

PLACING AN IV CATHETER



Why Is an IV Catheter Necessary?

IV fluids allow for the fastest fluid replacement of a dehydrated calf. If a calf is down, dehydrated and minimally responsive, IV fluids are required to resuscitate it. A catheter is placed in the vein and with proper maintenance can remain in place for 2-3 days, allowing for continued fluid therapy.

Since calves can often relapse, this allows for constant access to the vein in case the calf worsens after the initial treatment. Drugs like Banamine can also be given IV through the catheter, allowing for better pain and fever control.

Preparation:



Remove IV fluid set from packaging

1. Place a pair of gloves and an opened 16 gauge needle in a clean bucket of warm water and disinfectant. Leave the needle capped.
2. Cut off a 12 inch length of suture material. Place in the bucket.
3. Open your catheter, but do not remove it from the packaging. **DO NOT TOUCH** the catheter until later!
4. Open the catheter cap, but do not remove it from the packaging. **DO NOT TOUCH** the cap until later!
5. Open the scalpel (if you'll be using it), but leave it sitting in its wrapping. **DO NOT TOUCH** the scalpel until later!

6. Remove the IV fluid set from its packaging.

7. Connect a disinfected 16 gauge needle to the end of the IV fluid set.

8. Connect your fluid drip set to the bag of fluids.

9. Open the dial on the IV fluid set and allow the fluids to flow through the tubing until no more bubbles are visible in the tubing. Close the dial or use the clamp to stop the fluids.

10. Have all remaining materials at hand.



Sterilize equipment in warm water with disinfectant

Required Materials

IV Catheter	Scissors	Chlorhexidine -or-
Catheter Cap or Injection Port	Scalpel (Optional)	Povidone Scrub
IV fluids	1 cc Lidocaine	Rubbing Alcohol
IV Fluid Administration Set	Clippers	Gloves
Two (16 gauge) needles	Gauze Pads - or-	Warm Water w/ disinfectant
Suture materials	Paper Towels	Syringe w/ needle

To purchase these products, Call **866.986.9404** or contact your Armor Sales Representative.

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Procedure

1. Lay the calf down with its feet facing away from you. If you're right handed, it is easiest if the calf is lying on its left side so that its head is to your left.
2. Find the jugular vein (towards the bottom of the neck between the spine and the windpipe). When full, it looks like a small garden hose. To get the vein to fill with blood, push your fist against the lower neck close to the point of the shoulder above the brisket area. If you run your finger along the surface of the vein while still holding off at the neck, you should see the blood move.
3. Clip off the hair along the vein from the jaw to the brisket, and 2- 3 inches above and below the vein. This will give you a clean, hair-free section to work with.
4. Brush off as much hair as possible. Make sure you can still find the jugular vein and that you have clipped enough hair.
5. Squirt a quarter-sized amount of Chlorhexidine or Povidone scrub in the middle of the clipped area. Use gauze pad or paper towel to clean the clipped area, always starting at the center of the vein and moving outwards.
6. Rinse the clipped area with rubbing alcohol.
7. Inject 1 mL of Lidocaine under the skin directly over the jugular vein where you are going to place the catheter. (The Lidocaine will make a lump that will make it difficult to find the vein.) You should always place the catheter closer to the head than the chest.
8. Scrub the clipped area again, working from the center of the vein outwards.
9. Rinse with alcohol.
10. Repeat steps 8 & 9 three more times.
11. Put on the gloves that have been soaking in the bucket.
12. Pick up a fold of skin where you injected the Lidocaine.
13. Pick up the scalpel, being sure to only touch the inside of the wrapping or the scalpel itself. Use the scalpel to make a small cut through the entire thickness of the skin. **DO NOT puncture any deeper:** you do not want to hit the vein! *(Step is optional)*



Find jugular vein and clip hair



Inject 1 mL of Lidocaine



Use scalpel to make small cut in skin

***NOTE:** From this point on, it is very important that you don't touch anything else besides what is mentioned in the procedure. You should only touch the skin of the calf where you have scrubbed it.

