

Best Practice [Micro-Sclerotherapy]

pocket guide



Essentials for optimal results with a
standardised sclerotherapy technique



kreussler

International
School of
Sclerotherapy

Introduction

Kreussler has almost 60 years of experience in the field of phlebology as a partner of the medical community and plays a crucial role in the treatment of varicose veins.

A good sclerotherapy technique is essential for optimal treatment success and for minimising side effects.

The objective of the Kreussler International School of Sclerotherapy is to harmonise the sclerotherapy technique on an international level and to establish standards of diagnostics and injection technique. This pocket guide summarises the most important standards for micro-sclerotherapy.

Table of contents

Micro-sclerotherapy	6
Pre-therapeutic management	8
Strategic treatment plan	10
Dosage for liquid sclerotherapy	12
Good sclerotherapy technique	14
How to prevent complications	21
Post-treatment procedure	22

Micro-sclerotherapy

Micro-sclerotherapy is a safe and effective method to treat telangiectasias and reticular varicose veins.

It is a demanding procedure that requires a good knowledge in phlebology and must adhere to high aesthetic standards.

According to the current guidelines, micro-sclerotherapy is **the method of choice** for the treatment of C1 varicose veins, with a success rate exceeding 90%.

Foam sclerotherapy has not yet been approved for the treatment of C1 varicose veins by the authorities.

For off-label use, physicians assume full responsibility for possible side effects and low efficacy.



Pre-therapeutic management

A detailed medical history, a careful consideration of the contraindications of the sclerosant, and a comprehensive clinical examination are indispensable for a successful and safe treatment.

A pre-treatment **duplex ultrasound examination** of the veins should be performed to trace the origin of the C1 varicose veins and to check the deep venous system.

Providing honest information to the patient is just as important as a good sclerotherapy technique:

- Consider the patient's reason for the visit
- Explain that it might take more than one treatment session and several weeks to achieve an optimal aesthetic result
- Explain why the treated area may initially look worse than before treatment
- Inform about possible complications

The fitting of compression stockings should be done prior to the treatment day.



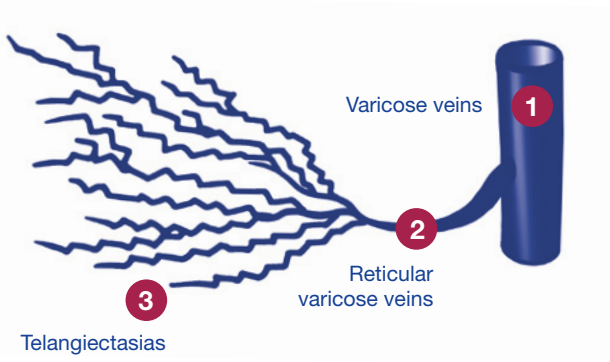
Tips for your patients on the day of treatment:

- The treatment area should not be shaved to avoid burning when the disinfectant is applied
- No skin care products should be used to avoid unnecessary slipperiness of the skin in the injection area

Strategic treatment plan

Successful sclerotherapy requires thorough planning:

- Treat all leakage points from proximal to distal
- Treat from the larger to the smaller veins/close off the high-pressure reflux points first
 1. Saphenous veins and other larger varicose veins with reflux
 2. Reticular varicose veins
 3. Telangiectasias if necessary



Treat the feeding veins of telangiectasias first (confluence points, reticular veins):

- Telangiectasias in the area then often disappear without direct injection
- The number of injections and side effects (e.g., matting) is reduced
- Feeding veins are easier to cannulate and less likely to rupture when injected
- If the feeding veins are not treated, the telangiectasias will reappear in most cases
- Be aware that feeding veins may be interconnected with perforating and larger varicose veins

Dosage for liquid sclerotherapy

Use the dose that offers optimal efficacy and minimal complications. The goal is to achieve optimal destruction of the vein wall using the minimum concentration and volume of sclerosant required.

- Correct dose: vein inflammation, perivenous tissue is preserved, good efficacy
- Dose too low: partial inflammation of the vein, recanalisation, low efficacy, possibly more side effects
- Dose too high: good efficacy, excessive sclerosing reaction and inflammation, possibly more side effects, e.g., hyperpigmentation, necrosis, matting, and phlebitis

Telangiectasias: Aethoxysklerol® 0.25% and 0.5% (for central veins of telangiectasias/in special cases, Aethoxysklerol® 1% can be used additionally)

Reticular varicose veins: Aethoxysklerol® 0.5% and 1% according to the product information

Volume per injection: 0.1–0.2 ml for telangiectasias and up to 0.3 ml for reticular veins

Maximum daily dose: Refer to the product information specific to your country

According to the product information of Aethoxysklerol® in France, a total of 4 ml liquid is allowed per session. In the USA, 10 ml are allowed per session. Do not use more than 4–10 ml per session!



