

Vessel Dissection and Ligation

Key Simulated steps and operative Principles

- Dissection and ligation of vessels in the groin
- Use of Weitlander self retaining retractor for exposure in deep space

Goals and Objectives

1. Handle Weitlander correctly to achieve proper exposure
2. Dissect a blood vessel carefully in a deep space without jeopardizing its integrity
3. Isolate a blood vessel for ligation in a deep space
4. Demonstrate basic skills including tying in a deep space, suture ligation, vertical mattress suture, and simple running suture

Required Materials

1. Pig Legs
2. ¼ inch Penrose
3. Right angle x2
4. 3-0 (Polyglactin acid) tie
5. 3-0 Vicryl suture on SH needle
6. Color dye
7. Debaquey forceps
8. Scalpel
9. Metzbaum
10. Weitlander
11. 3-0 nylon

Setup Step 1



Obtain Pig Legs

Setup Step 2



Use Adison Clamps to
create a tunnel
Inside the pig leg

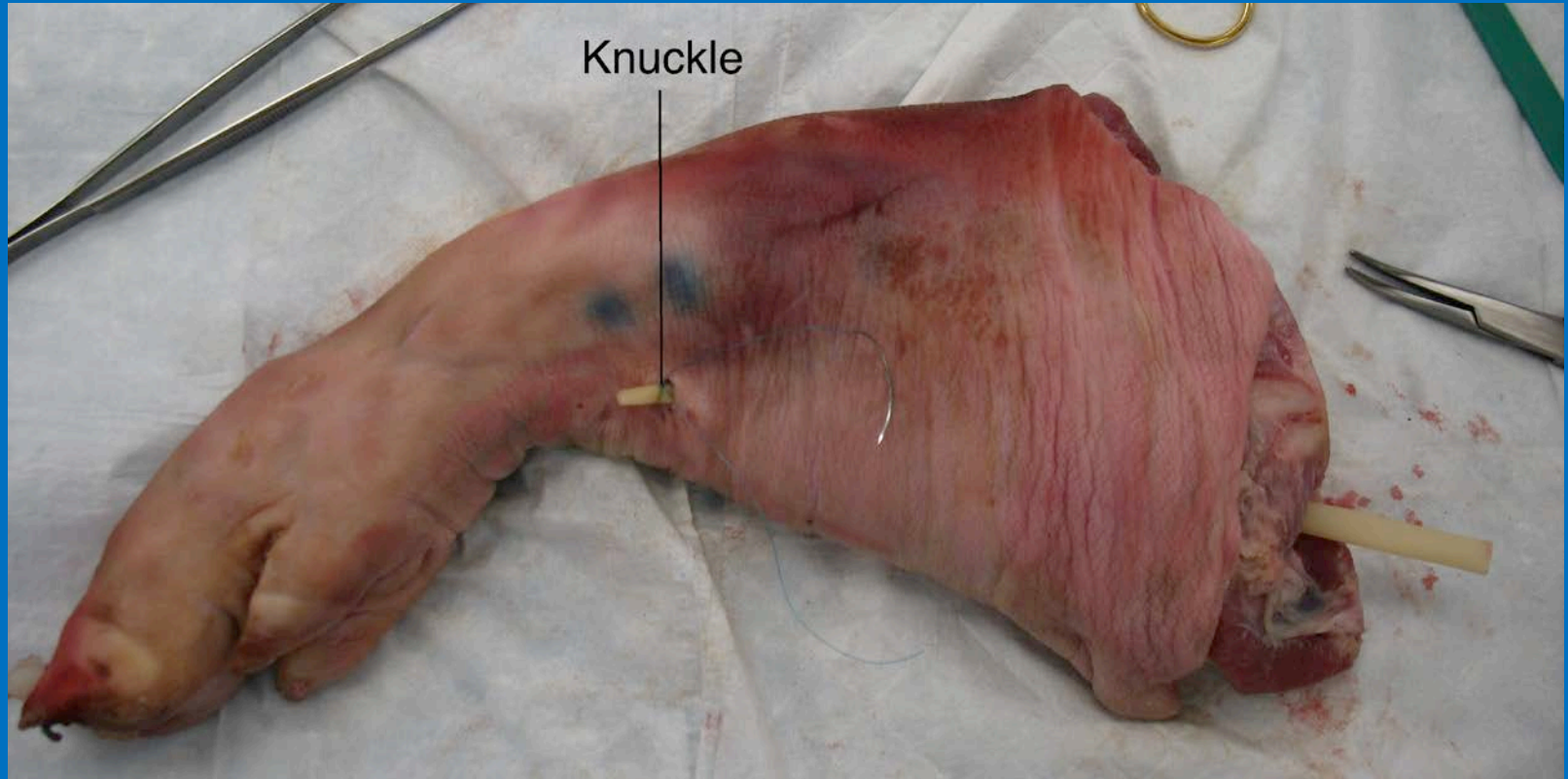


Setup Step 3



Tunnel ¼ inch Penrose from the cut end of the pig leg between the bones through the knuckle end

