

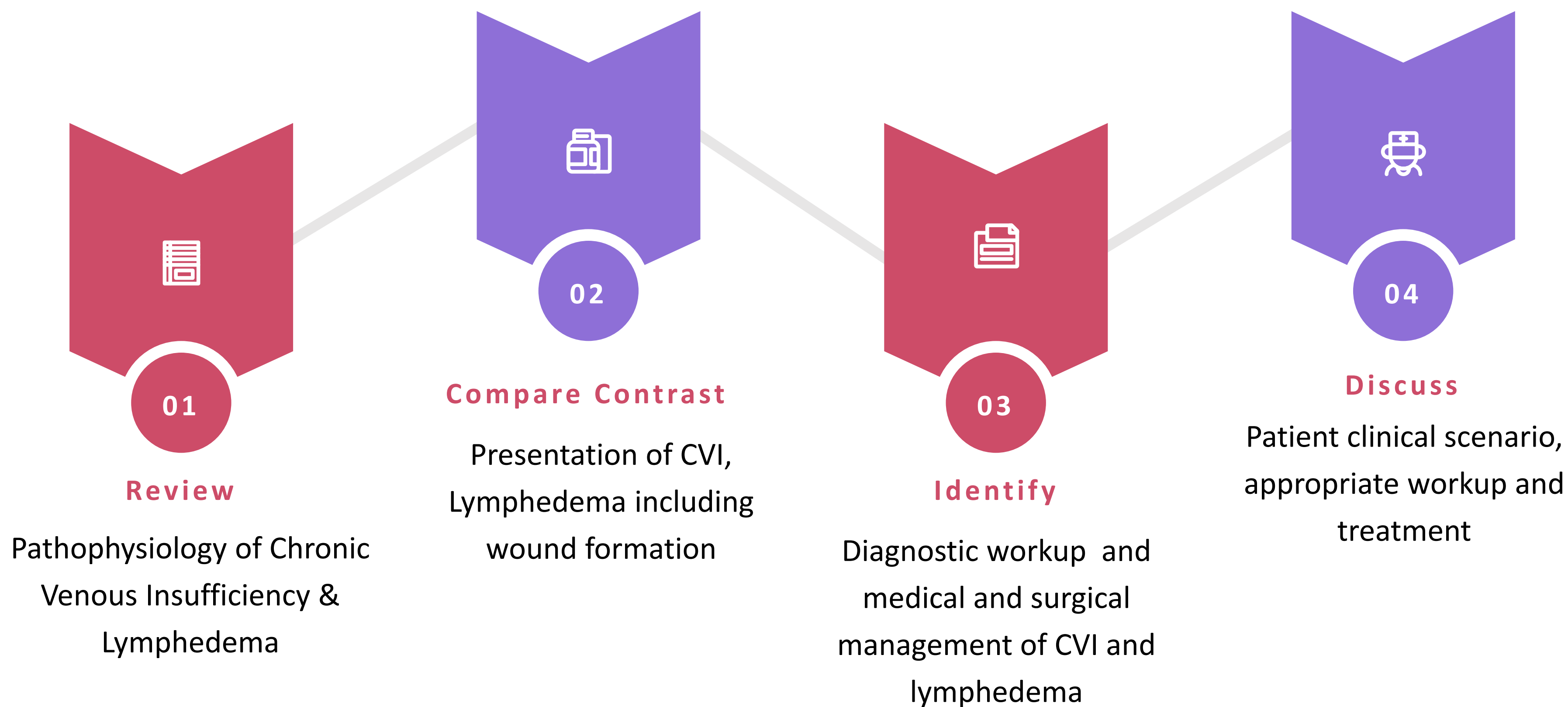
Veni, Vedi, Compressi


I came, I saw, I compressed

From Diagnosis to Treatment a Review of Chronic Venous Insufficiency and Lymphedema.

