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Trach/Vent Clinic ≠ AERO clinic

Trach/Vent clinic
ENT Surgeon
Pediatric Pulmonologist
Nutrition
Audiology (often)

Patients have trach +/- ventilator

Aerodigestive Clinic
ENT surgeon
Pediatric pulmonologist
SLP
-- Still working on Ped GI --

No trach/vent
OP dysphagia, upper airway obstruction, sialorrhea; TEF repair patients, anyone who could benefit from pulm/ENT

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Evolved Transition from Inpatient to Outpatient

2015

- ENT Nurse Practitioner
- Ped Pulm Nurse Practitioner
- Pediatric Enhanced Care Team
- Discharge Checklist
- Outpatient Trach/Vent Clinic

2024

- ENT Nurse Practitioner
- Ped Pulm Nurse Practitioner
- Pediatric Enhanced Care Team
- **Discharge Checklist - EVOLVED**
- Outpatient Trach/Vent Clinic
- **PLUS**

- **Trach Navigator – RT**
- **NICU & PICU Discharge rounds**
- **24 hour room ins**

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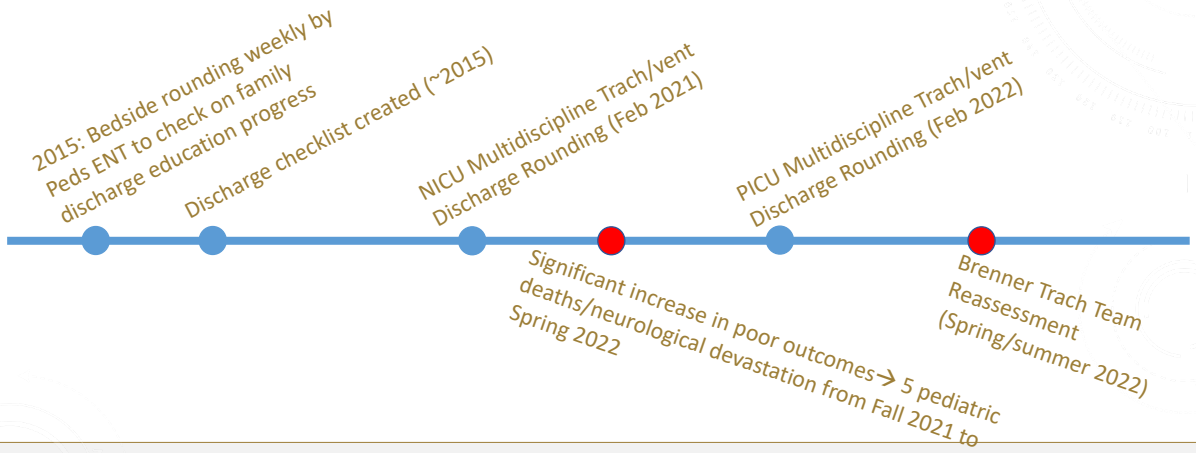
TIMELINE



4

Trend in Worse outcomes

- 4 yo trach/vent with SMA: **Died at home on 10/2021,** found down by parent in the morning (*no nursing*)
- 16 mo trach/vent: **October 2021 arrest with poor neurologic outcome (***no nursing*, trach dislodgement in a child with grade 3 subglottic stenosis)
- 7 mo trach/vent: **Arrested 3/2022 at home with poor neurologic outcome** (*No nursing*, no pulse oximeter on)
- 6 yo trach/vent with SMA: **Found down April 2022 at home**, went into hospice home and **died** ~ 5 weeks after (*No nursing,* no pulse oximeter on, cardiac arrest)
- teen, trach only: **Died at home on 4/2022** within months of discharge (found down, no pulse oximeter on, *no nursing*)
- 10 mo trach/vent - **cardiac arrest 10/2022** with 40 minutes of down time, **survived with severe neurological devastation** (no pulse oximeter on, *no nursing*)
- 5 y.o. trach/vent following MVC**- died at home September 2023:** found down at home, *no nursing*, no pulse oximeter (home download showing no pulse oximeter use for > 2 months at home)

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TRACH Team reassessment

What's different?

