Guide to placing our Martin pericardiocentesis Seldinger drainage catheter kit

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Kit contents
- Drainage catheter; 8 Fr; 25 cm long
- Seldinger introducer needle
- Tissue Dilator
- Disposable scalpel with # 11 blade
- 5 ml syringe
- Non-latex injection cap

Description

Our Martin seldinger pericardiocentesis drainage catheter kit is for placement via the Seldinger (over-the-wire) technique The kit can also be placed for thoracic drainage, but it is not supplied with spare suture wings in the event that the full length of drain is not inserted.

Seldinger pericariocentesis drain placement instructions

a) Insert Introducer needle

1. Attach the introducer needle (I.N.) to the syringe prior to making a very small stab incision or nick with the scalpel.

2. Perform pericardial puncture as normal. Aspirate pericardium to ensure correct positioning of needle and then remove syringe from I.N.

b) Place guide wire

3. Remove the protective cover from the tip of the guide wire holder (GWH). Using your thumb, retract the exposed tip of the guide wire (GW) so it is just inside the GWH. This end of the wire is referred to as the DISTAL end, with the other referred to as the proximal end.

4. Push tip of GWH into I.N. Using your thumb again, use short forward pushes to advance the GW into the I.N. to the required depth, leaving sufficient length of GW external from the thorax to allow placement of the catheter. Distance markings on the GW will assist you in ensuring an accurate placement depth. If uncertain, confirm GW placement by radiography. If resistance is encountered when trying to pass GW into the pericardial space, you could either use the tissue dilator (see below) or apply a twisting action on the GW to aid passage.

5. Holding the GW firmly, pull the GWH off the remainder of the GW so that the proximal end of the GW is free; ensure you maintain aseptic conditions when releasing the end of the GW.

6. Holding the GW securely proximal to the I.N, slowly back the needle out of the pericardium to leave just the GW exposed at the skin surface. Once the I.N. is clear of the chest, change your hold on the GW to the skin entry site and slowly pull the I.N. off the wire.

c) Tissue dilation

7. Tissue dilation is not always required but can aid smooth passage of the catheter through the skin, subcutaneous and intercostal tissues.

8. Holding the proximal end of the GW, advance the tissue dilator (TD) on to the GW.

9. Grip the proximal end of the GW and advance the TD down to the skin surface. ALWAYS advance TD toward the patient, NEVER try to feed the GW into the TD as doing so may cause the GW positioning to alter or even to unintentionally removed from the pericardium.

10. Using a twisting/rotating action, advance the TD through the skin, subcutaneous and intercostal muscle layers to help create a slight tunnel that will reduce resistance to catheter placement, taking care not to damage the tip on the skin surface. If the is excessive resistance with the skin, use the scalpel provided to small 'nick' or stab incision by guiding the inverted blade along the GW (1-2 mm length should be sufficient) and then try passing the dilator again. Once into the thorax the TD should follow the approximate course of the I.D. and GW previously.

11. Remove the TD from GW using the same technique and care as when removing I.D. from the GW.

d) Place catheter

12. Advance the catheter on to the GW and down to the skin insertion site using the same technique as with the TD.

13. Carefully advance the catheter through the dilated skin, subcutaneous and intercostal tissue tunnel into the thorax and then pericardial space. Manipulation of the skin cranially and caudally may help overcome any slight resistance encountered. If there is excessive resistance during advancement, remove the catheter and repeat the dilation technique in steps 7 - 11 above.

14. Advance catheter to the required depth in pericarial space, using the distance guide markers on the catheter surface as an indication. If uncertain of positioning, confirm with radiography. Always leave GW in situ until placement is complete. Please note that you do not have to place the entire catheter length in your patient.

15. Once catheter placement is confirmed, hold the suture wing or luer lock of the catheter firmly. With your other hand gently and steadily pull the GW out of the catheter.

e) Using the drainage catheter

16. Once placed, the drainage catheter is ready to be used for complete pericardial drainage. Drain as normal and use the c-clamp on the catheter for intermittant closure if required.

17. If being left in situ for a period, secure the catheter via the suture wings and cap the female luer to ensure sterility. You can use a closed or injection cap, or a needle-free valve for this; we do not recommend a 3-way tap due to potential for air leakage and break in aseptic technique.

Drain catheter removal

18. Release all securing sutures. Gently withdraw catheter from the thorax, monitoring the distance markerings. The last main marker is 10 cm from catheter tip, and then you will note minor marker lines at 1 cm intervals before the proximal most hole is exposed. The 20 cm drain has **5** minor marker lines with the proximal hole 1 cm distal to this, whilst the 35 cm drain has **4** minor marker lines with the proximal hole approximately 0.5 cm distal to this.

19. When the last main marker is exposed, gently retract skin caudally whilst simultaneously placing finger pressure over the catheter in the subcutaneous tissue. This will create an adequate flap valve to prevent entry of air down the catheter lumen once the drain holes are exposed.

20. Withdraw the remainder of the catheter with a steady pull during, or at the end of, expiration. Place a single skin suture over the entry site and then cover with an appropriate adhesive pad.

Using our needle-free valves

21. Check the surface of the NFV if used in closed placement. If there is no sign of damage, roughening of surface or stepping either side of the septum the valve can be left in place and used as below. If there are signs of damage, replace the valve, remembering to close the c-clamp prior to removing the damaged valve.

22. Our NFV is swabable, so there is no need to cap or cover the valve surface. To access the thorax and use the valve, simply swab the surface thoroughly and leave to dry for 30 seconds. Insert the syringe with a twisting action as you push it into the valve to engage the valve wall. We do supply a non-sterile, non-activating cap (FNVCAP20) to prevent gross contamination to the valve surface; otherwise, any cap, connector of luer that activates/enters the valve MUST be sterile. Further details are available on our website, in our current product guide or simply by calling us.