Tracheotomy v1.2

Approval & Citation | Summary of Version Changes | Explanation of Evidence Ratings

PHASE I (Pre-Operative)

Appropriate Use Criteria
- Multiple failed extubations ≥ 2 or prolonged non-invasive support
- Congenital or Acquired Muscular Weakness
- BPD requiring chronic invasive respiratory support
- Uncorrectable upper airway obstruction
- Craniofacial anomalies
- Severe neurological compromise

Inclusion Criteria
- Children undergoing new tracheotomy placement

Exclusion Criteria
- Revision tracheotomy
- Recannulation after open airway surgery

Provider & Family Discussion
- Family dialogue
- Provide "When a tracheostomy is recommended for your child" - PE2682
- Involve anticipated SCH medical home (Cranio-Facial, Pulmonary)

→ Social Work

Discharge RT Consult
- "What is a trach?"
- "What is life at home with a trach?"
- Tracheotomy Road Map - PE2351

OTO Consult
Discuss with family other non-tracheotomy surgical interventions

Trach Y/N

→ No → Non-Tracheotomy Option(s)

Yes

- Primary Team to initiate evaluation for tracheotomy
- Enter Nutrition & Care Coordination Consult

Nutrition Consult
Assess nutritional status for surgery

Care Coordination RN
Provide Care Notebook

Wound Care RN Consult
- Pre Trach Insertion Trach Assessment
- Assess need for pressure reducing surface

OTO
Schedule & Complete OTO Trach Prep-Checklist

Last Updated: January 2019
Next Expected Review: September 2022

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PHASE II (Until 1st Trach Change)

Inclusion Criteria
- Children undergoing new tracheotomy placement

Exclusion Criteria
- Revision tracheotomy
- Recannulation following failed airway surgery

OR
- Trach placement with labeled stay sutures, protective dressings to stoma, neck, chin and chest, and Velcro ties
- Patient to get flex bronchoscopy in neutral position without shoulder roll to check position of trach in the OR
- Use OP note template
- OTO to initiate CIS Tracheotomy Pathway and fill out Critical Airway Sign
- OR to ICU with back up trach (one size smaller); Surgeon to pick back up trach

OR to ICU Handoff

- Critical Airway Sign
- Suction Depth Form Posted
- Chest xray upon admission to ICU

ICU Care
Sedation per ICU Comfort Protocol

Ok to start feed within 4 hrs if medically appropriate

!

Tracheotomy is not an indication to delay feeds post-op

RT
- Check fluid filled cuff volume or air filled cuff pressure Q12 hours to ensure minimal cuff inflation with minimal leak technique.
- Also check trach ties for proper tightness.

!

Do not change trach dressing under trach tube and/or ties until after 1st trach change without OTO present. Protective dressings in other areas may be changed as needed.

RN/RT
- Q4* hours, Assess insertion site and peri-stomal area for odor, drainage, or concerning skin findings.
- Q4* hours, shift vent tubing alternating each side to reduce risk pressure injury.
- Clean site with normal saline and Q-tips Q12 hours and PRN
- Job Aid: Tracheotomy Phase 2 (Until 1st Trach Change)

*Notify ICU provider if concern with vent tubing repositioning
*Notify OTO if odor, drainage, or skin concerns

!

Trach placement is not a contraindication for cough assist but therapy vest is not recommended.

If appropriate, schedule care conference to outline transition to acute care (Accepting acute team, social work, care coordination)

OTO
Provide at least 24 hour notice of timing of first trach change

POD 5 to 7
- First trach change
- OTO, RN, RT, ICU Provider (Fellow/Attending) Present +/- Family

Last Updated: January 2019
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PHASE III (After 1st Trach Change)

Inclusion Criteria
- Children undergoing new tracheotomy placement

Exclusion Criteria
- Revision tracheotomy
- Recannulation following failed airway surgery

<1 Year
- Consult OT
- Assess oral skills

1 Year or Older
- Consult Speech Therapy
- Assess oral skills and communication after first trach change
- Consider speaking valve

!