Dominique Ely MS, AGACNP-BC, APRN
SIU Vascular Surgery APP

Veni, Vedi, Compressi Objectives





Chronic
Venous
Insufficiency

Lymphedema





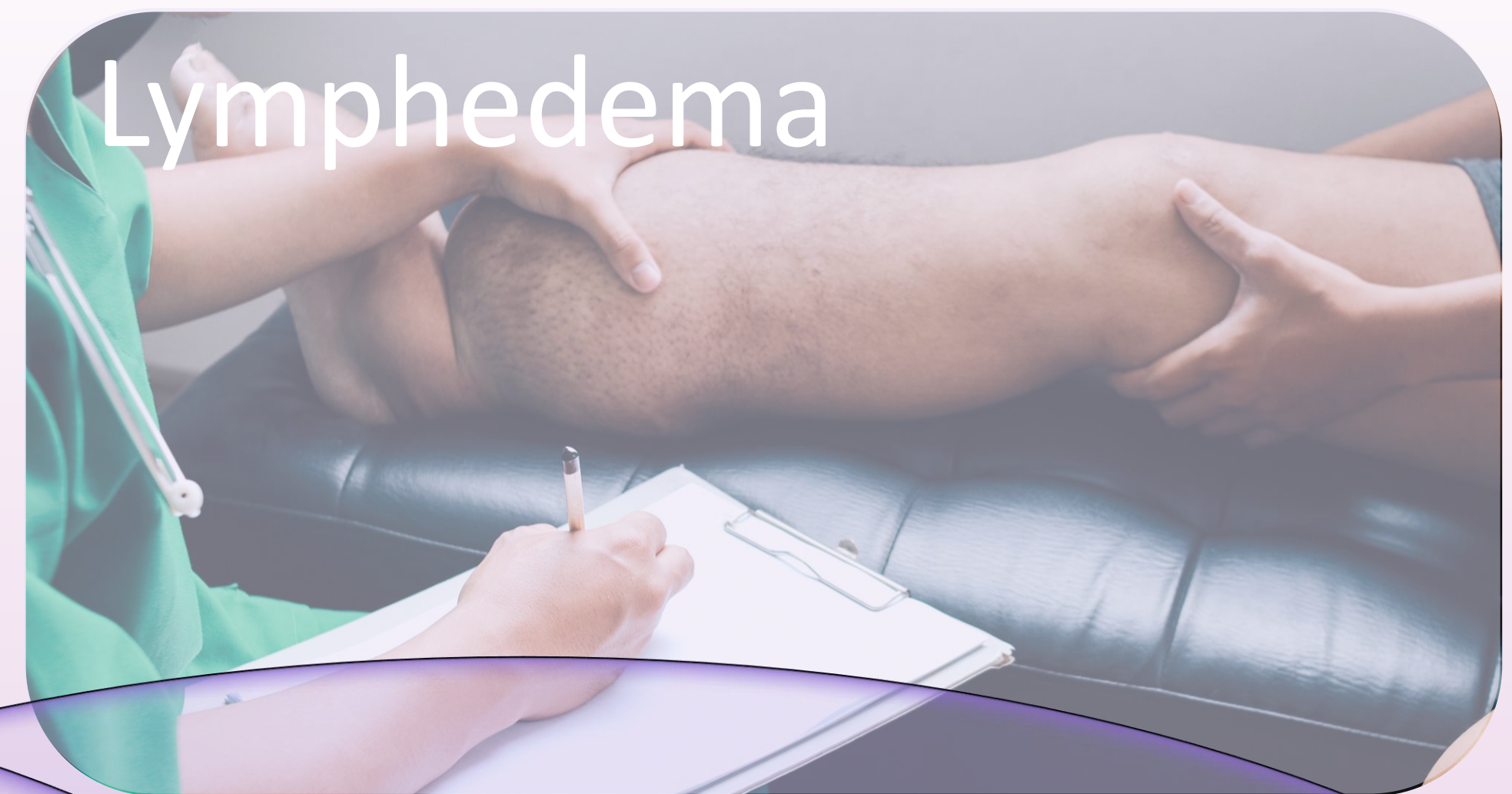
Mrs. Laverne Roberts

- 71 y.o. Black female
- Chronic left medial ankle wound
- PmHx: T2DM, HTN, OSA
- BMI 37
- Never Smoker
- Retired Nurse
- Left Total Knee Replacement
- Widowed, 3 children



What is the etiology of her wound?






Drainage Problem

Incompetent Venous Valves

Defective Lymphatic System

Chronic Venous Insufficiency

Risk Factors



Advancing Age
Smoking
Prior DVT
Women
Pregnancy
Sedentary Lifestyle
Prolonged Sitting/Standing

Genetics
Obesity
Trauma/Injury

Infection
Malignancy
CVI



Lymphedema

Chronic Venous Insufficiency

Lymphedema

S&S and Exam Findings

Rapid Onset Pitting Edema

Heaviness
Achiness
Edema
Chronic Skin Changes
Wounds

Gradual & Non-pitting*

Lipodermatosclerosis and corona phlebectatica



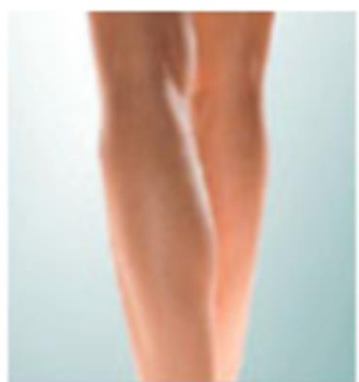
Severe chronic venous insufficiency with lipodermatosclerosis (arrow) and corona phlebectatica (dashed arrow).

