AUSTRALIAN WOUND & SKIN ALLIANCE

# Summer SCHOOL 2025

*A residential learning experience*

**14-15 February 2025**

Novotel Geelong, Victoria

**www.AWSAlliance.au**

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# Oedema Management, Compression and Vasculitis Case Study

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**Wound CNC Holmesglen Private Hospital/ Alfred Hospital Hyperbaric Unit**

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# Case Study Overview

- 58-year-old female

## Past Medical History

- Hypertension
- Previous VV surgery with recent VV surgery March 23 ; awaiting further sclerosis in the coming year.

## Social History

- Married, two grown children.
- Working
- Nil other issues
- Vascular surgeon referred to me after hospitalisation for right leg ulcers/ cellulitis and  non-healing chronic nature of wounds.
- Had been given Class 2 thigh high compression stockings post previous VV surgery but didn't wear them as they fell down a lot.

# Venous Ulcers

## Venous Insufficiency

- Chronic venous insufficiency occurs when blood is not effectively pumped toward the heart and pools in the superficial veins and capillaries of the lower leg causing venous hypertension and oedema.
- The elevated venous pressures in the lower leg result in damage to the superficial and perforating veins causing a backward flow of blood called reflux.
- At this point the calf muscle pump, normally present when walking, cannot move sufficient blood toward the heart.
- When the calf muscle pump is impaired, the reduction in venous pressure associated with walking and exercise decreases resulting in higher pressures in the veins.
- These increased pressures move fluid from the venous blood system into the surrounding tissues, causing oedema.

Education Module Compression Therapy 2016. Developed by the British Columbia Provincial Nursing Skin and Wound Committee in collaboration with Wound Clinicians

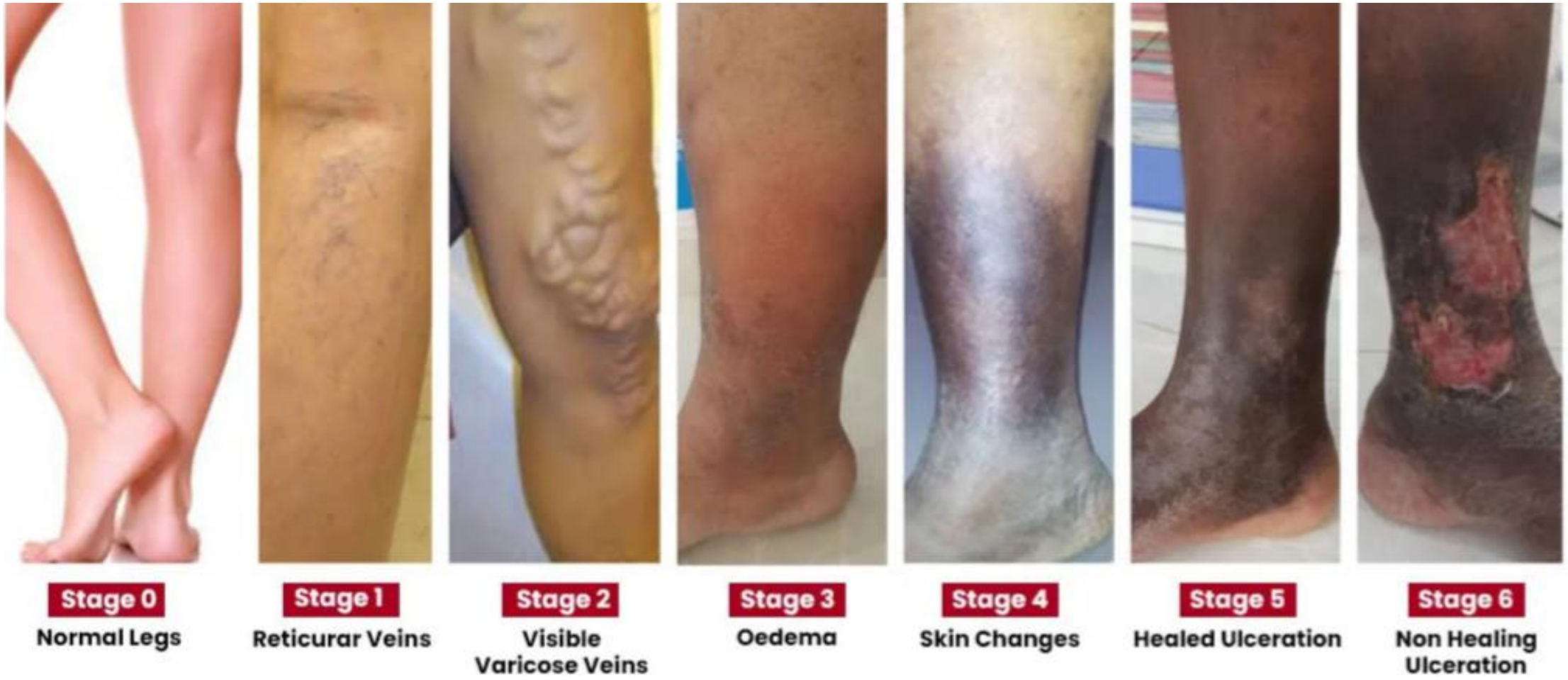
# Classic lower limb changes commonly seen with chronic venous insufficiency

- Elevated skin temperature over the lower leg and foot due to inflammation.
- Oedema caused by fluid leaking from the veins into the surrounding tissues.
- Pedal pulses are often normal, they may be difficult to palpate if the oedema is severe.

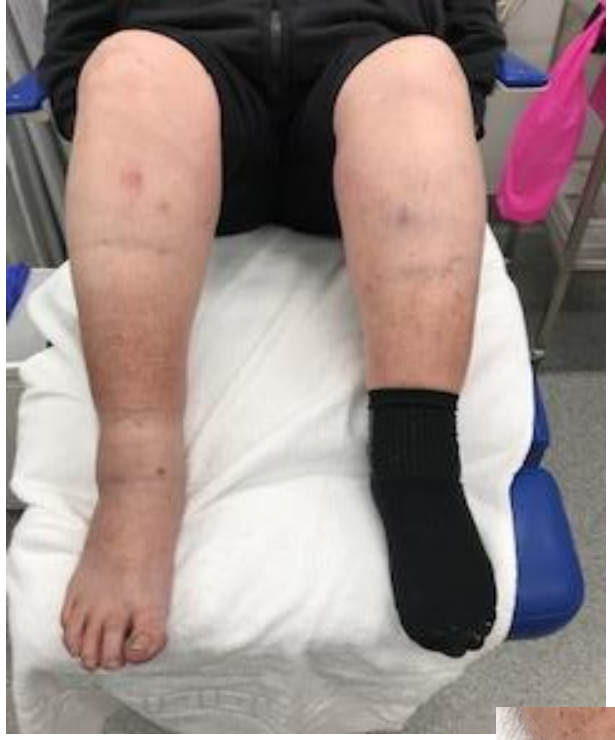
**Wounds:**

- Shallow with irregular borders and covered with yellow slough or granulation tissue.
- Moderate to large amounts of exudate especially with compression.
- Located proximal to or over the medial malleolus or the gaiter area.
- Evidence of healed wounds.
- Cellulitis may be present.
- Pain & heaviness in the legs especially with prolonged standing that is often relieved with elevation.
- Hemosiderin staining caused by red blood cells leaking into the tissues, breaking down and infiltrating the subcutaneous tissues. Reddish brown pigmentation over the lower leg.
- Venous dermatitis presents as weeping, itching, scaling skin, erythema, hyperpigmentation and dilated superficial veins.
- Woody fibrosis, also known as *lipodermatosclerosis* is a thickened brawny induration over the lower leg. This causes a loss of tissue compliance which prevents expansion of the tissue in the ankle. It gives the leg the appearance of an inverted champagne bottle and can ultimately lead to ulceration on the lower limbs.
- Limited mobility in the ankle joint (“fixed or frozen ankle”) which in turn limits the proper use of the calf muscle pump

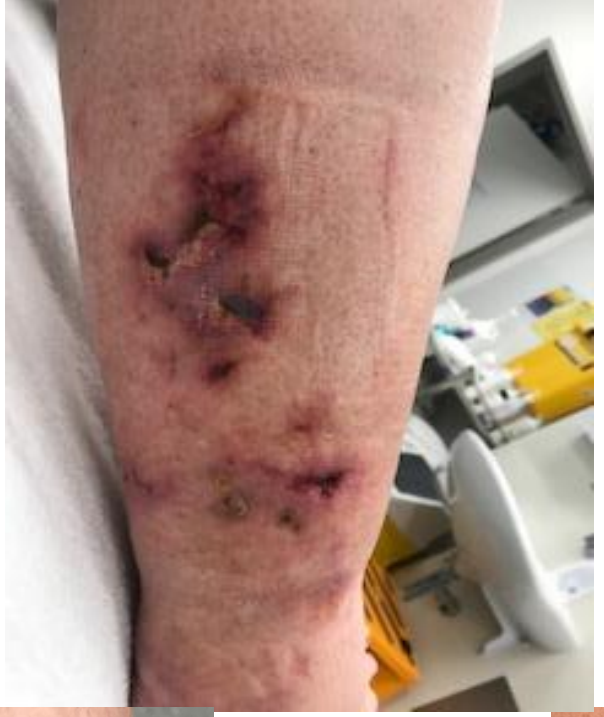
Education Module Compression Therapy 2016. Developed by the British Columbia Provincial Nursing Skin and Wound Committee in collaboration with Wound Clinicians



