

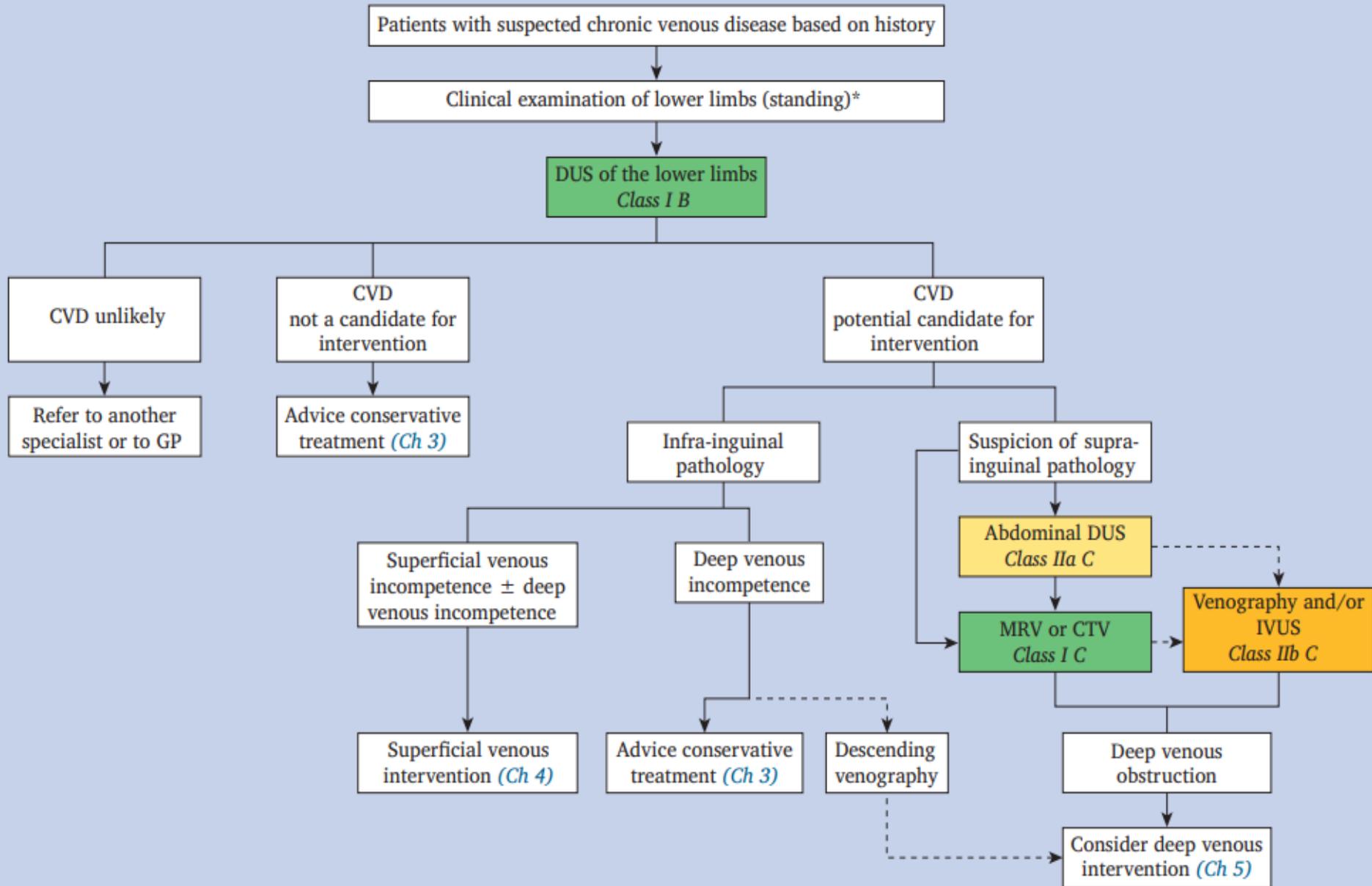
**Tratamentul minim – invaziv  
endovenos prin radiofrecvență (EVRFA)  
în Insuficiența venoasă superficială**

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Chirurgie generală și vasculară

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**Superficial venous incompetence has been treated by:**

**Open surgical repair**, typically performed in an operating room, under general or regional anaesthesia.

**Endovenous intervention**, with or without phlebectomies, is now widely acknowledged as the established standard of care and ideally should be performed in the ambulatory setting, in a properly equipped treatment room.

Observational data suggest that this practice is safe and effective, offering a reduction in procedural cost.

Indeed, ambulatory intervention, using tumescent anaesthesia, permits a comprehensive treatment strategy addressing both saphenous trunk and tributary incompetence. In addition, early ambulation may reduce thromboembolic risk.

<b>Recommendation 18</b>		<b>New</b>
<b>For patients with superficial venous incompetence, undergoing treatment using endovenous techniques with or without phlebectomies, the procedures should be performed in the outpatient setting where possible.</b>		
<b>Class</b>	<b>Level</b>	<b>References</b>
<b>I</b>	<b>C</b>	<b>Consensus</b>

# International Consensus CEAP

## Symptoms

## Clinical signs

**C0S**

**C1**

**C2**

**C3**

**C4**

**C5**

**C6**



Heavy legs, pains in the legs, pruritus...  
But no clinical or palpable signs of venous disease

[▶ read more](#)



Telangiectasia or reticular veins

[▶ read more](#)



Visible and palpable varicose veins

[▶ read more](#)



Venous oedema (without trophic changes)

[▶ read more](#)



Trophic changes of venous origin :  
atrophie blanche, pigmented purpuric dermatitis, varicose eczema

[▶ read more](#)



healed ulcer with trophic changes

[▶ read more](#)



Presence of one or more active venous leg ulcers, often accompanied by trophic changes

[▶ read more](#)

C0 - C6 : description of the progression of the disease on the basis of the clinical signs present

C : clinical signs    E : etiological classification    A : anatomical distribution    P : pathophysiological dysfunction

# Insuficiența venoasă cronică



Recommendation 15			New
For patients with superficial venous incompetence presenting with symptomatic varicose veins (CEAP clinical class C2 <sub>s</sub> ), interventional treatment is recommended.			
Class	Level	References	ToE
I	B	Michaels <i>et al.</i> (2006) <sup>122</sup>	

Recommendation 19			New
For patients with superficial venous incompetence treated by endovenous thermal ablation, ultrasound guided tumescent anaesthesia is recommended.			
Class	Level	References	
I	C	Consensus	

Recommendation 17			New
For patients with superficial venous incompetence, presenting with skin changes as a result of chronic venous disease (CEAP clinical class C4 – C6), interventional treatment of venous incompetence is recommended.			
Class	Level	References	
I	C	Consensus	