UpToDate



C0

No visible or palpable varicose veins

**C1**

Thread veins

**C2**

Varicose veins

**C3**

Swollen leg

**C4**

Skin damage

**C5**

Healed venous leg ulcer

**C6**

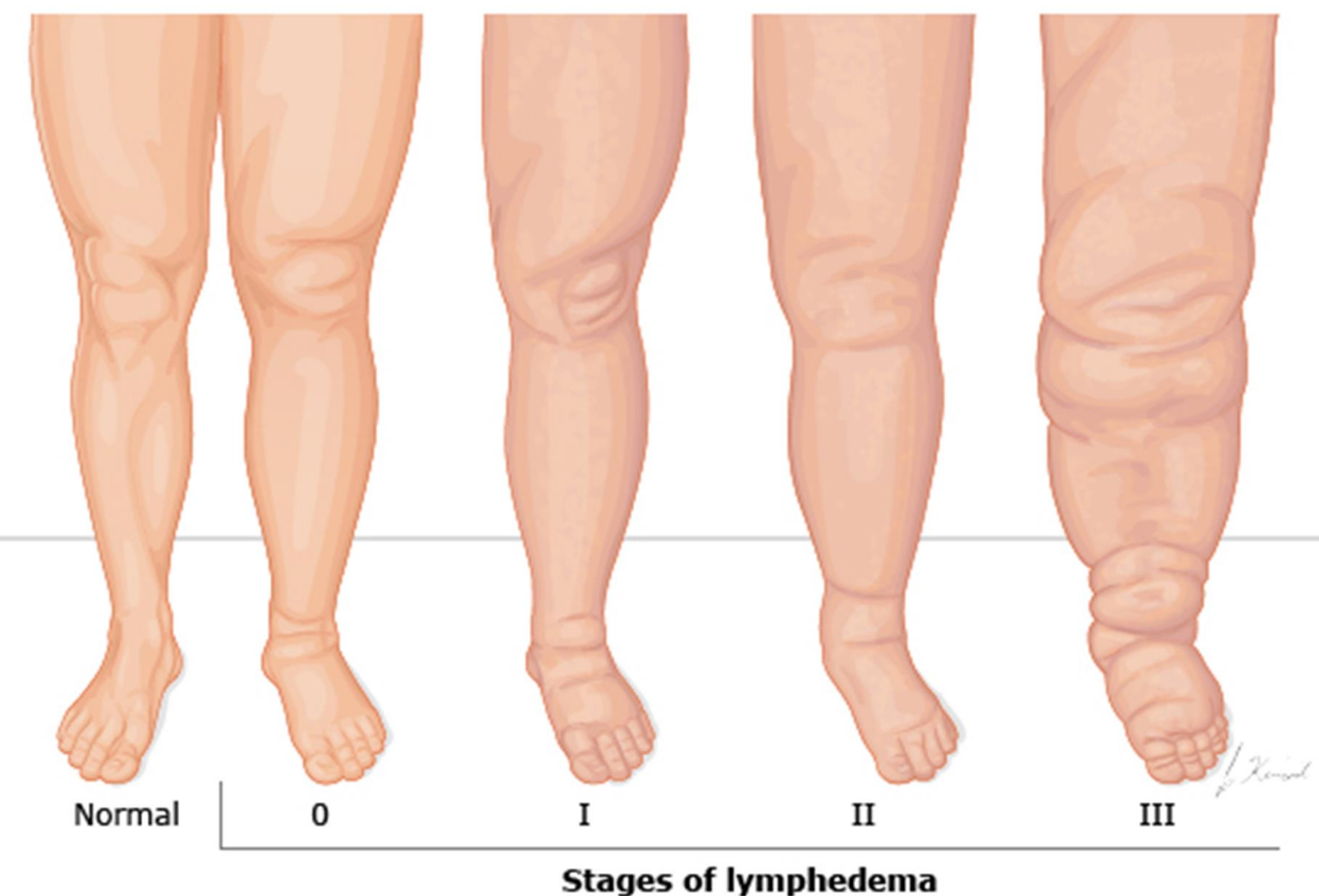
Venous leg ulcer



CEAP classification of the severity of varicose veins

UK Vein Care
Gentle, simple and effective

Lymphedema staging by clinical examination^[1]



The illustrations depict worsening lymphedema in accordance with the International Society for Lymphology lymphedema staging^[1].

- Stage 0: Latent or subclinical lymphedema where swelling is not yet evident despite impaired lymph transport.
- Stage I: Mild lymphedema with accumulation of fluid which subsides with limb elevation. Pitting may occur.
- Stage II: Moderate lymphedema with swelling and pitting. Later in stage II, the limb may not pit as excess subcutaneous fat and fibrosis develop.
- Stage III: Severe lymphedema where pitting can be absent and trophic skin changes such as acanthosis, alterations in skin character and thickness, further deposition of fat and fibrosis, and warty overgrowths have developed.

