

# **Connectology for Emergent CRRT Dialysate Solution Preparation Using In-house Supplies**

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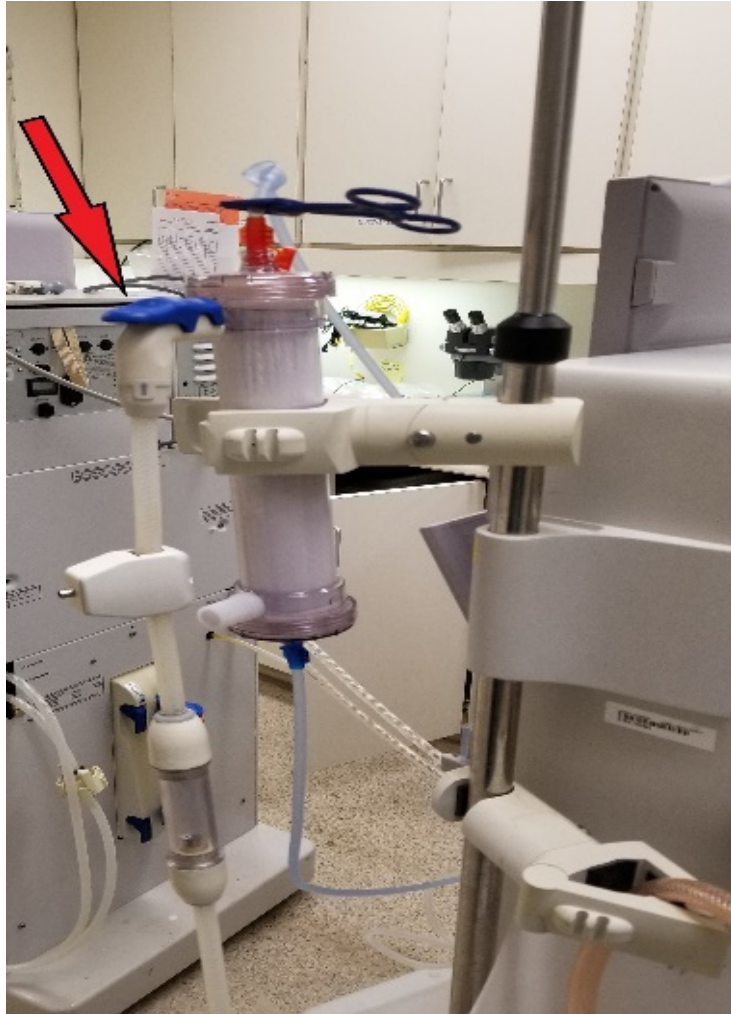
# Disclosures

- The following set of slides address connectology methods for CRRT dialysate solution preparation with in-house supplies.
- There is more than way to prepare CRRT solutions depending on machine type, model and supplies available.
- Regardless of approach, utmost care and diligence must be adopted when preparing in-hospital ultrapure continuous hemodialysis solutions. General tips:
  - Use solutions only as dialysate
  - Use solutions in 24 hours
  - Disinfect machines daily
  - Do chemical disinfection at least once a week
  - Draw monthly samples from the machines and randomly selected bags and send out for testing to meet AAMI ultrapure standards of 0.1 cfu/0.03EU