# Afecțiuni limfatice

- Limfedem primar/secundar
- Insuficiența veno-limfatică a membrelor inferioare



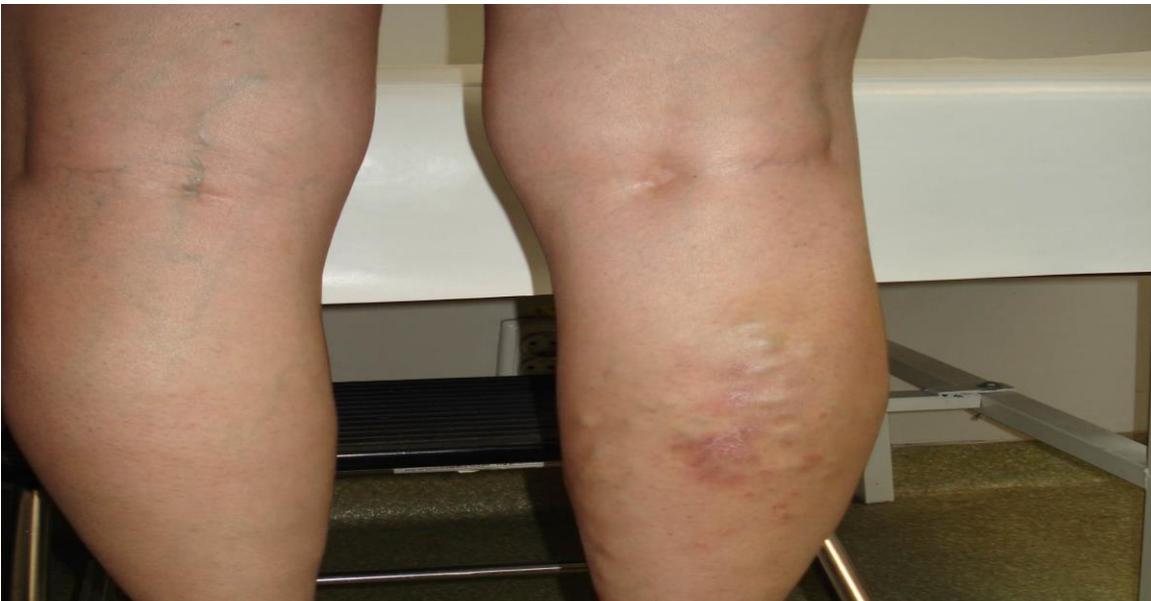
## Recommendation 16

New

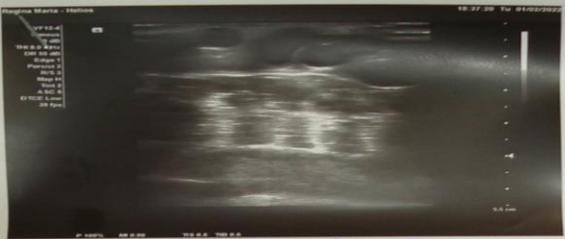
For patients with superficial venous incompetence, presenting with oedema (CEAP clinical class C3), other non-venous causes of oedema should be considered before planning interventional treatment.

Class	Level	References
Ia	C	Consensus

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Varice gamba dr



V saf ext dr



## RAPORT MEDICAL

Numar registru  
Recomandat de  
Consultat de  
Data

superior (unilateral)

reflux prezent de la nivelul JSP  
dilatat pe fata posterioara a gambei in 1/2 super.  
si alga gambei pe fata posterioara

leziuni sau inflamatie - I83.9

Dr. ANDRITOIU ALEXANDRU  
Dr. ANDRITOIU ALEXANDRU  
Medic Specialist, Ecologie Internă  
Secția de Medicină  
Ecografie generală  
cod 080420

## RAPORT MEDICAL

Numar registru  
Recomandat de  
Consultat de  
Data

### Servicii efectuate

Ecografie doppler arterial membru inferior/superior (unilateral)  
M INFERIOR (DREPT)

1. SISTEM VENOS PROFUND:

- permeabil ✓
- compresibil ✓
- competent ✓

2. V SAFENA INTERNA:

- lumen permeabil ✓
- calibru normal ✓
- flux laminar, variabil cu respiratia ✓
- fara trombi endoluminali ✓
- fara reflux la manevrele de provocare ✓

3. V SAFENA EXTERNA

- calibru marit (7 mm in compartiment), reflux prezent de la nivelul JSP
- pachet varicos in teritoriul safenei externe dezvoltat pe fata posterioara a gambei in 1/2 super.
- reintrarea printr-o perforanta in venele musculare alga gambei pe fata posterioara

### Diagnostic CIM

Vene varicoase ale extremitatilor inferioare fara ulcere sau inflamatie - I83.9

### Diagnostic necodificat

BOALA VENOASA CR DE REFLUX  
VARICE PRIMARE  
TERITORIUL V. SAFENEI EXTERNE DR

Dr. ANDRITOIU ALEXANDRU  
Dr. ANDRITOIU ALEXANDRU  
Medic Specialist, Ecologie Internă  
Secția de Medicină  
Ecografie generală  
cod 080420







Profil  
Nume pacient  
Varsta la consult  
Cod pacient  
CNP



Numar registru  
Recomandat de  
Consultat de  
Data



Servicii  
efectuate

**Ecografie doppler vene membru inferior/superior unilateral**  
**M INFERIOR STANG**

1. SISETM VENOS PROFUND

- permeabil ✓
- compresibil
- competent

2. V SAFENA INTERNA

-moderat dilatata-permeabila-compresibila

-incompetenta, cu reflux de la JSF (valva ostiala) !!!

In 1/3 medie a coapsei, safena interna devine hipoplazica. Traiectul refluxului urmeaza o tributara superficiala, decompensata varicos - pe fata interna a coapsei si gambei stangi.

In 1/3 medie a gambei-perforanta Cockett 2 asigura punctul de reintrare a shuntului veno-venos

3. V SAFENA EXTERNA-relatii bnormale ✓

Diagnostic  
CIM

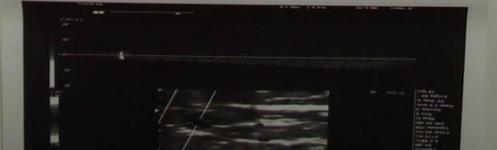
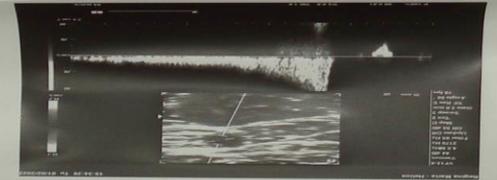
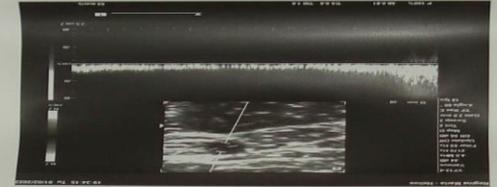
Vene varicoase ale extremitatilor inferioare fara ulceratie sau inflamatie - I83.9

Diagnostic  
necodificat

BOALA VENOASA CR DE REFLUX  
SAFENA INT STG INCOMPETENTA CU SEGMENT HIPOLAZIC SUPRAGENICULAR  
VARICE PRIMARE NECOMPLICATE

Dr.ANDRITOIU ALEXANDRU

**Dr. ANDRITOIU ALEXANDRU**  
Medic Primar, Sef Intern  
Decan in medicina  
Ecografie generala  
coti D80420





7L40+   
 FPS 27s  
 Left

2.8kHz

M/S



GSU-reflux\_

45ec.

