

Management Of Blocked Central Venous Devices and Lines

Central Venous Line (CVL) or device not aspirating

Check the following before considering urokinase intervention:

- Is the CVL kinked anywhere?
- Is the CVL clamped?
- Change the bionector using the Standard ANTT approach.
- Is the line positional?

Ask the patient to do the following;

- Sit upright, Turn their head to the side, Look up, Cough, Pump arm closest to the CVL up and down, Stand up and walk round

Line neither flushing or aspirating

1. Try 'milking' the line with 0.9% sodium chloride or heparinised saline 10units/ml
If this fails to unblock line: Use urokinase lock

Urokinase Lock (UL)

1. Dilute urokinase 10,000 units with 4 ml 0.9% sodium chloride and inject into line – use a volume sufficient to fill the catheter lumen.
 2. Label line with urokinase sticker.
 3. Leave in line for as long as possible (ideally 24 hours).
 4. Aspirate urokinase and then flush with 0.9% sodium chloride.
 - Repeat process if unable to achieve aspirate.
- If this fails to unblock line:** Request chest Xray (CXR) to check position of line.

Line flushing but not aspirating

1. Administer urokinase lock. **If this fails to unblock line: request CXR to check position of line.** If correct, give urokinase infusion

Urokinase Infusion

2. Administer **urokinase infusion**, as follows:
 - administer urokinase 150 units/kg/hour for 12-24 hrs. (UKALL 2011) **Monitor coagulation prior to and 8 hourly during infusion.**
 - If line still does not aspirate request linogram to check for fibrin sheath and repeat infusion.
 - Consider need to repeat Linogram following infusion to confirm resolution.

Maintaining Patency of Line

Ensure push pause technique is used when flushing lines.

Use a "positive pressure finish" when you lock the catheter.

Lock line with heparinised saline 10 units/ml if bloods have been taken or line not in use for more than 8 hours.

Ensure bionectors are changed weekly and lines locked with heparinised saline.

Ports should be accessed and locked once a month to maintain patency.