

CTCVD Power Injection Contrast Injection Policy

** CVDs with TPN infusions cannot be used for contrast injection unless TPN has been disconnected and vigorously flushed by RN prior to exam, before patient leaves the floor.

NOTE: No IV medication drips should be stopped or restarted without an RN's help. Injector should not be used with any IV that has questionable patency. If in doubt, question the radiologist or the patient's care givers.

CVD's – Adult use

| Catheter | Used for CT Inject. | Lumen Size | Max Injection Rate | Max PSI |
|--|----------------------------|--|--|--|
| Power PICCS (Bard) or equivalent from other manufacturer | Yes | | Check Hub | Check hub |
| Power Ports (Bard) or equivalent port from other manufacturer | Yes | 6.5-10 French | 5cc/sec. | 300 |
| Power Hickmann | Yes | | Check hub | Check hub |
| Non Power Injectable or unknown¹ ports | Yes | | 1 cc/ sec | 100 |
| Micropuncture introducers placed by IR | Yes | 5 French | 5 cc | 300 |
| IV catheters in a foot vein | Yes | 18g-22g IV access | 1 cc/sec | 100 |
| EJ or IJ - IV access | Yes | 18g-22g IV access | 2 cc/ sec. | 300 |
| Triple-Lumen (Arrow) | Yes | 16g=brown port- Used whenever possible 18g=blue port | 1 cc/sec (unless higher rate listed on hub) | 100 (lines that list higher injection rates at hub) |

¹ Review Epic (lines and drains section) to research if type of port is known. If unknown, and need to inject at higher rate can review chest xray or scout image with radiologist to see if port is labeled with "CT" icon denoting power injectable port.

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|--|------------|-------------------|-------------------|---|
| | | | | are usually OK to inject up to 300 psi) |
| Power Mid Lines | Yes | 4/5 French | 5 cc / sec | 300 |
| Quinton/ Non-Power Hickman/ Permacath | NO | | | |
| Non- Marked Piccs | NO | | | |

Process –

- 1.) Following Hand Hygiene Policy at all times: wash or Purell, don gloves, when completed remove gloves, then wash or Purell.
- 2.) *RN must access and de-access all indwelling Ports* – CVD lumen access may be performed by the CT technologist to inject contrast.
- 3.) *Prior to use:* All CVAD lines used for contrast with injector or hand injection must have a 15 sec. hub scrub with approved disinfectant and allowed to air dry (minimum 15 sec.). **(All CVD's must be checked for patency and blood return, using a 10 cc saline syringe with 3 cc removed. Flush line with 10 cc sterile saline after.** A CVD should not be used without verification of blood return.
- 4.) CT Technologist should monitor injection site for the duration of injection when possible.
- 5.) The contrast for all CVD's is Omnipaque 350 (except for Pediatrics Omnipaque 300 is used). If prior contrast reaction to Omnipaque, alternative agent like Isovue 370 may be used)

Script –

Adult Power Hickman – In-Patients: Call the floor to check IV status. If the RN states the patient has a Hickman two (2) questions need to be asked:

- 1.) Is the Hickman a **Power Hickman** (Needs to be labeled on the clamp with maximum injection rate, if not Is a P or an X seen within the line on the Chest X-Ray or is there documentation in EPIC.
- 2.) Has there been **TPN** running?
 - a. If **Yes:** to flush vigorously now and Disconnect TPN and to clearly mark lumen used for TPN.
 - b. Send patient with no meds running. (Open flush is allowed)
 - c. Instruct RN that the patient will return **without** the catheter being flushed with heparin.
 - d. If the TPN cannot be stopped and flushed before leaving the floor, the Hickman may not be used for the contrast injection.
 - e. Follow 15 second hub scrub and allow to air dry (min. 15 seconds).

- f. Do not disconnect injector prior to exam completion or the hub scrub will need to be repeated.
- g. Maximum flow rate will be listed on the lumen clamp.

Power Hickman: *Out- patient:* Follow 15 sec. hub scrub and allow to air dry (minimum 15 sec.) Maximum flow rate will be listed on the lumen clamp. Do not disconnect injector prior to exam completion or the hub scrub will need repeating. Call South Pavilion Core IR RN, Prep Hold RN, or RN in your respected area's to flush heparin post injection per YNHH policy.

Injection rate for use of PEDI Injector: Including foot veins

| Lumen Size | Flow Rate | PSI |
|--------------------|------------------|------------|
| 18g, 20g IV access | 2cc / sec | 150 |
| 22 g IV access | 2 cc / sec | 150 |
| 24 g IV access | 1.5 cc / sec | 50 |

Pedi- All Central Lines including Broviac: *In- Patient patients:* Call the RN. Instruct RN to accompany the patient. Pedi RN will need to follow YNHH hub scrub policy. Pedi RN will hub scrub and access the pediatric patient's **Central Line** and the technologist will connect the contrast. Omnipaque 300mg. may be injected @ 1 cc / sec. at 100 PSI. With the help of the CT Tech, the Pedi RN will disconnect the injector and follow YNHH heparin flush policy.

Pedi Broviac: *Outpatient:* Call Out Patient Pedi Nursing (follow same process as above)

Intraosseous (EZ IO) Devices: Can be used with the Power Injection

See contrast manual - <http://medicine.yale.edu/diagnosticradiology/patientcare/policies/>

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