U096EN05100

TB:Text

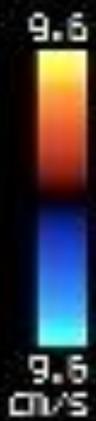
MILITARY HOSPITAL CRAIDUA

SIEMENS

14:42:48

Su

Venous



15 60°  
DEAP 6  
50



7L40+  
Velocity  
Left

3.1kHz  
-1

L



V/S U1=0.391V/S  
Fc= 1.4kHz

GSU-reflux

45ec.

U0N60N08108 -4 -TB:Point

B:50/1/10

C:2/1/20

D: 50/ 2.4/55

TIB:1.5 MI:0.6

V: 0dB

MILITARY HOSPITAL CRAIGVA

SIEMENS

\* 14:44:10

ID:

Venous

[Redacted]  
 DEAP 6  
 [Redacted]  
 ED



[Redacted]  
 [Redacted]

7L40+   
 FPS 27s  
 Left



B:58/1/10

D: 50/ 2.4/55

U096EN08100 4 TB:Point

TIB:1.5 MI:0.4

V: 0dB

MILITARY HOSPITAL CRAIDVA

SIEMENS

\* 14:46:11

Su

ID:

Venous

[Redacted]



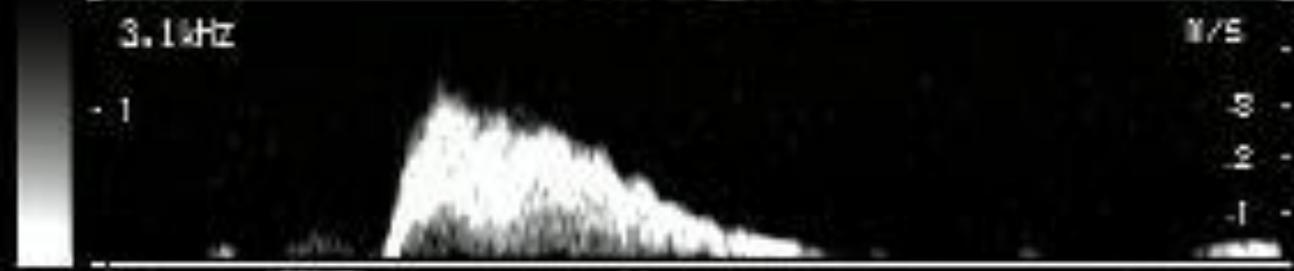
[Redacted]

7L40+   
FPS 27s  
Left

CEAP 6

89 y

ED



L

-1

-1

-2

-3

45sec.

U096EN08108 4 TB:Point

B:58/1/10

D: 50/ 2.4/55

TIB:1.5 MI:0.6

V: 0dB

MILITARY HOSPITAL CRAIGDA

SIEMENS

14:50:50

5u  
P-Uas

0.19



0.19  
m/s

CEAP B

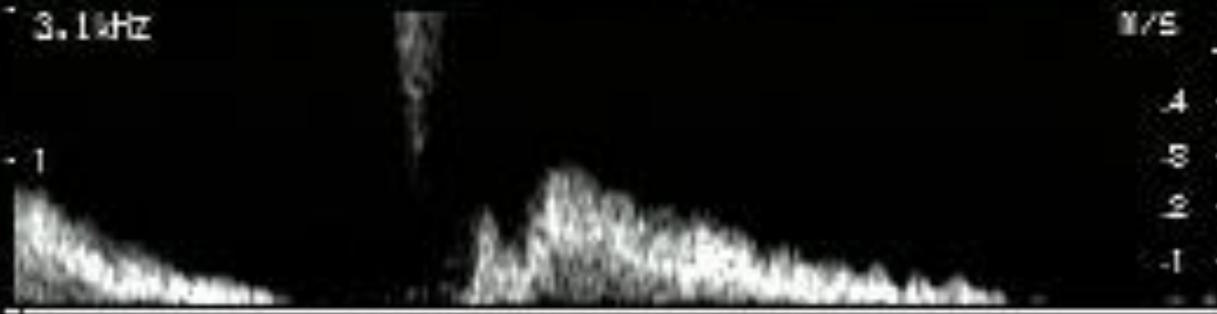
60

39 y

7L40+  
FPS  
Left

3.1 kHz

m/s



45ec.

