

# Venous Leg Ulcer Workshop

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# Objectives

- Overview Venous Leg Ulcers (VLU) ANZ Clinical Practice Guideline / Introduce NZWCS leg ulcer assessment form
- Understand venous / arterial pathophysiology
- To recognise importance of clinical assessment and correct diagnosis
- To understand the importance of compression therapy and associated risks
- Introduce Intermittent Pneumatic Compression
- Learn how to apply a safe and low compression option whilst awaiting referral
- To understand supplemental pressure and how to use it
- Importance of patient education

# Venous Leg Ulcer Definition

## **ANZ (2011)**

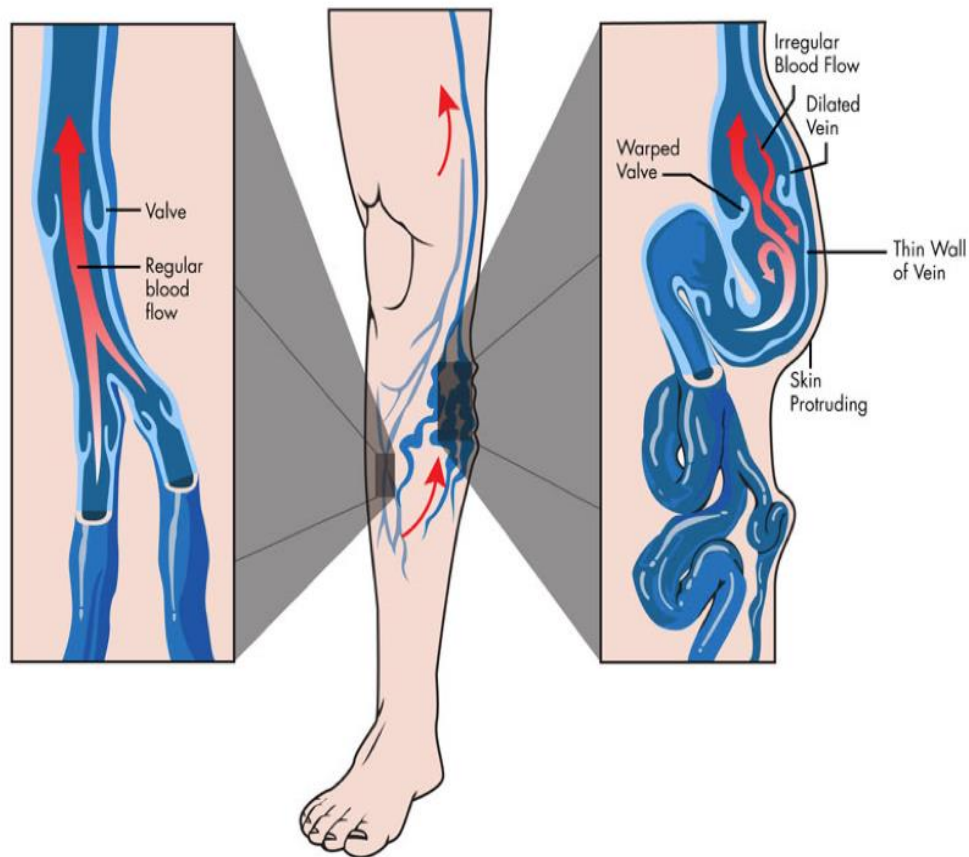
Full-thickness defect of the skin that persists due to venous disease of the lower leg.