Setup Step 4



Tie off the Penrose at the knuckle end and secure this end to the deep tissue with a suture

Setup Step 5



Use a syringe with vascular cannula tip to inject food coloring water into the Penrose at the cut end

Setup Step 6



Tie off the Penrose at the cut end once the Penrose is distended

Setup Step 7



Suture and secure Penrose on the cut end

Procedure Step 1



Make a 6 cm incision over the course of the Penrose/vessel

Procedure Step 2



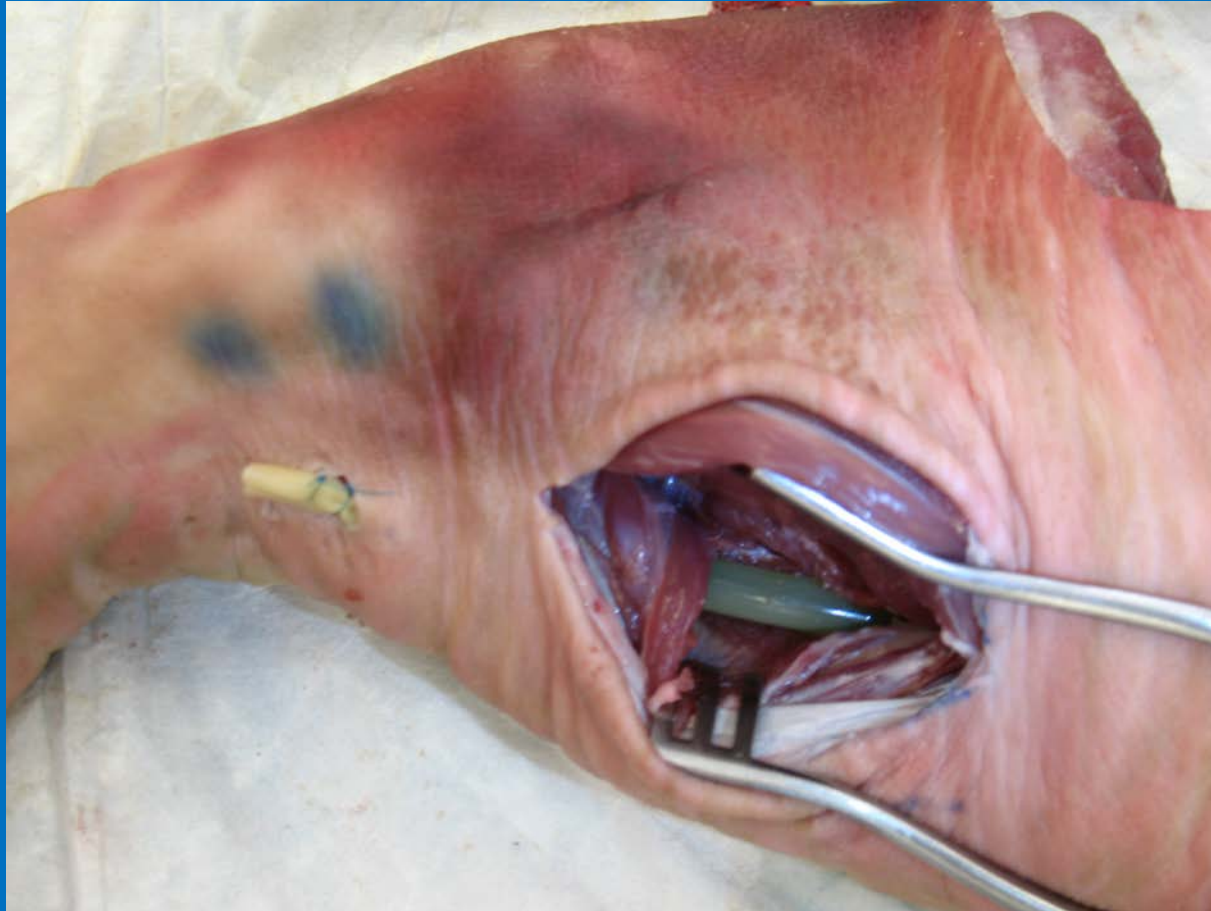
Use Metzbaum scissor to dissect down to the Penrose/ vessel