U0N60M08100 s -TB:Point

B:48/1/12

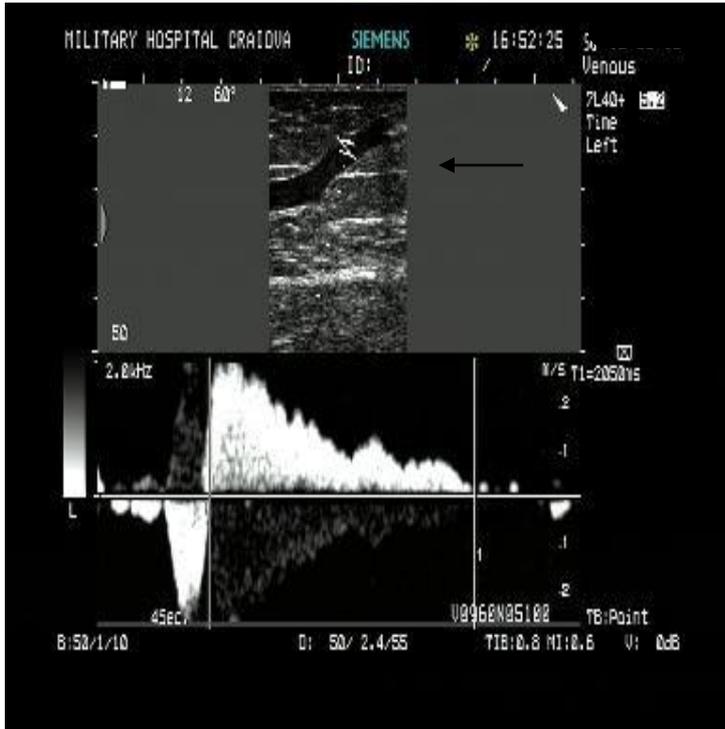
C:1/2/20

D: 50/ 2.4/50

TIB:1.0 MI:0.6

V: 0dB

# Perforantă sau tributară incompetentă (reflux)?



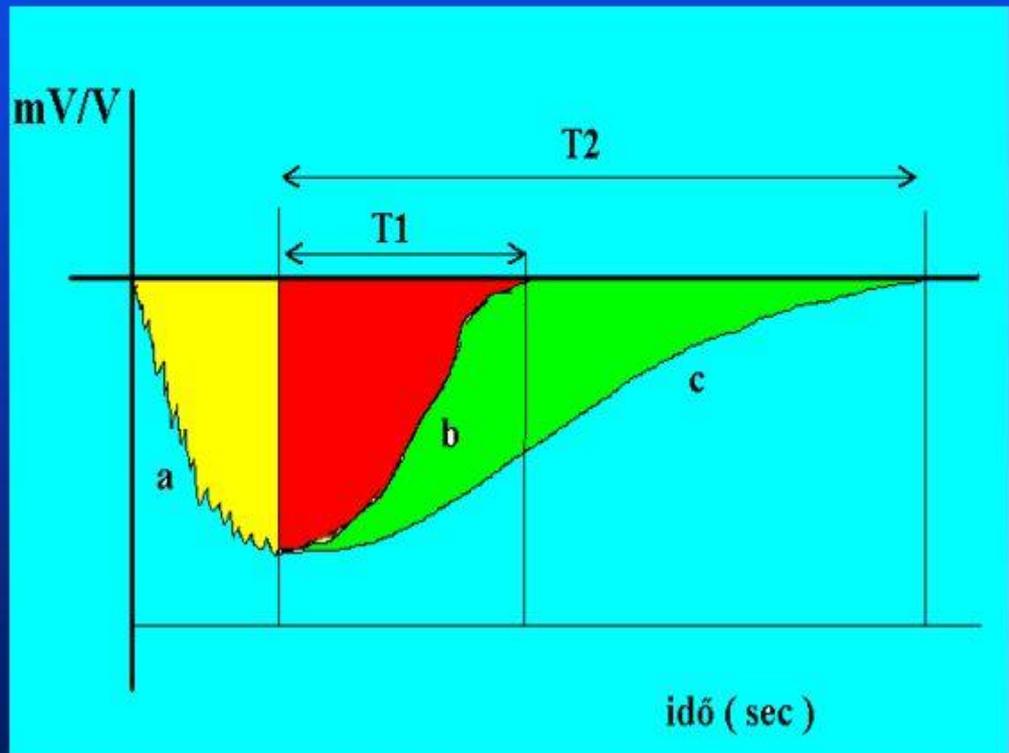
Recommendation 36			Changed
<p><b>For patients with chronic venous disease requiring treatment of varicose tributaries, ambulatory phlebectomy, ultrasound guided foam sclerotherapy or a combination of both are recommended.</b></p>			
Class	Level	References	ToE
I	B	de Roos <i>et al.</i> (2003), <sup>245</sup> Michaels <i>et al.</i> (2006), <sup>243</sup> Zhang <i>et al.</i> (2012), <sup>242</sup> Vasquez <i>et al.</i> (2017) <sup>247</sup>	

Raspuns corect – TRIBUTARA INCOMPETENTA LA NIVELUL COAPSEI

# Photo-plethysmography ( reflux )



Refilling time

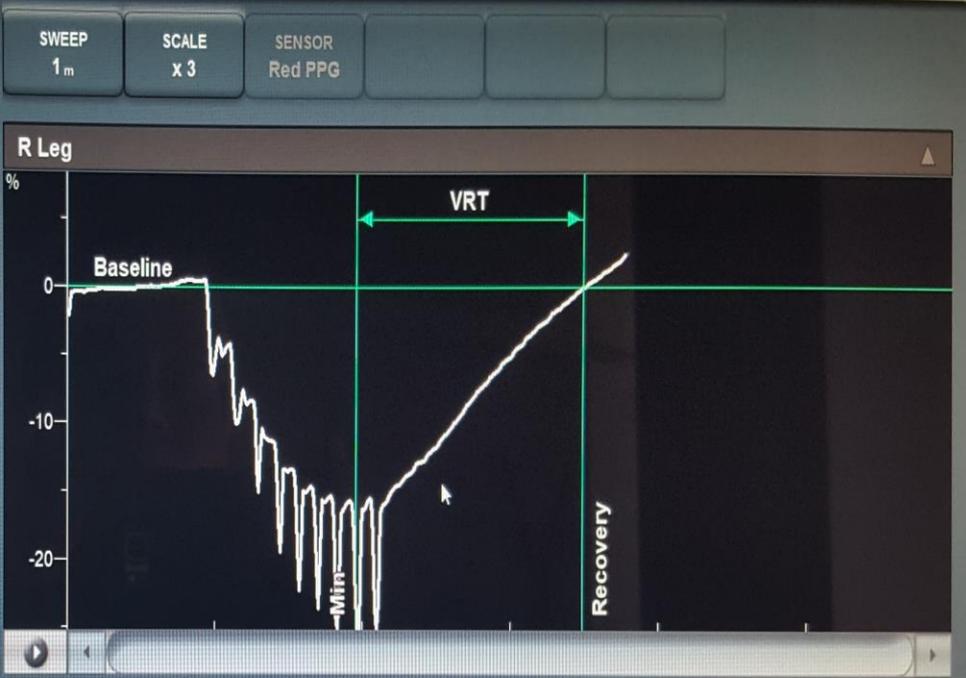
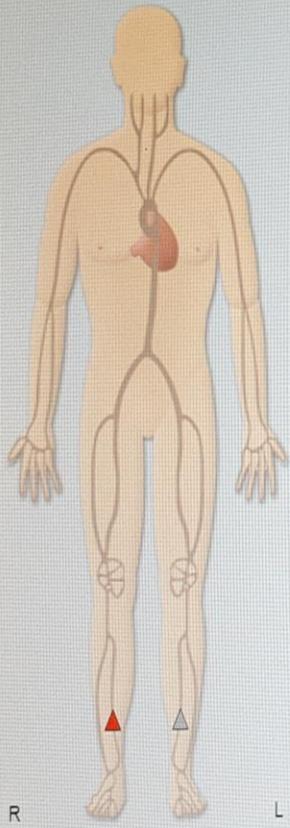


