Safety in Office-Based Phlebology Practice

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Intended Audience

- Physician assistants, nurse practitioners, ultrasound technicians, office managers involved in the care of patients with venous insufficiency and varicose veins
- Endovenous Thermal Ablation, Ambulatory Phlebectomy, Sclerotherapy
- Team work and adequate preparation is crucial to minimize and manage potential risks and promote safety for office-based interventional procedures

Safety Measures

Introduction

Setting

Operation

Before Discharge

Satisfation

Pre-procedure

Intra-procedure

Post-procedure

Introduction

- Review patient's medical history, perform a physical examination, and evaluate the patient's venous system with Doppler ultrasound
- Contraindications
- Communicate appropriate treatment options
- Address patient's expectations

Medical History

- Questionary with pertinent information
- Symptoms related to venous insufficiency: ache, pain, heaviness, throbbing, skin irritation, edema, muscle cramps
- History of deep venous thrombosis (DVT), superficial thrombophlebitis, pulmonary embolism (PE)

Medical History

- Previous treatments and interventions (surgery, thermal ablations, phlebectomy, sclerotherapy, cosmetic procedures)
- Tobacco, alcohol and drug use
- Family history of varicose veins

Medical History

- Medications including anticoagulation therapy, aspirin and hormones (birth control pills)
- Numerous medications can interfere with with blood clotting
- Allergies: medications, skin prep, adhesives and latex

Physical Exam

- Telangiectasias and Reticular veins
- Varicose veins
- Edema
- Skin pigmentation, inflammation or atrophy
- Ulcerations: number of healed and active lesions

Imaging

- Ultrasound examination of the lower extremities:
  - DVT investigation
  - Vein mapping: identify the superficial veins, tributaries and perforators
  - Venous reflux

Setting

All members of the team involved with patient care should know:

- Availability and location of emergency equipment
- Protocols for cardiopulmonary emergencies
- Protocols for emergency transfer of patients
- Fire evacuation protocol
- Written emergency protocols may be displayed in the procedure room

Setting

- Adequate light sources during ultrasound examination and during the procedure: lights may be dimmed during US to improve image quality and a powerful spot light may be needed during procedures
- Adequate room temperature: cold temperatures can cause vasospasm and difficult venous access
- Adequate position of equipment (US, laser generator, sterile table, etc) to permit staff circulation in the room

Operation

Immediate pre-procedure measures:

- Confirm patient identity, procedure and informed consent
- Adequate identification of site and side of the procedure
- Review essential imaging studies, when indicated
- When indicated, confirm that compression dressing or stockings are available for post-procedure use

Operation

- Patient monitoring with periodic checks of blood pressure, heart rate and oxygen saturation, when indicated
- Sterile technique throughout
- Local anesthetic toxicity precautions, specially when a increased volume of local anesthesia is anticipated (tumescent anesthesia, phlebectomy)

Local anesthetic toxicity

As serum levels of local anesthetic increase, CNS and cardiovascular system complications may result:

- CNS findings: tongue and perioral numbness, lightheadedness, involuntary muscle contraction, depressed level of consciousness, seizures
- If concentration continues to increase, respiratory depression and cardiovascular collapse may occur

