

Central Venous Catheter (CVC): Tego Connector Change

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This procedure is posted on the BC Renal website:
Health Professionals ► Vascular Access ► Resources

Direct link: www.bcrenalagency.ca/health-professionals/clinical-resources/vascular-access

IMPORTANT INFORMATION

This BC Renal guideline/resource was developed to support equitable, best practice care for patients with chronic kidney disease living in BC. The guideline/resource promotes standardized practices and is intended to assist renal programs in providing care that is reflected in quality patient outcome measurements. Based on the best information available at the time of publication, this guideline/resource relies on evidence and avoids opinion-based statements where possible; refer to www.bcrenalagency.ca for the most recent version.

For information about the use and referencing of BC Renal guidelines/resources, refer to
<http://bit.ly/28SFr4n>.

1.0 Practice Standard

Skill Level (Nursing): Specialized

The following Registered Nurses (RNs) and Licensed Practical Nurses (LPNs) may perform this procedure:

1. RNs and LPNs who have completed the required hemodialysis (HD) specialty education and who provide nursing care in a BC In-Centre and/or Community Renal Program; &
2. Designated RNs and LPNs who have received the appropriate training (e.g., inpatient, home care and ambulatory care RNs and LPNs).

Need to Know:

1. Change Tego connectors weekly at the beginning of the run before connection and flushing.
2. Use routine (also known as “standard”) precautions.
 - Perform hand hygiene.
 - Wear gloves (*non-sterile* to remove the dressing and *sterile* for the rest of the procedure), *non-sterile* gown and *non-sterile* mask/face shield for Tego connector change procedures. If institution policy is for a clean “no touch” procedure, then may wear non-sterile gloves throughout the procedure and change gloves as indicated.
3. Use clean (also known as “medical”) aseptic technique, with additional precautions as follows:
 - Use *sterile* equipment and supplies and a “no touch” technique when handling the catheter ports and caring for the exit site.
 - Place a *sterile* 4x4 and *sterile* drape under the catheter ports prior to changing Tego connectors.

- Use an antiseptic wipe and vigorously apply mechanical friction to clean catheter hubs (“hub scrubs”) and Tego connectors.
- Use a separate antiseptic wipe for each port/clamp/catheter limb/Tego connector.
- Allow antiseptic to dry for maximal effect.
- Leave hubs “open” (i.e., uncapped and disconnected”) for the shortest time possible.

Notes re: antiseptics:

- a) The Center for Disease Control and Prevention guideline (CDC, 2011) suggests the use of the following antiseptic solutions: >0.5% chlorhexidine with alcohol, 70% alcohol or 10% povidone-iodine. They conclude there is not enough evidence to recommend one antiseptic over the others.
 - b) The Society for Healthcare Epidemiology of America (SHEA) and the Infectious Diseases Society of America (ISDA) joint guideline (Marschall, 2014) suggest that alcoholic chlorhexidine may have additional residual activity (up to 24 hours) compared with 70% alcohol for this purpose.
4. Air embolus is a potential catastrophic complication of tunelled cuffed catheters (TCCs) and the relative risk while accessing a TCC is high. This is even more important during the Tego connector change than during connection.

Ways to reduce the risk:

- **Never leave catheter ports unattended and open to the air; clamp ports when not being used.**
- Place the patient supine in as flat a position as the patient can comfortably tolerate (e.g., Semi-Fowler’s position).

5. Notes about Tego use:
 - Do not use needles to access the Tego.
 - Access the Tego straight on, not at an angle.
 - Do not overtighten the leurs when connecting the Tego.
 - Do not continue to turn after you feel the luer stop.
 - Be sure to grasp the base of the Tego and fully unthread leurs when disconnecting from the Tego.

2.0 Equipment

- Non-sterile gloves
- Non-sterile gown
- Non-sterile mask (2)/eye protection
- Sterile or clean or non-sterile gloves, depending on institution policy (2 pair)
- Sterile drape/gauze
- 4 x 4 sterile gauzes (several)
- Tego connectors (2)
- Antiseptic wipes (several)
- Garbage receptacle

3.0 Assessment & Interventions

Preparation:

1. Place the patient supine in as flat a position as the patient can comfortably tolerate.
2. Perform hand hygiene.
3. Gather supplies.
4. Don *non-sterile* gown (staff).
5. Don *non-sterile* mask (staff and patient) and eye protection (staff).
6. Don *non-sterile* gloves (staff).

7. Remove 4x4 gauze from around the catheter limbs.
8. Remove gloves.
9. Perform hand hygiene. Don sterile (or non-sterile) gloves.
10. Grasp the catheter ports with one hand and place a sterile drape under the ports with the other hand.

Cleanse Tego, clamps and lumens:

11. Using antiseptic wipes, cleanse each Tego, clamp and limb using friction scrub for 30 seconds. Un-clamp, move clamp, clean under clamp segment, and re-clamp. Use a new wipe for each side.
12. Place catheter limbs on a fresh, dry, *sterile* 4x4 drape/gauze. Air-dry.

Change the Tego connectors:

13. With your non-dominant hand, lift the catheter by holding it in the middle.
14. Ensure catheter clamps are closed.
15. Remove the Tego connector with gloved hand. Clean the arterial catheter hub with a new antiseptic wipe using a friction scrub for 30 seconds. Discard wipe.
16. Attach the new Tego connector to the arterial lumen.
17. Repeat steps 13-16 with the venous lumen.

Refer to BCPRA guideline:

Central Venous Catheter: Initiation

4.0 Patient Education and Resources

- Do not open your catheter (if part of the home HD program, doctor or nurse will provide specific instructions). Both the end caps and clamps of catheter should be kept tightly closed. Only a dialysis nurse or physician should remove the caps or clamps.
- Notify kidney doctor (nephrologist) or dialysis unit for any of the following:
 - Redness, warmth, or pain along the catheter.
 - Oozing or drainage from catheter exit site.
 - Noticeable swelling or itching around catheter or neck.
 - Feverish and any of the above symptoms.
 - Part of the catheter that is outside the skin seems to be getting longer.
 - Catheter is accidentally pulled and there is bleeding around the exit site.

Patient Handout: Care of Your Catheter:

www.bcrenalagency.ca/resource-gallery/Documents/Your%20hemodialysis%20catheter.pdf

5.0 Documentation

Document if Tego change was completed as per unit protocol.

6.0 References

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11. National Kidney Foundation (2006). KDOQI Clinical Practice Guidelines and Clinical Practice Recommendations for 2006 Updates: *Hemodialysis Adequacy, Peritoneal Dialysis Adequacy and Vascular Access*. *Am J Kidney Dis* 48:S1-S322, 2006 (suppl 1).

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13. Institute for Healthcare Improvement. (2012). How-to-Guide: Prevent Central Line-Associated Bloodstream Infections <https://bit.ly/1RRjhzw> Accessed Dec 20, 2016.

7.0 Reviewed by:

- BC Vascular Access Educators Group (VAEG)
- Renal Educators Group (REG)

For information about the use and referencing of BC Renal provincial guidelines/resources, refer to the Table of Contents.