No contraindication for oral stimulation

Continue ICU Care as per "trach policy + procedure" by RN/RT

Transfer criteria met

Transfer to Acute Care

RN Care daily +/- RT as per "trach P&P"

OR Trach safe evaluation

- Caregiver education
- Discharge planning
- Home care

Home

If needed, weekly trach stoma rounds with OTO NP, OTO resident, and wound RN (place wound consult to initiate)

If needed, monthly trach rounds with speech, RT, OTO NP, and OTO resident

ICU Discharge Criteria
- 1st trach change complete
- Stable vital signs with respiratory care and suction
- Acceptable gas exchange on home-capable respiratory support with no adjustment in ventilator settings in previous 48 hours
- No greater than 50% oxygen support
- 'Inpatient Trach' or 'Inpatient Difficult Airway Trach' signage at bedside and up to date
- Sedation wean in place, if appropriate
- ICU and Acute Care attendings have discussed transfer plan of care

For questions concerning this pathway, contact: Tracheotomy@seattlechildrens.org

Last Updated: January 2019
Next Expected Review: September 2022

Tracheotomy Approval & Citation

Approved by the CSW Tracheotomy team for September 20, 2017 go live:

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Retrieval Website: http://www.seattlechildrens.org/pdf/tracheotomy-pathway.pdf

Please cite as:
Seattle Children's Hospital, Parikh S, Allard A, Billimoria Z, Callen K, Evans K, Engberg R, Herrman A, Jesselle Albert E, Kelly K, Newell L, Popalisky J, Striegl A, Validivia H, 2017 September. Tracheotomy Pathway. Available from: http://www.seattlechildrens.org/pdf/tracheotomy-pathway.pdf

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Evidence Ratings

This pathway was developed through local consensus based on published evidence and expert opinion as part of Clinical Standard Work at Seattle Children's. Pathway teams include representatives from Medical, Subspecialty, and/or Surgical Services, Nursing, Pharmacy, Clinical Effectiveness, and other services as appropriate.

When possible, we used the GRADE method of rating evidence quality. Evidence is first assessed as to whether it is from randomized trial or cohort studies. The rating is then adjusted in the following manner (from: Guyatt G et al. J Clin Epidemiol. 2011;4:383-94.):

Quality ratings are *downgraded* if studies:

- Have serious limitations
- Have inconsistent results
- If evidence does not directly address clinical questions
- If estimates are imprecise OR
- If it is felt that there is substantial publication bias

Quality ratings are *upgraded* if it is felt that:

- The effect size is large
- If studies are designed in a way that confounding would likely underreport the magnitude of the effect OR
- If a dose-response gradient is evident

Guideline – Recommendation is from a published guideline that used methodology deemed acceptable by the team.

Expert Opinion – Our expert opinion is based on available evidence that does not meet GRADE criteria (for example, case-control studies).

Quality of Evidence:

✪✪✪✪ High quality
✪✪✪○ Moderate quality
✪✪○○ Low quality
✪○○○ Very low quality
Guideline
Expert Opinion

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Summary of Version Changes

- **Version 1.0 (09/20/2017):** Go live
- **Version 1.1 (10/12/2018):** Updated citation due to error
- **Version 1.2 (1/18/2019):** Added job aid to phase II.

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Medical Disclaimer

Medicine is an ever-changing science. As new research and clinical experience broaden our knowledge, changes in treatment and drug therapy are required.

The authors have checked with sources believed to be reliable in their efforts to provide information that is complete and generally in accord with the standards accepted at the time of publication.

However, in view of the possibility of human error or changes in medical sciences, neither the authors nor Seattle Children's Healthcare System nor any other party who has been involved in the preparation or publication of this work warrants that the information contained herein is in every respect accurate or complete, and they are not responsible for any errors or omissions or for the results obtained from the use of such information.

Readers should confirm the information contained herein with other sources and are encouraged to consult with their health care provider before making any health care decision.

