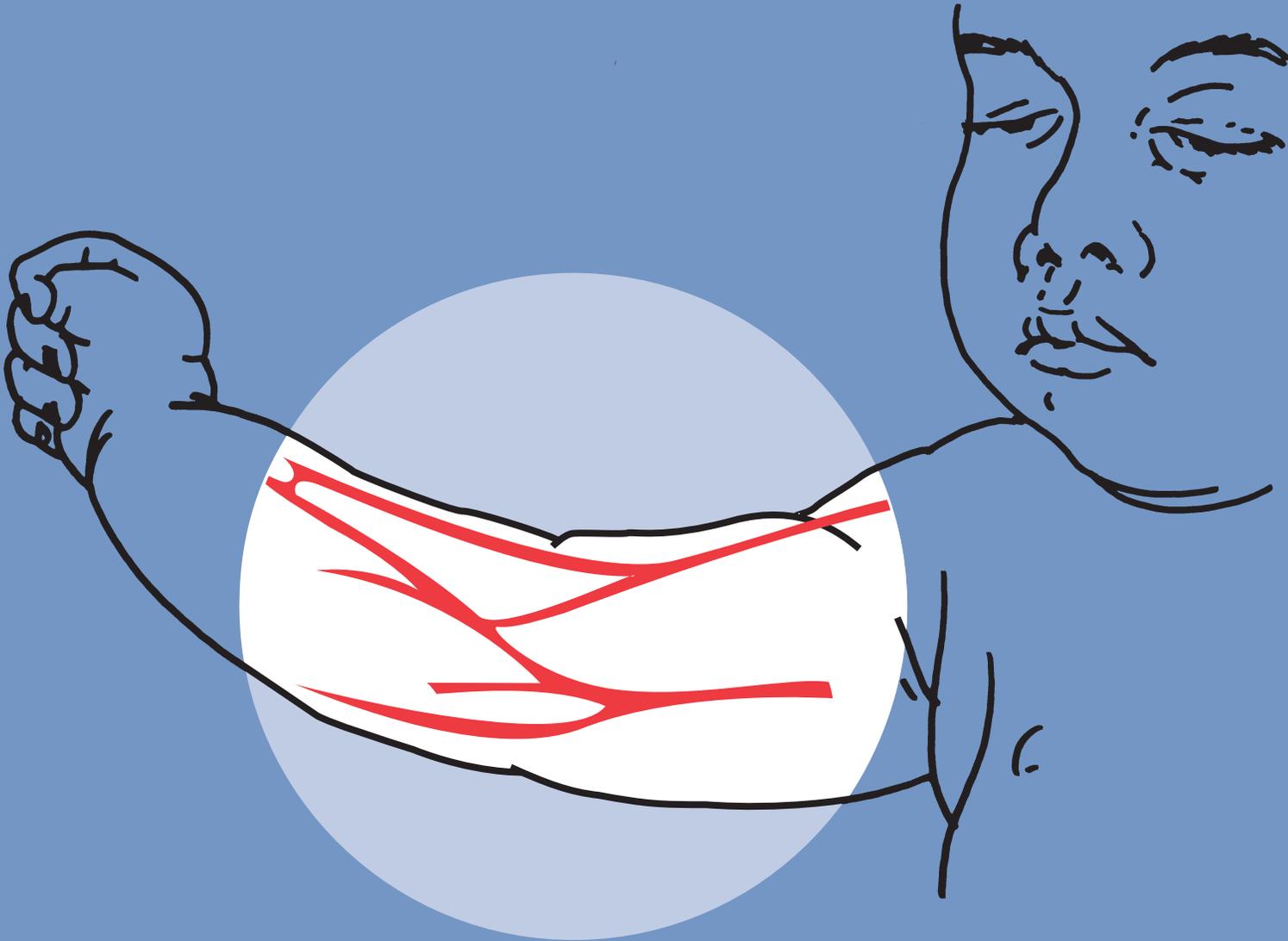


# Emergency Vascular Access in Children

American College of Surgeons  
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## Principles

- Obtain IV access on arrival in all children with a potentially significant injury or illness
- Prefer: 2 short, large diameter peripheral lines
- If 3 peripheral IV attempts not successful within 90 seconds, perform advanced method
- The advanced methods described below should only be performed by personnel with adequate training and experience in performing the procedures in children
- Replace advanced lines once patient stable

## Peripheral IV

- Dorsal hand and greater saphenous veins preferred sites
- Immobilize extremity before attempt
- Use largest cannula vessel will allow
- Monitor site frequently

## Intraosseous

- For children  $\leq 6$  years of age
- Anteromedial tibia, 1.5 cm below tibial tuberosity
- Ensure fluids infuse freely by gravity before infusing by pump. If not, do not use.
- May use for resuscitation meds
- Secure needle, monitor well
- Remove within 6 hours