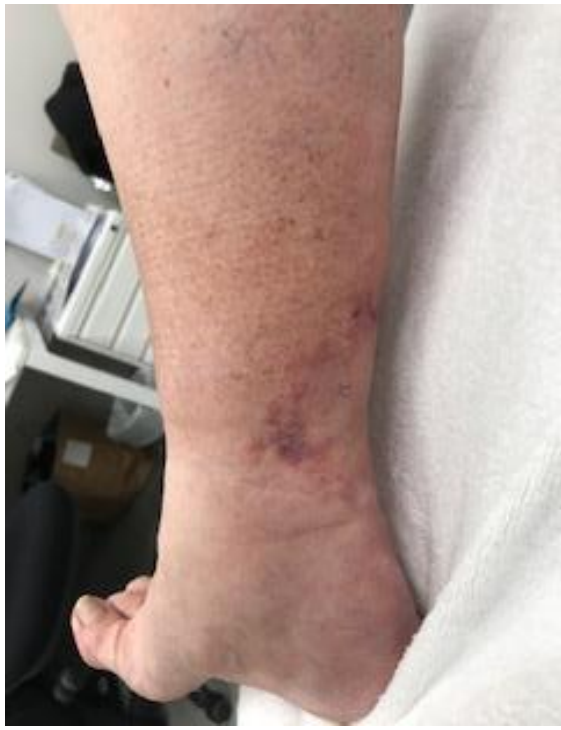

CEAP classification



Bilateral

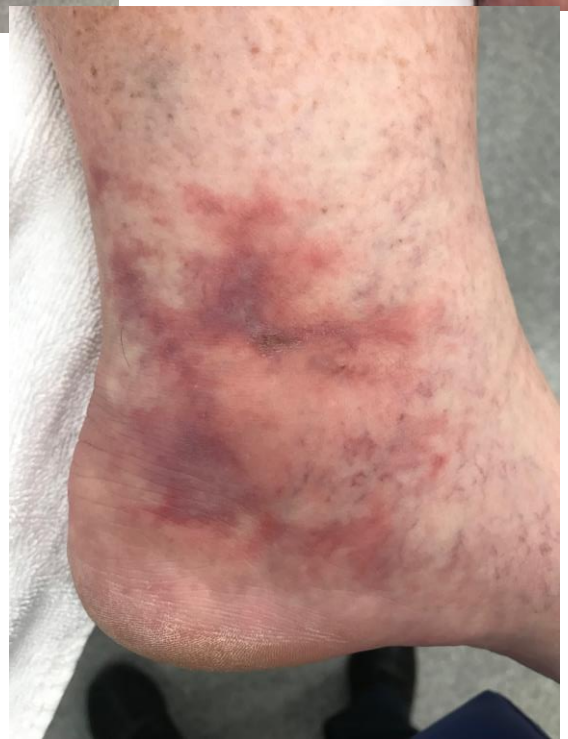


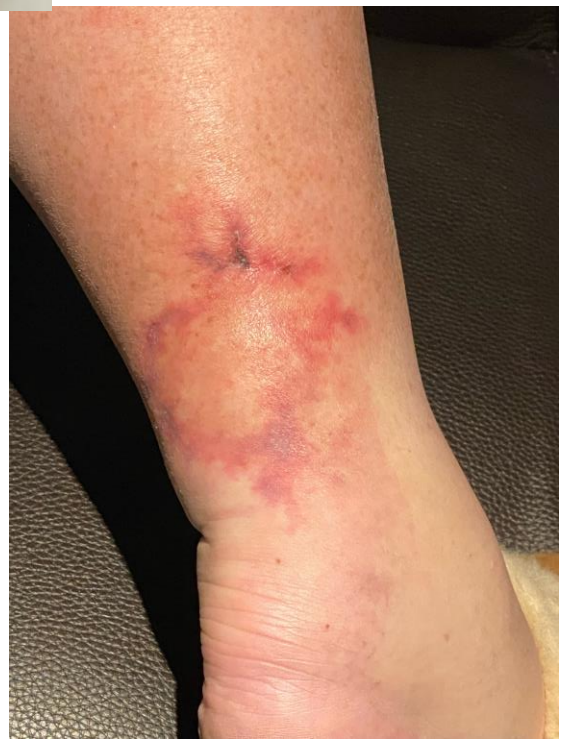
Right



Right

Left





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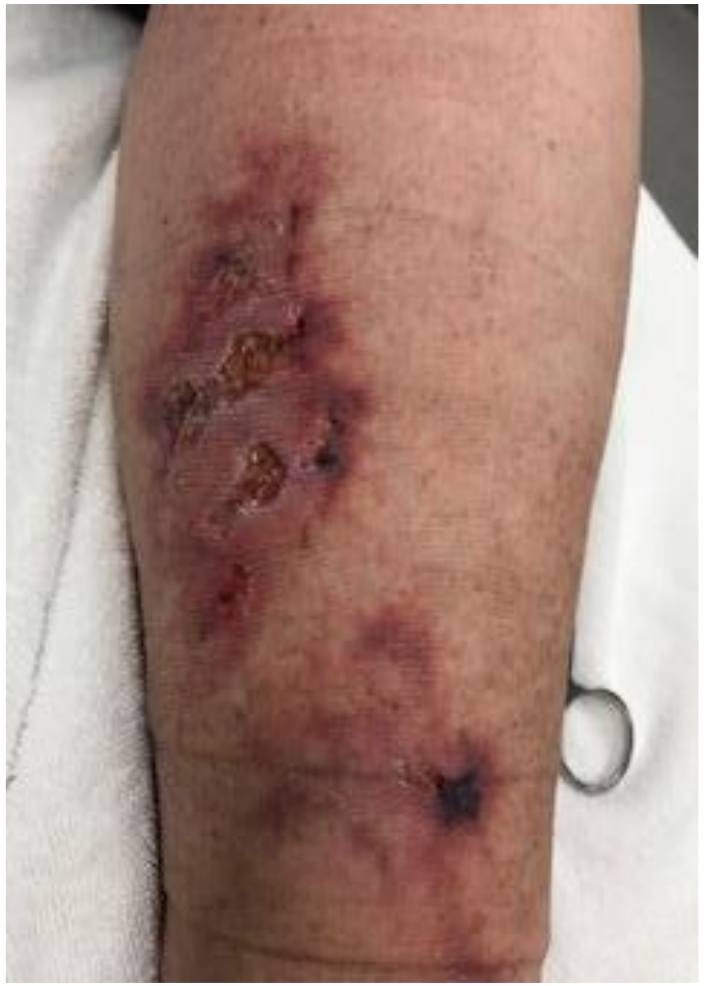

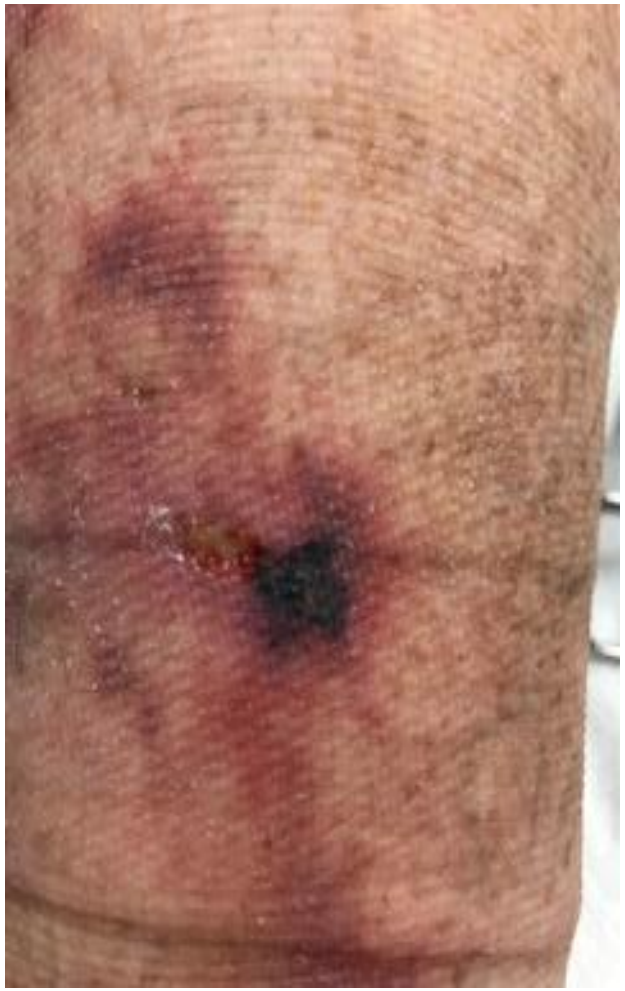

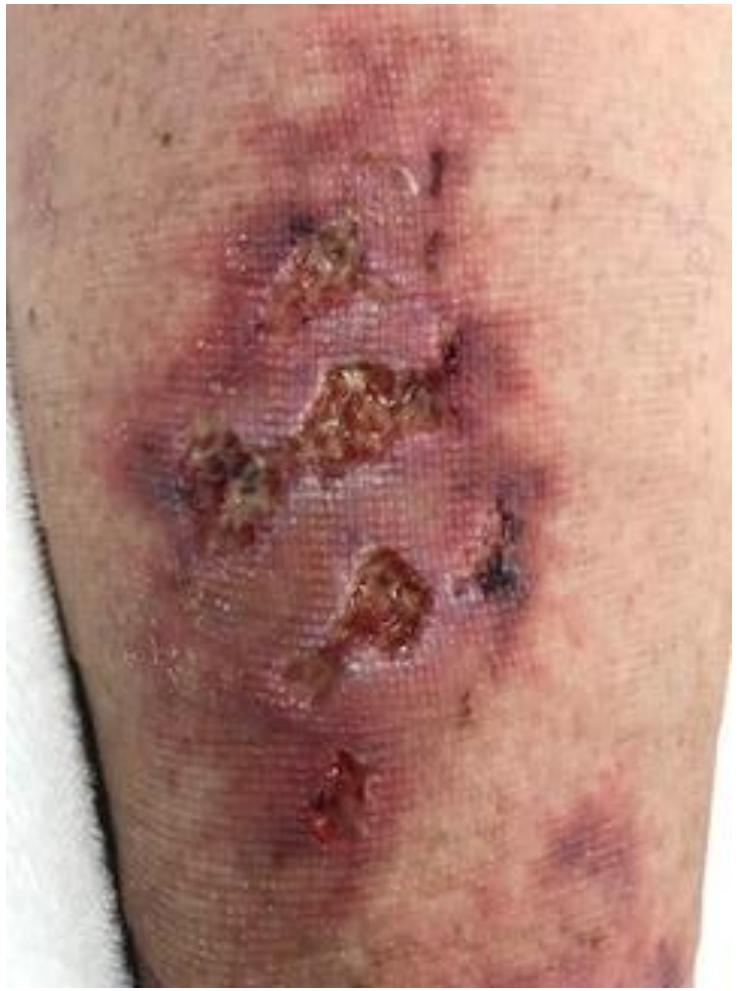

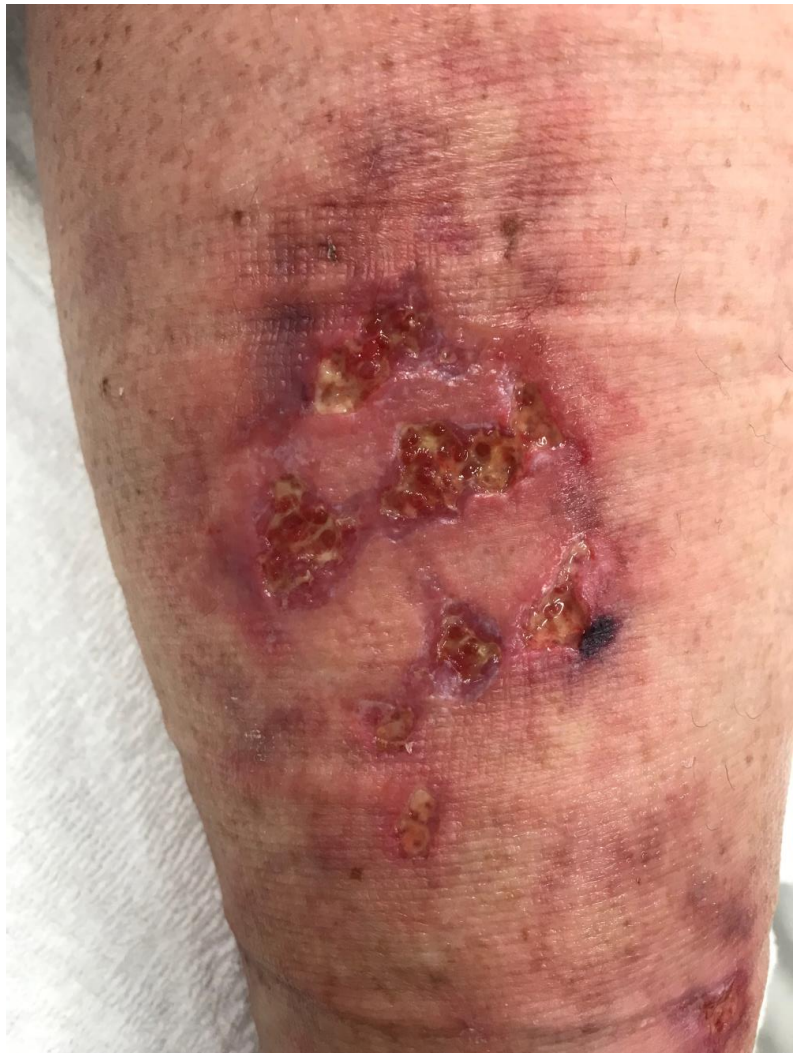
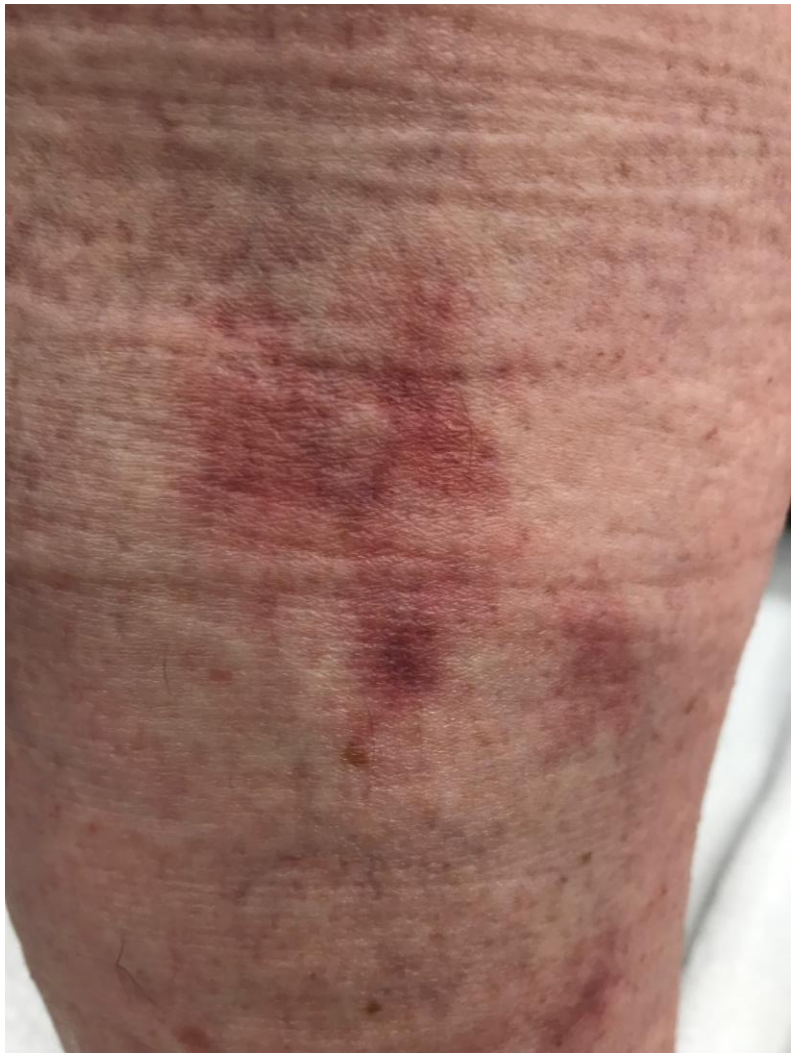
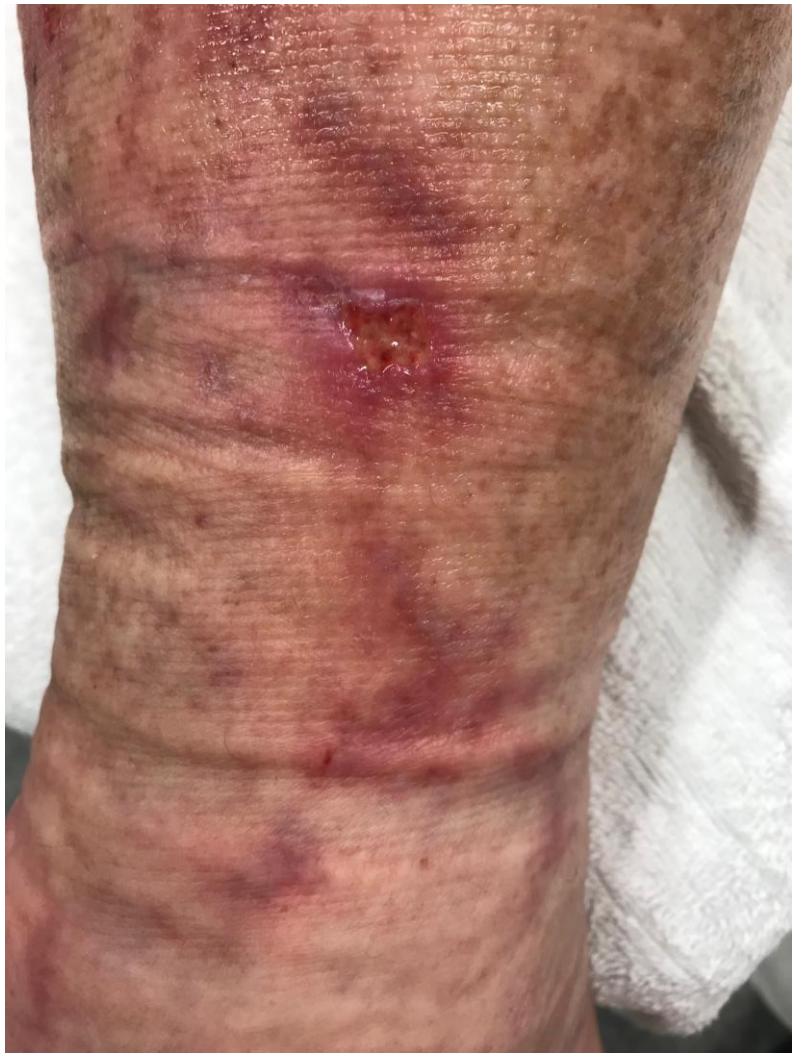