## **NICE (2013)**

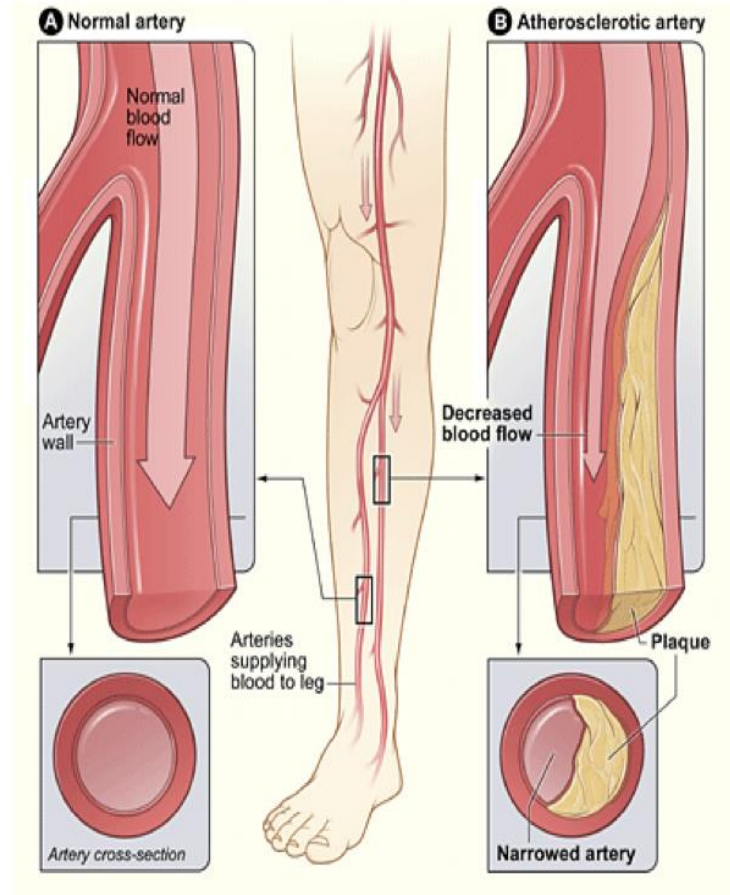
Open lesion between the knee and the ankle joint that occurs in presence of venous disease and takes more than two weeks to heal.

## Vein Disease



## Versus

## Arterial Disease



# Guidelines:

## Australian and New Zealand Clinical Practice Guideline for Prevention and Management of Venous Leg Ulcers



**AWMA**  
Australian Wound  
Management Association Inc.



**NEW ZEALAND  
WOUND CARE  
SOCIETY**

- Identify those at risk of VLU
- Assess and accurately diagnose VLU
- Optimise management plan
- Promote self care
- Prevent complications
- Optimise QoL (e.g.pain)
- Reduce VLU recurrence
- NZWCS Leg Ulcer Assessment form based on guidelines

# Accurate Diagnosis



1. Comprehensive history
2. Physical examination (compare both legs)
3. Diagnostic reasoning

# Leg Ulcer Assessment Form

- **HISTORY – Clinical, Pain & Leg Ulcer**
  - Compression can decrease pain by reducing oedema & inflammation
- **EXAMINATION of the Leg & Ulcer**
  - Apply principles of skin care & wound bed preparation
- **INVESTIGATIONS to Support Diagnosis**
  - ABPI, duplex scans
  - Differential diagnosis
- **Planning, Implementation & Evaluation**
  - Education & self care can increase concordance
  - Referral for suitability for corrective surgery

# Arterial Clinical Signs & Symptoms

- Intermittent claudication
- Ischemic rest / night pain
- Pain relief when foot lowered
- Dependent rubor / ischemic pallor on elevation
- >2 sec capillary refill time
- Loss of hair lower leg
- Cool foot
- Skin thin / shiny
- Thickening toenails



