

# First Responder's Manual of Prehospital Trauma Care

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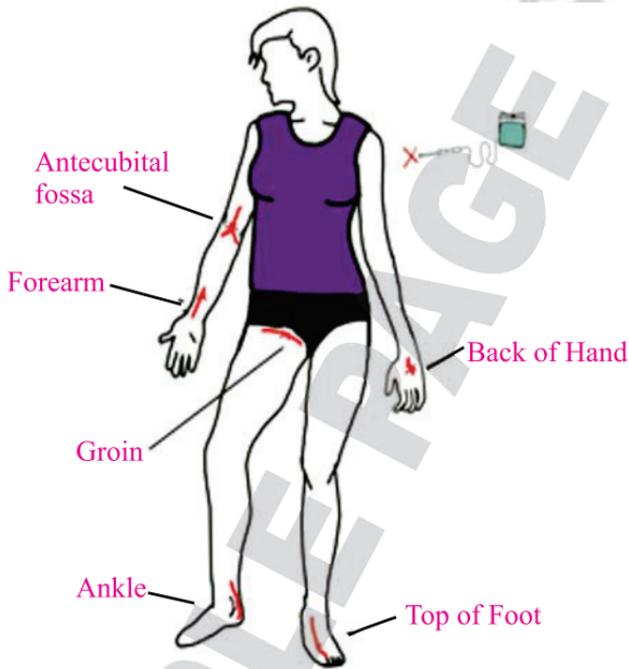
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# Contents

Introduction	
	– <i>Dinesh Vyas</i> v
1. Mechanism of Injury	
	– <i>Anjali Garg, Dinesh Vyas, Marc Basson, Mayur Narayan</i> 1
2. IV Placement	
	– <i>Michael Hollis, Apoorva Aekka, Dinesh Vyas, Andrew Saxe, Mayur Narayan</i> 8
3. Scene Management and Triage	
	– <i>Michael Hollis, Dinesh Vyas, Arpita Vyas, Mayur Narayan</i> 22
4. Vital Signs and Shock	
	– <i>Michael Hollis, Elizabeth Boudiab, Dinesh Vyas, Mayur Narayan</i> 28
5. Airway	
	– <i>Michael Hollis, Elizabeth Boudiab, Dinesh Vyas, Ajai Malhotra</i> 38
6. Immobilization of Trauma Patient	
	– <i>Michael Hollis, Dinesh Vyas, Ajai Malhotra</i> 53
7. Fractures	
	– <i>Michael Hollis, Apoorva Aekka, Dinesh Vyas, Ajai Malhotra</i> 77
8. Hemorrhage	
	– <i>Michael Hollis, Apoorva Aekka, Dinesh Vyas, Seren Perkins</i> 96
9. Industrial and Environmental Trauma	
	– <i>Trisha Saran, Kaivalya Deshpande, Serene Perkins</i> 111

10. Geriatric Trauma	
	– <i>Manisha Bhatia, Dinesh Vyas, Andrew Saxe, 119</i> <i>Abhishek Swami</i>
11. Chest Injury	
	– <i>Michael Hollis, Dinesh Vyas, Serene Perkins 130</i>
12. Pregnancy	
	– <i>Michael Hollis, Dinesh Vyas 141</i>
13. Treatment of Heat Related Injuries	
	– <i>Anjali Garg, Dinesh Vyas 148</i>
14. Snake Bites	
	– <i>Manisha Bhatia, Dinesh Vyas 155</i>
15. Acute Cardiac Care in Trauma	
	– <i>Kaivalya Deshpande, Abhishek Swami 162</i>
16. Pediatric Trauma	
	– <i>Ankush Gosain 173</i>
17. Extrication	
	– <i>Kaivalya Deshpande, Dinesh Vyas 178</i>
18. Definitions	
	– <i>Anjali Garg, Chiraag Alur, Dinesh Vyas 185</i>
Appendix - I	188
Appendix - II	197

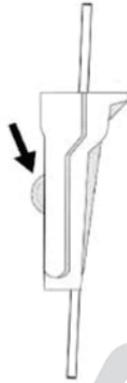


**Figure 2.2.** IV access sites

Short-length, **large-diameter** catheters allow for faster rates of fluid administration than do longer, narrower catheters, therefore, the largest available catheter (14 – 16 gauge) should be used.

