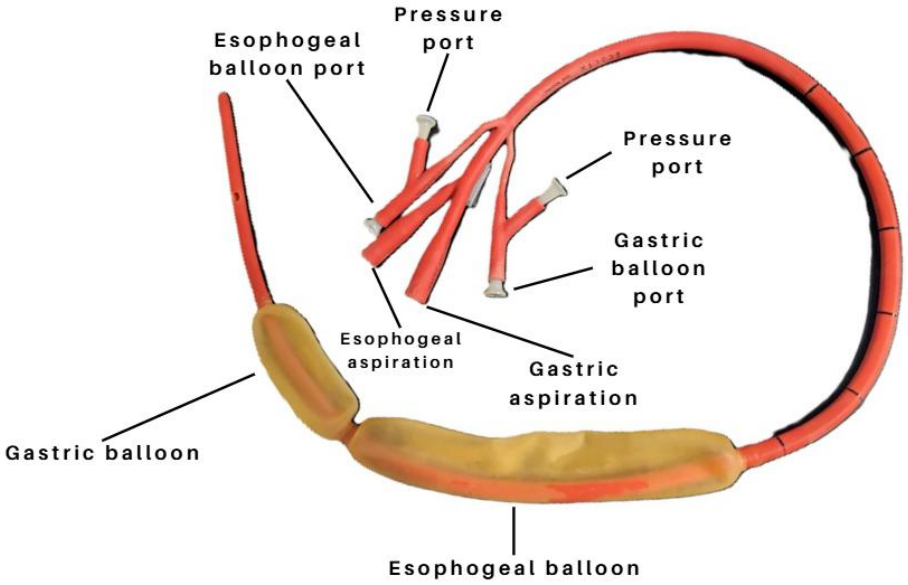
Minnesota Tubes

Minnesota tubes are used for unstable patients that require balloon tamponade of esophageal and/or gastric varices that have ruptured. They provide temporary control of bleeding as a bridge to definitive management. Patients are intubated prior to insertion of the Minnesota tube given risk of airway obstruction and aspiration.

Tube Anatomy

Minnesota tubes have balloons that are inflated with air to tamponade gastric and/or esophageal regions. Each region has a respective port for balloon inflation and a port for measuring the pressure. Once inflated, these are clamped with kelly clamps to prevent unintentional air loss. There are also aspiration/drainage ports where suction can be applied to drain contents from the esophagus or stomach. Drainage volume and appearance provides information about active bleeding.



Tube Insertion

Minnesota tubes are inserted and inflated with air by the CCTC Fellow or consultant. They are best inserted when cold - **there should be one tube in the Bay 3 small medication room fridge (unlocked fridge).** Alternatively, a Minnesota tube can be found in the bay 1 stock cart and can be chilled in an ice bath. ED also keeps Minnesota tubes.

Minnesota Tube Traction Set-Up

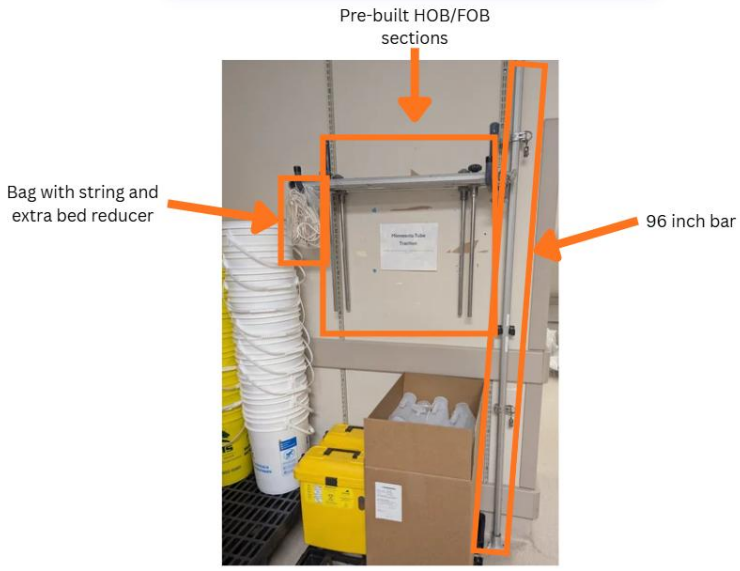
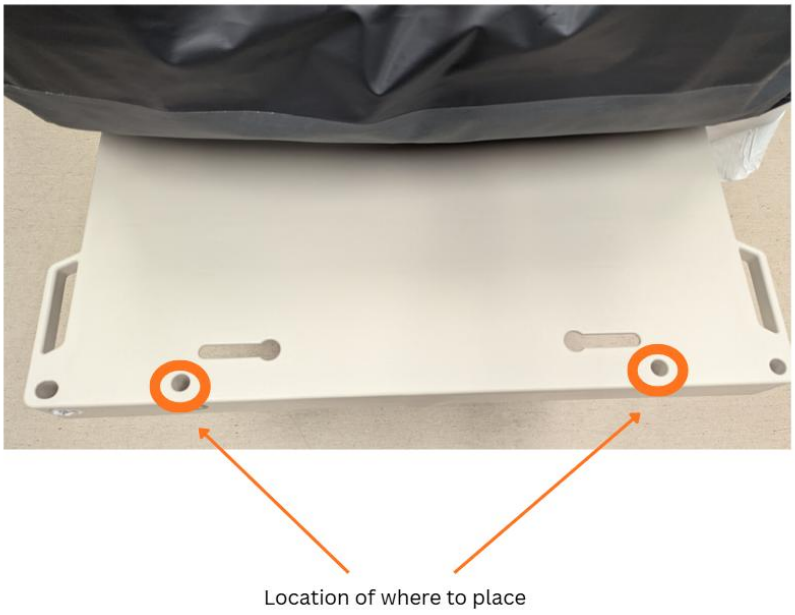
Supplies Needed:

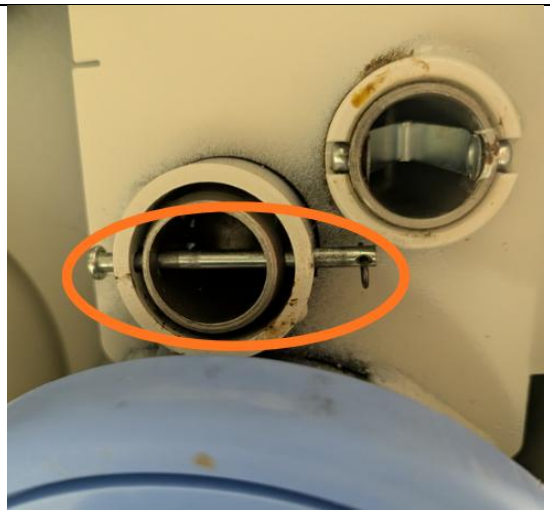
4 x 20- inch bars with one-sided clamp (Labelled "A")	
2 x 36-inch (progressa bed) cross bars with no clamps (Labelled "B") *2 x 48-inch is needed for a centrella bed*	
2 x 31-inch bars with double-sided clamps (Labelled "C")	

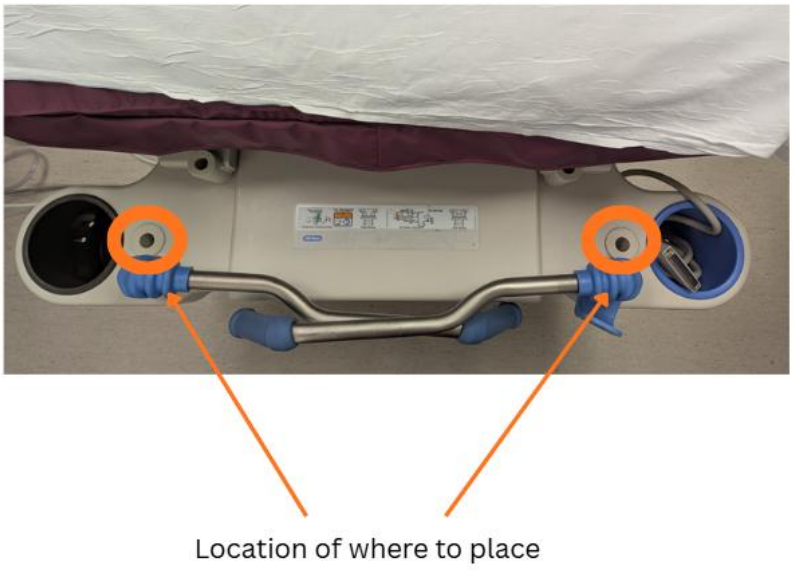
September 2026 OGV

2 x pulley with clamp	
1 x 96-inch cross bar with no clamps (Labelled "D")	
Bed reducer	
Tongue depressor	
3-meter string	
Tape	

Set-up:

#	Step	Picture
1	Locate traction supplies in Bay 5 stock room. 1 Minnesota tube should always be refrigerated in the bay 3 med room small fridge. If not, they are found in the bay 1 stock room and can be placed in an icebath before insertion.	
2	Remove foot board and insert the pre-built t-bar. The pre-built t-bar requires two 20-inch bars ("A") and one 36-inch bar ("B"). If placing on a Centrella bed, you must substitute the 36-inch bar for 48-inch bar.	