Reference:

1. Executive Committee of the International Society of Lymphology. The diagnosis and treatment of peripheral lymphedema: 2020 Consensus Document of the International Society of Lymphology. *Lymphology* 2020; 53:3.

UpToDate®



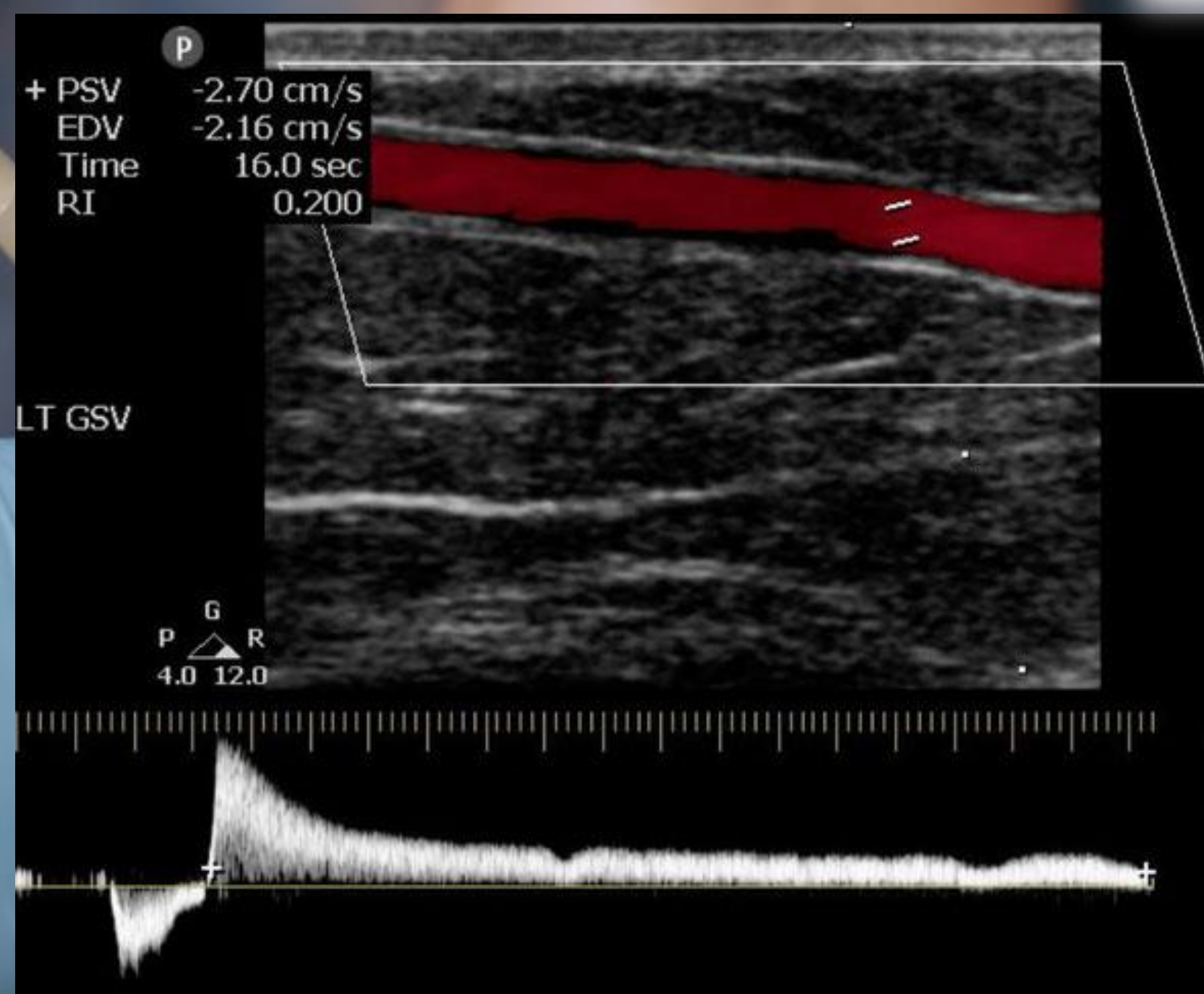
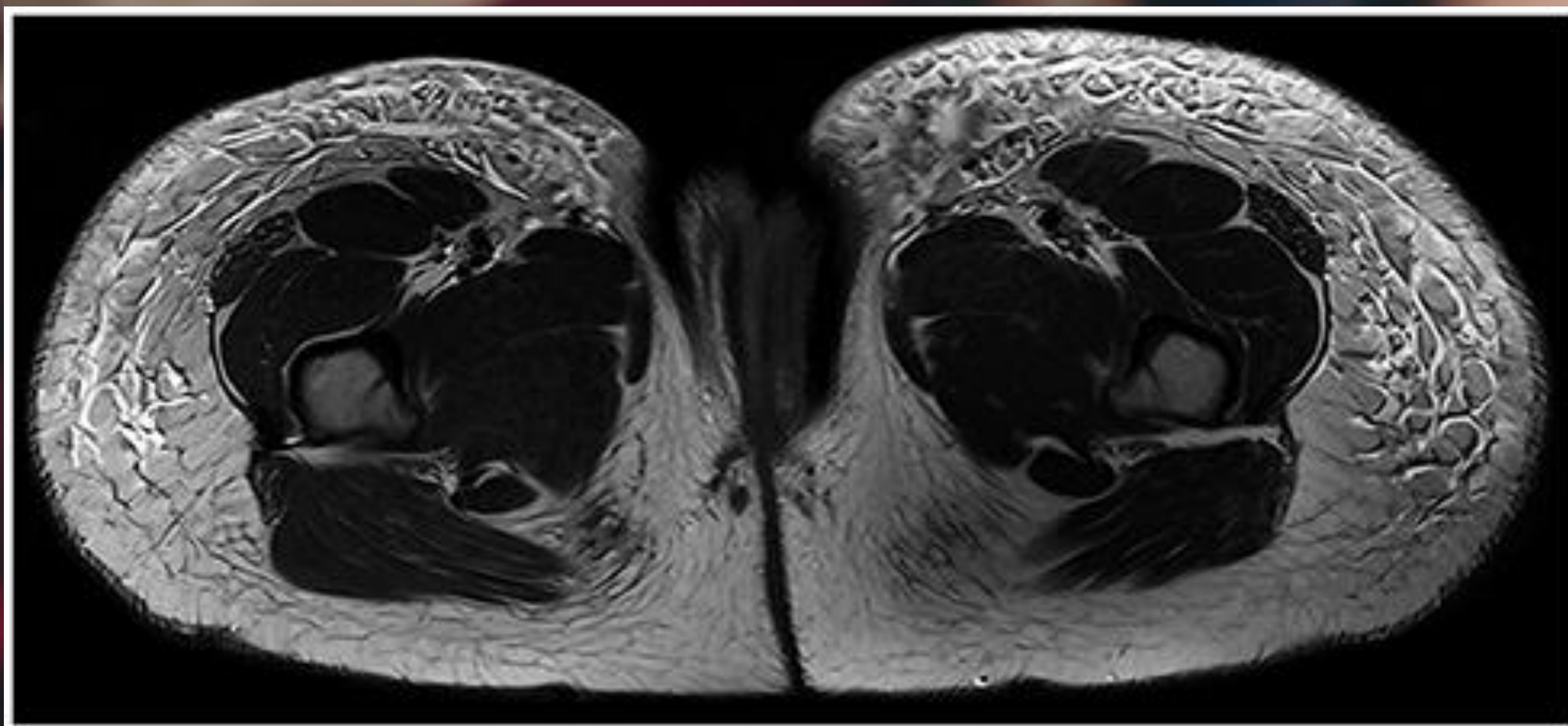
UPPER EXTREMITY