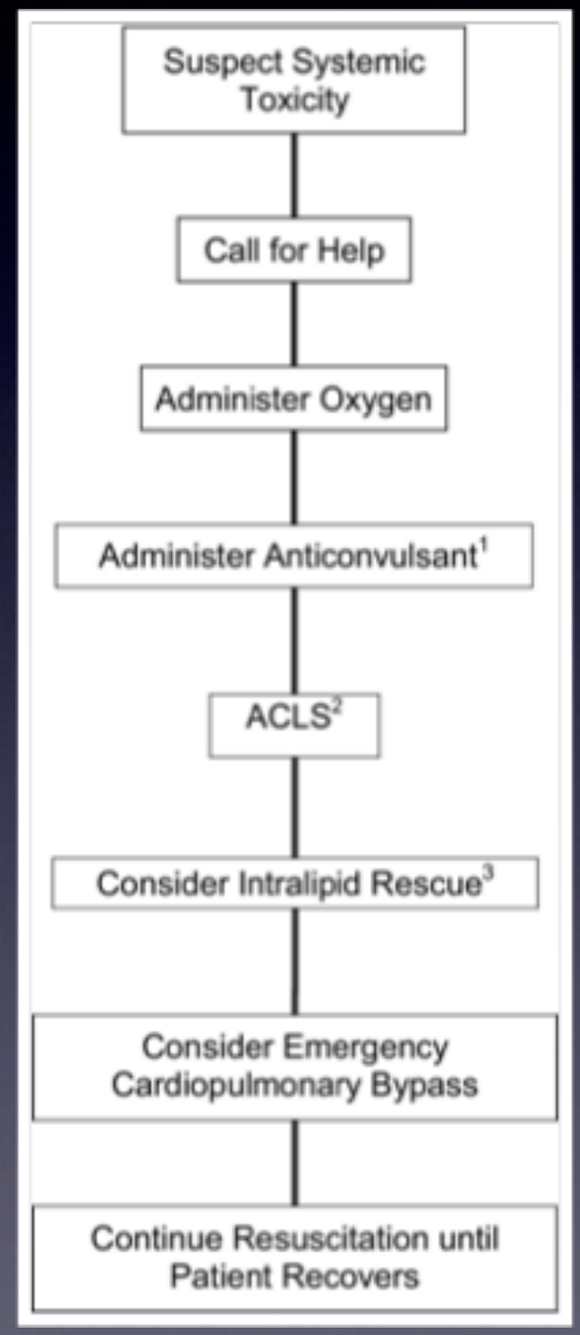
Local anesthetic toxicity

Treatment algorithm for local anesthetic systemic toxicity Flow chart provides a suggested guideline for managing patients with severe local anesthetic toxicity

1. Consider providing an anticonvulsant, such as midazolam, diazepam, or sodium thiopental, to raise the seizure threshold

2. Provide care as suggested by standard advanced cardiac life support (ACLS) recommendations, including hyperventilation and airway control

3. Consider intralipid rescue, with recommended starting dose of Intralipid 20% 1.5 mL/kg as an initial bolus followed by 0.25 mL/kg/min for 30–60 minutes. Bolus may be repeated for persistent asystole



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Endovenous Laser Ablation

- Protective eyewear is necessary when laser is used to protect the retina
- Eye protection is required for everyone in the procedure room, when laser is used
- Laser is activated for around 2 minutes on average
- Although an unlikely occurrence, looking directly into the laser can result in serious eye damage

Before Discharge

- Assessment for pain and immediate post-procedure complications, such as bleeding and DVT
- Adequate cleaning and dressing of the treated area is a critical step in the follow up care
- Bandage should be applied distally to proximally to cover the treated area
- Antiseptic powder or solution should be avoided, as it may induce silicotic granulomas (Phlebectomy)

Before Discharge

- Patient education
- Detailed post-procedure instructions
- Include contact numbers in case of complications
- Plan for post-discharge follow-up
- Assess patient satisfaction after completion of treatment

Review Question #1

The following are considered relative contraindications for EVTA, except:

A. Deep venous thrombosis

B. Severe uncorrectable coagulopathy

C. Inability to ambulate after the procedure

D. Use of birth control pills

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What is the suggested action threshold for skin burn as a complication after EVTA?

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B. 2%

C. 5%

D. 10%

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At what time should ambulation be encouraged after EVTA procedures?

A. Immediately after the procedure

B. One hour after the procedure

C. Six hours after the procedure

D. Ambulation should only be initiated on the following day

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Review Question #4

The following are common complications after Ambulatory Phlebectomy, except:

A. Transient pigmentation

B. DVT

C. Neovascularity or matting

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Review Question #5

A patient calls the office 3 days after a sclerotherapy session with a complaint of pain and swelling on her leg. What is your recommendation?

A. Apply some anti-inflammatory ointment

B. Take anti-inflammatory and pain killer orally

C. Come to the office today

D. Edema is a common complication after this procedure. Don't worry it will go way

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