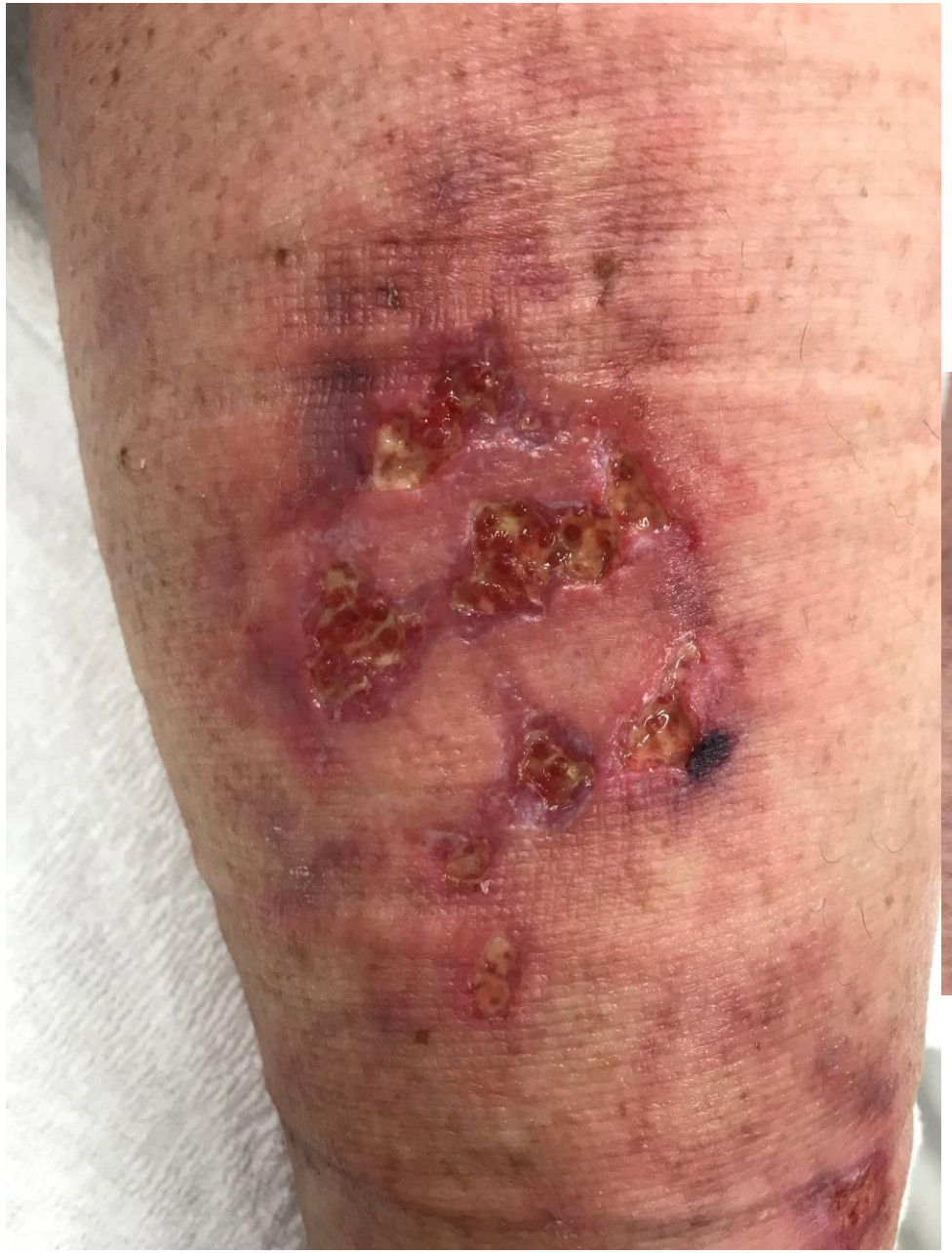

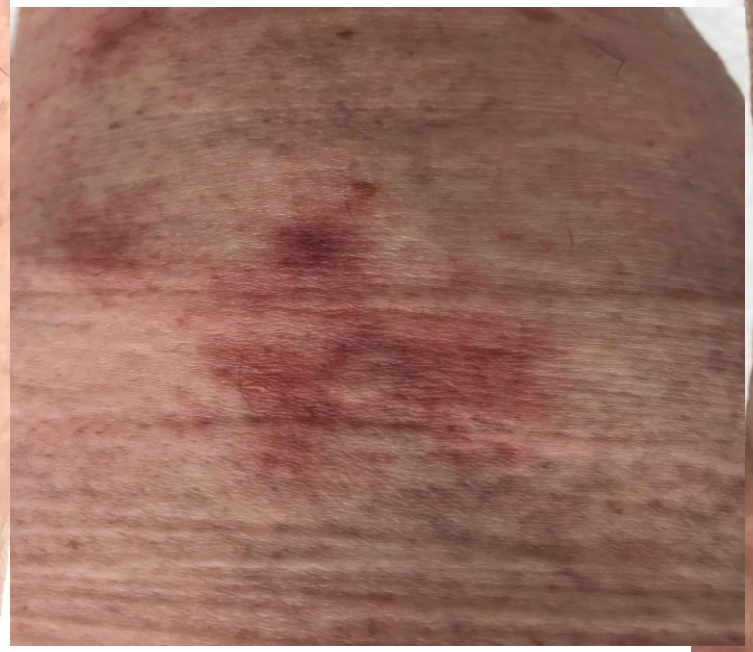

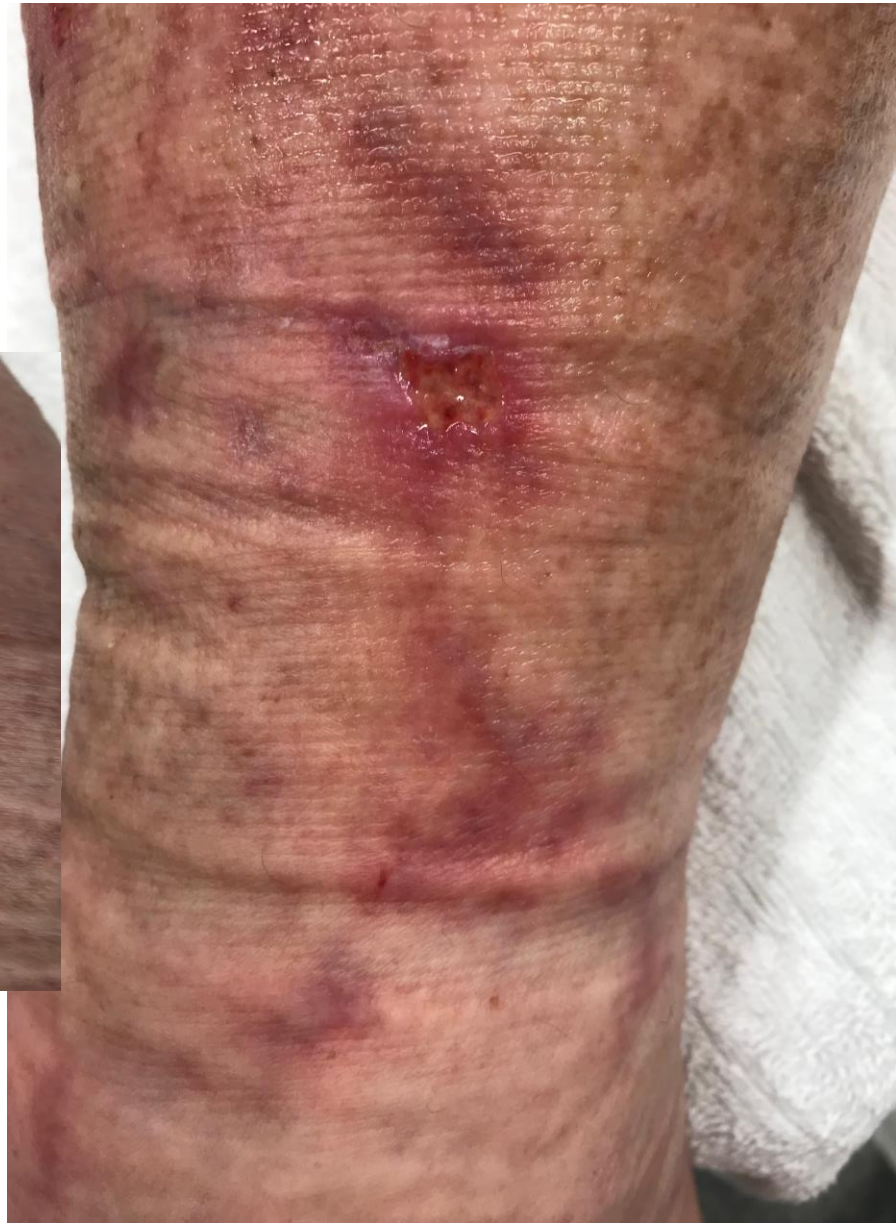

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# Initial Assessment

## June 2023

- Bilateral swollen legs
- Right lateral leg – scattered wound approx. 10 x 5 cm, necrotic and sloughy in places, granulation in some areas, edges intact , painful to palpate
- DP and PT pulses palpable
- Minimal pitting oedema
- Gaiter region skin discolouration
- Left medial malleolus skin changes ( “how the right started”)

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# Venous Mapping April 23

**VENOUS MAPPING**

**Right side:**

The saphenofemoral junction has been ligated. Varices are present in the left inguinal region with an incompetent recurrent long saphenous vein and varices in the mid thigh. The long saphenous vein is not visible around the knee but becomes visible again in the proximal calf where it is incompetent The short saphenous vein is completely sclerosed. An incompetent perforator is seen 14 cm below the knee crease with varices in the lateral calf. The deep system is competent. No incompetent perforators are present.

