Vascath and Trialysis Catheter

AKA

Vascath aka “double lumen dialysis line”.
Trialysis catheter aka “trialysis line” and “triple lumen dialysis line”.

What are they?

They are types of central line (see above) sited in the same fashion but with larger diameter lumens in order to facilitate the greater blood flow rate required for renal replacement therapy (RRT).

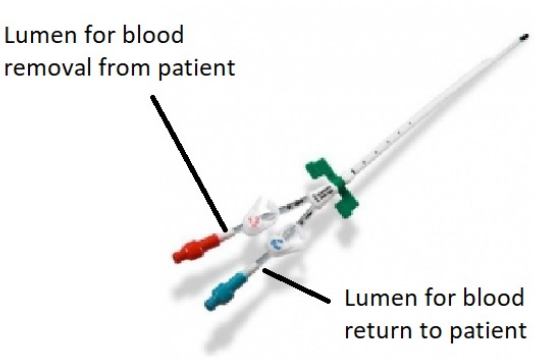
How does it work?

A vascath only has 2 lumens but these are large in diameter. One of these lumens removes blood from the circulation and delivers it to the machine being used for RRT, the other returns filtered/dialysed blood back to the patient. The large diameter lumens which are used for RRT should not be used to sample blood or deliver IV medications. Therefore, a vascath should not be used for any purpose other than RRT.

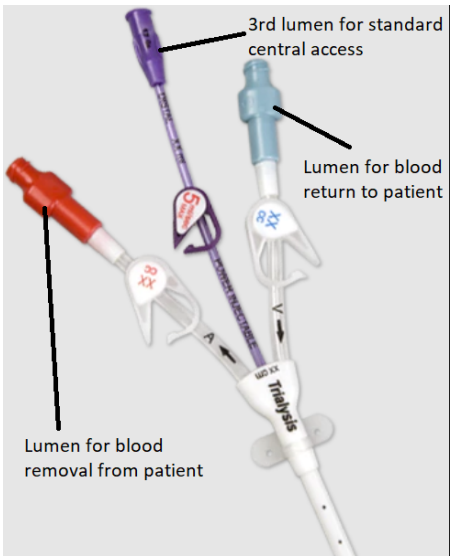
Similarly, a trialysis line has 2 large diameter lumens for RRT but it also has a third lumen of similar calibre to a central line. This enables some vasoactive or potent medications to be delivered using the one means of access. However, compared to the 4 lumens of a central line, a trialysis line is limited in the number of IV medications which can be delivered. The medications delivered through the trialysis line must also be compatible for use through a shared means of access

What does it look like?

Vascath



Trialysis Catheter



What does it do?

Both facilitate renal replacement therapy. The trialysis catheter also enables the delivery of a small number of IV medications which must be administered centrally.

What can go wrong?

The most **common** complications and how to deal with them:

- Infection and 'line sepsis'
    - → Remove the catheter, send the tip for culture and commence antibiotics
- Vein/line thrombus
    - Lines can be locked with sodium citrate or heparin depending on the anticoagulation being used for the RRT circuit.
    - → Doppler ultrasound to confirm the diagnosis and consider anticoagulation.

The most **serious** complication:

- Dislodgement
    - These are large bore lines which result in significant bleeding if dislodged inadvertently.
    - → apply direct pressure to the site and call for help.

Key safety point

You may be asked to check a chest X-ray of a patient who has had an internal jugular or subclavian vascath or trialysis catheter inserted to ensure it is safe to use. You can use the same procedure as described above for a central line.

Other notes

Aside from their use for RRT, vascaths and trialysis catheters can largely be considered as central lines in terms of their anatomical positioning, lifespan and complications.

Further reading

RRT in critical care - **https://www.frca.co.uk/Documents/194%20Renal%20replacement%20therapy%20in%20critical%20care.pdf**