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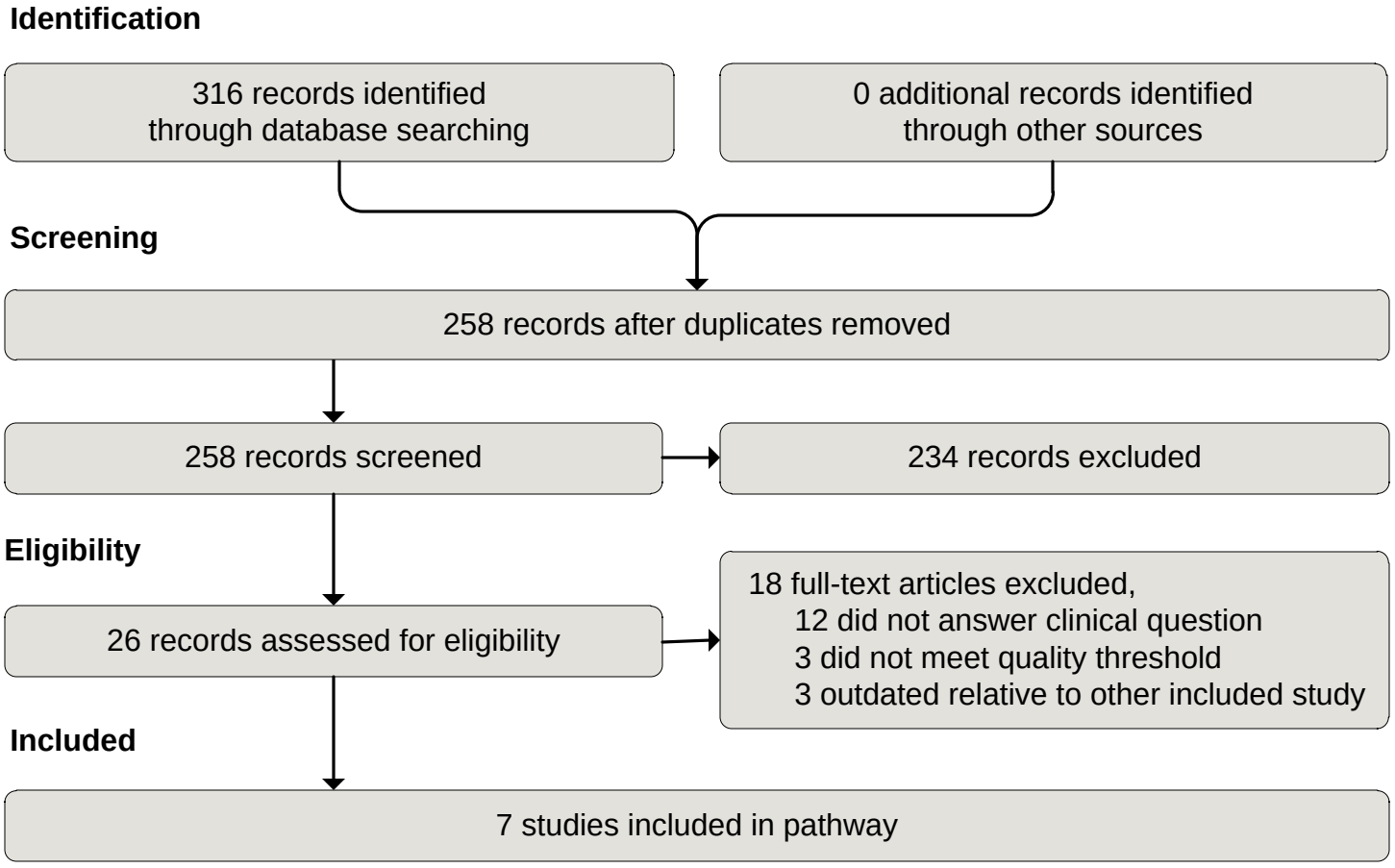
Bibliography

Search Methods, Tracheotomy, Clinical Standard Work

Studies were identified by searching electronic databases using search strategies developed and executed by a medical librarian, Susan Groshong. Searches were performed in March, 2017, in the following databases – on the Ovid platform: Medline and Cochrane Database of Systematic Reviews; elsewhere: Embase, CINAHL, National Guideline Clearinghouse, TRIP, Nursing+, Cincinnati Children's Evidence-Based Recommendations and Registered Nurses' Association of Ontario Best Practice Guidelines. In Medline, Embase and CINAHL, appropriate Medical Subject Headings (MeSH), Emtree headings and CINAHL headings were used respectively, along with text words, and the search strategy was adapted for other databases using text words. Concepts searched were tracheotomy and tracheostomy. Retrieval was limited to humans, English language, 2007 to current and further limited to certain evidence categories, such as relevant publication types, index terms for study types and other similar limits.

Susan Groshong, MLIS
August 16, 2017



Flow diagram adapted from Moher D et al. BMJ 2009;339:bmj.b2535

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