Contra Costa County Emergency Medical Services

IV and IO Access

First circulatory access for cardiac arrest?

P Establish IV/IO

Assess need for IV
Emergent or potentially emergent medical or trauma condition

Saline lock

Peripheral IV

Intraosseous IV for life-threatening event at most suitable site available

External jugular IV for unstable patients needing emergent IV medication or fluids AND no peripheral site is available AND IO is not obtainable

Monitor saline lock/existing approved prehospital fluids

Monitor infusion

Pearls
- In the setting of cardiac arrest, any preexisting dialysis shunt or external central venous catheter may be used.
- In patients who are hemodynamically unstable, pre-existing indwelling central lines can be used to deliver fluid and medications.
- Approved prehospital IV solutions include: Isotonic (balanced) saline solution, Ringer’s lactate, and glucose solutions with no additional additives.
- Any working venous catheter already accessed prior to EMS arrival may be used for EMS IV fluids and medications.
- Use Chlorhexidine for all IV/IO attempts.
- Intraosseous access should be obtained only with the appropriate adult or pediatric device (e.g. IO drill).
- Any prehospital fluids or medications approved for IV use may also be given through IO.
- External jugular access is only indicated for patients ≥ 15 years of age.
- All IV rates should be kept at TKO (minimal rate to keep the vein open) unless administering fluid bolus.
- Use micro drip sets for all patients 6 years of age and less.
- Upper extremity IV sites are preferable to lower extremity sites; lower extremity sites are discouraged in patients with vascular disease or diabetes.
- In post-mastectomy patients and patients with a working dialysis fistula, avoid IV attempts, injections and blood pressure measurements in the upper extremity on the affected side.