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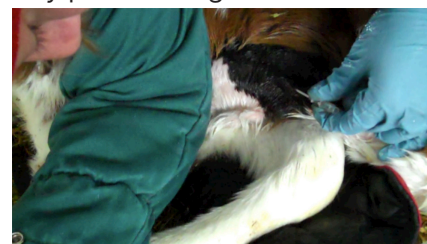
Procedure (Cont'd)



Pick up catheter, only touching the clear, plastic end

14. Pick up the catheter, being sure to only touch the clear plastic on the end. **NEVER touch the white part!** If you do, you should discard the touched catheter and get a new one. The catheter should remain as close to sterile as possible!
15. Block off the jugular vein with your elbow so that it fills with blood again. You should keep the vein blocked until the catheter is completely placed.
16. Placing the catheter at a 45° angle to the skin, slowly poke through the skin where you made a hole with the scalpel
17. Slowly advance the catheter until you start to see blood in the end of the catheter.

18. Once you see blood, bring the catheter almost parallel to the skin and slowly advance it about ¼ of an inch. Blood should still be flowing from the catheter. If blood stops flowing, you should back up until blood starts flowing and try again, advancing less this time.



Block off jugular vein with elbow

19. As long as blood is still flowing, advance the colored catheter hub attached to the white catheter while holding the clear part of the catheter in place, staying parallel to the skin the entire time. Advance until the white part of the catheter is no longer visible.

20. Remove the clear part of the catheter that is attached to the needle. Blood should be flowing from the colored part of the catheter, still in the calf's vein. If blood is not flowing, you should remove the catheter and discard both portions. You will then have to start again at step 7, choosing a spot lower down on the neck.

21. Screw the catheter cap onto the end of the colored catheter, being careful not to pull the catheter out of the calf's neck.

22. Carefully pick up a fold of skin directly underneath the colored part of the catheter.



Push 16 gauge needle through fold of skin



Thread suture through needle

23. Push the disinfected 16 gauge needle from the bucket through both sides of the fold of skin and leave it in place.
24. Thread the section of disinfected suture from the bucket through the needle.

***NOTE:** The white catheter should move easily if you are in the vein.

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Procedure (Cont'd)

25. Remove the needle, leaving the suture in the skin.
26. Wrap the suture around the middle of the colored part of the catheter above the tab and tie 3-4 knots. This is to keep the catheter in place.
27. You may now remove your gloves, or you can leave them on and touch anything from this point on.



Tie suture to keep catheter in place



Let fluid flow in as fast as possible if calf is down

28. Clip the ends of the suture so there is about ½ inch on both sides from the knot.
29. Make sure there are still no bubbles in the fluid line.
30. Place the needle attached to the fluid line into the catheter cap.
31. Open the dial and let the fluids flow in as fast as possible if the calf is down.
32. It usually takes at least 2 liters of fluids to revive a calf. The second bag of fluids can be run at a fast drip where you can count individual drops.
33. If you need to switch fluid bags, just remove the empty bag and connect the fluid line to a new bag. Be sure to run fluids through the line again, checking for bubbles.

34. If fluids aren't being administered but the catheter will be left in place, flush catheter with sterile saline 3-4 times a day to keep it from getting clotted with blood.

Removing the Catheter

1. Cut the stitch wrapped around the colored part of the catheter.
2. Slowly pull the catheter all the way out.
3. Apply gentle pressure to the site for 10-15 seconds to let the blood clot.



Slowly pull catheter all the way out

Note: *It can be very difficult to catheterize dehydrated calves, so don't give up or get discouraged if it doesn't go perfectly the first time! If need be, switch to the other side of the neck if one side isn't working for you. If you continue to struggle, contact your Armor Professional Services Veterinarian.*

If you would like to see a recorded demonstration on how to catheterize a calf, please call Armor Animal Health at 800.255.1181 or email info@armorah.com

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