		
3	At the head of bed, remove the IV pole. To do so, you must go underneath to remove the pin (circled in orange) and then insert the bed reducer.	

4	Place the second t-bar at the head of the bed.	 Location of where to place 

5	Place the 31-inch bars with clamps on both sides, vertically in the middle of the previous horizontal bar – one at the head of bed and one at the foot of bed. Lock clamps to secure in place.	
6	Place the 96-inch bar ("C"), horizontally along the two 31-inch bars. Adjust as needed, so the bar runs along the middle of the bed. Lock clamps to secure in place	
8	Run 3-meter string through both pulleys.	
9	Wrap and tape a tongue depressor in front of the most	

	proximal pulley. This is a safety measure should weight traction come off.	
10	Tie the string that is closest to the patient to the base of the Minnesota tube.	
11	Tie the other side of the string to the ordered weight (IV bag) to the other side of the distal pulley.	

Nursing Management

After Insertion

- ❑ Most varices are gastric, the esophageal balloon may not require inflating. **IF THE ESOPHAGEAL BALLOON IS INFLATED, THE GASTRIC BALLOON MUST REMAIN INFLATED TO PREVENT UPWARD MIGRATION.**
- ❑ Ensure x-ray completed for placement
- ❑ Confirm and document initial length of catheter at the teeth
- ❑ Confirm and document balloon status (inflated or deflated) for both esophagus and gastric ports
- ❑ Ensure balloon ports are kelly clamped as white plastic plugs do not adequately maintain pressure (see appendix A)
- ❑ Inspect traction to confirm all poles and clamps secure and bag hanging freely (if ordered)
- ❑ Confirm and document suction on esophagus or gastric region (if ordered)
- ❑ Ensure scissors (call MDR or OR) are at bedside in case needing to cut for airway occlusion

Ongoing Assessments

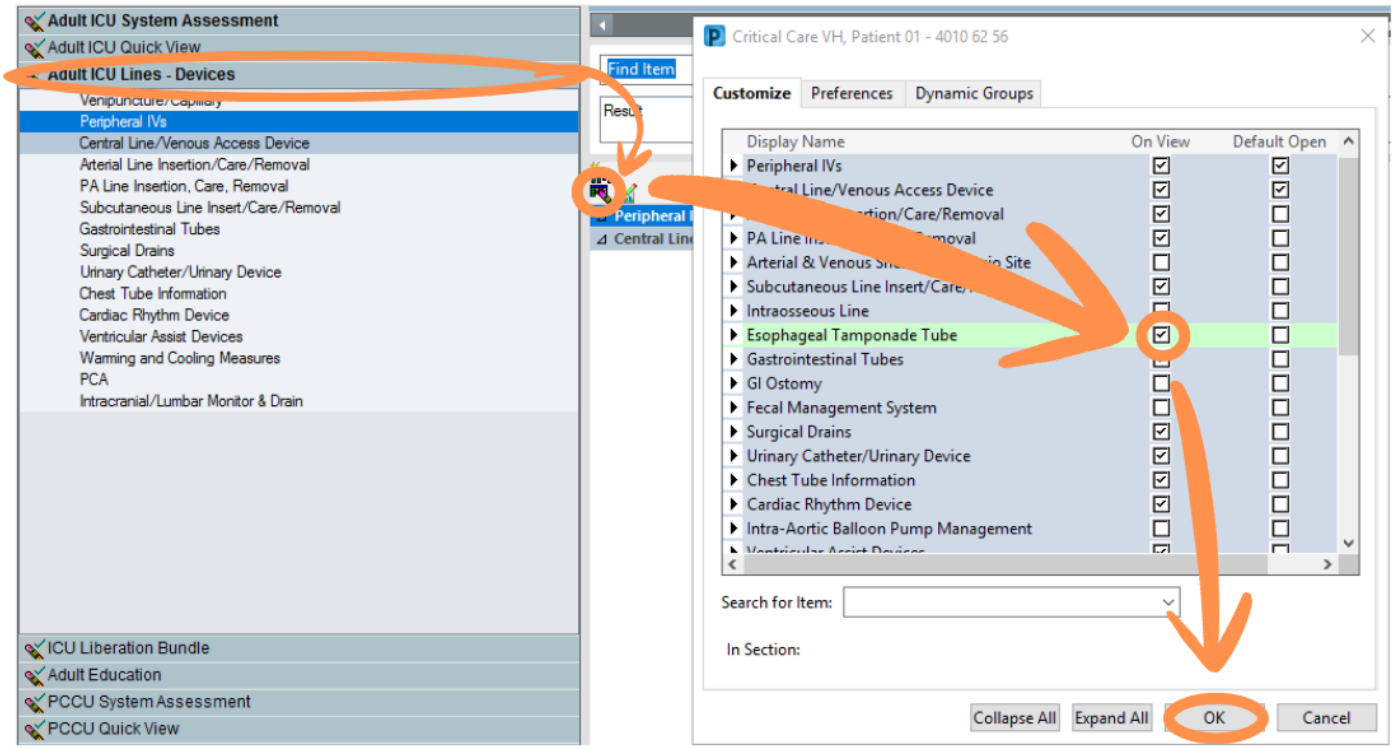
- ❑ Catheter measurement from teeth q1h and PRN with movement
- ❑ Insertion site assessment q1h and PRN
- ❑ Gastric and/or esophageal output q1h and PRN
- ❑ Safety checks q4h (scissors at bedside, balloon ports Kelly clamped, bag hanging freely, all poles secure)
- ❑ Confirm suction and ballon status for both esophageal and gastric ports Q4H and PRN