Summary New Load Menu Exit

### REVIEW

- Vn Rf
- ▶ R Leg
- ✓ L Leg

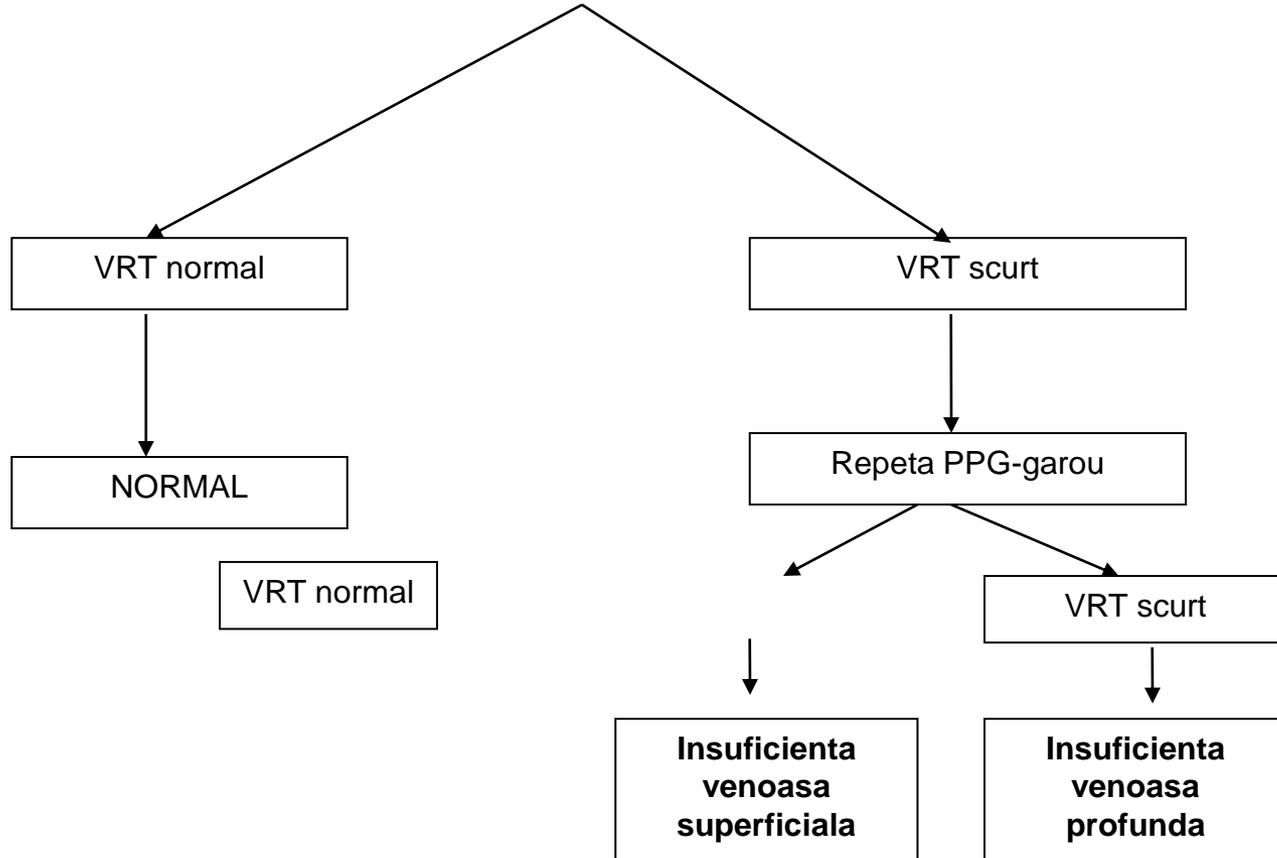
Venous Reflux Measurement 1



VRT (sec)
15.4

- Replay
- Delete Measurement
- Waveform Label
- VRT N/A
- Online
- Resume Examination

**PROTOCOL  
INSUFICIENTA VENOASA VALVULARA  
(REFLUX) ?  
Photoplethismografie (PPG)**



**Legenda:**

VRT= Venous Refilling Time

VN>25 sec (45-60)

