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STANDARDIZED PROCEDURES FOR REGISTERED NURSES/PHYSICIANS ASSISTANTS/NURSE PRACTIONERS PERFORMING PERCUTANEOUS SCLEROTHERAPY

I. POLICY

A. Circumstances under which the clinically trained RN may perform Sclerotherapy

1. Setting:
   - a Brentwood: Doctor's Office, Suite J-5, 1280 Central Blvd,
   - b. Alameda: Alameda Hospital, 4th Floor Doctor's Offices

2. Supervision:
   - a. Direct supervision not required. All procedures and patient care plans will be discussed with Dr. Moulton-Barrett prior to treatment.. Written orders will be given by M.D., NP or PA. The Physician, NP, PA who is trained and qualified will assess the patient prior to treatment to ensure the patient is a candidate for sclerotherapy. Medical questionaire is discussed at depth with pt. (Questionnaire attached). Medical history questionaire has been completed. Clinical examination is performed to verify there is no significant long, short or perforator veinous incompetence..
   - c The RN may then perform sclerotherapy providing the pt. meets the necessary criteria
   - d. physician views treatment rendered and signs the chart upon review
3. Patient Conditions:
   - a. Consultation regarding patient's chief complaint is complete. Patient must be at least 18 years of age, or parent/legal guardian may authorize treatment.
   - b. Informed consent given and consent form completed.
4. Contraindications:
   - a. Pregnancy.
   - b. For patients with severe allergies manifested by a history of anaphylaxis or history or presence of multiple severe allergies.
   - c. Significant saphenous vein or perforator incompetence.
   - d. and other conditions including but not limited to: insulin dependent diabetes, acute febrile illness, acute deep venous thrombophlebitis, advanced collagen vascular disease, osteoarthritis, anticoagulent therapy, bronchial asthma (chronic steroid users), some cancers, and debilitated individuals, and nontruncal/axial saphenous varicosities or perforating veins >= 3-8mm in diameter.
   - e. sclerotherapy will NEVER be performed in the dorsal foot or groin areas
5. Precautions:
   - a. Injection should be limited to 3mls per treatment site or 20mls per session in total all areas

b. patient is aware of potential complications of sclerotherapy, redness swelling, matting, pigmentation, skin ulceration, tenderness and itching may occur
c. The only veins that the registered nurse will attempt to sclerose are:
telangiectasias (0.1mm-1mm),
venulectasia (1-2mm), and is some cases,
reticular veins (2-4mm).
d. Nontruncal/axial saphenous and perforating varicosities (3-8mm) will be referred to a physician.
e. The following anatomic areas will always be treated with great caution to prevent excessive tenderness and possible hyperpigmentation: popliteal fossa, lateral aspects of foot and lateral malleolus, and midline of the calf.
f. No more than 0.5cc will be injected in any the above mentioned caution areas.
g. No more than 0.5cc will be injected in a single point of injection
h. The nurse will identify and inject the most proximal arborizing feeder vessel in a telangiectatic cluster and should treat the entire vessel at a given session. Treatment shall proceed in an organized pattern from proximal to distal.
i. When treating reticular veins, aspiration of a small amount of blood into the hub of the syringe ensures that intact cannulation has occurred and advancement of the sclerosing solution can proceed. The needle shall be replaced after each successful injection or attempt when treating reticular veins.
j. Consultation with physician necessary for problems:
    i. Blue reticular veins are not closed or reappearance of previously treated blue or large veins.
    ii. Any size ulcer or skin damage.
    iii. Excessive staining from previous treatments.
    iv. Extensive matting.
    v. Drainage of hematomas. Two to four weeks after blue reticular vein or large varicose vein treatment.
    vi. Abnormal response to treatment -- rash, hives, difficulty breathing, etc.
    vii. Any question of less than optimum response to current treatment plan.

II. PROTOCOL

A. Definition:

The intravenous injection of the Sodium tetradocyl for the correction of 0.1 to greater than 4mm subcutaneous varicose, reticular and spider veins.