# Venous Disease Risk Factors

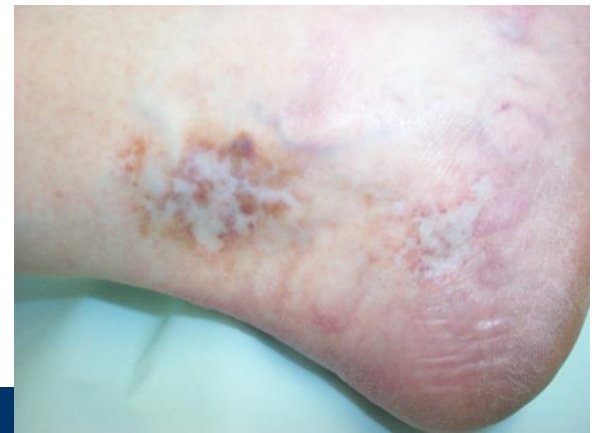
- Advancing age
- Family history varicose veins /ulcers
- Previous vein surgery / leg ulcer
- DVT / PE / chest pain, hemoptysis
- Hx phlebitis
- Lower leg fracture, trauma or surgery
- Reduced calf pump function
- Prolonged standing /sitting occupations
- Multiple pregnancies
- Overweight



# Venous Clinical Signs & Symptoms

- Limb pain present (aching, tired, night cramps)
- Pain relieved with elevation
- Prominent, superficial veins
- Ankle Flare
- Lipodermatosclerosis
- Hemosiderin Staining
- Eczema dry or wet
- Atrophie Blanche
- Edema: pedal / ankle / leg
- Inverted champagne-bottle shaped leg





**Varicose veins**

**Eczema**

**Haemosiderin Staining**

**Atrophie Blanche**

**Lipodermatosclerosis**

**Ankle flare**

**Inverted Champagne  
bottle shaped leg**

# Ulcer Characteristics

## Venous

- Partial to full thickness ulcer
- Can be painful
- Irregular wound edges
- Slow progress
- Gaiter region
- Spontaneous breakdown

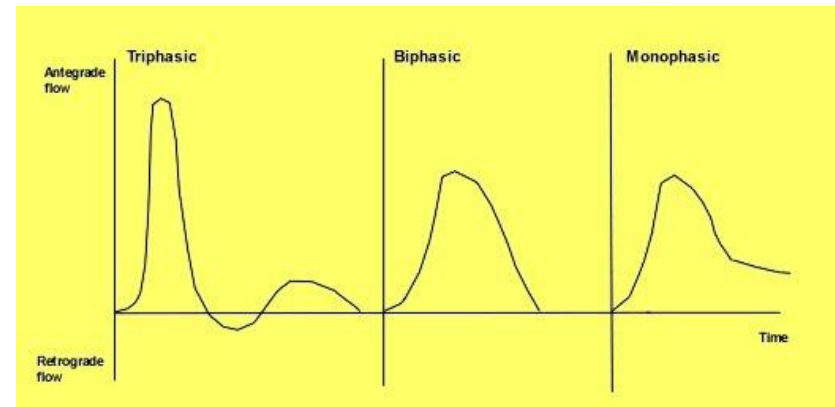


## Arterial

- Full thickness ulcer
  - Painful, sharp, intense
  - Punched out appearance
  - Rapid progression / prone infection
  - Ulcers located on toes, heels, and bony prominences of the foot
- \*check for inter-digital ulcers



# Ankle Brachial Pressure Index



Measures fall in BP in the arteries. Detect evidence of arterial blockages and calcification of the lower leg. Confirms if safe to apply levels of compression.

# Compression Therapy

- Aids healing: promotes venous return, reduces venous pressure and prevent venous stasis.
- Trained application (bandaging / hosiery systems) scope of practice!
- Seek advice / early referral
- Healing rates up to 70% at 12 wks
- 12-month recurrence rates 18-28%
- Program to prevent recurrence can improve quality of life & reduce costs