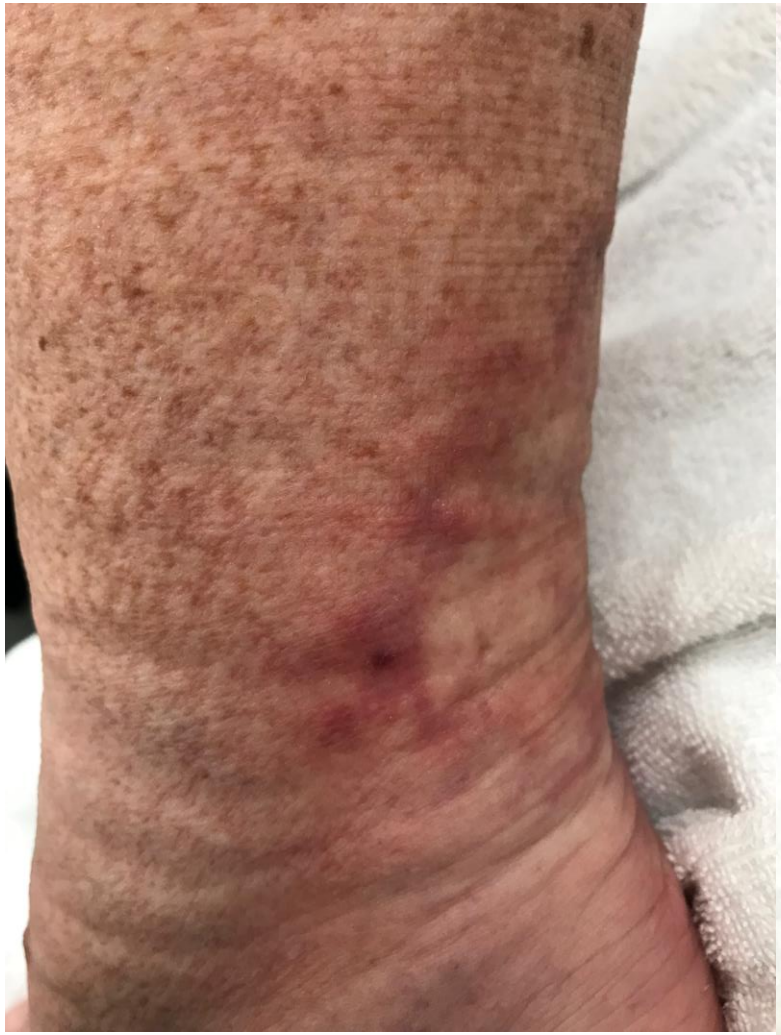
**Left side:**

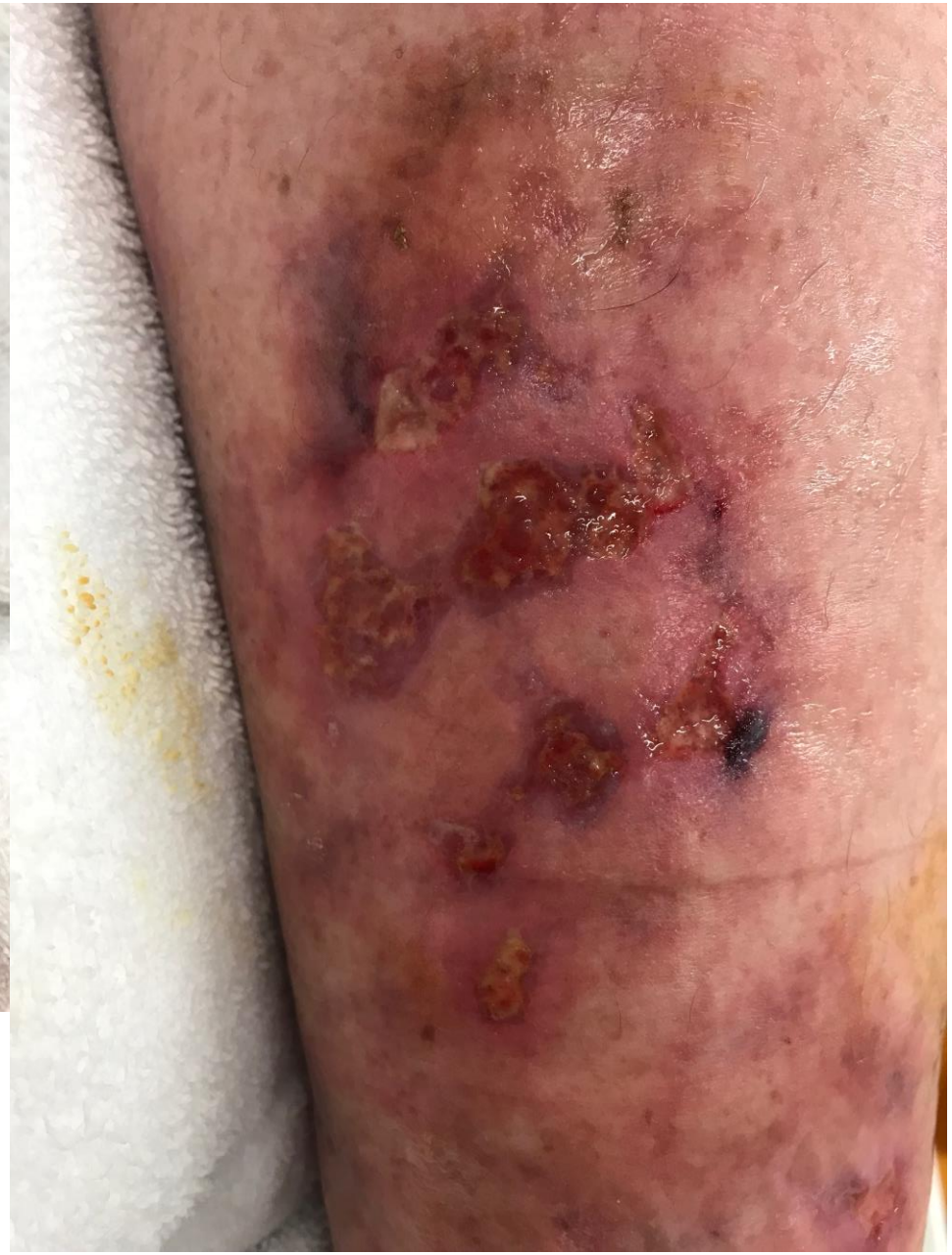
The saphenofemoral junction and long saphenous vein are competent. The short saphenous vein is sclerosed and drains via posterior thigh veins and supplies varices in the lateral calf. An incompetent perforator a central catheter is below the knee crease. The deep system is competent. No incompetent perforators are present.

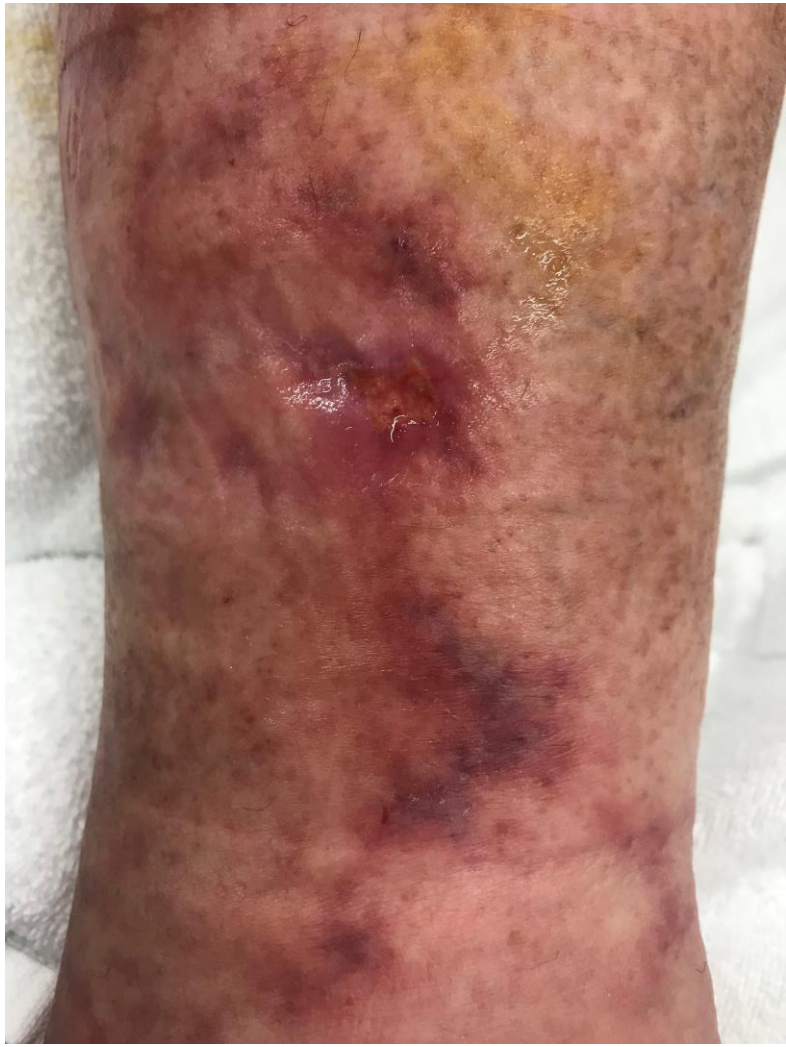
**Conclusion: Venous** insufficiency as described above.

# Wound/ Oedema Management

- Over the course of the next 3 months I carried out venous ulcer wound management
- Twice Weekly visits
- Debridement ( as able due to pain)
- Initial Wound plan - prontasan , gelocast (zinc paste bandage), softban, crepe and one layer tubigrip
- Measured for compression WRAPSs – discussion with DS ( showing and applying a sample) – WRAPS were going to be a better compression garment than stockings and / or thigh high for her
- Started to see some improvement in the wounds ( necrotic areas => slough) but also resistance in areas







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- Pain was a constant throughout this process
- DS has a sweary bear (Mr B) that she would bring each time ☺
- Trialed CoBan strong compression to get 24/ 7 compression on the right leg
- DS was unable to tolerate due to the pain.
- Changed this to short stretch bandage (Comprilan) which she tolerated much better
- July - further investigations due to the slow progress of healing and pain levels
- Discussion with Vascular surgeon who referred re other causes ( had been tested for Buruli – Negative )
- ? Pyoderma gangrenosum or atypical ulcer presentation


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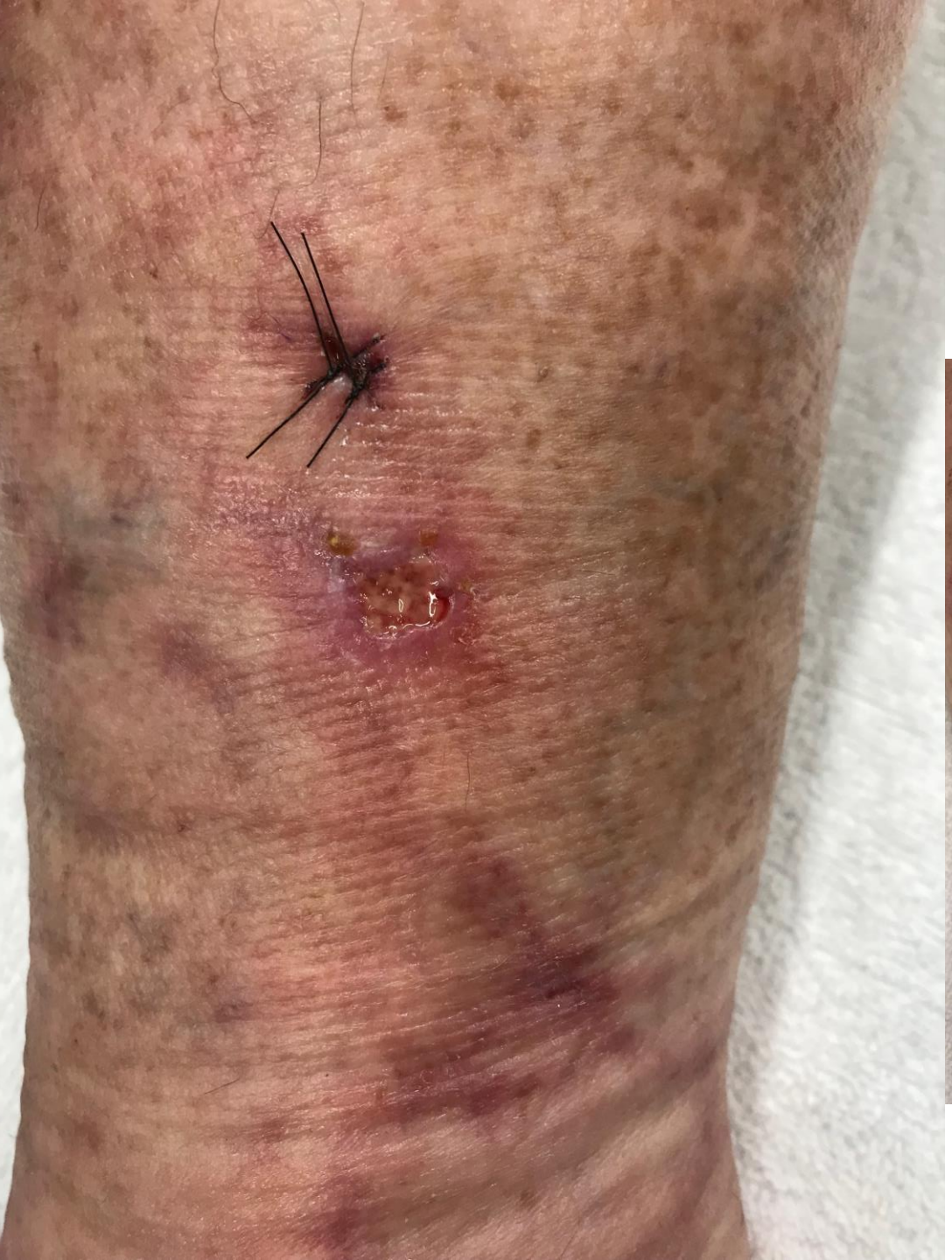