Care of the Patient:

- ❑ Nasal/oral care q4h and PRN
- ❑ Patients can still be gently turned to offload pressure; however, a dedicated registered staff (RN/RRT/PT/MD) must monitor tube during turn
- ❑ Patients can be transported on traction but must be switched to a pole (see details below).
- ❑ **Nurses do not inflate, deflate, or check pressures on balloons. Physicians only are to insert, complete daily pressure checks, and remove the tube.**

Documentation:

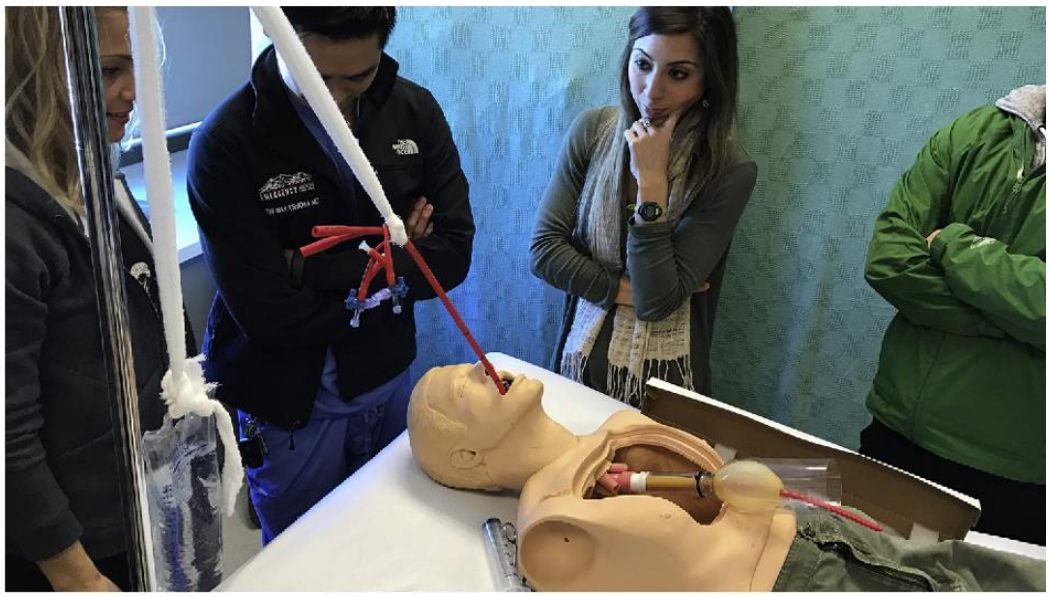
- ❑ Open up Esophageal Tamponade Tube Grouper under Lines and Tubes



Transport with Minnesota Tube:

Supplies: ❑ IV Pole	
1	One registered staff member (RN/RRT/MD) is dedicated to holding the Minnesota tube at the exit point to maintain constant traction and monitor for migration while traction is transitioned to IV pole.
2	The second person will untie the rope from IV bag weight and remove rope from traction set up on the bed.
3	The second person will route the rope through the hook on the IV pole and re-tie the weight at the end.
4	During transport, one registered staff member (RN/RRT/MD) must be dedicated to moving the pole and ensure weight is not moving.
5	The following emergency supplies are required during transport: ❑ Scissors (needed in case tube migrates and obstructs airway) ❑ 50 ml catheter tipped syringe (needed to deflate or inflate balloon) ❑ Tape (needed if balloon is deflated during procedure but needs to remain secured in place)

Image of IV bag transferred to IV pole



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Appendix A: Position of Kelly Clamps