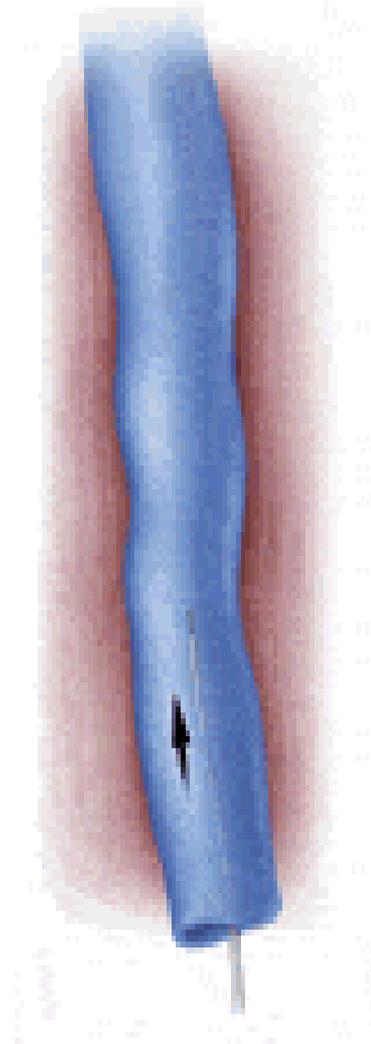
Patologic<25 sec

Reflux sever<10 sec

Faza activa musculara: 10 flexii plantare in interval de 15 sec

Faza de relaxare: 45 sec

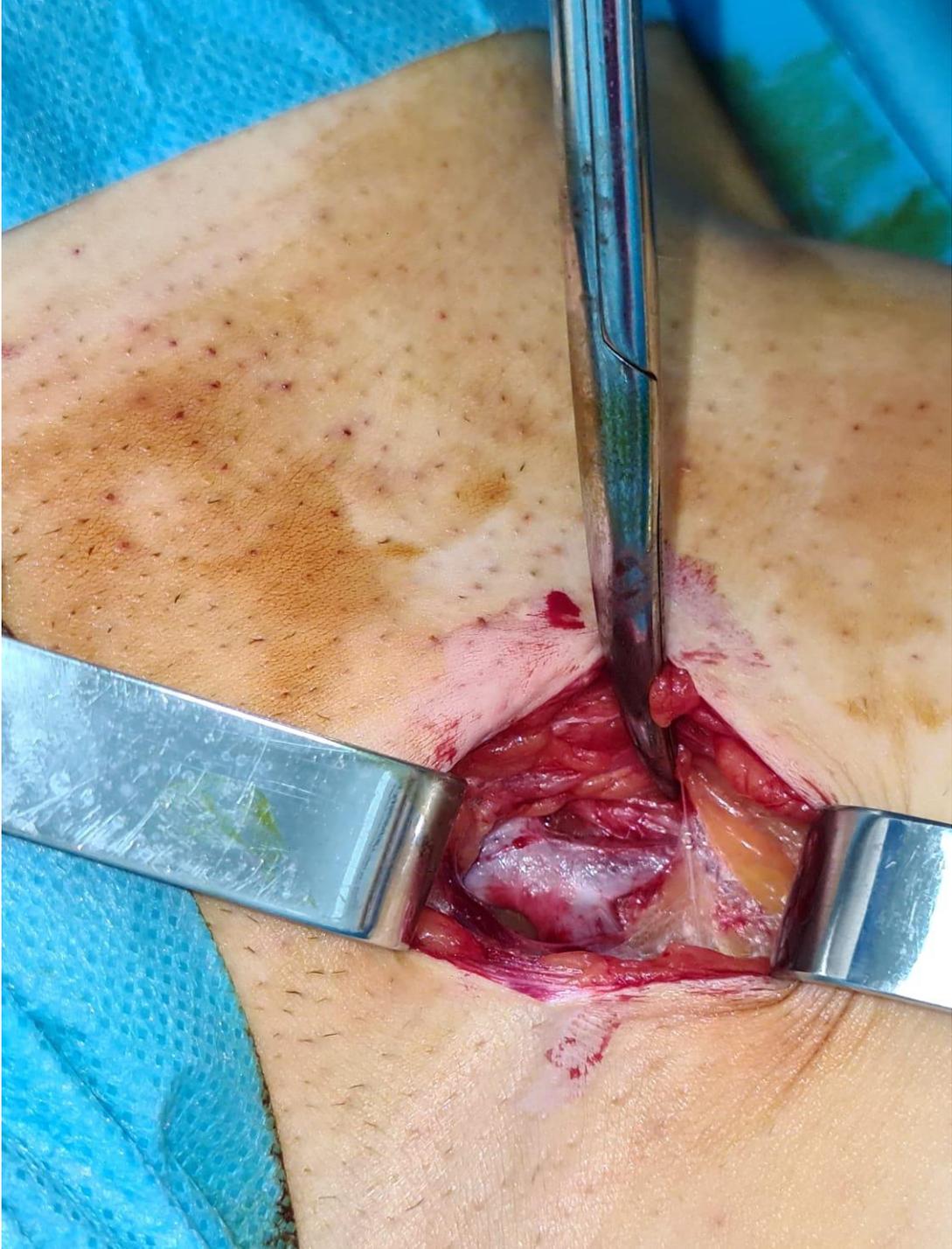
# RF Ablation



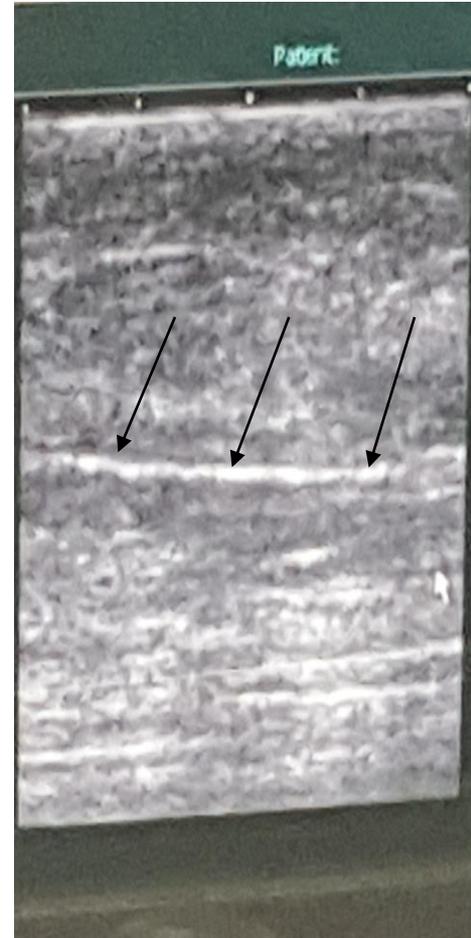








# TLA in distal GSV











FESI  
MESI

TRIANGU

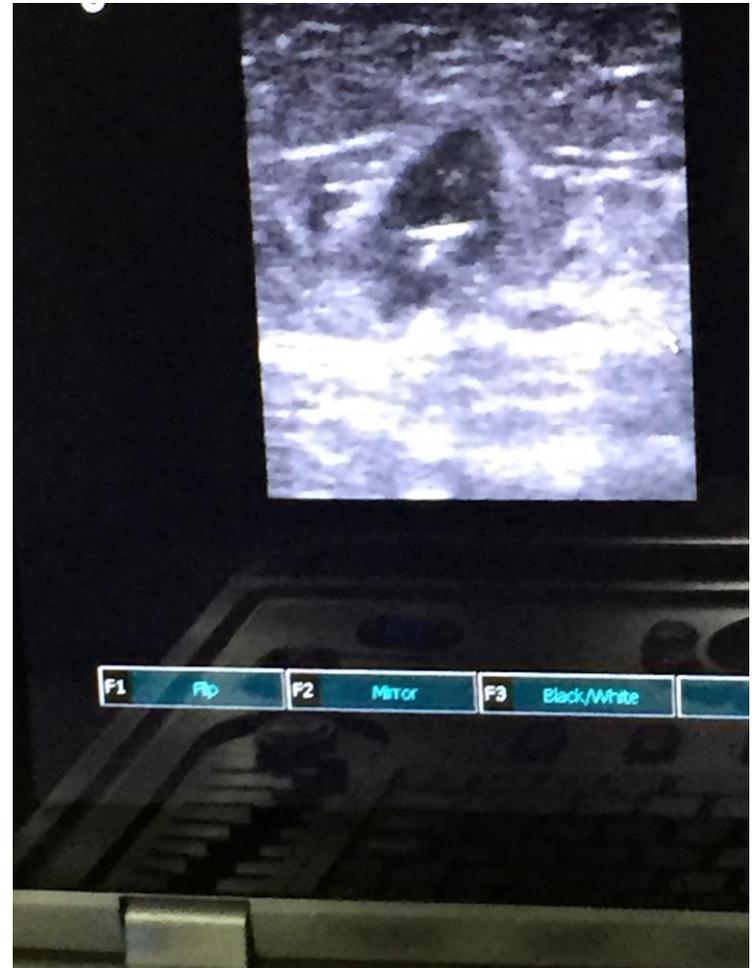
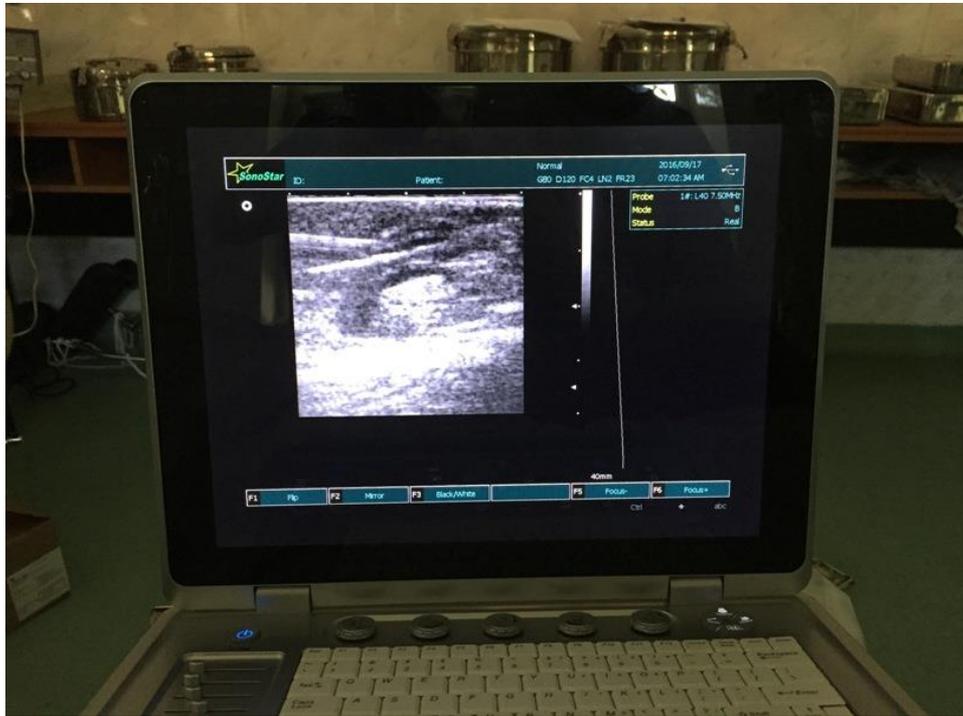
COMPR  
MIC

