

multi-system trauma or status epilepticus. The proximal tibia is the only insertion site allowed in Merced County. Contraindications for site selection includes fractures, infections, and significant orthopedic procedures (ie prosthetic limbs or joints).The paramedic should check skin adipose and muscle thickness when choosing the appropriate needle size. Aspiration of a small amount of blood should be used to confirm placement prior to flush. The paramedic should frequently monitor the insertion site for extravasations.

A base physician order is required for an IO in a patient with a GCS greater than 8. In these **rare** cases, 2% lidocaine may also be ordered by the base physician. Following the placement of an IO needle and prior to fluid administration, the paramedic should:

- Administer 1 mg/kg of 2% Lidocaine (**not to exceed 40mg total**) and infuse *slowly* (over 30 to 60 seconds). Allow 1 minute for anesthetic effect before infusing fluids.

A base physician order is required for both the placement of the IO (with a GCS greater than 8) and the administration of lidocaine; all cases will be reviewed by the EMS Agency.

Pre-existing Intravenous Access may be used if the patient has an indwelling IV catheter with an external port and a peripheral IV cannot be established. A pre-existing intravenous access should only be used in patients requiring fluid therapy or IV medications. Paramedics should consult with a Base Hospital MICN or Physician if they are unfamiliar with the type of indwelling catheter the patient has in place. Sterile technique must be followed when using a pre-existing vascular access.

FLUID ADMINISTRATION:

The standard IV fluid for all patients is normal saline.

Adult Fluid Rates, unless otherwise indicated by treatment protocols:

- ❖ For adult patients requiring medications but not fluid therapy maintain IV rate at TKO.

- ❖ For adult patients in traumatic arrest or who require rapid volume replacement, two large bore (16 gauge or larger preferred) IV lines should be established and fluid boluses administered per protocol. Consult with a base hospital physician once the systolic blood pressure of greater than 90 is obtained or 2 liters of fluid is infused.
- ❖ If signs of pulmonary edema develop during IV fluid administration, slow IV rate to TKO and contact a base hospital physician for fluid orders.

ADVANCED AIRWAYS

Oral intubations and/or placement of a King Airway are considered standing orders for adult patients that require advance airway management. Nasal intubations are not permitted in Merced County. Three attempts total, among all providers are allowed for intubation of the patient. A paramedic may decide to go directly to a King Airway at any time. An intubation attempt is defined as "when the laryngoscope has passed the teeth with the intent of intubating the patient." If intubation attempts are unsuccessful the paramedic will place a King Airway or use good BLS airway techniques to maintain proper oxygenation and ventilation. Medications should not be given down the King Airway. King Airway placement is not to be used in patients under 4 feet in height.

All patients that have been intubated must have end-tidal CO₂ detectors placed to confirm tube placement. Documentation confirming tube placement shall include color change by the CO₂ detector or an attachment of capnography wave form strips with documentation of capnography values. Documentation should also include visualization of the cords, good lung sounds, absent epigastric sounds, and rise and fall of the chest, the size of the tube and the centimeters at which it is secured. The paramedic must re-confirm tube placement after movement and document that assessment on the PCR.

TRANSPORT:

The majority of the treatment protocols do not specifically list "transport" in their treatment orders. Generally paramedics should take steps to minimize their on-scene times with all patients. In protocols where "transport" is not specifically listed paramedics need to initiate transport based on the patient's clinical condition and scene logistics, such as proximity to a hospital and the availability/appropriateness of air transport.