- At the metacarpal-phalangeal joints (if edematous)
- Around the wrist
- 10 cm below the olecranon process
- 10 cm above the olecranon process

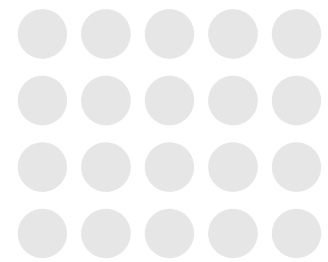
LOWER EXTREMITY

- At the metatarsal-phalangeal joints (if edematous)
- 2 cm superior to the medial malleolus
- 10 cm above the superior pole of the patella
- 10 cm below the inferior pole of the patella

- **Mild lymphedema**
 - Maximum girth difference <3 cm
- **Moderate lymphedema**
 - 3 to 5 cm difference
- **Severe lymphedema**
 - Difference >5 cm



CVI & Lymphedema Treatment



COMPRESSION

20-30mmHg CEAP 3,4

30-40mmHg CEAP,5,6

40-50mmHg Mod Lymphedema

50-60mmHg Severe Lymphedema

*Compliance and lifetime use decreases recurrence

Lifestyle

Weight Loss

Activity

Elevation

Meticulous skin care



COMPLETE DECONGESTIVE THERAPY

Self Lymphatic Drainage

*Patient Family taught technique

Manual Lymphatic Drainage

* Used in Conjunction of other therapy

Intermittent Pneumatic Compression

Multi-Disciplinary

Wound Clinic

Primary

Lymphedema Clinic

Vascular Surgery

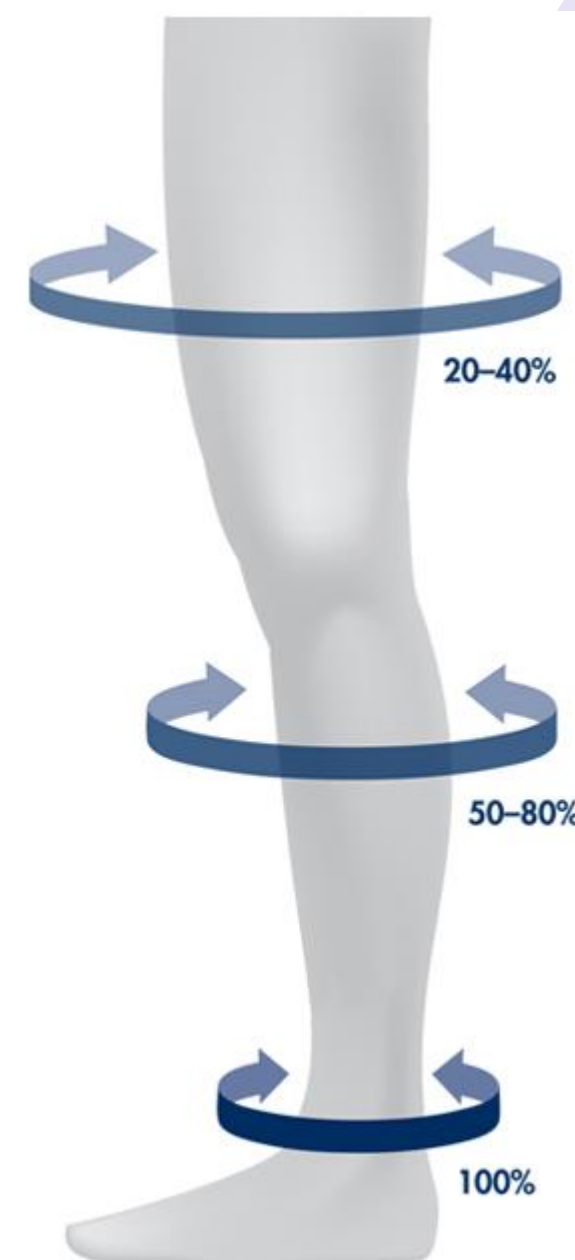
CVI & Lymphedema Treatment

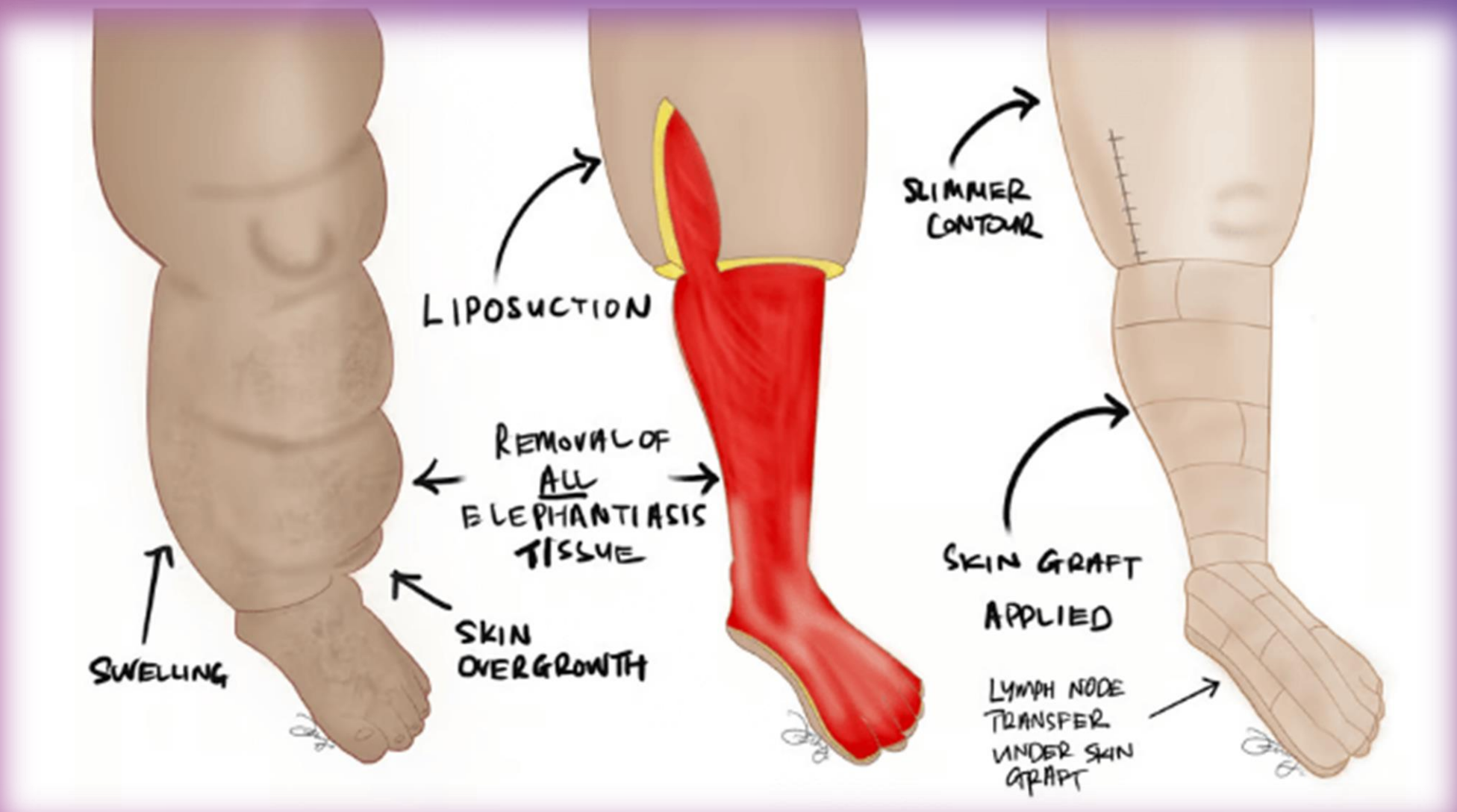
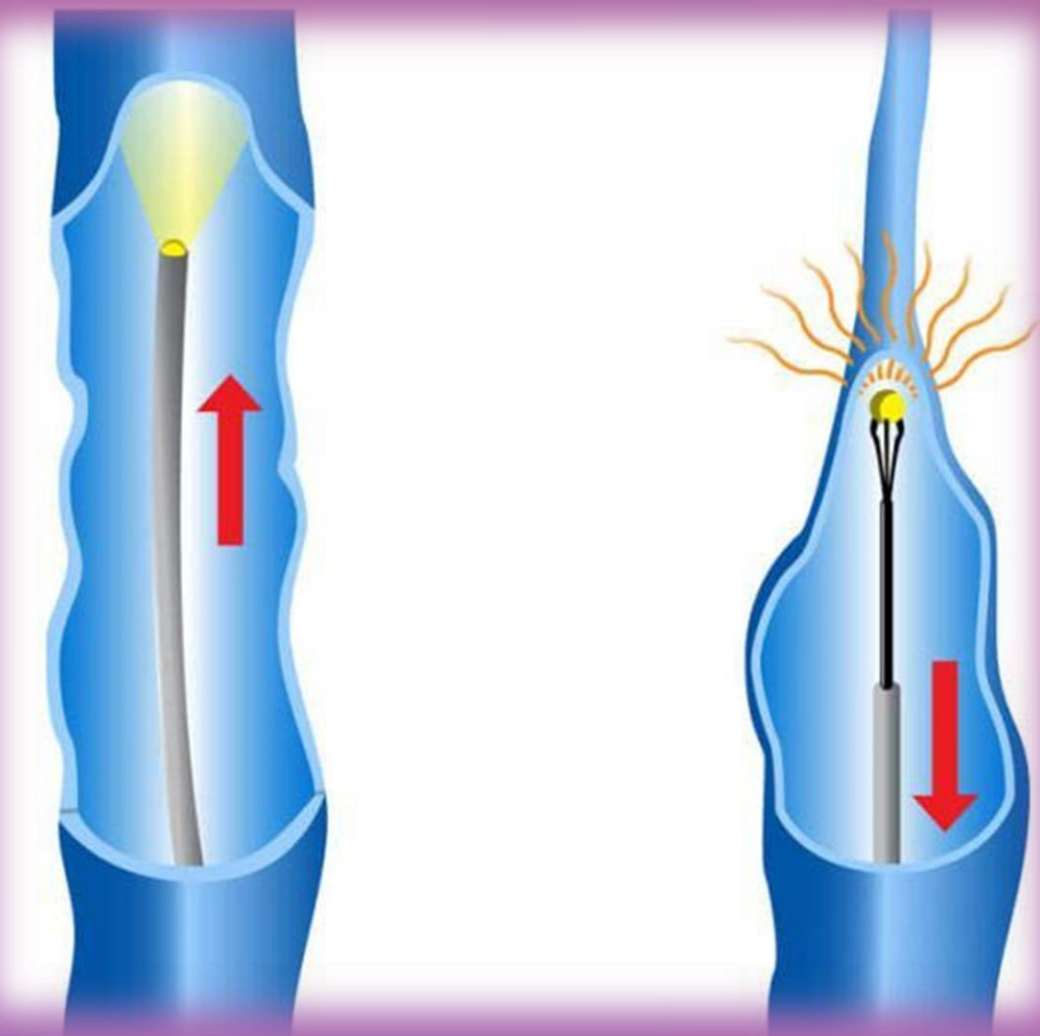