Procedure Step 3



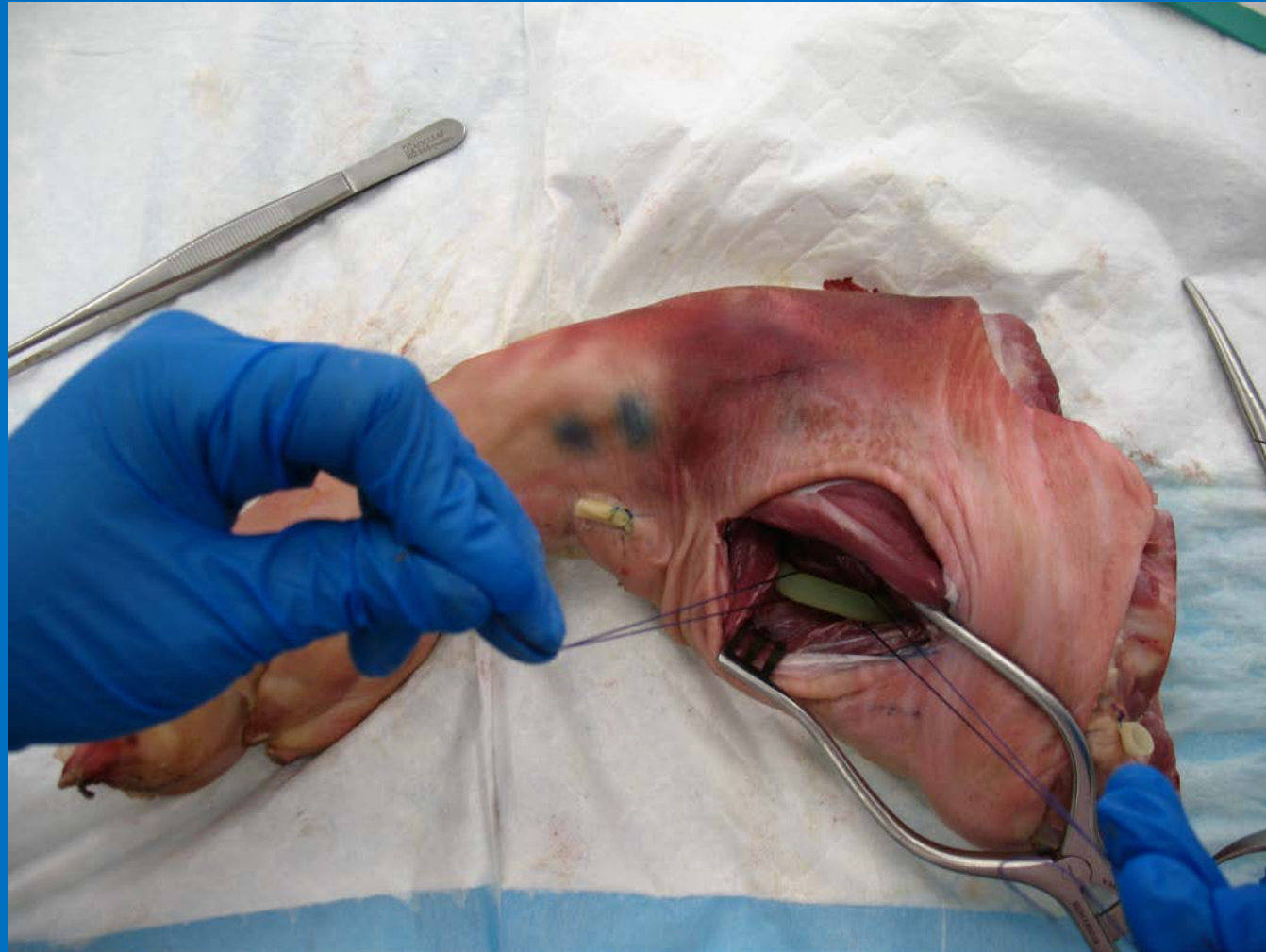
Weitlander self retaining retractor should be adjusted multiple times to allow adequate exposure

Procedure Step 4



The Penrose/ vessel should be exposed adequately, approximately 4 cm to allow future ligation