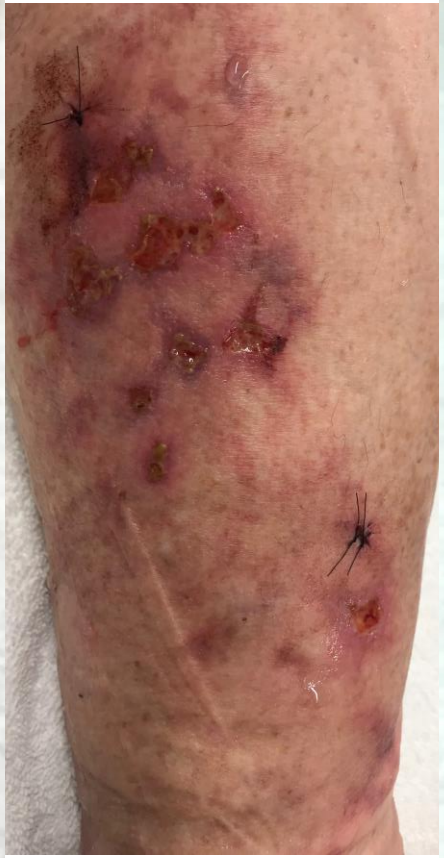

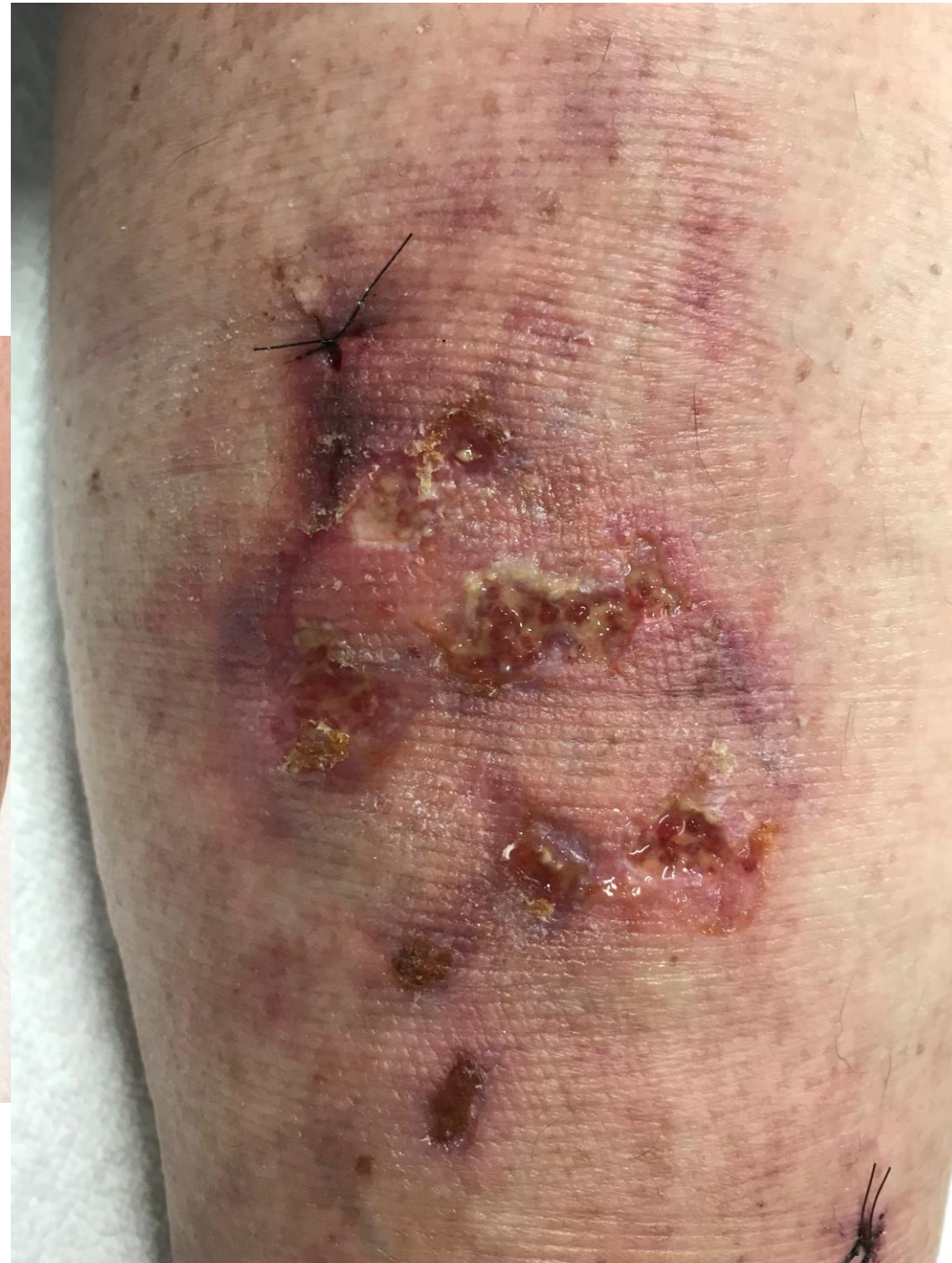

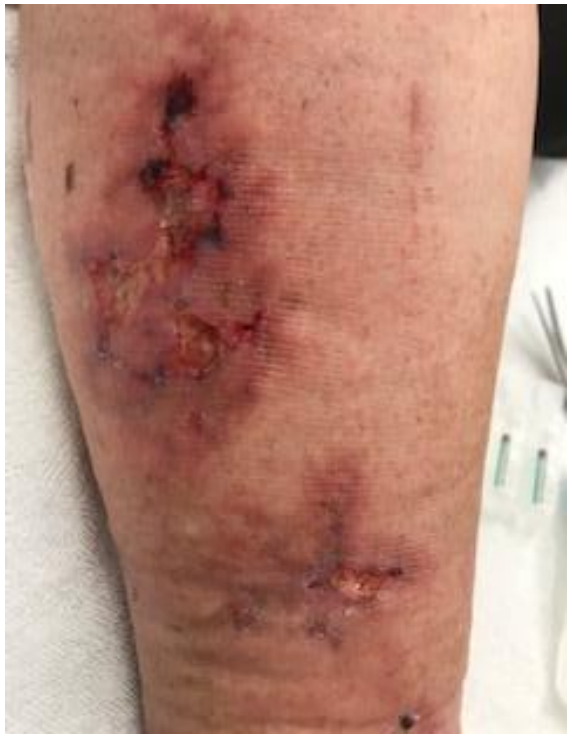

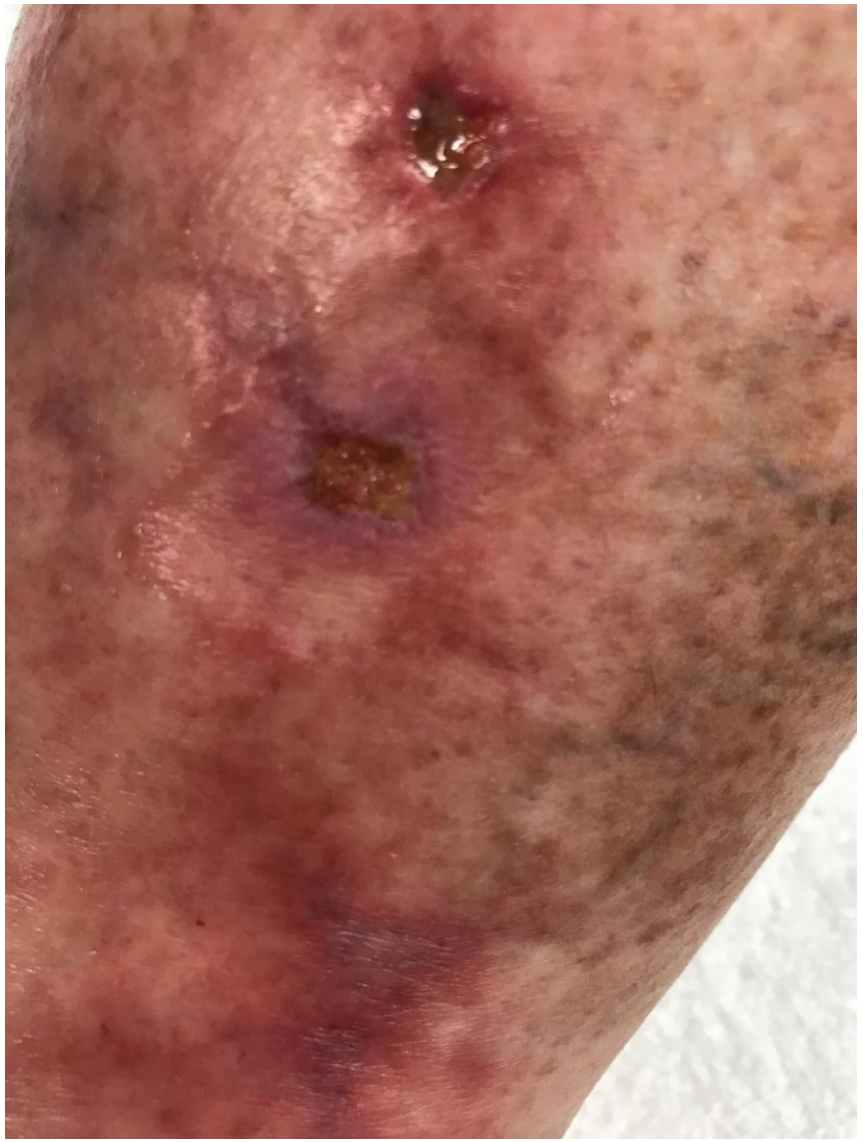

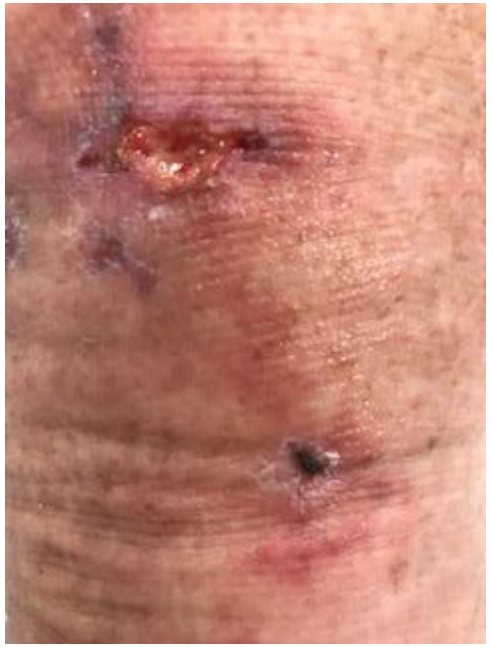

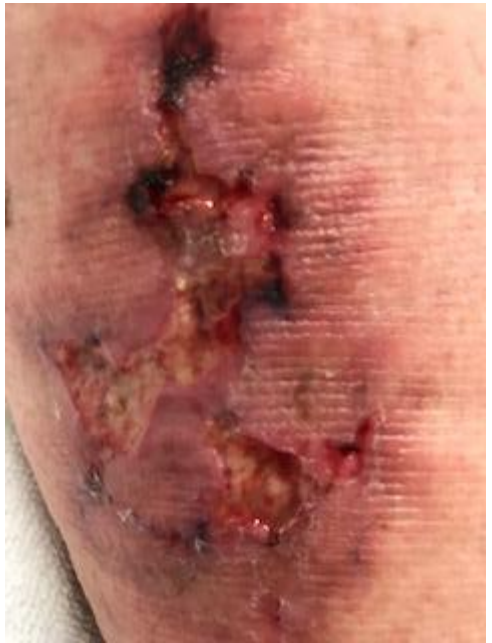

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# Aug 28th

- August  - wounds had stalled in healing process
- Referrals ( with Vascular Consultant collaboration) to Dermatolgist for review and biopsy ( subsequently referred to St Vincents Dermatolgy)
- Now thinking ? Vasculitis
- August 10th after biopsies/ bloods diagnosed with Vasculitis CPAN (Cutaneous polyarteritis nodosa)

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# Cutaneous Polyarteritis Nodosa - CPAN