C0 No visible or palpable varicose veins	C1 Thread veins	C2 Varicose veins	C3 Swollen leg	C4 Skin damage	C5 Healed venous leg ulcer	C6 Venous leg ulcer
						

CEAP classification of the severity of varicose veins

UK Vein Care
Gentle, simple and effective





Charles procedure coupled with a lymph node transfer to the foot




Mrs. Laverne Roberts

- 71 y.o. Black female
- Chronic left medial ankle wound
- PmHx: T2DM, HTN, OSA
- BMI 37
- Never Smoker
- Retired Nurse
- Left Total Knee Replacement
- Widowed, 3 children



What History Questions might you ask?

- When did the wound start?
 - What makes swelling better/worse?
 - Leg pain when?
 - Prior DVT? Surgery? Wounds?
 - Treatment thus far?
- 
- Wound started 1 month ago
 - Swelling worsens throughout the day and markedly improved by the morning
 - Prior Knee replacement
 - Neosporin and wrapping with coban

What exam findings would you like to know?



- 3+ pitting calf/ankle edema
- No pedal edema
- Negative Stemmer
- Palpable DP/PT
- Hyperpigmentation
- No noticeable varicosities

What is the etiology of her wound?



LEFT GREATER SAPHENOUS VEIN REFLUX MEASUREMENTS:

Saphenofemoral junction: 6 mm, no reflux
Proximal thigh: 7 mm, reflux to 1.8 seconds
Mid thigh: 6 mm, reflux to 2.3
Distal thigh: 5 mm, reflux to 1.7
Knee: 3 mm, reflux 2.1
Proximal calf: 4 mm, reflux to 3.9 seconds
Mid calf: 2 mm, reflux to 0.6 seconds
Distal calf: 2 mm, no reflux
Small saphenous vein: 4 mm reflux to 1.3 seconds

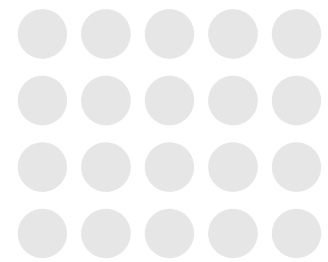
MRI of Left Leg

Soft Tissue Edema, No evidence of Osteomyelitis

What do you think is the cause of her wound is & how would you treat it?



CVI & Lymphedema Treatment



COMPRESSION

20-30mmHg CEAP 3,4

30-40mmHg CEAP,5,6

40-50mmHg Mod Lymphedema

50-60mmHg Severe Lymphedema

*Compliance and lifetime use decreases recurrence

Lifestyle

Weight Loss

Activity

Elevation

Meticulous skin care



COMPLETE DECONGESTIVE THERAPY

Self Lymphatic Drainage

*Patient Family taught technique

Manual Lymphatic Drainage

* Used in Conjunction of other therapy

Intermittent Pneumatic Compression

Multi-Disciplinary

Wound Clinic

Primary

Lymphedema Clinic

Vascular Surgery

Questions?

1. *The diagnosis and treatment of peripheral lymphedema: 2020 Consensus Document of the International Society of Lymphology.* (2020). PubMed. <https://pubmed.ncbi.nlm.nih.gov/32521126/>
2. Pappas CJ, O'Donnell TF Jr. Long-term results of compression treatment for lymphedema. *J Vasc Surg* 1992; 16:555
3. Lasinski BB, McKillip Thrift K, Squire D, et al. A systematic review of the evidence for complete decongestive therapy in the treatment of lymphedema from 2004 to 2011. *PM R* 2012; 4:580
4. Forner-Cordero I, Munoz-Langa J, Demiguel-Jieno JM, Rel-Monzo P. Physical therapies in the decongestive treatment of lymphedema: A randomized, non-inferiority controlled study. *Clin Rehabil* 2021; 35:1743
5. Kistner RL, Eklof B, Masuda EM. Diagnosis of chronic venous disease of the lower extremities: the "CEAP" classification, *Mayo Clin Proc* 1996; 71:388.
6. Webb E, Neeman T, Bowden FJ, et al. Compression therapy to prevent recurrent cellulitis of the leg. *N Engl J Med* 2020; 383:630
7. *UpToDate.* (n.d.). UpToDate. https://www.uptodate.com/contents/compression-therapy-for-the-treatment-of-chronic-venous-insufficiency?search=venous%20insufficiency%20treatment&source=search_result&selectedTitle=1%7E150&usage_type=default&display_rank=1#H3733328637