- Increase in medical complexity and surviving
- Increase in trach placement
- Poor home health nursing coverage
- Larger units, larger staff
- Individual rooms

What Can We Control?

- Parent education
  - Pre-trach info meetings
  - Emphasize amount of time needed for training
  - Emphasizing pulse ox use
  - Simulate being on your own at home
  - Stricter discharge checklist education adherence
- Staff education
- Standardazied discharge policies across units
- Trach/vent navigators: help with continuity and education

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Current Discharge Checklist

Step 1 – Get READY: Prep Time & Planning!!

Discharge Prep Information & Expectations Meeting (with pulmonology, ENT, enhanced care, primary team, social work, others as needed) 1. Discuss plan of care post-trach placement 2. Review training checklist 3. Review expectations for care/education needs/visitation needs 4. Goal of completing checklist within 1 month of trach placement (as able based on child's medical stability) 5. Identify minimum of 2 primary caregivers for training 6. **Review Discharge Criteria**: • Completion of checklist/demonstrated competency in needed skills • Successful rooming-in period of at least 2 – 12 hour stays for each primary caregiver • For **Ventilated Patients:** • Successful transition to home ventilator • No major changes in vent settings x7 days; O2 requirement ≤ 1 lpm • Stable CBG with pCO2 <50 for 7 days prior to discharge home	
Interview & choose home health nursing companies; Insurance needs 1. Interview in-hospital with nursing companies 2. Decide on one (or more) companies 3. Meet with your child's potential nurses in person/video conference 4. Apply for insurance approval of PDN (SW/CC will help with this) 5. Apply for SSI/Medicaid if needed	
Choose DME company • Schedule home electrical check	

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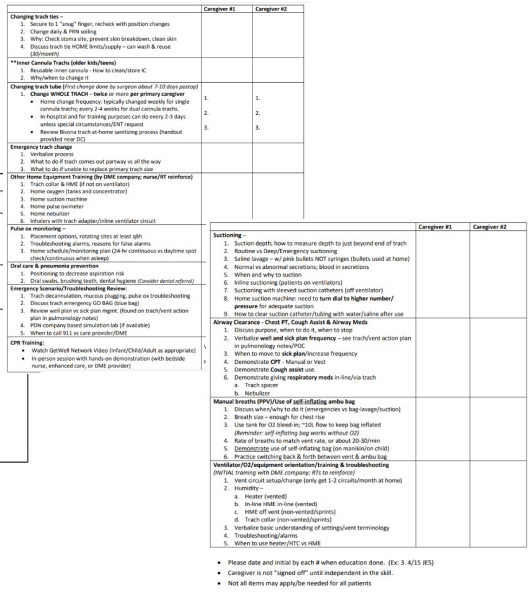
Step 2 – Get SET: Hands ON!

Tracheostomy and Ventilator Care & Emergencies:

	Caregiver #1	Caregiver #2
REVIEW Trach Care booklet (available in English & Spanish)		
Watch GetWell Network Videos: Peds/Adult Tracheostomy: 1. Basics 2. Daily Care 3. Suctioning	1. 2. 3.	1. 2. 3.
Watch GetWell Network Videos - Peds Tracheostomy: 1. Changing the Tube 2. Troubleshooting	1. 2.	1. 2.
Skin/site care of stoma and neck – 1. HOME CARE: saline/mild soap & water, H2O2 for crusting ONLY 2. Why – prevent infection/skin breakdown 3. How often – 1-2x/day & PRN 4. Dressing changes – Mepilex, dry split gauze, open to air *Note: Mepilex home limits 4-5 sheets/month – consider alternate dressings/need for dressing once past initial postop period* 5. Granulomas – discuss what they are, how to treat (Silver nitrate, ciprodex drops)		



