

*(AIMVT is providing this example of a procedural essential skill submission. This is only an example! Follow the instructions as outlined in the essential skill applicant submission requirements document for each essential skill.)*

## Peripheral IV catheter placement

(a minimum of 3 indications required)

**Indications:** Peripheral intravenous catheterization (pIVC) is indicated when ongoing venous access is required. A pIVC allows for venous access to deliver intravenous (IV) medications. A pIVC is also placed to allow for IV fluid or blood product administration or constant rate infusions (CRI) of medications. Clinical signs for indication include but are not limited to: pain, dehydration, hypovolemia, fever, hyper-/hypo-thermia, neurological impairment, trauma, prior to general anesthesia/tranquilization/moderate-sedation, hypo-/hyper-glycemia, electrolyte disturbances, arrhythmias, hypotension, and many others.

(a minimum of 3 contraindications required)

**Contraindications:** limb fracture at insertion site, pain at insertion site, infection at insertion site, trauma at insertion site, planned procedure on the limb.

(a minimum of 5 complications required)

**Potential complications:** hematoma, phlebitis, bleeding/bruising, infection, nerve injury/pain or discomfort, swelling of limb, extravasation (of drug, blood product), dislodgement, occlusion and/or breakage of the catheter, localized allergic reaction to aseptic prep, skin irritation from aseptic prep, vasovagal syncope.

### **Patient preparation required:**

- Depending on patient temperament may require anxiolytics and/or sedation for successful placement.
- Patients should be restrained by trained personnel.
  - Patient positioning for intravenous catheter placement is dependent on site of placement (cephalic, saphenous, etc.). Patient comfort along with personal safety is of utmost importance.

### **Equipment required:**

- Non sterile gloves
- Cleaned/disinfected hair clippers in working condition with a #40 blade.
- Topical anesthesia such as lidocaine gel
- Gauze squares or cotton balls
- Aseptic prep materials (describe prep method below)

- Cleaned container (disposal tray, absorbent pad, etc.) to place gauze squares or cotton balls
- Appropriately sized pIVC for patient
- Insertion site bandage
- Securement materials (describe below)
- IV T-set adaptor, or pIVC plug/injection port
- Flush, including the type of fluid used
- Sharps container

**Detailed explanation of how skill is performed / procedure:**

1. All equipment and materials are assembled, ensuring within easy reach.
2. Hand hygiene followed by gloves
3. Pre-flush catheter and ports
4. Patient is appropriately restrained in a comfortable positioning for the patient and handler
5. Safety of both the handler/restrainer is checked
6. Potential pIVC sites are evaluated for swelling, pyoderma, pain, or other contraindications (as listed above)
7. pIVC site is clipped circumferentially to allow for 2" around the pIVC insertion site to be aseptically prepared (free from hair/fur)
8. Loose hair/fur is removed from the limb
9. Clean gauze or cotton balls are placed in a clean disposable container, then moderately soaked with aseptic scrub (chlorhexidine 2% or betadine). Referred to as "scrub"
10. New gloves are exchanged for gloves worn during set up and clipping
11. The restrainer will occlude the vein (commonly referred to as "holding off") to the distal limb acting as a tourniquet or a tourniquet device will be used at the joint above the pIVC insertion site.
12. The person placing the pIVC inspects visually and palpates the vein determining the ideal insertion point for the pIVC, depth of the vein, direction, and the appropriate size of the pIVC. Keeping in mind the termination point of the pIVC for adequate flow of fluids/medications/etcetera through the pIVC.
13. Release tourniquet or manual occlusion until insertion.
14. The shaved site is prepared in an aseptic manner, scrubbed from the center point in a circular motion to the periphery
15. The site is scrubbed three times until a contact time of no less than two minutes is achieved
16. Scrub residue is removed with alcohol-soaked gauze, using the same circular motion, until all residue is removed
17. The aseptically prepped area is gently patted dry with clean dry gauze/cotton ball
18. pIVC is removed from packaging and/or protective cases
19. The stylet/needle is left inserted inside the pIVC
20. Reapply occlusion of the vein

21. Anchor vein with non-dominant hand. Perform venipuncture, stylet/needle is inserted at a 15-30 degree angle through the skin slowly with gentle forward motion
22. Blood will be seen filling the lumen of the stylet/needle. Once visualized, decrease angle and the catheter and stylet are advanced 1-3 mm further into the vein. Blood will continue to fill the lumen of the stylet/needle.
23. The stylet/needle is kept in place while the catheter is gently fed into the vein
24. Prior to removing the stylet/needle, the tourniquet or handler/restrainer releases the occlusion of the vein
25. A clean and gloved hand may hold pressure to stop blood from flowing out of the catheter
26. The stylet/needle is removed and placed in a biohazard container for sharps
27. The person placing the pIVC will then place a saline-flushed T-set adaptor onto the end of the open pIVC
28. pIVC is flushed and checked for patency as well as any discomfort
29. Insertion site is covered with an adhesive non-stick bandage
30. pIVC is secured with tape and bandaging materials
31. Hand hygiene

#### **Nursing Care Considerations:**

- Hand hygiene before and after every catheter maintenance
- pIVC monitored for patency hourly while receiving any constant rate IV therapy
- pIVC flushed q4hr if continuous fluid therapy is not in use
- Swabbing ports prior to use with antiseptic
- pIVC must be replaced regardless of patency if pain/reaction is noted with IV therapies are given, when swelling is seen distal or proximal to the insertion site, or there are signs of infection.
- Removal and replacement of tape and non-adhesive bandage to inspect insertion site should be done q24h.
  - Assessment includes:
    - Dampness or soiling of bandaging material
    - Tightness of the tape
    - Evidence of phlebitis (pain), thrombosis (palpable venous cord), or infection (warmth)
    - Extravasation
    - Limb swelling distal to the catheter

#### **Client education:**

The doctor has prescribed an intravenous catheter to be placed in your pet's extremity/leg. Your pet's fur will be clipped and the area cleaned thoroughly. The intravenous catheter is a small plastic-like tube placed inside your pet's vein and is secured with tape on the skin. The catheter will be monitored closely. Some pets experience some discomfort during placement and we will do our best to mitigate anxiety/discomfort. Some pets may require a calming sedative or medication for anxiety prior to placement, though this is typically a very well tolerated procedure.

**Home care instructions:**

Your pet's intravenous catheter has been removed. A soft bandage has been placed over the site. Please remove this bandage in the next 30 minutes, do not leave on for more than 60 minutes. A small amount of bruising may be present and is considered normal. Monitor the site for any increase in redness, swelling, or discomfort. If any of these are noted please call.

Your pet has an intravenous catheter in place for transport to another facility. Your pet should not be allowed to lick or chew at the bandaging. If transport will take longer than 2 hours, you should flush the catheter with saline. This has been demonstrated to you at discharge.