

Intravenous Fluids after Water PowerPoint

Objective: Student should be able to start an IV line and regulate the flow using sterile technique, and secure the line for patient transport.

Materials: Exam gloves; sterile needles: butterfly, angiocaths, and ordinary needles; IV tubing; IV fluids: normal saline, lactated Ringer's solution, and D5W; sterile gauze or cotton; disinfectant; tourniquet; splint with elastic bandage to secure it; tape; watch with a second hand for counting drops; sharps disposal container.

Preparation: Lab lecture concerning sterile technique, using IV's sparingly, the alternative of intraperitoneal fluids when the problem is dehydration, and the problem of fluid overload. There is no other preparation of equipment. It is good to do a demonstration start an IV on someone and talk through each step before the students do it on each other.

Student steps:

1. Gather materials.
2. Take the IV tubing and the fluid out of the packages.
3. Take the ends off the IV tubing above the drip chamber and the bottom of the IV fluid.
4. Pierce the IV fluid nipple with the IV tubing end.
5. Open the flow valve so that the tubing fills with IV fluid. Then close the valve.
6. Hang the IV fluid bag or get someone to hold it high
7. Be sure that the needle end is protected, but that the protection comes off easily.
8. Put on exam gloves and choose a vein.
9. Disinfect the area over the chosen vein.
10. If the chosen vein is over the elbow, splint the elbow.
11. Put on the tourniquet.
12. Pierce the vein with the needle until it is well within the vein and you have a good flow of blood.
13. Loosen the tourniquet
14. Attach the needle end of the IV tubing and open the valve.
15. Check to be sure the fluid is flowing and the injection site is not swelling.
16. Tape the needle in place, with a piece of sterile gauze over the skin hole.
17. Adjust the flow valve.

Guidelines:

- This lab should be done after the lab on drawing blood, particularly for students who have had no medical background. Better they first practice with visualizing and hitting a vein before attempting their first IV.
- Be sure to monitor sterile technique.
- Stress that IV fluids are expensive and most of the time not helpful in Timbuktu. They should be used sparingly if at all.
- If your supply is rigid bottles rather than bags, you may need to pierce the bottle with a needle so that air can enter. Otherwise the fluid will not flow.
- If the tubing will not fill with fluid when the flow valve is first opened it may be that there is a small needle or a tight cap on the end. If this is loosened, the fluid will flow.
- Reinforce safe disposal of sharps.