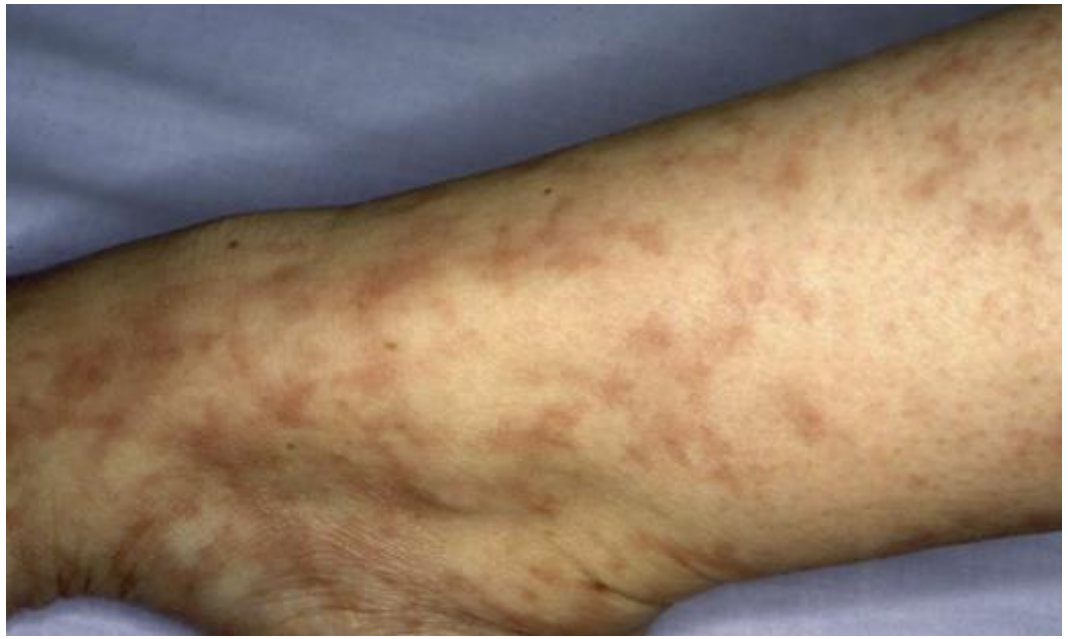
Cutaneous Polyarteritis Nodosa (CPAN) is an uncommon and rare form of cutaneous vasculitis. It involves small and medium sized arteries of the dermis and subcutaneous tissue

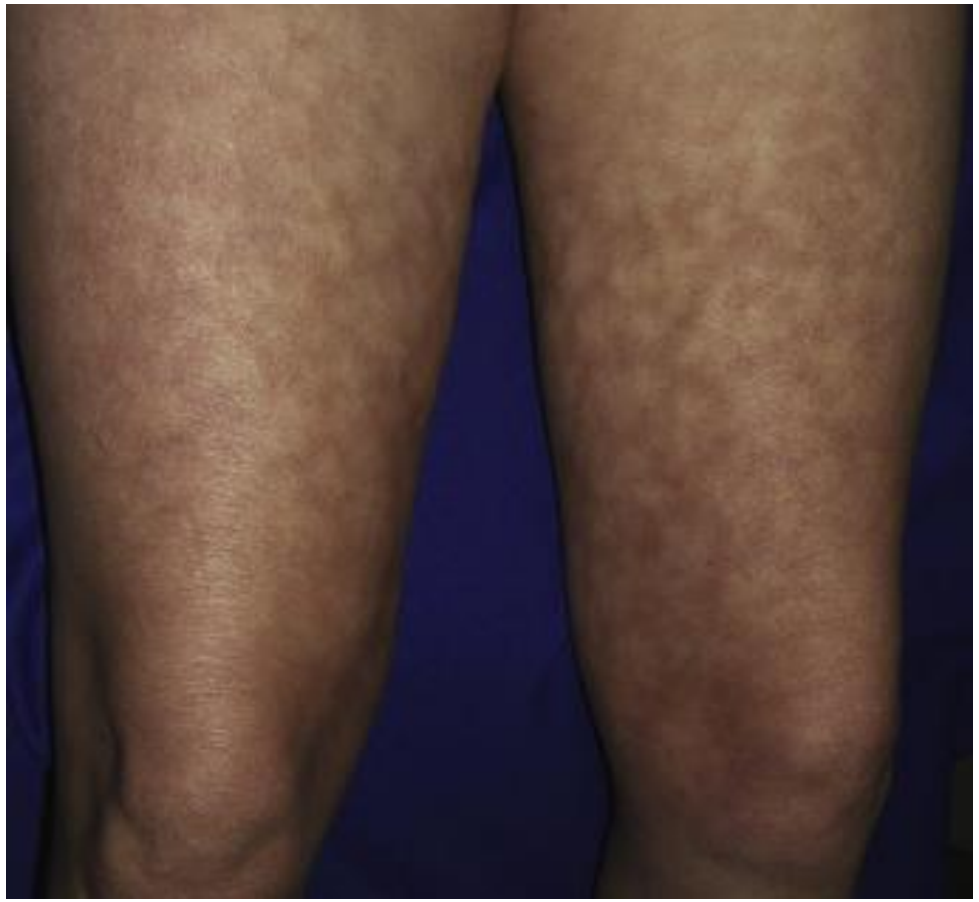
Aetiology - autoinflammatory and autoimmune factors, and immunodeficiency (Dermnet)

# Cutaneous Polyarteritis Nodosa

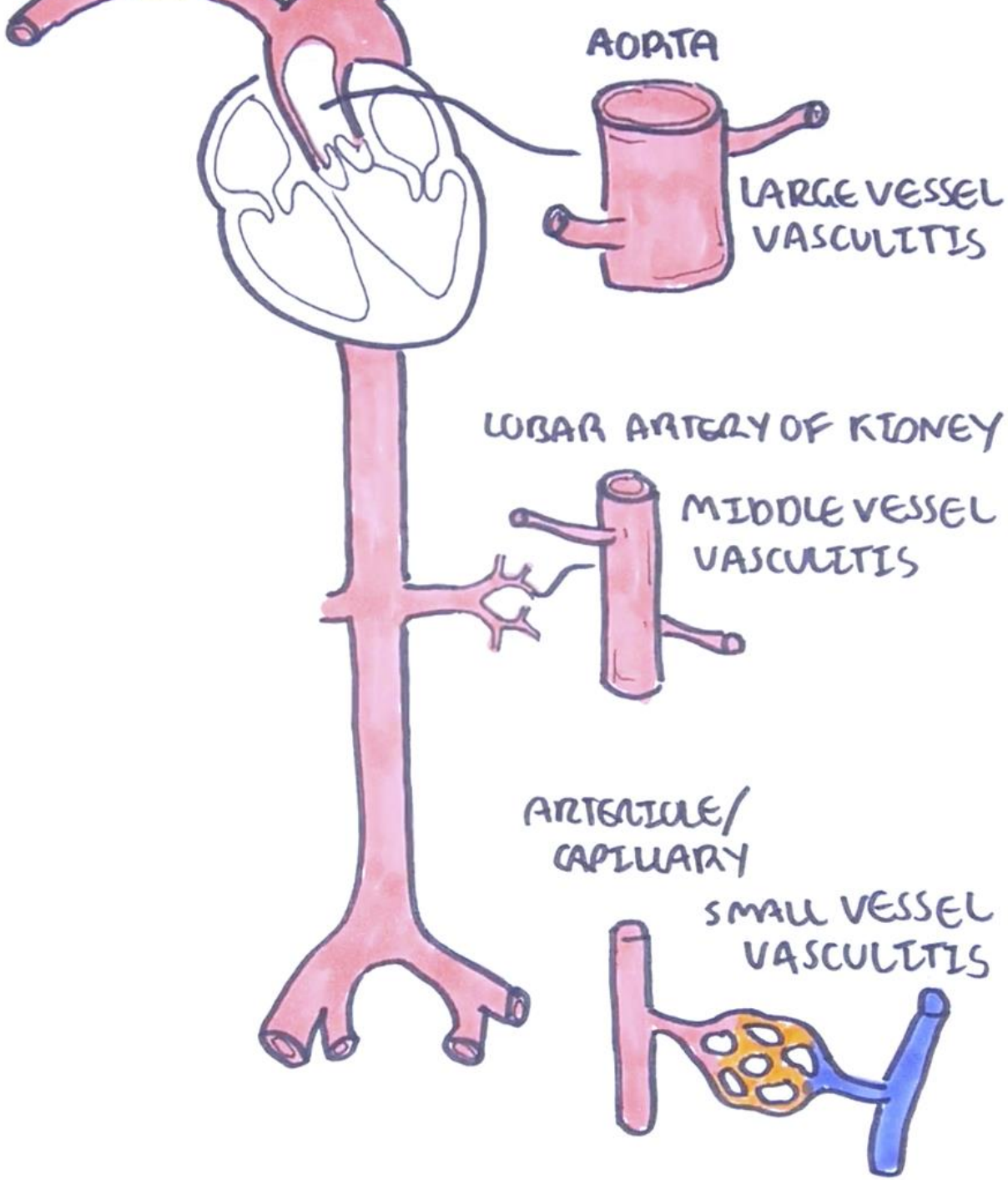
## Clinical Features (Dermnet)

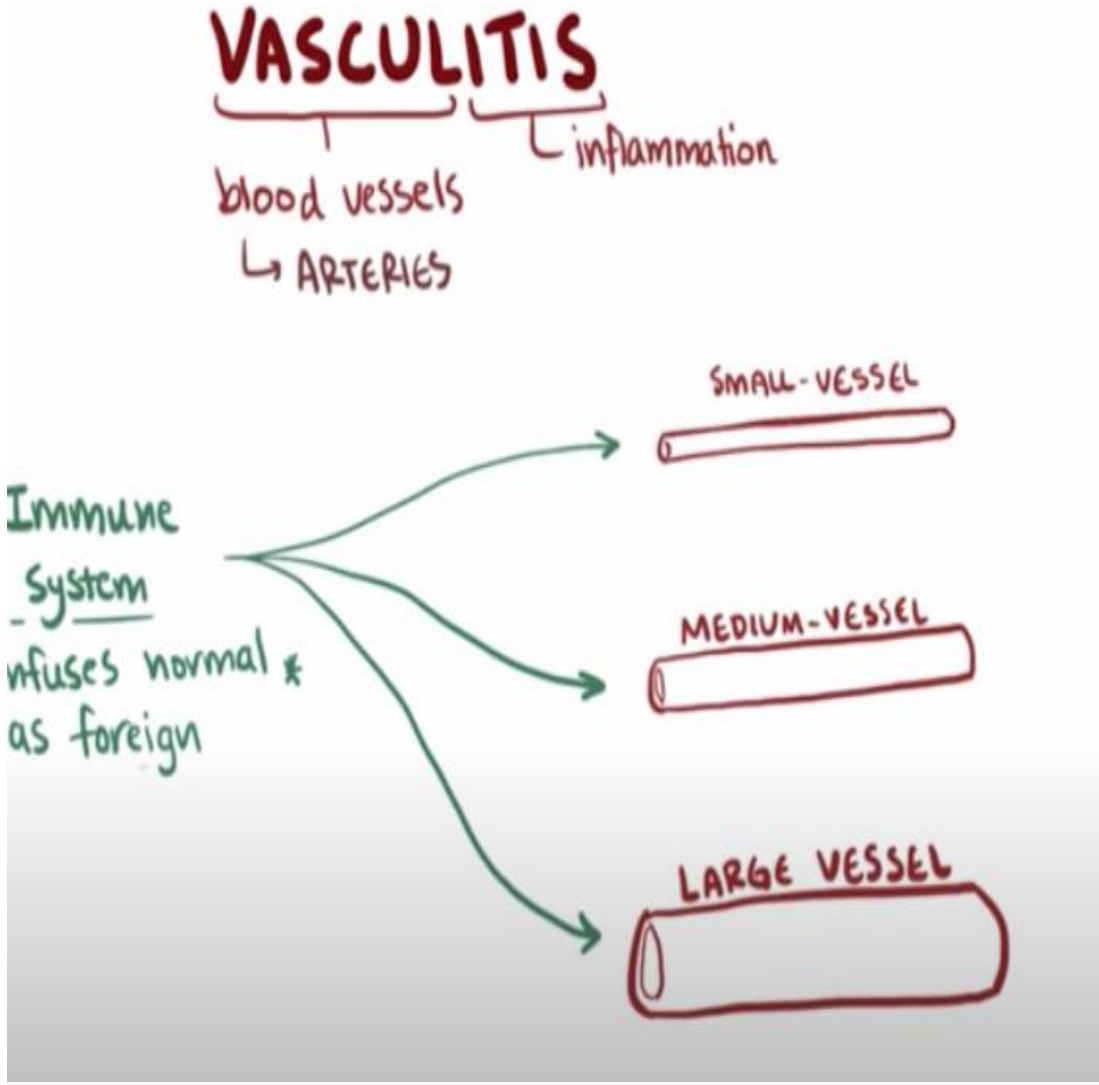
- Lesions are most often found on the legs and feet. Other areas that may be affected include the arms, trunk, buttocks, and head and neck. They are most likely on pressure points such as the knees, back of the foot and lower leg.
- Tender lumps appear under the skin, especially on the thighs and lower legs, usually between 4–15 mm in diameter and follow along the course of medium-sized arteries.
- Larger inflammatory plaques may be seen - tend to have nodules along the edges.
- As the plaques heal, they leave patches of post inflammatory pigmentation
- Infarcts in the skin present as purple or black patches or blood-filled blisters.
- Small vessel vasculitis may present as palpable purpura
- Blistering and ulceration may occur.
- Livedo reticularis may appear (a starburst dusky discolouration).





