



MANITOBA RENAL PROGRAM

SUBJECT <ul style="list-style-type: none"> Obtaining Blood Sample for International Normalized Ratio (INR) from Central Venous Catheters 	SECTION 30.20 Vascular Access
	CODE 30.20.17
AUTHORIZATION <ul style="list-style-type: none"> Professional Advisory Committee, Manitoba Renal Program Nursing Practice Council, St. Boniface General Hospital 	EFFECTIVE DATE September 2006
	REVISION DATE September 2009 June 2012 November 2014 January 2016 March 2017

PURPOSE:

- To ensure the process used for obtaining International Normalized Ratio (INR) blood samples from a patient with a central venous catheter (CVC) provides accurate and consistent results.

POLICY:

- Although sodium citrate is not thought to affect INR, it is recommended to follow consistent practice when drawing INR from a CVC to avoid errors.

EQUIPMENT:

- 1 Syringe (minimum 5 mL)
- 1 Alcohol wipe
- 1 INR blood specimen collection tube
- 1 Blunt fill needle

PROCEDURE:

KEY POINT:

- During setup attach heparin syringe to heparin line as per procedure. Heparin line will be primed at this time.
- Clamp the heparin line.
- During setup, turn the hourly heparin infusion to manual.
- Access catheter as per Procedure 30.20.02 *Accessing and Locking Dialysis Central Venous Catheter (Anticoagulant/Thrombolytic/Antibiotic Locking)*

- Do not give heparin prime/bolus.

PROCEDURE:

5. Initiate dialysis.
6. Wait a minimum of 5 minutes then swab arterial blood line injection port with alcohol and draw blood sample for INR.
7. Once the INR is drawn, unclamp the heparin line.
8. To start heparin continuous infusion:
 - a. Make sure the heparin clamp is open
 - b. Go to Heparin screen. Verify rate and off time
 - c. Press the heparin I/O button On (green light on)
9. Give heparin bolus (the amount should be equal to the pt's HEPARIN PRIME)
 - a. If the heparin prime is 1000units (1.0 ml) or greater give the bolus via the syringe pump (minimum bolus amt. is 1.0 ml)
 - b. If Heparin prime is less than 1000 units (1.0 ml), give Heparin prime volume diluted to 10ml with Saline in the venous medication port
10. Give heparin prime via syringe pump on delivery system and start heparin continuous infusion.

KEY POINT:

- Minimum of 4.5 ml sample required
- If you don't manually turn your heparin, you will receive a prompt.
- If INR is urgently required after patient is heparinized, discontinue infusion for 1 hour and draw sample.
- If heparin lock was instilled initially due to malfunctioning catheter, wait one hour before drawing INR sample.

DOCUMENTATION:

- Patient Health Record
- Medication Administration Record
- Hemodialysis Treatment Record
- Anticoagulation Flowsheet

REFERENCES:

Boyd, A., Dunne, A., Townsend, K., Barton Pai, A. (2006). Sampling for international normalized ratios in patients on hemodialysis with central venous catheters. *Nephrology Nursing Journal*, 33, 408-411.

McLaren, G., Hanna, C., Mills, L. (2001). Comparison of sampling methods for obtaining accurate coagulation values in hemodialysis patients with heparinised central venous catheters. *Nephrology Nursing Journal*, 28, 632-636.

Diagnostic Services Manitoba Lab Manual retrieved November 4, 2014 at <https://apps.sbggh.mb.ca/labmanualviewer>