# University of Michigan Dialysis Unit In-house CRRT Dialysate Solution Preparation

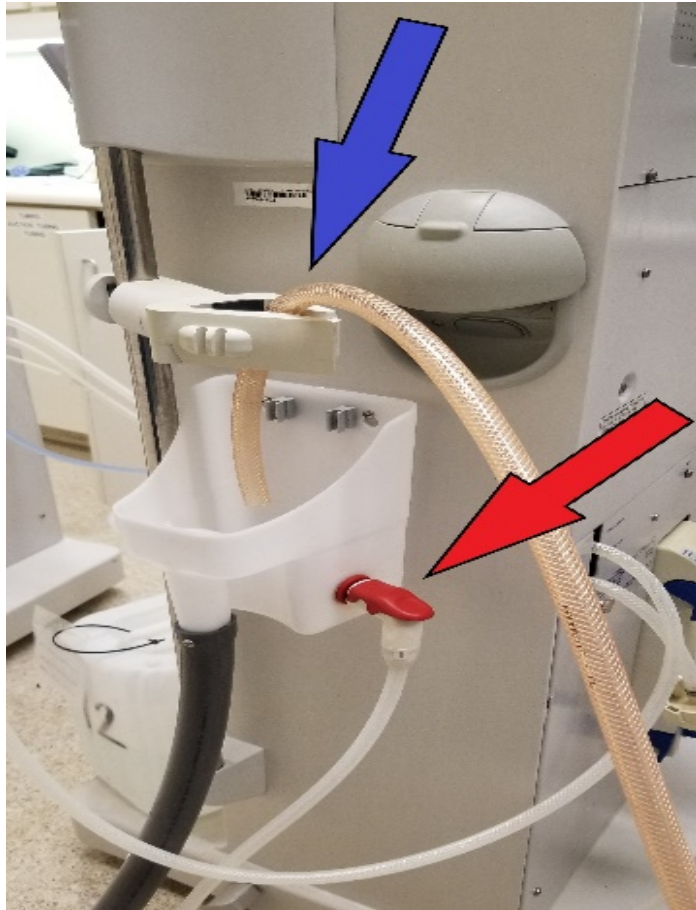


- Another excellent online resource is the Cleveland Clinic Nephrology Department's presentation by Sevag Demirjian: <https://www.youtube.com/watch?v=1ektoZGu83M&feature=youtu.be>



**Fig 1**

- Install a dialyzer into the dialyzer holder.
- Connect the dialysate feed line (Fresh dialysate in blue) to top dialyzer port (Fig. 1)
- Cap the unused dialysate port.

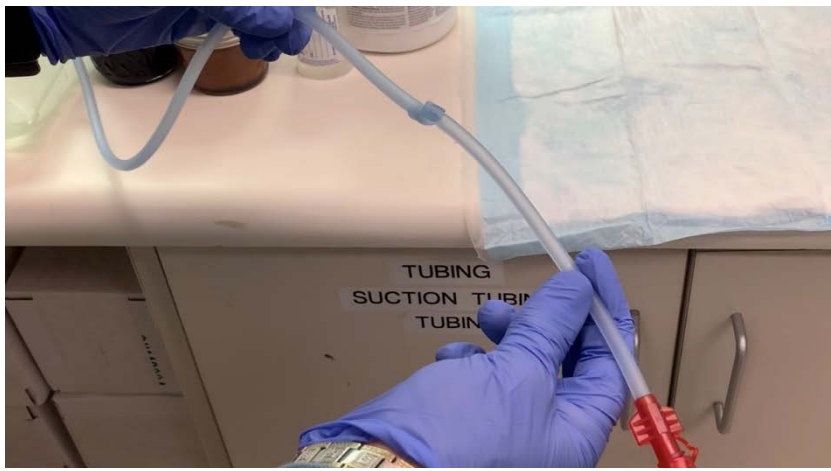


**Fig 2**

- Connect spent dialysate line to the bucket shown in Fig. 2 with a red arrow.
- Alternatively any stable bucket with an overflow draining could be used (unless you want risk flooding your unit)
- The same bucket, will collect dialysate fluid (or pure RO water depending on your machine) from a second dialysis machine (blue arrow) to complete a closed dialysate circuit (the balancing chamber of machine 1 has to see waste fluid flow otherwise the machine will not operate).



**Fig 3**



- Open a hemodialysis tubing kit.
- Take the arterial tubing (red) and hold towards the DIN end.
- Make a knot towards the DIN end of the arterial tubing.