NR. 6

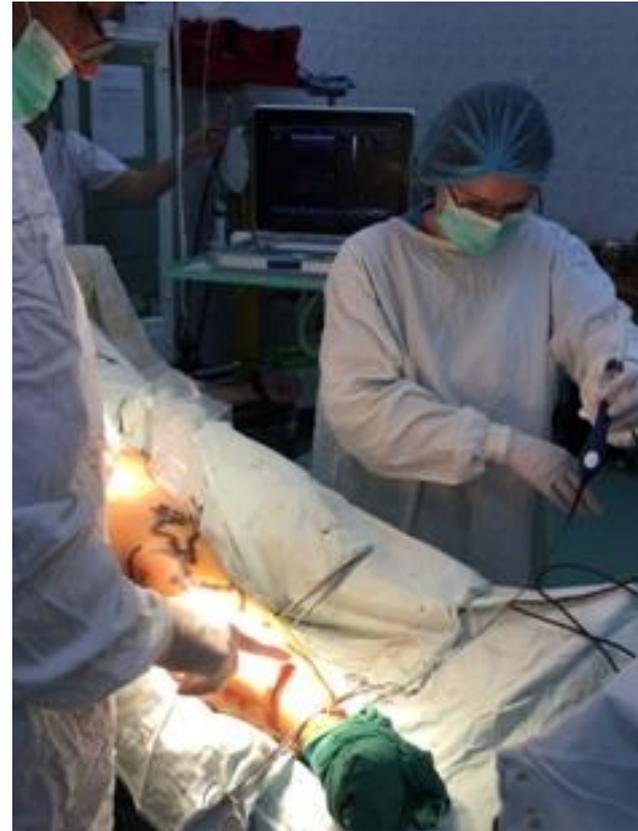
NR. 4

CONDUCT OPER

# Tumescent Anesthesia



# Complete GSV RF ablation (*Closure Fast*)



# GSV reflux



# Successful closure of GSV



Recommendation 27			New
<p><b>For patients with superficial venous incompetence undergoing treatment of a saphenous trunk, duplex ultrasound surveillance should be considered one to four weeks after treatment.</b></p>			
Class	Level	References	
IIa	C	Consensus	

De Maeseneer MG et al., European Society for Vascular Surgery (ESVS) 2022 Clinical Practice Guidelines on the Management of Chronic Venous Disease of the Lower Limbs, European Journal of Vascular and Endovascular Surgery, <https://doi.org/10.1016/j.ejvs.2021.12.024>



# Tratament

1. Tratament venoactiv
2. **Contentie elastica** graduala cls I (20-30mmHg)
3. **Ablatia venei safene interne prin radiofrecventa** pe cale endovenoasa percutana
4. **Sclerozari venectazii si teleangiectazii**
5. **Masaj de drenaj venolimfatic 1-2 cure/sapt.**
6. **Modificarea stilului de viata**



# Tratament

1. Tratament venoactiv
2. **Contentie elastica** graduala cls I (20-30mmHg)
3. **Safenectomie interna + flebectomii**
4. **Sclerozari venectazii si teleangiectazii**
5. **Masaj de drenaj venolimfatic 1-2 cure/sapt.**
6. **Modificarea stilului de viata**



**Endovenous  
procedures are  
THE FUTURE ?!**

**Table 10. Illustrative summary of techniques available for treating saphenous trunk incompetence**

Technique	Published follow up	Reflux abolition	Quality of life improvement	Tumescence needed	Risk of nerve injury below mid-calf <sup>†</sup>
EVTA	≥ 5 y	+++	+++	Yes	Yes
HLS	≥ 5 y	+++	+++	Yes <sup>†</sup>	Yes
CAC	3–5 y	+++	+++	No	No
UGFS	≥ 5 y	+/ <sup>‡</sup> +++ <sup>‡</sup>	++/ <sup>‡</sup> +++ <sup>‡</sup>	No	No
CDFS	1 y	++	++	Yes/no	No
MOCA	3 y	++	+++	No	No

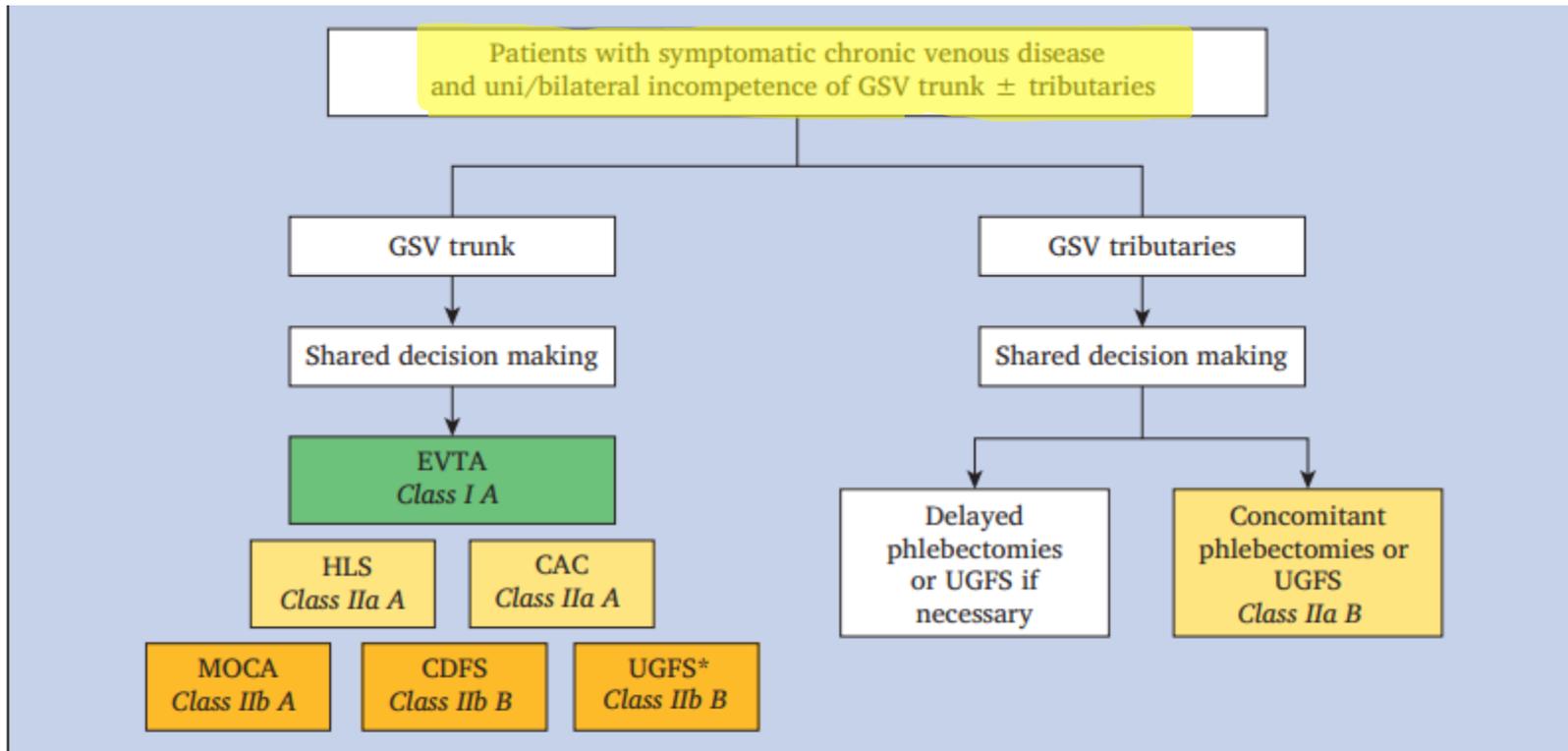
EVTA = endovenous thermal ablation; HLS = high ligation and stripping; CAC = cyanoacrylate adhesive closure; UGFS = ultrasound guided foam sclerotherapy; CDFS = catheter directed foam sclerotherapy; MOCA = mechanochemical ablation. +++ = very good effect; ++ = good effect; + = some effect (see details in [subsection 4.1 – 4.3](#)).

