

Office of Evidence Based Practice (EBP) – Critically Appraised Topic: Tracheostomy Emergency Supplies

Specific Care Question: For patients with tracheostomy tubes, does having emergency tracheostomy supplies (Go Bag) that travel with the patient decrease adverse events?

Question Originator: The Graduate Nurse Residency Program

Literature Summary

Background. A tracheotomy is an incision made just below the larynx, into the trachea. It is performed to circumvent an obstruction in the trachea, assist with long-term ventilation, when a nasal appliance might be burdensome, and/or facilitate the clearance of pulmonary secretions (Amin, et al., 2017). A tracheostomy tube is a device placed in the incision site to keep the tracheotomy open, to secure medical devices such as a ventilator, and/or allow for clearing of pulmonary secretions (Amin et al., 2017). Children with tracheostomies are dependent on the device as their primary airway. Complications of a tracheostomy tube include a.) de-cannulation; b.) infection in the trachea and/or around the tube; and c.) damage to the trachea itself (tracheomalacia). An obstruction of the tracheostomy tube due to secretions, mucous plugs, or dislodgement can result in cardiorespiratory arrest (Morris, Whitmer, & McIntosh, 2013). Tracheostomy emergencies can occur at any time. Health care providers and families caring for the patient after discharge must have emergency supplies available at all times (Amin et al., 2017; Johns Hopkins Medicine, 2018; Morris et al., 2013; Tracheostomy Care, 2017). Many items are on lists of emergency supplies. See Tables 1 and 2 to compare the items recommended by resources utilized by this review.

Study characteristics. The search for suitable studies was completed on 11/28/2018. Nancy Allen, MS, MLS, RD, LD CPHQ reviewed the five titles and abstracts found in the search and identified no articles that answered the question. The literature supporting this summary is Amin et al. (2017), a prospective visual survey of the emergency supplies for families caring for a child with a tracheostomy brought to a clinic visit; Morris et al. (2013), a document of the American Association of Critical Care Nurses; The Royal Children's Hospital, Melbourne AUS (2018), a nursing clinical guideline; and Johns Hopkins' website, a patient education site (Johns Hopkins Medicine, 2018), and CMs Standard Policy, (Tracheostomy Care, 2017) and *RL Solutions* reports.

Key results. The Tracheostomy Care (2017) standard at CM describes items that must be at a patient's bedside, items that must travel with a patient within the hospital (see Table 1), and parents should carry after discharge (see Table 2). Amin et al. (2017) surveyed 30 families who cared for children with tracheostomies. The children were placed into two groups, those with tracheostomies < 4 years, and those with tracheostomies > 4 years. Each component of the child's emergency tracheostomy kit was compared against the 12 item checklist (see Table 2, reference Amin et al. 2017). Items deemed critical were marked with an asterisk. All families were missing at least one critical item from the list. (Amin et al. (2017) also found patients who had a tracheostomy ≥ 4 years were missing more items from their emergency supplies than patients who had a tracheostomy for less than 4 years, $p > .0017$).

Search Strategy and Results ([see PRISMA diagram](#))

Identification of included studies was using ancestry searches.

Studies Included in this Review (in Alphabetical Order)

Amin et al., 2017

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Morris, Whitmer, & McIntosh, 2013
Johns Hopkins Medicine, 2018
Tracheostomy Care, 2018

Medical Librarian Responsible for the Search Strategy

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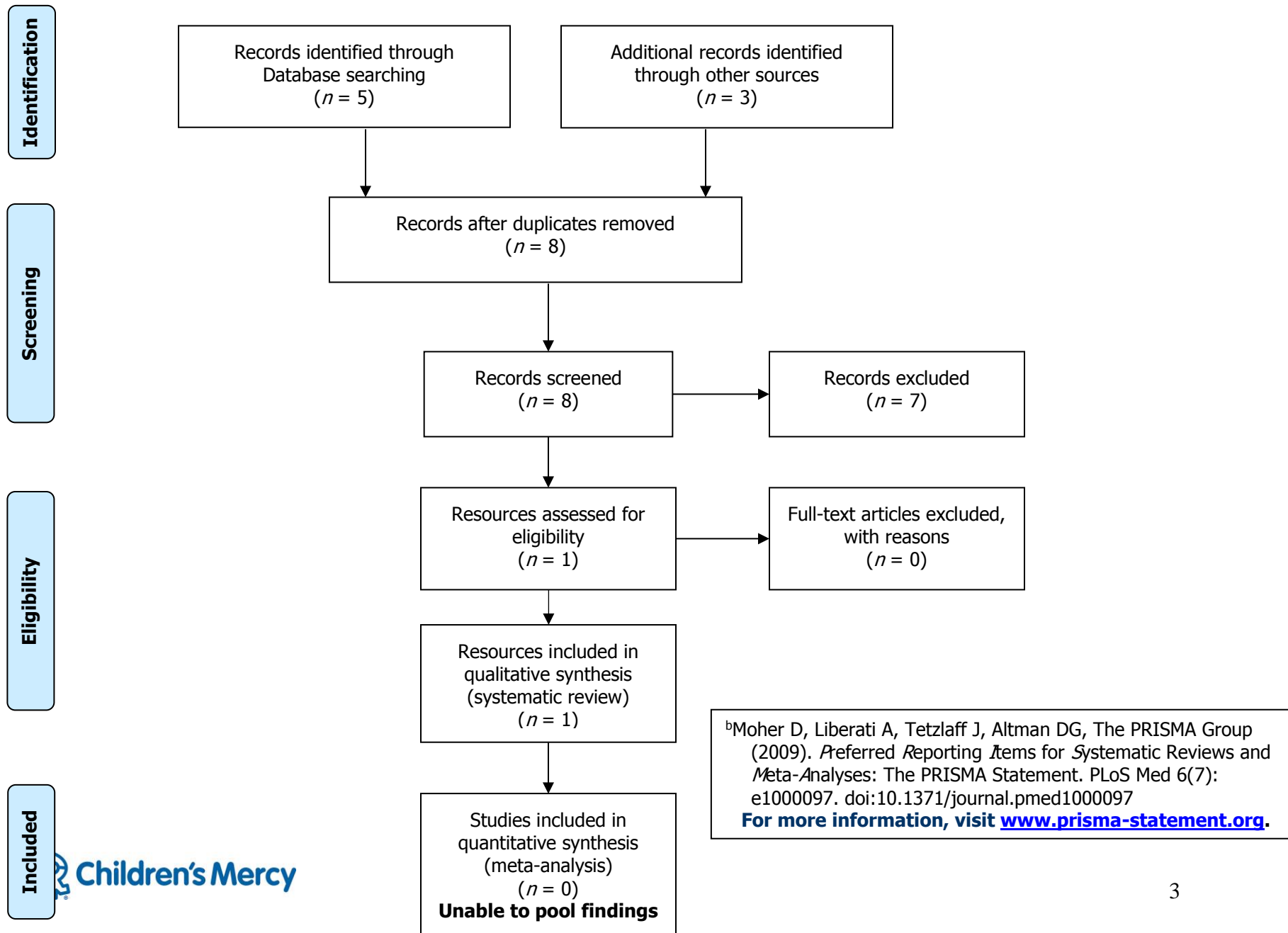
Acronyms Used in this Document

