Development of ECLS Transport Checklist

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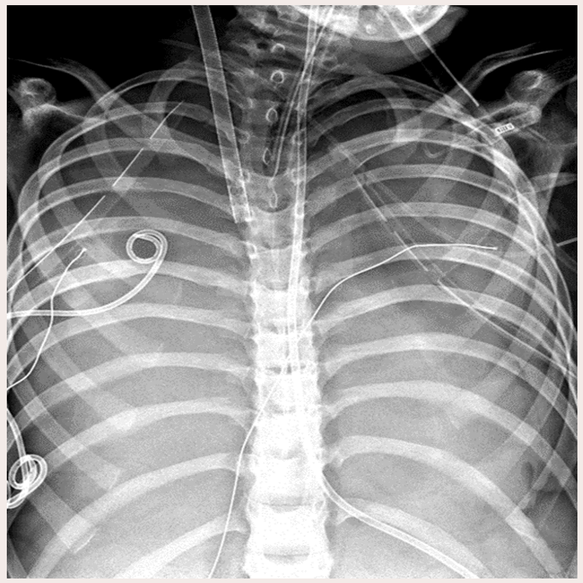
Background

A patient on ECLS was transported from the unit to acquire imaging. Routine practice at our institution is to obtain an X-ray to confirm cannula placement after transport. However, the X-ray was not obtained upon return to the unit. Unbeknownst to the team, the patient's cannula had significantly moved despite visualization of intact sutures. The change in cannula position was not discovered until the morning X-ray that was taken several hours later. Soon after, the patient suffered a hemorrhage at the cannula site that led to death of the patient.



Previous morning X-ray

PICU ECMO TRANSPORT CHECK LIST

- ☐ Risk vs benefit of transport assessed and discussed
- ☐ Cannula placement verified prior to preparation for transport _____ Xray _____ECHO
- ☐ Cannula depth marking visible? _____Yes _____cm_____ No_____
- ☐ Cannula sutures/dressing intact? _____Yes _____No
- ☐ Cannula sutured to_____
- ☐ 2 units of PRBCs in cooler and check in for transport? ___Yes If not, why?_____
- ☐ Patient to be transferred to stretcher/OR gurney? _____
- ☐ Patient placed on backboard for transfers? Yes ___ No___ If no, why?_____
- ☐ Emergency plan reviewed ___ Code Leader ___ CPR ___Code Drugs/Pack ___ Airway
- ☐ Transport route determined and discussed with transport team
- ☐ Obstacles removed from route
- ☐ ECMO Transport leash installed
- ☐ Approach to Cath Lab, CT, and/or room transfer area discussed.
- ☐ Transport team assembled: ___ ECMO Attending ___Patient RN, ___ Minimum 1 ECMO Core Specialist, ___RRT, ___2nd ECMO Specialist, ___Clinical Technician, ___2nd RN, ___
- ☐ 1-3 additional clinical staff as patient size and condition dictate _____

Responsibilities Designated:

- ☐ Direction of transport
- ☐ ECMO Cannula integrity ___ ___(personnel for each site)
- ☐ Airway & Oxygen ___
- ☐ Monitoring of Patient ___
- ☐ ECMO Pump ___
- ☐ Space between ECMO Pump & Bed ____
- ☐ Bed ___
- ☐ ECMO Cart ___
- ☐ IV Pumps/Poles
- ☐ Emergency transport bag ____

Upon Return to Patient Unit/Room:

- ☐ Cannula sutures outside of dressing intact
- ☐ Cannula depth marking unchanged
- ☐ ETT secure and landmarks
- ☐ X-Ray obtained to confirm integrity of lines/airway
- ☐ Hand off given to primary team: Attending Fellow NP (circle one)
- ☐ Adverse events/complications?
  - ___Surgical site bleeding _____
  - ___Mechanical issues _____
  - ___Patient issues_____
  - ___Other _____
- ☐ ECMO Pump plugged into wall outlet
- ☐ ECMO heater on and temp set
- ☐ Oxygen connected & flow ON