B. Assessment:

1. Subjective: The above patient conditions have been met.
2. Objective: The patient presents with soft tissue deficits as described in A. definition above.

C. Plan:

1. Storage:

a. Sodium tetradocyl up to 77º F. Refrigeration is not needed. Do not freeze and protect from sunlight.
b. Sodium tetradocyl be used prior to expiration date on the package. Sodium tetradocyl is packaged sterile in 3ml glass vials of 1% and 3% and sold by the box.

2. Test Implant:
   a. Sclerotherapy does not require a test implant.
3. Treatment:
   a. Patient will remove all make-up from treatment area.
   b. Define areas to be treated with marking pen
   c. Prep site with betadine iodine or chlorhexidine solution followed by isopropyl alcohol.
   d. Nurse will observe Universal Precaution measures at all times
   e. Equipment: 4x4 gauze soaking in isopropyl alcohol 70%, betadine iodine gauze, plain gauze and ace wrap, syringes with needles filled with sclerosants as described below.
   f. make up sclerosant solution: 0.15 cc 1% sodium tetradocyl in with 0.85cc NS mixed with 4cc of air in 5cc syringe and injected through a 30g butterfly needle into spider (0.1mm) and reticular (0.1-1mm) vessels
   g. Inject area to be treated as follows:
      i. Treatment from large veins to small veins.
      ii. Use the least volume and the weakest concentration of sclerosing solution necessary to initiate complete sclerosis.
      iii. Both hands are held steady by being in contact with the patient's leg.
      iv. Proper positioning of the patient:
         (1). Patient should be reclining on the exam table. positioned so that target vein is on the top of the leg and the syringe is horizontal. Trying to inject in a vertical plane or reaching across the legs is awkward and won't be very successful.
      v. Two fingers of the non-dominant hand are used to stretch the skin and prevent vein from moving.
      vi. Syringe held with thumb and fingers positioned pointing toward the skin. This allows the needle to be almost parallel or flat against the skin.
      vii. Choosing an injection site:
         a. Needle should be passed through the skin about 1 to 2 mm proximal to the site selected for entry into the vein.
         b. Needle should be lined up with the vein.
         c. Do not try to enter from the side.
         d. Needle needs to be inserted into a straight section of a vein.
   h. How do you know when the needle is in the vein?
      i. Do not put any pressure on the plunger during the insertion of the needle.

ii. Hold the syringe lightly in order to sense resistance as the needle is advanced.
iii. There will be a decrease in resistance or “give” as the needle enters the vein lumen.
iv. In very superficial vessels, the tip of the needle may suddenly appear more vivid and distinct as it enters the lumen.
v. Unless the vessel is extremely small, it should be possible to aspirate back a small amount of blood into the clear barrel of the needle.
vi. Do not aspirate too much blood or it will dilute the solution.

i. How should solution be injected?
i. Initially, inject very slowly and with little pressure in order to visually confirm that the solution is in the lumen.
ii. Solution filling the lumen will displace blood, making the vessel transparent. It will appear as if the vessel has suddenly disappeared.
iii. Once intraluminal placement of the needle tip is confirmed, pressure on the plunger may be increased as appropriate for the size of the vein being treated.
iv. The appearance of a hematoma or ”bump” at the site of the injection indicates extravasation. Injection should cease immediately and the needle be withdrawn.

j. What if the needle doesn’t enter the vein on the first attempt?
i. Withdraw the needle while keeping it intradermal and probe gently while repeating the technique as described in #4.
ii. Look for sudden blanching of the vein.
- When blanching appears, do not move needle.
- Do not attempt to thread needle further in vein.

k. How much solution should you inject in each vein?
Solution should be slowly injected until the vein is blanched.
- Do not force solution into every branch.
- This could cause ulceration of the skin.
- Multiple injections in the different branches give better results.

8. If needle doesn’t enter the vein successfully, remove it and try another section of the vessel.
a. Minor extravasation may occur while the vein is blanching to produce a small cutaneous wheal.
b. If this enlarges during the injection, the injection should be withdrawn.