\* For other complications: see details in [subsections 4.1 – 4.3](#).

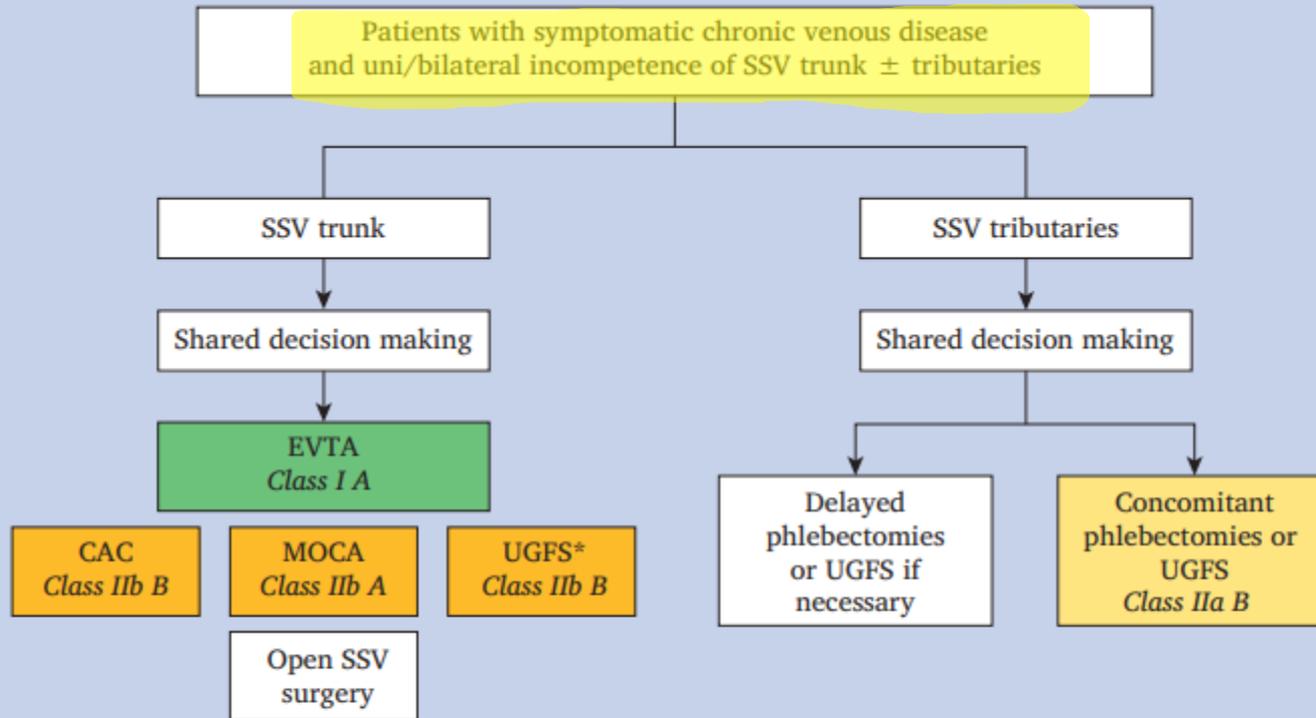
<sup>†</sup> Or alternative anaesthesia technique.

<sup>‡</sup> Truncal diameter < 6 mm.

# ESVS 2022 Clinical Practice Guidelines on the Management of CVD of the Lower Limbs



**Figure 7.** Interventional treatment options for patients with symptomatic great saphenous vein (GSV) incompetence. Alternative strategies, with preservation of the GSV trunk (CHIVA, ASVAL), have not been included in this flowchart. \*Ultrasound-guided foam sclerotherapy (UGFS) only if GSV diameter is <6 mm. EVTA = endovenous thermal ablation; HLS = high ligation/stripping; CAC = cyanoacrylate closure; MOCA = mechanochemical ablation; CDFS = catheter-directed foam sclerotherapy; UGFS = ultrasound-guided foam sclerotherapy; CHIVA = ambulatory conservative haemodynamic treatment of venous incompetence in outpatients; ASVAL = ambulatory selective varices ablation under local anaesthesia.



**Figure 8.** Interventional treatment options for patients with symptomatic small saphenous vein (SSV) incompetence. Alternative strategies, with preservation of the SSV trunk (CHIVA, ASVAL), have not been included in this flowchart. \*Ultrasound-guided foam sclerotherapy (UGFS) only if SSV diameter is <6 mm. EVTA = endovenous thermal ablation; CAC = cyanoacrylate closure; MOCA = mechanochemical ablation; CHIVA = ambulatory conservative haemodynamic treatment of venous incompetence in outpatients; ASVAL = ambulatory selective varices ablation under local anaesthesia.

**For patients with small saphenous vein incompetence requiring treatment, endovenous thermal ablation is recommended in preference to surgery or foam sclerotherapy.**

Class	Level	References	ToE
I	A	Doganci <i>et al.</i> (2011), <sup>142</sup> Paravastu <i>et al.</i> (2016), <sup>293</sup> Boersma <i>et al.</i> (2016) <sup>288</sup>	

**Recommendation 44** New

For patients with small saphenous vein incompetence requiring treatment, endovenous non-thermal non-tumescent ablation methods may be considered.

Class	Level	References	ToE
IIb	B	Boersma <i>et al.</i> (2016), <sup>288</sup> Lan <i>et al.</i> (2017), <sup>231</sup> Garcia-Carpintero <i>et al.</i> (2020), <sup>209</sup> Mohamed <i>et al.</i> (2021) <sup>230</sup>	

**Recommendation 53** New

For patients with an incompetent great saphenous vein with a very large truncal diameter (more than 12 mm), endovenous thermal ablation should be considered.

Class	Level	References	ToE
IIa	C	Dabbs <i>et al.</i> (2018), <sup>327</sup> Woo <i>et al.</i> (2019) <sup>328</sup>	

**Recommendation 45** New

For patients with small saphenous vein incompetence treated by endovenous thermal ablation, care should be taken to avoid injury to the sural nerve if cannulation is carried below midcalf level.

Class	Level	References
I	B	Doganci <i>et al.</i> (2011), <sup>142</sup> Rodriguez-Acevedo <i>et al.</i> (2017) <sup>294</sup>

**4.6.8.2. Very superficial saphenous trunks.** When treating very superficial truncal veins ( $\leq 5$  mm from the skin), patients should be informed about the potential risk of hyperpigmentation and transient induration. The latter may even persist for

**Tratamentul minim – invaziv  
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