ECMO Attending Signature: _____Date_____

*Return to Donna C12-209 dmt05/10/2022

Methods and Results

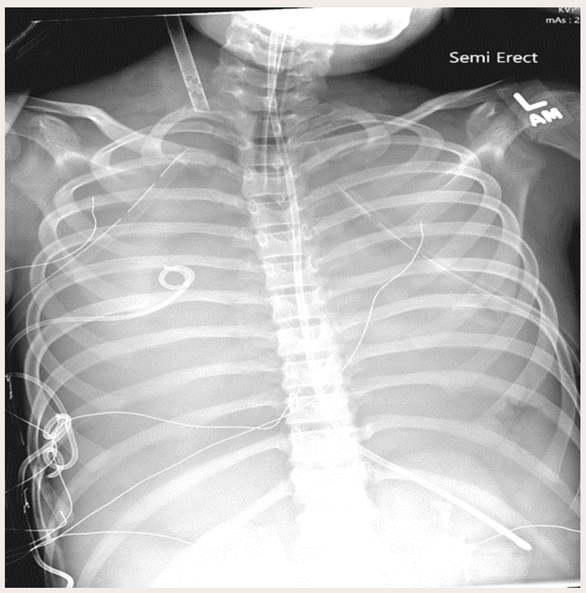
During a review of this case, it was determined that a checklist would be implemented to ensure all safety steps were performed before, during and after an ECLS transport. Checklists are a validated tool shown to improve care, utilize evidence based best practices and provide safe high-quality care.[1]

The checklist is broken down into 3 sections:

1. Safety checklist prior to departure for transport
2. Designated responsibilities/roles of staff
3. Checklist upon arrival that includes an X-ray confirming cannula and ETT placement.

The checklist requires the ECMO attending to sign off that all sections of the checklist were completed.

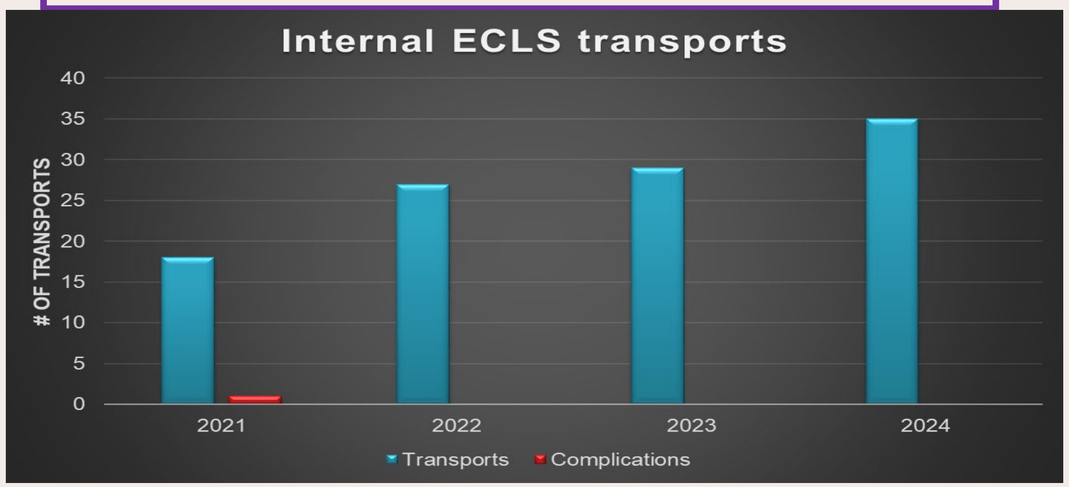
1. Winters, B. D., Gurses, A. P., Lehmann, H., Sexton, J. B., Rampersad, C., & Pronovost, P. J. (2009). Clinical review: Checklists - translating evidence into practice. Critical Care, 13(6), 210. https://doi.org/10.1186/cc7792



First X-ray 12 hours post CT Transport

Conclusions

The ECLS Transport Checklist has improved closed loop communication and has effectively prevented the omission of integral safety measures when transporting an ECLS patient.



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