**Fig 4**



- Place a clamp between the knot and the Din end
- Cut the arterial tubing on the other end of the knot

**Fig 5**



- Connect the Din end of the arterial line (with the clamp) on the same end of fresh dialysate line on the dialyzer as in the picture

Fig 6



- Take the venous (blue) hemodialysis tubing from the dialysis tubing kit.
- Connect the Din end of the venous line on the opposite end of fresh dialysate line on the dialyzer as in the picture
- keep the Luer lock end of the venous line on a hanger until ready to be connected to a multiprong Nxstage connector

**Fig 7**



- Open a Nxstage multiprongs connector kit.
- It has 8 male luer lock ends that can connect to female luer lock of waste CRRT Baxter bag
- It has a base attachment (bottom of the figure) that we will not use.
- Clamp the base of the multiprongs connector



**Fig 8**



- Connect 1 of the 8 luer locks of the Nxstage multiprongs to the venous end (blue) of the tubing.
- This will serve as the supply source for the other 7 bags.

**Fig 9**



- Connect 7 of 8 luer locks to the 5 L Baxter effluent bags



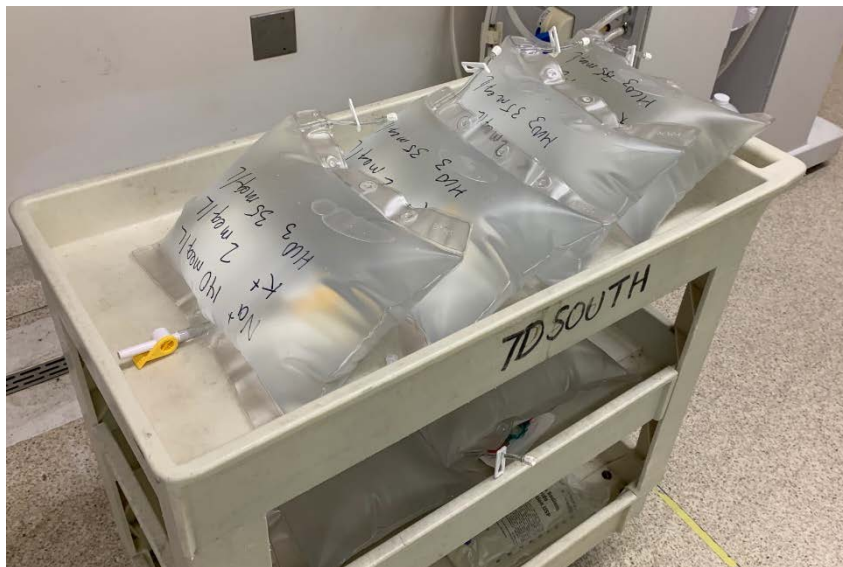
- You may fill all 7 bags simultaneously or individually.

**To fill individually:**

- Unclamp one of the multiprong connectors and clamp 6.
- When first bag is full. Clamp its multiprong connector and unclamp a second multiprong connector.
- Continue this process until you fill all 7.

**To fill simultaneously :**

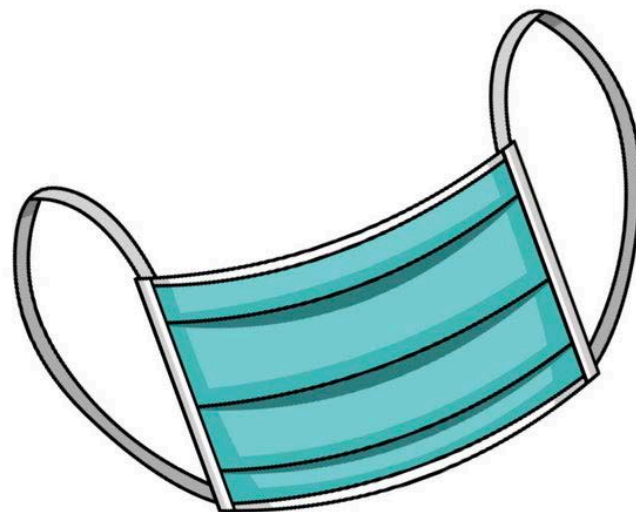
- Unclamp all 7 multiprong
- Fill 7 together and clamp all together when full





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