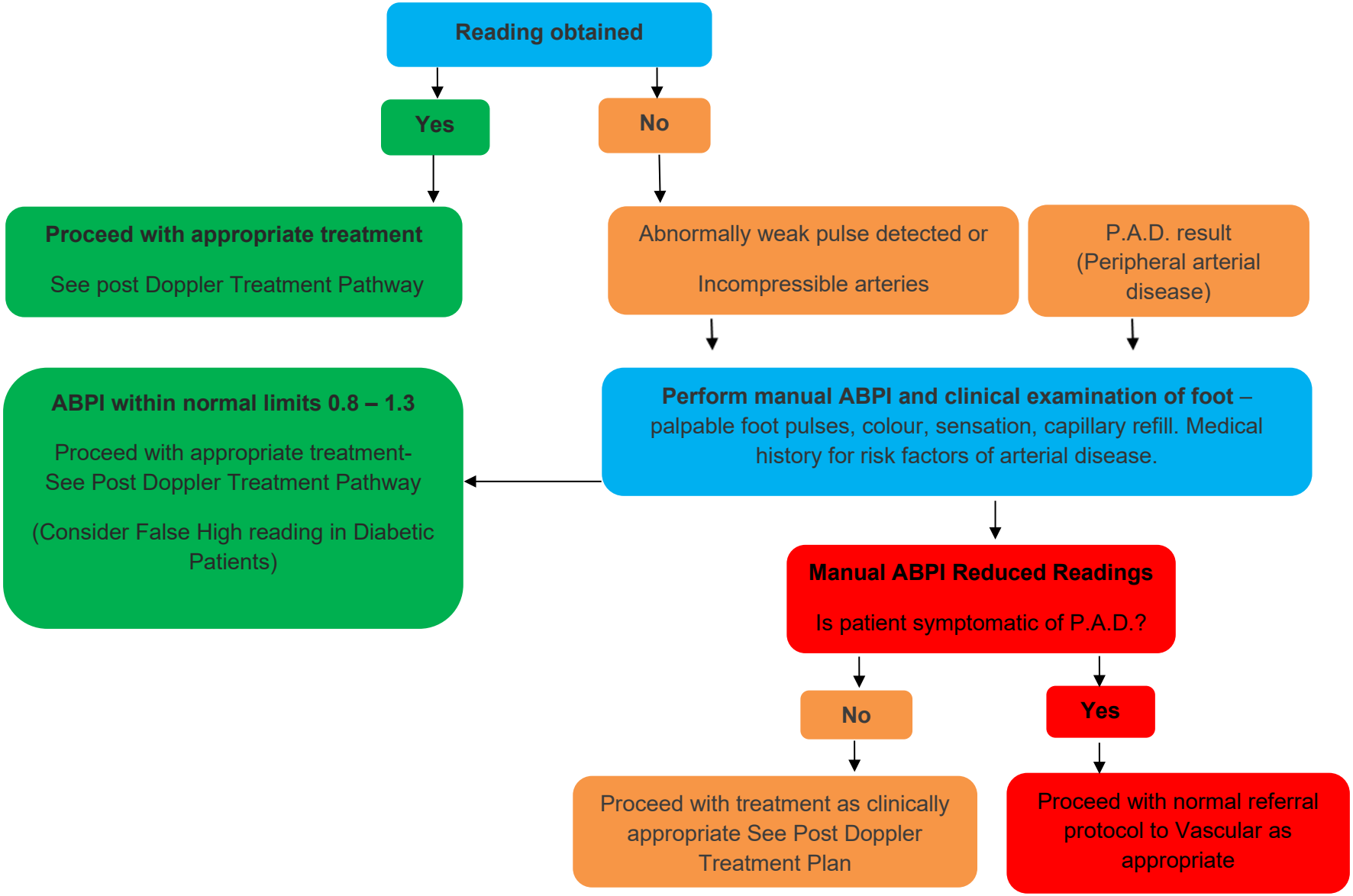
CUFF SIZE	TICK
Standard Adult	
Large Adult	
Small	

PATIENT POSITION- supine, semi-supine, other
GENERAL COMMENTS e.g. compliance, tolerance
STOCKINGS ADVISED YES/NO (R) (L) TYPE _____
WRAPS ADVISED YES/NO (R) (L) TYPE _____
CLINICIAN NAME/SIGNATURE

Appendix 3. Flowchart Guidance for Ankle Brachial Pressure Index (ABPI) measurement using automated ABPI machine (MESI)

This guidance is supplementary to the Instructions for Use produced by Medi UK in the use of their automated ABPI machine

Results should be interpreted to include additional holistic factors and not be viewed in isolation



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