**Livedo Reticularis -** mottled discolouration of the skin. It is described as being reticular (net-like, lace-like), as cyanotic discolouration surrounds pale central skin. (Dermnet)



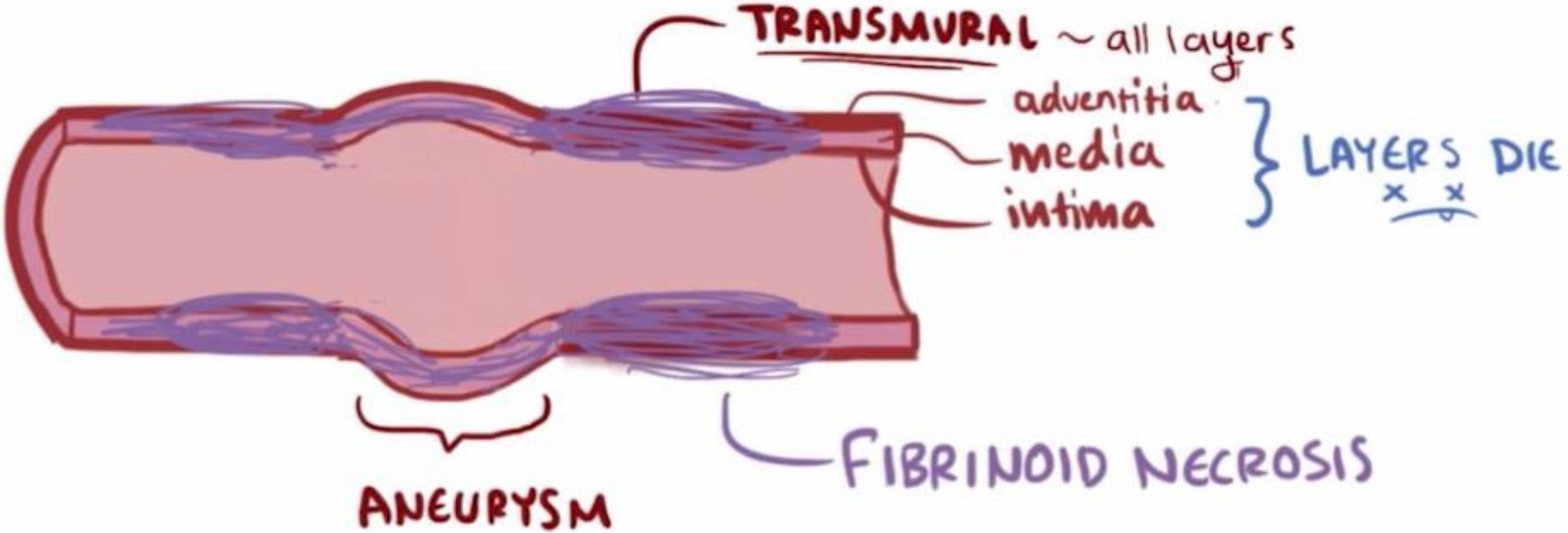




Vasculitis Open Osmosis.org YouTube

# POLYARTERITIS NODOSA

IMMUNE CELLS ⟶ ENDOTHELIUM

confused for hepatitis B

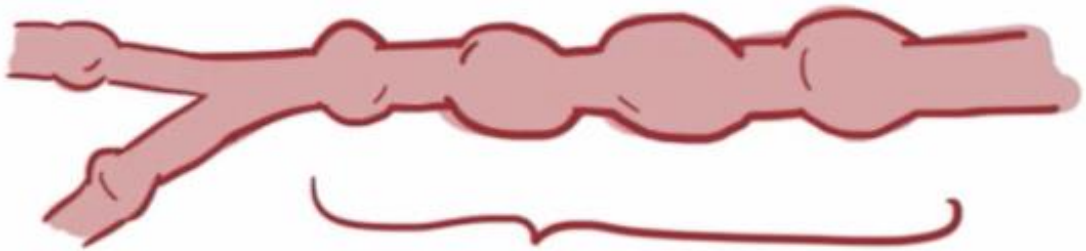


# VASCULITIS

MEDIUM vessel { MUSCULAR ARTERIES → organs }

## POLYARTERITIS NODOSA

IMMUNE CELLS → ENDOTHELIUM { confused for hepatitis B



"String of beads" on ANGIOGRAM

→ ORGAN ISCHEMIA

Renal arteries → hypertension
↳ Kidneys control blood volume

Mesenteric arteries → abdominal pain & gastrointestinal bleeding

Brain arteries → neurological symptoms

Skin arteries → skin lesions

TREATMENT: CORTICOSTEROIDS

- Blood work – showed elevated CRP but nil else of note
- DS commenced on Prednisolone 25 mg daily (Dermatology)

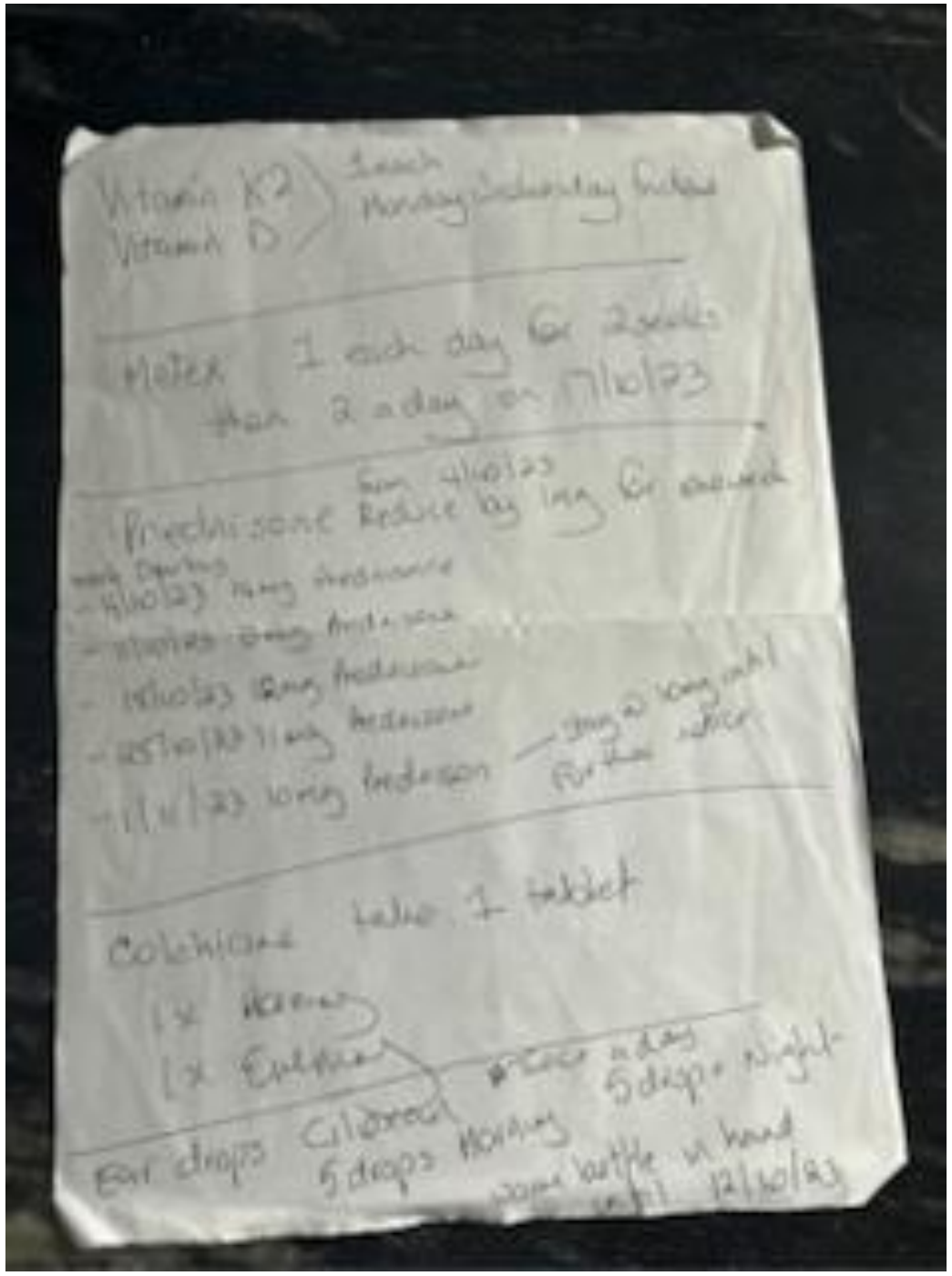
And referred to Rheumatology for CPAN management Plan

- Also commenced on Colchicine 0.5 mg ( 1 tablet for 5 days then 2 tablets until further notice)
- Lots of visits to Derm/ Rheum over the next few months
- DS happy she had diagnosis but not so happy about the appts

C REACTIVE PROTEIN (CRP) SPECIMEN: SERUM

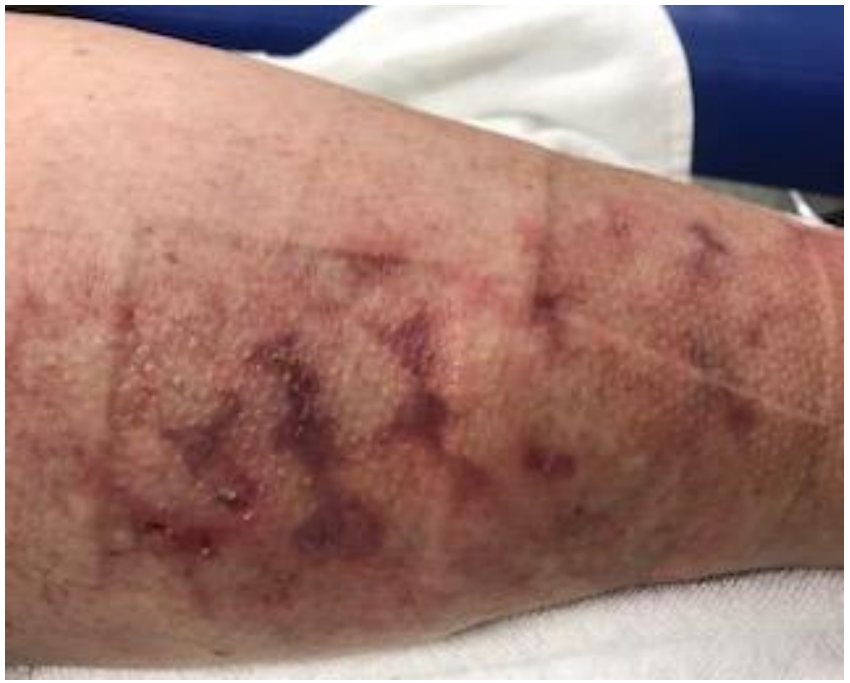
| Date | Time | Lab No. | | CRP | Units | Ref. Range |
|---|---|---|---|---|---|---|
| 04/08/23 | 12:10 | 76465026 | * | 24.0 | mg/L | (< 3.0) |
| 28/07/23 | 21:59 | 79447288 | * | 21.3 | | |
| 04/05/23 | 10:30 | 76466130 | * | 12.5 | | |