	Caregiver #1	Caregiver #2
Changing trach ties – 1. Secure to 1 "snug" finger, recheck with position changes 2. Change daily & PRN soiling 3. Why: Check stoma site, prevent skin breakdown, clean skin 4. Discuss trach tie HOME limits/supply – can wash & reuse (30/month)		
****Inner Cannula Trachs (older kids/teens)** 1. Reusable inner cannula – How to clean/store IC 2. Why/when to change it		
Changing trach tube *(First change done by surgeon about 7-10 days postop)* 1. **Change WHOLE TRACH – twice** or more **per primary caregiver** • Home change frequency: typically changed weekly for single cannula trachs; every 2-4 weeks for dual cannula trachs. • In-hospital and for training purposes can do every 2-3 days unless special circumstances/ENT request • Review Bivona trach at-home sanitizing process (handout provided near DC)	1. 2. 3.	1. 2. 3.
Emergency trach change 1. Verbalize process 2. What to do if trach comes out partway vs all the way 3. What to do if unable to replace primary trach size		
Other Home Equipment Training (by DME company; nurse/RT reinforce) 1. Trach collar & HME (if not on ventilator) 2. Home oxygen (tanks and concentrator) 3. Home suction machine 4. Home pulse oximeter 5. Home nebulizer 6. Inhalers with trach adapter/inline ventilator circuit		
Pulse ox monitoring – 1. Placement options, rotating sites at least qlh 2. Troubleshooting alarms, reasons for false alarms 3. Home schedule/monitoring plan (24 hr continuous vs daytime spot check/continuous when asleep)		
Oral care & pneumonia prevention 1. Positioning to decrease aspiration risk 2. Oral swabs, brushing teeth, dental hygiene *(Consider dental referral)*		
Emergency Scenario/Troubleshooting Review: 1. Trach decannulation, mucous plugging, pulse ox troubleshooting 2. Discuss trach emergency GO BAG (blue bag) 3. Review well plan vs sick plan mgmt. (Found on trach/vent action plan in pulmonology notes) 4. PDN company based simulation lab (if available) 5. When to call 911 vs care provider/DME		
CPR Training: • Watch GetWell Network Video (Infant/Child/Adult as appropriate) • In-person session with hands-on demonstration (with bedside nurse, enhanced care, or DME provider)		

	Caregiver #1	Caregiver #2
Suctioning – 1. Suction depth; how to measure depth to just beyond end of trach 2. Routine vs Deep/Emergency suctioning 3. Saline lavage – w/ pink bullets NOT syringes (bullets used at home) 4. Normal vs abnormal secretions; blood in secretions 5. When and why to suction 6. Inline suctioning (patients on ventilators) 7. Suctioning with sleeved suction catheters (off ventilator) 8. Home suction machine: need to **turn dial to higher number/ pressure** for adequate suction 9. How to clear suction catheter/tubing with water/saline after use		
Airway Clearance - Chest PT, Cough Assist & Airway Meds 1. Discuss purpose, when to do it, when to stop 2. Verbalize **well and sick plan frequency** – see trach/vent action plan in pulmonology notes/POC 3. When to move to **sick plan**/increase frequency 4. Demonstrate **CPT** - Manual or Vest 5. Demonstrate **Cough assist** use. 6. Demonstrate giving **respiratory meds** in-line/via trach a. Trach spacer b. Nebulizer		
Manual breaths (PPV)/Use of self-inflating ambu bag 1. Discuss when/why to do it (emergencies vs bag-lavage/suction) 2. Breath size – enough for chest rise 3. Use tank for O2 blend in; *1SL flow to keep bag inflated *(Reminder: self-inflating bag works without O2)* 4. Rate of breaths to match vent rate, or about 20-30/min 5. Demonstrate use of self-inflating bag (on manikin/on child) 6. Practice switching back & forth between vent & ambu bag		
Ventilator/O2/equipment orientation/training & troubleshooting *(INITIAL training with DME company; RTs to reinforce)* 1. Vent circuit setup/change (only get 1-2 circuits/month at home) 2. Humidity – a. Heater (vented) b. In-line HME in-line (vented) c. HME off vent (non-vented/sprints) d. Trach collar (non-vented/sprints) 3. Verbalize basic understanding of settings/vent terminology 4. Troubleshooting/alarms 5. When to use heater/HTC vs HME		