# Risks of Compression - Safety First!



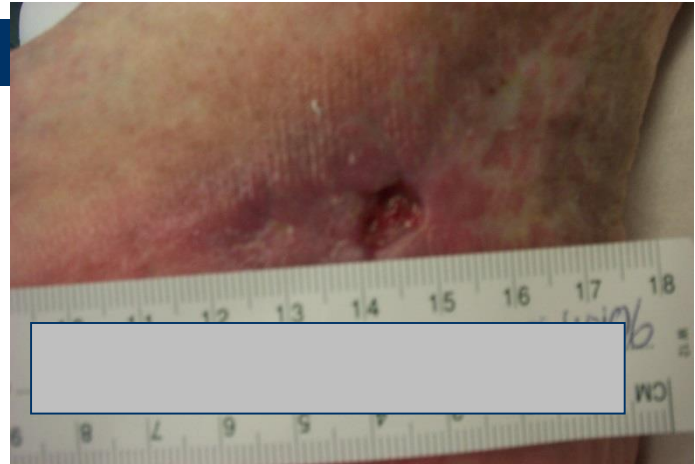
# Case Study

- Ankle fusion surgery
- NPWT ceased
- Healing achieved  
< 2-months with  
compression  
bandaging



# Localised Supplemental Pressure

- Additional pressure to aid healing.
- Place over primary dressing ('Southland Snail', gauze or foam) before compression is applied.
- Softens fibrosed skin
- Helps flatten raised wound edges



# Intermittent Pneumatic Compression



- Three chamber (sequential pressure)
- Half or full leg garments
- Inserts for larger limbs
- Vascular / lymphatic conditions
- Increases venous / arterial flow
- Increases pressure in the extracellular space forcing excess fluid back into circulation
- Antithrombotic effect

May increase healing compared to no compression. Unclear if it can be used instead of compression bandaging. May improve healing when used as adjuvant to compression bandages.

# Tubigrip Application: *Toe-to-below Knee*

- Ankle / calf circumferences (oedema reduction)
- Regime avoids using adhesives on skin.
- Tubigrip alone can cause pressure marking on thin legs and fragile skin; hence use padding 1<sup>st</sup> to protect limb.
- Stockinet (optional).
- 10cm Soffban 1.5 rolls: create normal shaped leg, pad out bony prominences or dressing ridges. Run hands down the leg to ensure it is smooth and well padded.
- 10cm Crepe: apply firmly; if loose soffban/dressings will slip.
- Tubigrip: start one layer first; assess tolerance (can increase to 2 layers). Normal shape leg: size E.
- Reassess limb for skin marking at each dressing change

# Tubigrip Case Study



Skin Tear Trauma



25-days post trauma

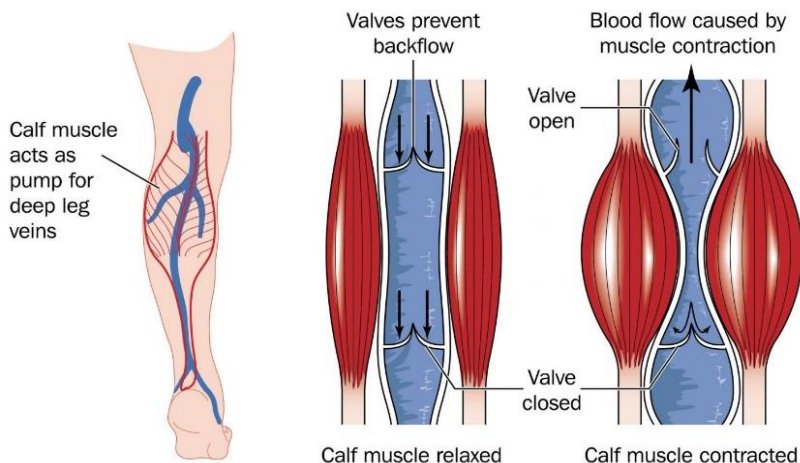


3-months post trauma

# Education: Engagement!



- Blood has left the highway (veins) and gone to the hills! (skin). Need to move blood off hills back onto the highway!
- Please remove compression: numbness, tingling, toes discoloured, pain
- Exercise & maintain ankle flexion
- Patient VLU Information Leaflets: [www.nzwcs.org](http://www.nzwcs.org)



# Hosiery & Skin Care

- Compression hosiery improves venous return /reduces oedema & ulcer recurrence rates
- Individual assessment & patient preference (replacement!)
- Skin care: when to apply & use of topical steroids
- Donning devices
- Caregiver assistance



# Any Questions?



# References

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