

Subject: Scope of Practice/Procedure – ALS
Vascular Access

Associated Policies:

- I. Authority:
 - A. California Health and Safety Code, Division 2.5
 - B. California Code of Regulations, Title 22, Division 9
- II. Purpose:
 - A. To serve as the emergency medical services (EMS) system standard for the establishment of vascular access.
 - B. To describe the situations where vascular access may be established.
 - C. Identify types of vascular access.
- III. Policy:
 - A. Saline locks may be used when administration of medication is indicated.
 - B. Peripheral vascular access via peripheral intravenous catheter can be established under the term "precautionary".
 - C. Paramedics may access pre-existing vascular devices in cardiac arrest or in pending cardiac arrest situations per Policy # 5425.
- IV. Peripheral Intravenous Catheter:
 - A. Peripheral intravenous catheter is the preferred choice for all patients requiring vascular access.
 - B. Select insertion site and needle size as appropriate to the patient's condition.
 - C. Utilize aseptic technique.
 - D. Saline locks may be used in lieu of intravenous lines when:
 - 1. Only administration of medication is indicated.
 - 2. Fluid resuscitation or challenge is not anticipated.
- V. External Jugular Intravenous Catheter:
 - A. External jugular intravenous catheter is indicated in patients when no other peripheral intravenous catheter can be established, and the patient requires immediate fluid administration or vascular access for intravenous medications.
- VI. Intraosseous (IO):
 - A. Indications for intraosseous vascular access:
 - 1. Adult and pediatric patients weighing ≥ 3 kg who are unable to be successfully intravenously cannulated and who need administration of medication or IV fluids for:
 - a. Cardiac arrest
 - b. Patients in extremis who have IMMEDIATE LIFE-SAVING NEED for intravenous medication or fluids.
 - B. Precautions:
 - 1. IO access will NOT be established as precautionary. Only patients who

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- have an IMMEDIATE need for an IO medication and who are in extremis when peripheral venous access cannot be obtained shall undergo interosseous cannulation.
- C. Contraindications:
1. Fracture in target bone
 2. Infection at the area of insertion
 3. Excessive tissue at insertion site with the absence of anatomical landmarks
 4. Previous significant orthopedic procedures at the site, prosthetic limb or joint
 5. IO or attempted IO access in the target bone in the past forty-eight (48) hours.
- D. Approved Access locations:
1. Insertion sites depend on patient age/size/anatomy, presenting condition, ability to locate anatomical landmarks, provider training/experience, and clinical judgement. Insertion site is also dependent on the absence of contraindications, accessibility of the site and the ability to monitor and secure the site.
 2. Approved IO placement sites include distal tibia, proximal tibia, distal femur and proximal humerus.
- E. Procedure:
1. Follow manufacture's recommendations for device used. Insert the intraosseous (IO) needle.
 2. Gently flush the IO needle with normal saline.
 3. If fluid does not flow freely, flush IO site with an additional 10cc normal saline.
 4. If the procedure is used on a conscious patient, immediately following the placement of the IO needle, Lidocaine 2% per Policy # 5309.
 5. Sterile technique must always be adhered to.
 6. If the needle is removed, apply pressure at the site with sterile gauze.
- F. Special Information:
1. All ALS providers are responsible to ensure that their paramedics are trained in the IO devices that are used by their agency and are familiar with all access locations.