- Please date and initial by each # when education done. (Ex: 3. 4/15 JES)
- Caregiver is not "signed off" until independent in the skill.
- Not all items may apply/be needed for all patients

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Feeding and Nutrition Needs:

	Caregiver #1	Caregiver #2
Enteral Feedings/Cares (GT/JT/GJ) 1. Mixing feedings (Written instructions from nutrition prior to DC) 2. Giving feeds (including setting up pump; gravity bolus if applicable)		
Care & Cleaning of GT/JT/GJT Sites: 1. Site care/cleaning 2. Cleaning/maintenance of extension tubing & supplies 3. Disconnect GT extension when not actively using 4. Cleaning of feeding bag (backorders possible/may use >24 hours) 5. Mepilex limits at home **4-5 sheets per month** - consider alternate dressings/need for dressing once past initial postop period		
Giving Medications 1. Drawing up medications/measuring with different sized syringes 2. Giving medications/flushes		
GT Button Change • GT/JT must be >8 weeks post-surgery AND cleared/trained by surgery team • Once training done family ok to change if it comes out at home *(Please contact surgery NP on-call to schedule training with family)*		

Therapies & Developmental Care (PT/OT/Speech):

Physical/Occupational Therapy recommendations 1. Splints/other aids 2. Mobility – turning, repositioning 3. Stretching/exercises/massage 4. Autonomic dysfunction 5. **Infants:** Practice tummy time – once cleared by surgery/GT sufficiently healed		
Speech therapy recommendations 1. Eating/oral skills/swallow therapies 2. Thickening oral feeds as needed 3. Handout/written instructions provided to family		
Use of **PMV/speaking valve** (per Speech/ENT – if applicable) 1. Wearing guidelines 2. Need for cuff deflation		

Additional Education Needs: *(if extensive add specific care needs as needed)*

- Wound care/skin issues
- Central Line Care
- Ostomy Care

Step 3 – GO: Get Moving & Prep for Discharge!

	Caregiver #1	Caregiver #2
Travel Prep & Packing – 1. Set up **blue trach emergency "go bag"** 2. Set up **travel supply bag** - trach go bag along with other supplies 3. Discuss **additional needed equipment/supplies** – suction machine, ventilator (if applicable), O2, pulse ox, power cords, feeding pump, meds, formula, etc.		
Take a walk! – • Pack up needed travel supplies into stroller/wheelchair for travel (using home equipment) • Place onto travel vent circuit with HME • Walk around/**off** unit with nurse/RT.		
Room IN! Time to put all those skills together – • All other training needs to be completed prior to rooming in • To be done with & using **home equipment** (home pulse ox, suction machine & nebulizers at minimum) • Ideally completed at least 3-5 days prior to dc • **Minimum 2 - 12 hour stays (one day/one night) for each primary caregiver separately** initiating all care. (see attached guidelines) • Caregiver who is rooming in **must remain awake** during each session • If needed, additional time may be added per request of caregivers **or team,** based on care needs/other circumstances	AM: PM: Additional:	AM: PM: Additional:
Plan for discharge transportation IN PLACE 1. Barriers identified and addressed 2. Car seat/car bed available and fit to child 3. Car seat test completed (NICU/Infants) 4. Stroller/wheelchair available & at bedside by time of rooming in 5. Who will drive child home?: *Plan for ambulance/medical transport only if unable to safely transport in private vehicle*		
Home Nursing (PDN) staffed adequately for safe discharge • Amount of staffing to meet this requirement may vary based on the needs of each child, social supports, etc.		
Remember… Supplemental oxygen should be at **1LPM or less** and for ventilated patients, CO2 levels need to be stable at less than 50 **without changes in ventilator settings** for **at least 1 week prior to discharge**		

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Since Fall 2022 updates

20 total trach patients since November 2022

- 5 patients discharged to rehab
- 8 patients went from PICU home
- 2 patients NICU to PICU to home
- 5 patients NICU to home

All successfully completed discharge checklist

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