9. Pressure held at site when needle withdrawn – gauze, cotton ball or transpose tape, apply to help soothe burning followed by a compressive stocking

10. Post treatment – cleanse site with alcohol

b. Apply compressive vascular stocking .immediately after procedure

11. Patient Education:
    a. See sclerotherapy postcare sheet and give copy to patient.
    b. Avoid strenuous exercise, extensive sun exposure and extensive heat.
    c. Avoid all alcoholic beverages for 4 hours following injection.
    d. Instruct patient not to massage treatment sites for 4 days.
    e. Inform patient that bruising could occur and last 7-10 days.
    f. Inform patient redness and slight swelling may occur at the injection site.
    g. early ambulation with vascular stocking in place 30-40mmHg
    h. Patient to notify Aesthetic Medicine department should any concerns or questions arise.
    i. Expect bruising at the site of each injection for one to two weeks.
    j. Expect redness and puffiness of the skin and veins in the areas treated -- this will disappear by the morning.
    k. Larger spider veins may discolor and appear bruised.
    l. May take standard doses of Advil or Tylenol for any discomfort.
    m. Call if there are any questions about recovery.

13. Follow-up:
    a. Patient may leave with ice to reduce swelling and discomfort.
    b. Subsequent treatment scheduled upon patient's desire for further additional correction.

14. 10. Record keeping:
    a. Patient's name, date of treatment, type of solution used, concentration, and volume injected.

14. Record Keeping / Documentation:

The following information must be recorded with each treatment.

a. The Registered Nurse is responsible for maintaining client records, including but not limited to client assessment, signed informed consent of risks, benefits, and potential adverse effects
a. Number and size of syringes used
b. Syringe lot numbers
c. Specific areas treated
d. Amount of material used: % sodium tetradocyl, in NS and volume of air to make a foam.
e. Patient response to treatment.
f. Ensure physician review and sign-off of all patient charts within 7 days post procedure.

III. REQUIREMENTS FOR RN

A. Education:

1. Graduate of RN/PA program with current California RN license.

B. Training:

1. Training by The Medical Director, NP, PA or trained and qualified Registered Nurse specifically trained in sclerotherapy product knowledge and proper technique. Satisfactory Training will include:

- Anatomy and Physiology of Lower Venous System
- Vessel Identification and Classification
- Epidemiology and Pathophysiology of Telangiectatic Leg Veins
- Contraindications, Complications and Prevention Profiles
- Safety and efficacy issues
- Sclerosing Solutions and Dilution protocols
- Client Selection, History Taking, Assessment and Evaluation
- Introduction to Reticular Veins
- Safe application of injection techniques (at least 8hours of hands on)

2. Formal education from product company to gain knowledge, experience and proficiency in the proper administration of product.
3. Initial Evaluation: Successful completion of in-service education, training and demonstration of competency to MD, including proctoring of (at least) 3 treatments.
4.. On-going evaluation:
   a. Random MD visits during treatment sessions. MD will observe 1 treatment quarterly.
   b. Annual performance evaluation by Program Manager.

C. DEVELOPMENT OF PLAN

The Medical Director, Administration, and the Registered Nurse have developed this Standardized Procedure and Protocol for Sclerotherapy Treatment by Registered Nurses as a comprehensive working model.

This model will be reviewed annually at an annual management meeting and documented in the minutes of the meeting and will be kept in the Administration office.

This Standardized Procedure and Protocol have been approved by:

_____

NP, PA, Nursing Signature Date

_____

Medical Director Date

STANDARDIZED PROCEDURE AND PROTOCOL

NURSES AUTHORIZED TO PERFORM SCLEROTHERAPY

NAME	TITLE: RN,PA,NP	DATE
1._____	RN,PA,NP	_____
2._____	RN,PA,NP	_____
3._____	RN,PA,NP	_____
4._____	RN,PA,NP	_____
5._____	RN,PA,NP	_____
6._____	RN,PA,NP	_____
7._____	RN,PA,NP	_____
8._____	RN,PA,NP	_____