### IV Line Preparation

1. First, **orient** yourself with the components of the IV line. **Close roller clamp** (Fig. 3.3a) of the IV line to prevent **fluid from dripping out** once the tubing is attached to the **IV fluid bag**. By moving the roller in the direction of the arrow, the tube becomes clamped and fluid will not flow beyond that point. By moving it in the opposite direction it allows for fluid flow.



**Figure 2.3a** Roller Clamp

2. Insert spiked end of IV tubing into the tube coming from the upside down IV bag.
3. Hold bag upright with the IV line hanging from bottom



4. Fill drip chamber halfway by pinching and releasing.



5. Now, open the roller clamp to allow fluid to fill the IV line up to the very end of the tube, making sure that no air bubbles remain within the tubing.
6. Close the roller clamp again until you are ready to attach the tubing to the catheter, which will be done after the catheter is securely placed into the patient's vein.

### IV Line Placement

1. Wear gloves
2. Place tourniquet above (closer to body) IV site.
3. Find vein

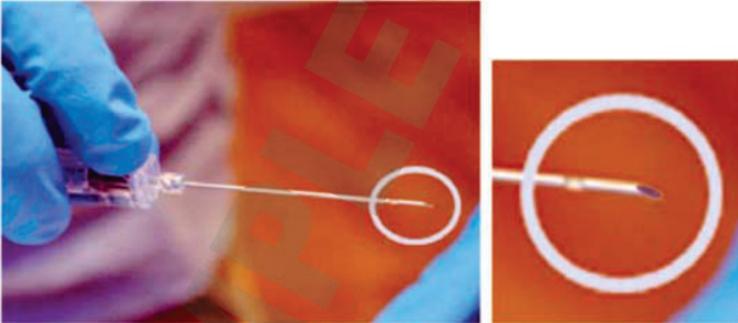


**Note:** The vein can be better visualized by using light and placing it at an angle. Having the patient make a fist also helps as well.

4. Sterilize site of access by using an alcohol swab



5. Ensure that the bevel (the opening on the angled, sharp end of the needle) is facing upward



6. Use **the hand** not holding the needle to support the underside of the patient's arm and to pull the skin tight across the vein.
7. Advance **the** needle and catheter using an upward angle and **reduce** angle gradually as you penetrate the skin.



**Note:** Do not go slowly when penetrating the skin, as it can cause pain and push the vein out of the way, causing it to be missed.

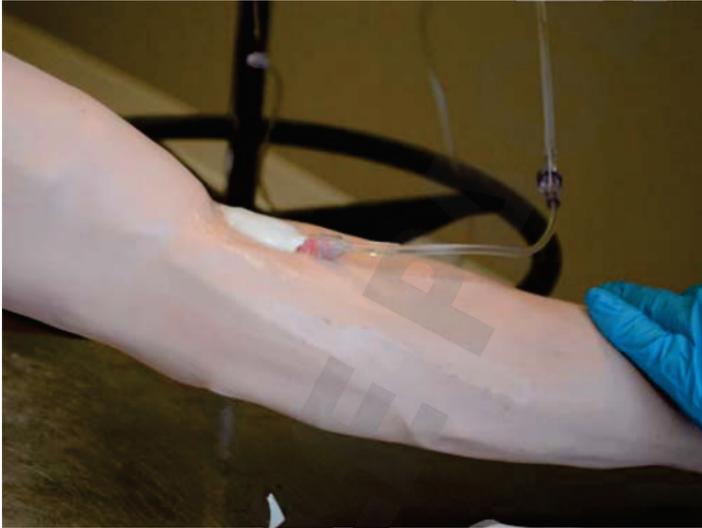
8. Once blood begins to fill the flashback chamber, advance needle 2 millimeters further.
9. Gradually advance catheter into vein until completely inserted, while keeping the needle from being inserted along with the catheter.



10. As you remove the needle from the catheter, apply pressure over the vein above where the catheter is located, to keep blood from leaking out of the catheter.



11. Dispose of the needle in an appropriate container.
12. Remove the tourniquet and quickly, attach the tubing to the catheter, using tape to secure them in place.



13. Release the **roller clamp** on the IV tubing and set an adequate flow rate.

**Note:** Have the **tubing and tape ready**. Once the tourniquet is released, blood **may begin to flow** from the catheter even while you are holding pressure **over the vein**.

**Note:** Try to **place the tape over the catheter only**, avoiding the tube connector, so that the tube may be easily removed and replaced.

### **Additional Points**

- Always use gloves
- Make every effort to avoid a needle stick injury
- Needles must always be capped when not in use
- Never reuse needles
- Protect the insertion site from contamination