| Acronym | Explanation |
|---------|-----------------------------|
| PSWP | Patient Safety Work Product |

Date Developed/Updated December 2018

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Figure 1. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)^b



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Table 1
Items Included in Emergency Supplies for Inpatient Bedside and for Travel within the Hospital when an Inpatient

| Children’s Mercy Tracheostomy Care, (2017) | Morris et al. (2013) | The Royal Children’s Hospital, Melbourne Australia (2018) |
|--|--|---|
| Spare tracheostomy tube, same size with attached ties and obturator in place | Tracheostomy tube of the same size and type currently in place | One tracheostomy tube of the same size in situ (with introducer if applicable) |
| Tracheostomy tube, half size smaller (ID or inner diameter) | Tracheostomy tube one size smaller than the one currently in place | One tracheostomy tube one size smaller with introducer if applicable |
| Resuscitation bag mask | Obturator | Spare inner tubes for double lumen trach tubes if applicable |
| <u>Internal Transport</u> | Suction catheters (usually 12 French or 14 French) | Spare ties (cotton and or Velcro) |
| <ul style="list-style-type: none"> • Code sheets • Suction catheters • Portable suction, if applicable • Extra tracheostomy tube same size, and half size smaller • Normal saline vials/bullets • Gloves • Water soluble lubricant • Resuscitation bag | Yankauer suction catheter Functional suctioning system, canister Manual resuscitation bag and oxygen Endotracheal tube of appropriate size Tracheostomy cleaning kit Disposable inner cannulas (not required for single cannula tubes) 10 mL syringe (not required for cuffless tubes) Tracheostomy holder or ties Drain sponges Hydrogen peroxide Physiological saline Intubation equipment Oxygen source | Scissors Resuscitation bag and mask (appropriate size for patient) One-way valve (community use only) Wall or portable suction equipment Appropriate size suction catheters 0.9% sodium chloride ampule and 1 ml syringe One heat moisture exchanger filter (HME) or tracheostomy bib Fenestrated gauze dressing Cotton wool applicator sticks Water based lubricant for tube changes Mucous trap with suction for emergency suction Occlusive tape (i.e. sleek) 10 ml syringe if cuffed tube in situ |

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Table 2
Items Included in Emergency Supplies for Families after Discharge

| | | |
|--|---|--|
| Tracheostomy tubes of the same size and one size smaller with obturators | *Same size tracheostomy tube | Suction catheters |
| Suction catheters (4) | *Obturator for same size tracheostomy tube | Gloves |
| Gloves (3 sets) | *Ties or Velcro straps for same size tracheostomy tube (appropriately secured to tracheostomy tube) | Normal saline bullets |
| Water soluble lubricant | *Half size smaller tracheostomy tube | Tissues |
| Saline vials/bullets (6) | *Obturator for half size smaller tracheostomy tube | Scissors |
| Resuscitation bag | *Ties or Velcro straps for half size tracheostomy tube (appropriately secured to tracheostomy tube) | Extra trach tubes (same size and smaller) |
| Hand sanitizer | Water soluble lubricant | Trach ties/Velcro straps |
| Tracheostomy ties (2) | Sterile normal saline | Disposable humidity devices |
| 2X2 inch split dressing for stoma (2) | 20 ml syringe with feeding tube attached (in case machine fails) | Bulb syringe |
| 3 ml luer lock syringe if needed (2) | Scissors, pre-cut gauze, and Q-tips for stoma care | Oxygen (if needed) |
| Blanket roll and swaddle blanket, if needed | *Manual resuscitation bag with appropriate adapter for ventilated patients | Apnea monitor/oximeter (only needed under special circumstances) |
| Oral sucrose, if needed | *Suction machine | Medicines |
| Scissors | | Ambu bag |
| Medical tape | | Bottles/food/snacks |
| Tracheostomy cleaning kits (2) sterile water, soap, cotton swabs, 4X4s | | |
| Portable suction machine will be provided by the DME and should always travel with the patient | | |

Note: Asterisk denotes critical item.

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References

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