| | EAR DROPS TWICE A DAY WARM BOTTLES DROPS UNTIL 12TH OCT | | COLCHICINE 1 X TABLET TWICE A DAY UNTIL FURTHER NOTICE | | METEX 1 TABLET OR 2 WEEKS UNTIL 17/10 THEN 2 TABLETS UNTIL 5TH DECEMBER | | PREDNISONE 14MG TO 11/10 13MG TO 18/10 - 12MG TO 25/10 11MG TO 1/11 10MG UNTIL FURTHER NOTICE | VIT K2 & VIT D 1 EVERY 3 DAYS |
|---|---|---|---|---|---|---|---|---|
| | MORNING | NIGHT | MORNING | NIGHT | MORNING | NIGHT | MORNING | MORNING |
| 4-Oct | 5 DROPS | 5 DROPS | 1 TABLET | 1 TABLET | 1 TABLET | NOT YET | 14MG | 2 TABLETS |
| 5-Oct | 5 DROPS | 5 DROPS | 1 TABLET | 1 TABLET | 1 TABLET | NOT YET | 14MG | |
| 6-Oct | 5 DROPS | 5 DROPS | 1 TABLET | 1 TABLET | 1 TABLET | NOT YET | 14MG | 2 TABLETS |
| 7-Oct | 5 DROPS | 5 DROPS | 1 TABLET | 1 TABLET | 1 TABLET | NOT YET | 14MG | |
| 8-Oct | 5 DROPS | 5 DROPS | 1 TABLET | 1 TABLET | 1 TABLET | NOT YET | 14MG | 2 TABLETS |
| 9-Oct | 5 DROPS | 5 DROPS | 1 TABLET | 1 TABLET | 1 TABLET | NOT YET | 14MG | |
| 10-Oct | 5 DROPS | 5 DROPS | 1 TABLET | 1 TABLET | 1 TABLET | NOT YET | 14MG | 2 TABLETS |
| 11-Oct | 5 DROPS | 5 DROPS | 1 TABLET | 1 TABLET | 1 TABLET | NOT YET | 13MG | |
| 12-Oct | 5 DROPS | 5 DROPS | 1 TABLET | 1 TABLET | 1 TABLET | NOT YET | 13MG | 2 TABLETS |
| 13-Oct | NO MORE DROPS REQUIRED | | 1 TABLET | 1 TABLET | 1 TABLET | NOT YET | 13MG | |
| 14-Oct | | | 1 TABLET | 1 TABLET | 1 TABLET | NOT YET | 13MG | 2 TABLETS |
| 15-Oct | | | 1 TABLET | 1 TABLET | 1 TABLET | NOT YET | 13MG | |
| 16-Oct | | | 1 TABLET | 1 TABLET | 1 TABLET | NOT YET | 13MG | 2 TABLETS |
| 17-Oct | | | 1 TABLET | 1 TABLET | 1 TABLET | 1 TABLET | 13MG | |
| 18-Oct | | | 1 TABLET | 1 TABLET | 1 TABLET | 1 TABLET | 12MG | 2 TABLETS |
| 19-Oct | | | 1 TABLET | 1 TABLET | 1 TABLET | 1 TABLET | 12MG | |
| 20-Oct | | | 1 TABLET | 1 TABLET | 1 TABLET | 1 TABLET | 12MG | 2 TABLETS |
| 21-Oct | | | 1 TABLET | 1 TABLET | 1 TABLET | 1 TABLET | 12MG | |
| 22-Oct | | | 1 TABLET | 1 TABLET | 1 TABLET | 1 TABLET | 12MG | 2 TABLETS |
| 23-Oct | | | 1 TABLET | 1 TABLET | 1 TABLET | 1 TABLET | 12MG | |
| 24-Oct | | | 1 TABLET | 1 TABLET | 1 TABLET | 1 TABLET | 12MG | 2 TABLETS |
| 25-Oct | | | 1 TABLET | 1 TABLET | 1 TABLET | 1 TABLET | 11MG | |
| 26-Oct | | | 1 TABLET | 1 TABLET | 1 TABLET | 1 TABLET | 11MG | 2 TABLETS |
| 27-Oct | | | 1 TABLET | 1 TABLET | 1 TABLET | 1 TABLET | 11MG | |
| 28-Oct | | | 1 TABLET | 1 TABLET | 1 TABLET | 1 TABLET | 11MG | 2 TABLETS |
| 29-Oct | | | 1 TABLET | 1 TABLET | 1 TABLET | 1 TABLET | 11MG | |
| 30-Oct | | | 1 TABLET | 1 TABLET | 1 TABLET | 1 TABLET | 11MG | 2 TABLETS |
| 31-Oct | | | 1 TABLET | 1 TABLET | 1 TABLET | 1 TABLET | 11MG | |
| 1-Nov | | | 1 TABLET | 1 TABLET | 1 TABLET | 1 TABLET | 10MG UNTIL FURTHER NOTICE | 2 TABLETS |
| 2-Nov | | | 1 TABLET | 1 TABLET | 1 TABLET | 1 TABLET | 10MG | |
| 3-Nov | | | 1 TABLET | 1 TABLET | 1 TABLET | 1 TABLET | 10MG | 2 TABLETS |

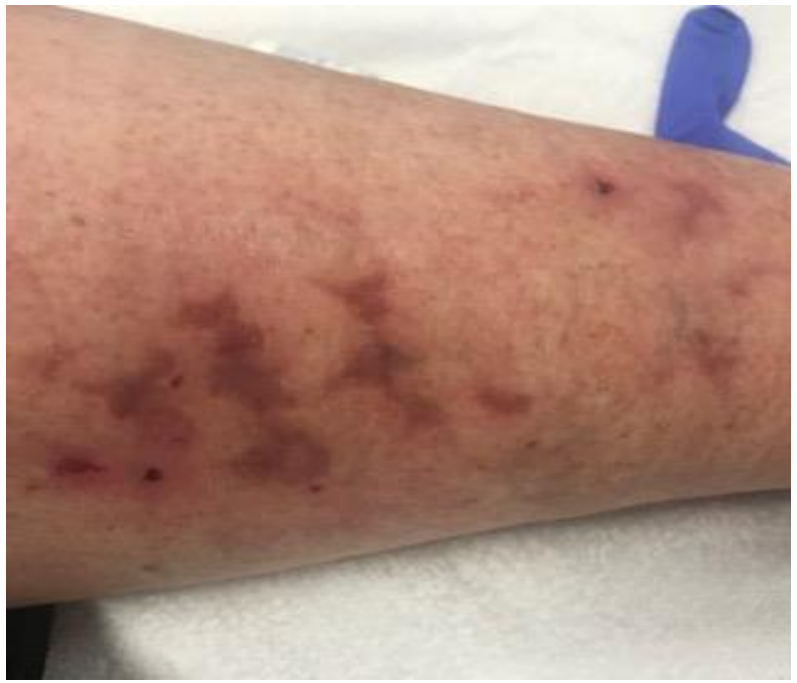


# Wound Progress

- Wounds now started to heal
- Wound products used were based on the presentation of the wounds on the day and the degree of pain experienced and varied through the course of treatment
- The biopsies ended up being the most difficult to heal
- Compression WRAPS arrived in September ( problem with correct order – colour and supply) – initially used on the left leg
- In the meanwhile used CoBan lite  - tolerated better



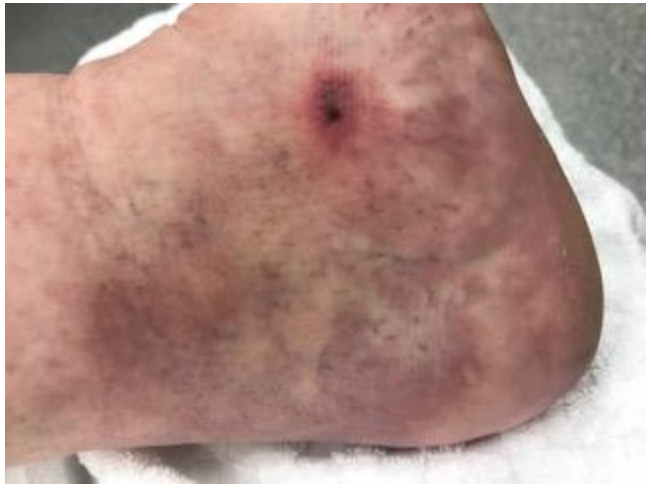
August 23

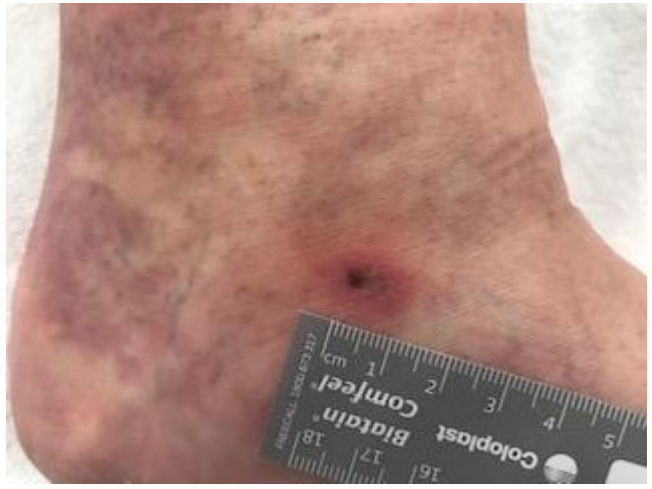


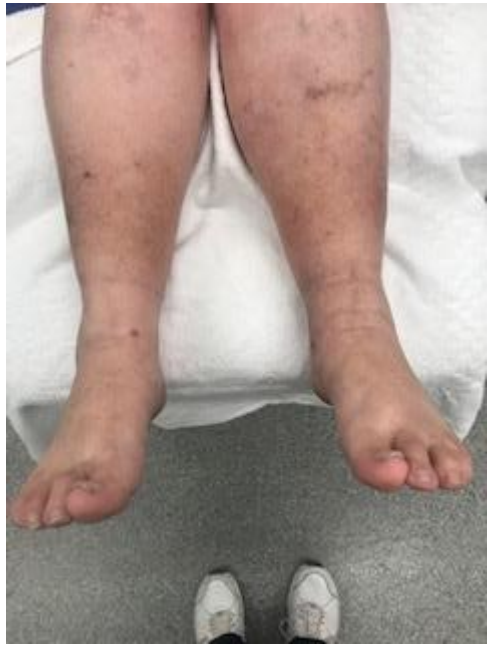
September 23

# 6 months later

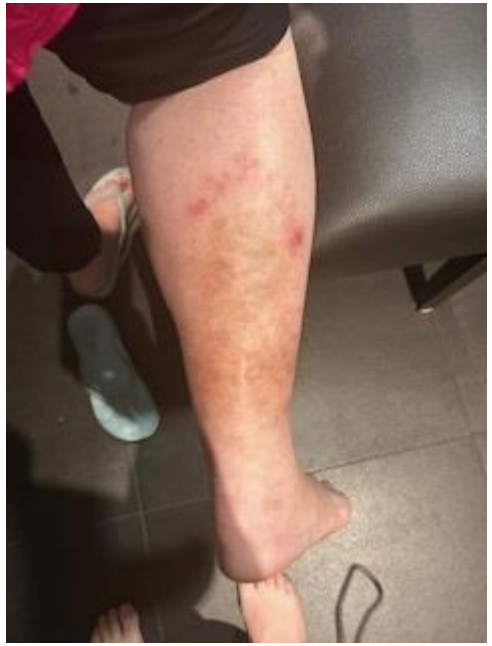
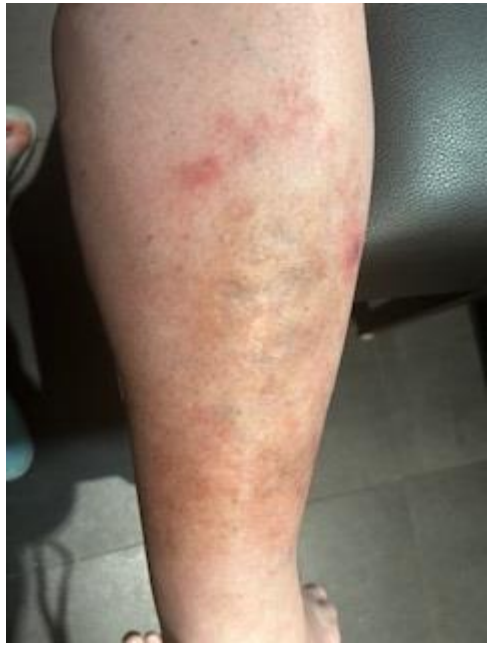
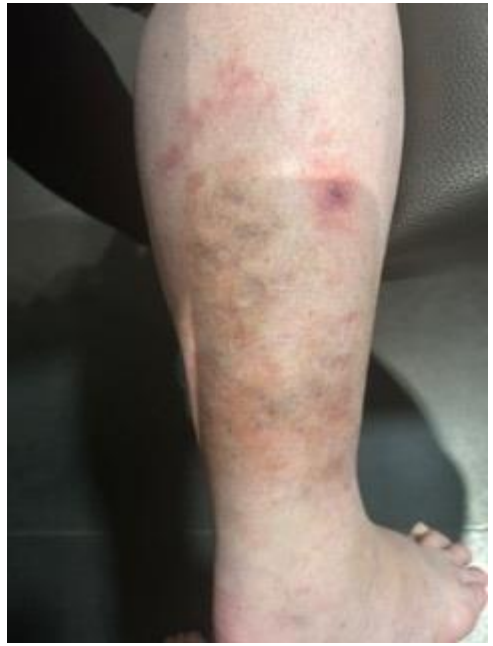
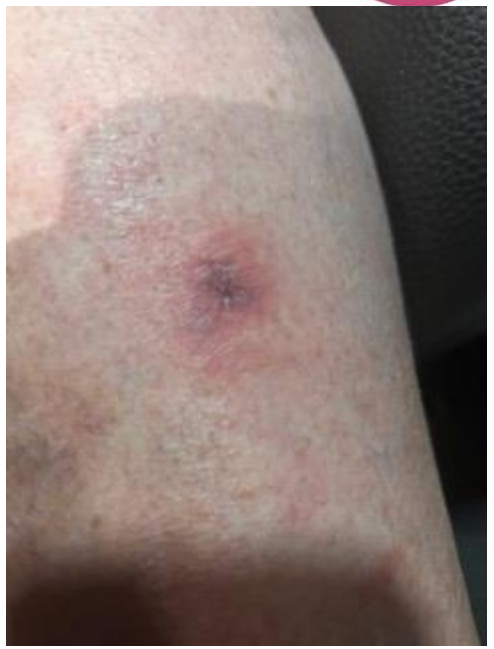
- DS returned in May 24
- Concerned that left leg was starting to break down
- Area of mottling (Livedo reticularis  ) – small lesion
- Steroid and colchicine  had been decreased
- Recent Vascular surgeon visit for bilateral lower leg sclerotherapy ( March 24)
- Was only wearing WRAPS 3x per week





# DS Current

# My Key Learning Points

- DS legs healed completely ( new photos for this Case Study show an exacerbation)
- Know when and who to “phone a friend”
- Multi team collaborative approach  to diagnose and get best plan for DS
- Try different types of compression to meet needs of patient and wounds  - rapport with patient essential for compliance
- Wound products differ and change based on the assessment of the wound
- Debridement pads useful when CSWD too painful
- Know your outcome, be persistent, work with your patient.

Summer SCHOOL 2025

A residential learning experience

# Thank You

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