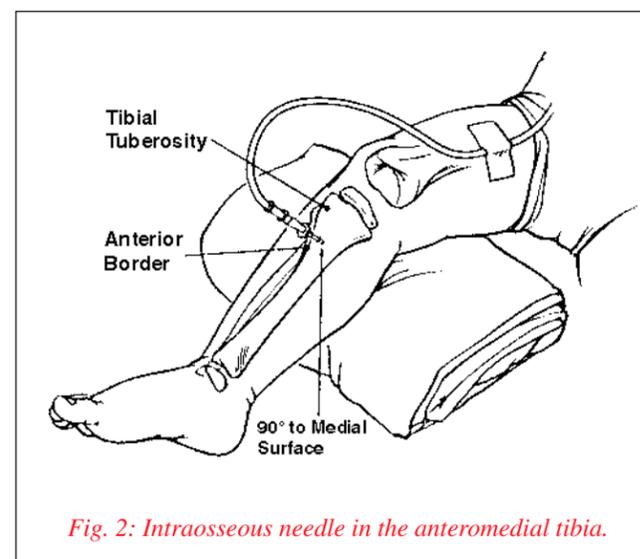
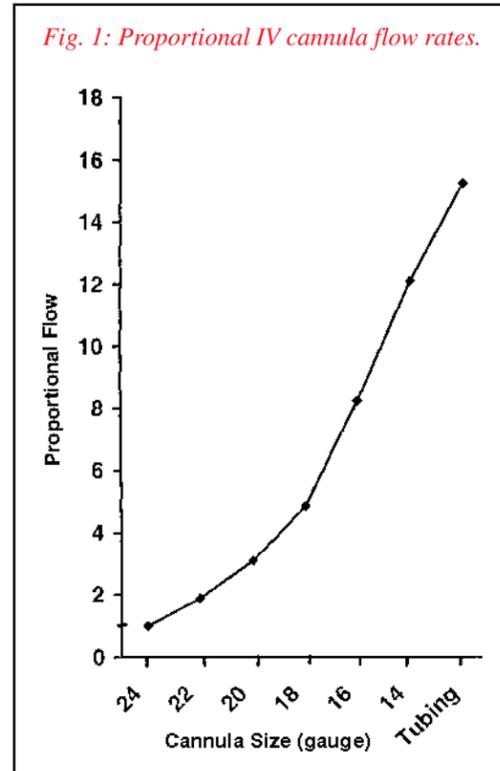
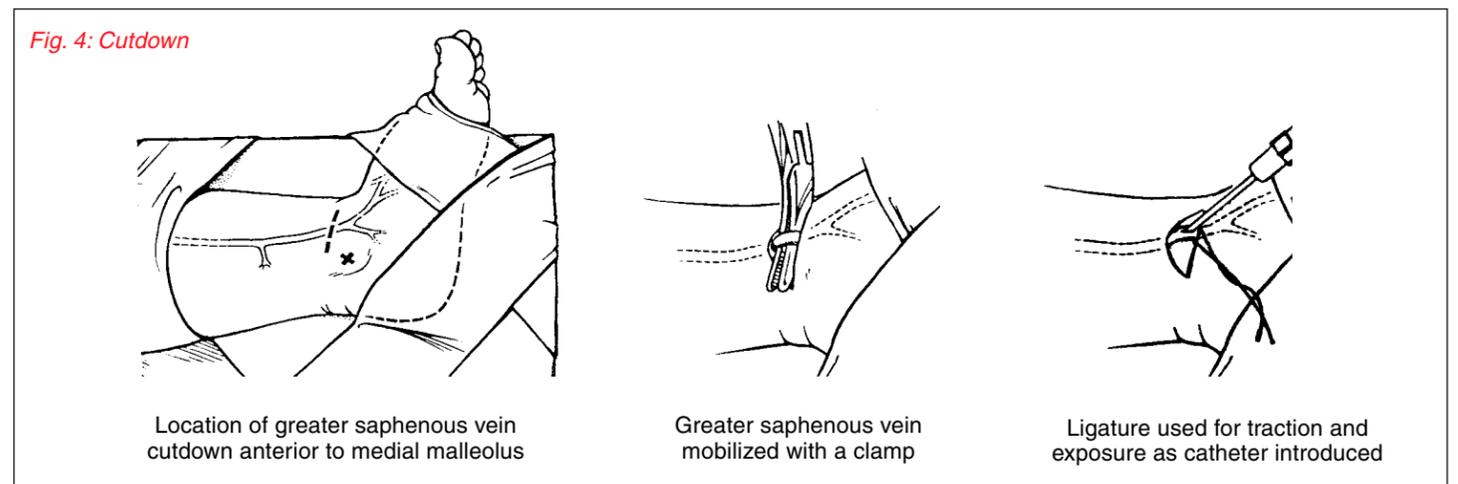
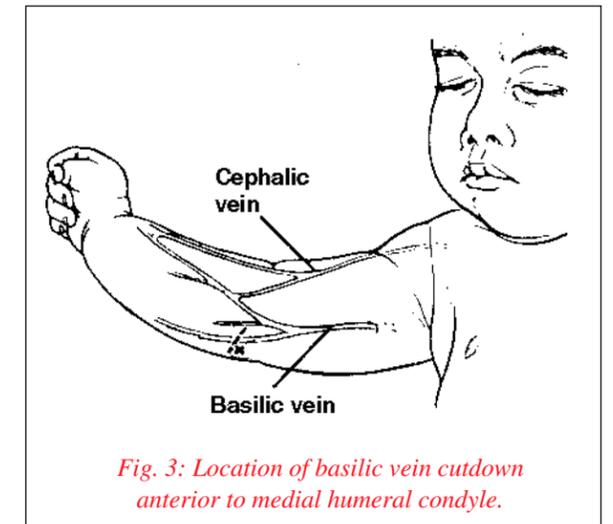


Fig. 2: Reproduced with permission. *Pediatric Advanced Life Support*, 1997. Copyright American Heart Association.

Fig. 3,4,5: Source: *Pediatric Advanced Life Support*, American Heart Association, 1997.

## Cutdown

- Greater saphenous or basilic veins
- Cephalic or basilic vein if potential abdominal trauma
- Steps: immobilize area, sterilize, anesthetize, then incise skin, mobilize vein with clamp, loop vein with ligature, insert catheter, secure catheter, dress site
- Broadest, shortest catheter vein will allow



## Central Line

- High complication rate in children. Should be attempted only after other techniques have failed, and only by those with experience in the procedure in children
- Femoral route preferred
- Seldinger technique
- Secure catheter, apply occlusive dressing
- Monitor extremity closely for signs of vascular compromise