Procedure Step 5



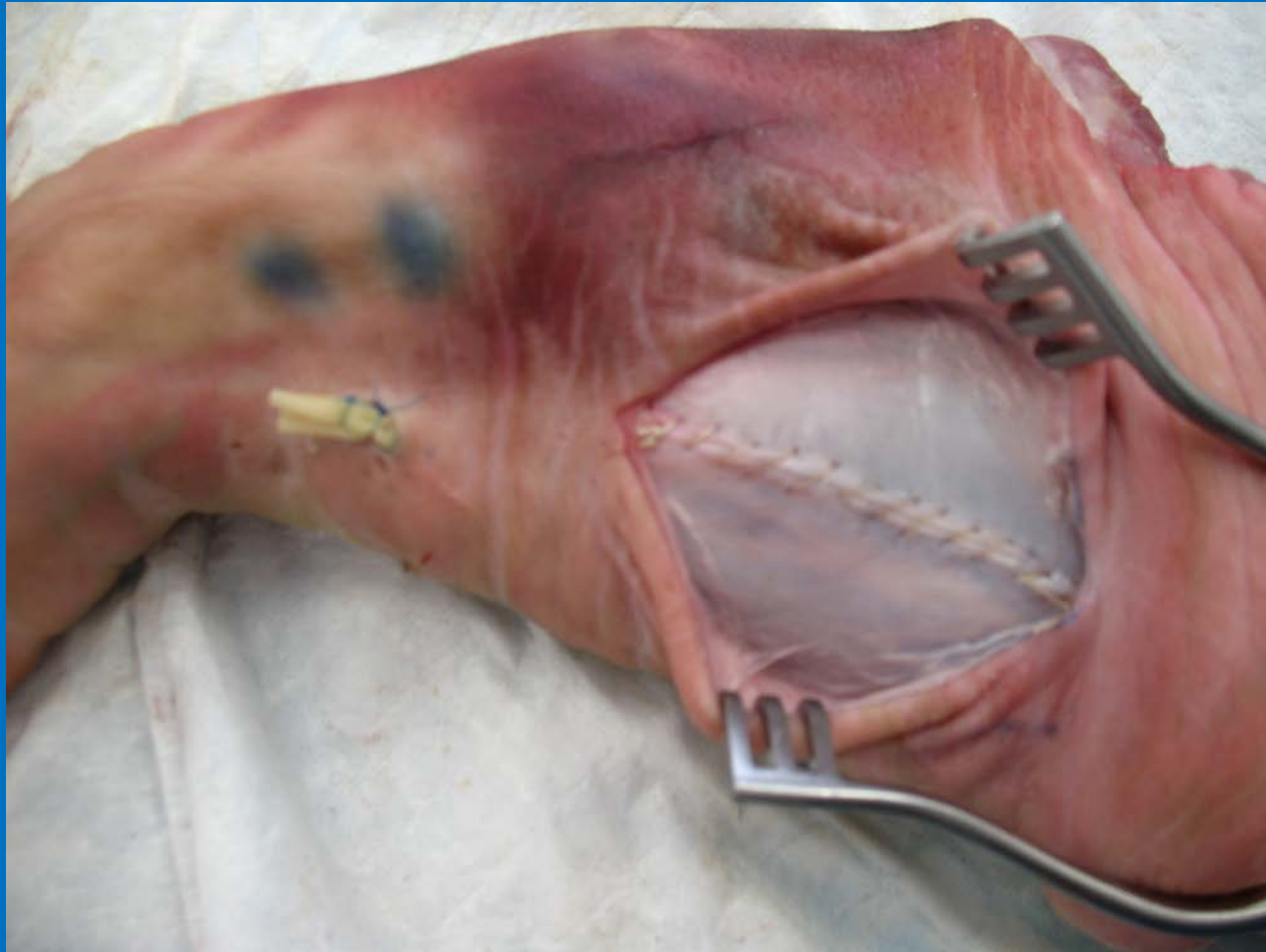
Using a right angle, the vessel is dissected out

Procedure Step 7



One end is ligated while the other is suture ligated

Procedure Step 8



The fascia is closed with simple running suture

Procedure Step 9



The skin is closed using vertical mattress approximately 1-2 cm apart

Checklist

- Provide tension to make straight sharp incision without skiving
- Utilize the assistant/Weitlander for proper tension and dissect down to the vessel
- Dissect the vessel free without cutting into it
- Securely ligate and suture ligate the vessel with no or minimal spillage of food coloring water
- Secure closure of the fascia with proper spacing
- Secure closure and approximation of skin edges