Good sclerotherapy technique

- Injection is performed with the patient in lying position
- Disinfect the skin of the treatment area, which also makes the skin more transparent
- Identify the feeding veins: With the aid of a vein detector (e.g., the Veinlite®) feeding veins are easier to find, providing even better results in sclerotherapy
- For injection, the needle is directly attached to a syringe filled with the sclerosing agent



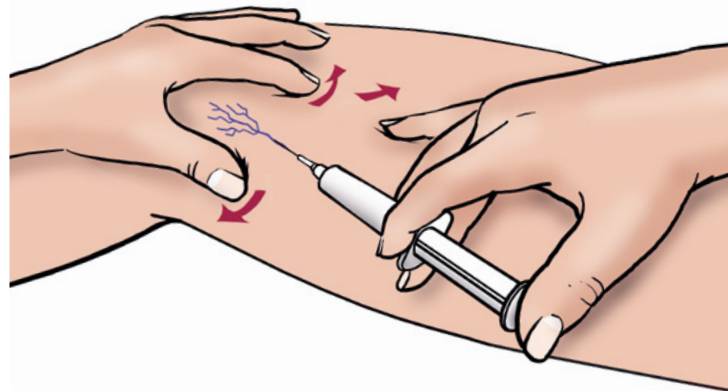
Puncture

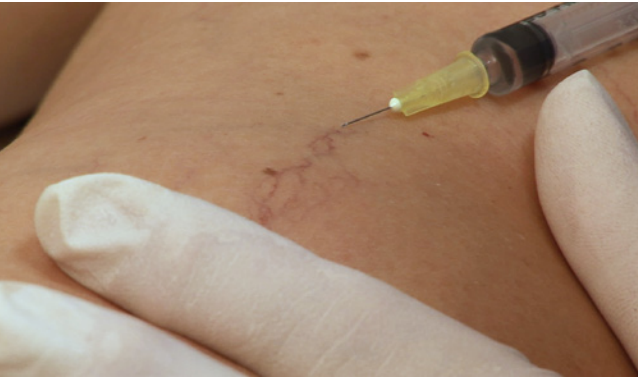
Puncture with the bevel up and tangential to the skin surface to minimise the risk of transecting the vein.

Check the intravenous position:

- Blood reflux in the cannula/syringe cone indicates the correct intravascular position
- Aspiration not possible for telangiectasias

Use one hand to stretch the skin adjacent to the vein to be treated in two directions, facilitating cannulation of the vein, and the other hand for injection; the fifth finger of the injecting hand can be used to exert countertraction in a third direction.






Injection

- Inject slowly (5–10 s) without changing the position of the cannula and with steady and minimum pressure to avoid extravasation of the sclerosant (necrosis, pigmentation) and to increase the contact of the sclerosant with the vein wall
- During the intravenous injection, localised decolouration (blanching effect) of the veins occurs as the injected sclerosant displaces the blood in the veins
- The volume injected should result in the blanching of vessels approximately 1–2 cm around the injection site
- Multiple areas can be injected in one session



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- Use the lowest concentration and volume required for optimal efficacy
 - Never inject more than 0.3 ml per injection site
 - Better multiple injections with smaller volumes at different sites than a single injection with a large volume
 - Always inject intravenously
 - Never inject with high pressure
 - Area of blanching should not exceed 2 cm per injection
 - Be very careful in the popliteal fossa, in the ankle area, as well as with the feet

Syringes

Use smooth-moving syringes for the injections, so that the intravascular injection is easier to control. Use 2.5–3 ml disposable syringes that fit well in the palm and are easy to handle.

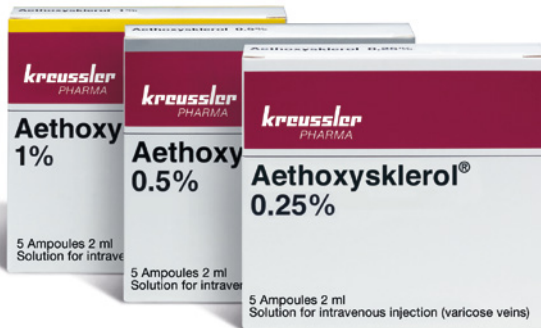


Do not use 1 ml syringes (e.g., insulin syringes)!

For the same force applied to the piston, the outlet pressure (pressure of the liquid at the tip of the needle) can almost double with a syringe of smaller diameter. The higher pressure may cause extravasation, burning during injection, and may increase the risk for necrosis and hyperpigmentation.

Cannulas

- Needles should not be too long, otherwise they tend to be too flexible for reliable and accurate cannulation
- Multiple injections using the same needle can be administered within the same patient and session; however, after approximately 8 injections, the needle will become dull
- Use 25–27 gauge needles for reticular varicose veins
- Use 27–30 gauge needles for telangiectasias



How to prevent complications

The injection must be stopped immediately if

- You notice a resistance during injection
 - ▶ may be a sign for paravenous injection
- A wheal develops
 - ▶ clear sign for paravenous injection
- The patient feels severe pain
 - ▶ clear sign for paravenous position of the cannula
- Prolonged blanching in the area of injection occurs
 - ▶ clear sign for intra-arterial injection



Do not mistake the temporary skin reaction immediately after injection as a side effect!

After initial decolouration, the treated area usually becomes slightly reddened because all sclerosing agents cause varying degrees of erythema, urticaria, or pruritus due to histamine release.

Post-treatment procedure

Compression

The injection is followed directly by local eccentric compression along the course of the sclerosed vein for 24 hours. In some countries, compression stockings are recommended after sclerotherapy for about 8 hours during the day for at least 2–7 days. In other countries, compression after sclerotherapy is not recommended.

Within reach of the practice:

Watch out for signs of allergic reactions and ask the patient to walk for 20–30 minutes as a precautionary measure against deep venous thrombosis.

In the first two weeks after sclerotherapy:

Long periods of sitting, e.g., long car journeys or flights should be avoided.

To avoid hyperpigmentation:

- No hot baths, sauna, and strong UV irradiation during the first two weeks
- Microthrombectomy should be carried out after 1–2 weeks

Follow-up appointments are usually performed after 1–2 weeks.





NEVER FORGET

**A good sclerotherapy
technique is essential
to attain optimal treat-
ment results!**

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