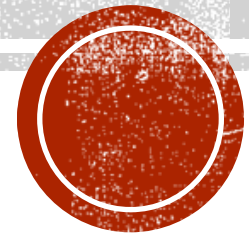


THE TROUBLE WITH TRACHS: EVERYTHING YOU NEED TO KNOW.

Rena Laliberte BS, RRT

Clinical Education Specialist –Henry Ford Hospital



DISCLOSURES

- Organizer : Tracheostomy Collaborative Group
- Professional membership Global Tracheostomy Collaborative
- AARC Clinical Education Taskforce Co-Chair
- AARC SESG Committee
- MSRC District 10 representative
- MSRC HOSA Committee
- Honorariums:
- AARC, NBRC, Respiratory Associates



OBJECTIVES

- Discuss patient safety and educational needs in the hospital setting
- Review the importance of the Respiratory Therapists active involvement with Tracheostomy patients – we are the airway experts
- Examine the formation of collaborative Tracheostomy Teams – how to !



- **Abstract**

- **Background**

- Tracheostomies are increasingly common in hospital wards due to the rising use of percutaneous and surgical tracheostomies in critical care and bed pressures in these units. Hospital wards may lack appropriate infrastructure to care for this vulnerable group and significant patient harm may result.

- **Objectives**

- To identify and analyze tracheostomy related incident reports from hospital wards between 1 October 2005 and 30 September 2007, and to make recommendations to improve patient safety based on the recurrent themes identified. The study was performed between August 2008 and August 2009.

- **Methods**

- 968 tracheostomy related critical incidents reported to the National Patient Safety Agency over the 2 year period, identified by key letter searches, were analyzed. Incidents were categorized to identify common themes, and root cause analysis attempted where possible.

- **Results**

- In the 453 incidents where patients were directly affected, 338 (75%) were associated with some identifiable patient harm, of which 83 (18%) were associated with more than temporary harm. In 29 incidents (6%) some intervention was required to maintain life, and in 15 cases the incident may have contributed to the patient's death. Equipment was involved in 176 incidents and 276 incidents involved tracheostomies becoming blocked or displaced.

- **Conclusions**

- By identifying and analyzing themes in incident reports associated with tracheostomies, recommendations can be made to improve safety for this group of patients. These recommendations include improvements in infrastructure, competency and training, equipment provision, and in communication.

THE WHY?

Patient safety incidents associated with tracheostomies occurring in hospital wards: a review of reports to the UK National Patient Safety Agency



RESEARCH



British Journal of Anaesthesia

Volume 125, Issue 1, July 2020, Pages e119-e129



Clinical Investigation

Improving tracheostomy care in the United Kingdom: results of a guided quality improvement programme in 20 diverse hospitals †

Brendan A. McGrath^{1,2}  , Sarah Wallace², James Lynch², Barbara Bonvento², Barry Coe²,
Anna Owen², Mike Firn³, Michael J. Brenner⁴, Elizabeth Edwards⁵, Tracy L. Finch⁶,
Tanis Cameron⁷, Antony Narula⁸, David W. Roberson⁹



Tracheostomies act as artificial airways for around 15 000 patients in England and Wales annually.^{1, 2, 3, 4} Patients often have significant co-morbidities, with medical needs that cross traditional specialty working boundaries and locations. These patients are dependent on competent, knowledgeable staff to keep them safe. Landmark studies consistently highlight failings in tracheostomy care provision in hospital, demonstrating how inadequate staff training, deficient equipment provision, and lack of necessary infrastructure lead to avoidable patient harm, morbidity, and mortality.^{2, 5, 6, 7} Patients who undergo tracheostomy are often critically ill and have in-hospital mortality reported from 25% to 60%, with most of this mortality attributed to underlying illness.^{8, 9} However, up to 30% of tracheostomy patients experience an untoward incident during their hospital stay. Measurable harm occurs in 60–70% of such incidents, including hospital or ICU (re)admission, prolonged in-patient stays, hypoxic brain injury, and death.^{6, 7} Delays in care are common because of the variety and complexity of services accessed by tracheostomised patients.¹⁰



	Adult (n=2228; 93%)	Paediatric (n=177; 7%)	Total (n=2405; 100%)	All incidents (%)
All incidents reported (incident count)	625	102	727	100
Clinical incident reported (incident count)	619	82	701	96.4
At least one incident reported (patient count)	554/2228 (24.9%)	84/177 (47.5%)	638/2405 (26.5%)	
	All clinical incidents (%)			
Accidental decannulation	105/619 (17.0%)	24/82 (29.3%)	129/701	18.4
Tracheostomy tube obstruction	36/619 (5.8%)	37/82 (45.1%)	73/701	10.4
Skin breakdown at tracheostomy site	47/619 (7.6%)	8/82 (9.8%)	55/701	7.8
Significant bleeding from tracheostomy (>10 ml fresh red blood)	50/619 (8.1%)	1/82 (1.2%)	51/701	7.3
Failed decannulation (within 72 h)	42/619 (6.8%)	4/82 (4.9%)	46/701	6.6
Local skin or stoma infection/inflammation	45/619 (7.3%)	1/82 (1.2%)	46/701	6.6
Air leak	41/619 (6.6%)	2/82 (2.4%)	43/701	6.1
Laryngectomy patient: inadequate identification/provision	36/619 (5.8%)	0	36/701	5.1
Communication between HCPs	30/619 (4.8%)	1/82 (1.2%)	31/701	4.4



INTERVENTIONS IMPLEMENTED

Table 1 Interventions undertaken by sites, grouped into themes. MDT, Multidisciplinary team.

- Organisational efficiency (six items)
 - o O1 Implement a hospital steering group
 - o O2 Ensure mandatory training for staff caring for tracheostomised patients
 - o O3 Institute a hospital-wide tracheostomy policy
 - o O4 Designated tracheostomy cohort wards
 - o O5 Dedicated tracheostomy coordinator
 - o O6 Tracheostomy link nurses in relevant wards
- Patient-centred quality of care interventions (seven items)
 - o Q1 Include patient champions
 - o Q2 Implement multidisciplinary tracheostomy team that sees patients
 - o Q3 Integrate speech and language therapists (SLTs) in ICU care
 - o Q4 Involve SLTs on head and neck wards
 - o Q5 Involve SLTs on general wards
 - o Q6 Train SLTs to be fiberoptic endoscopic evaluation of swallowing proficient
 - o Q7 Capture patient-level data (Research Electronic Data Capture database)
- Safety interventions (five items)
 - o S1 Establish competency standards for staff caring for patients with tracheostomy
 - o S2 Formalise MDT reviews of adverse incidents with learning
 - o S3 Standardise bedside and ward area tracheostomy equipment
 - o S4 Routinely place tracheostomy bedhead signs
 - o S5 Use standardised tracheostomy care bundles



RESULTS

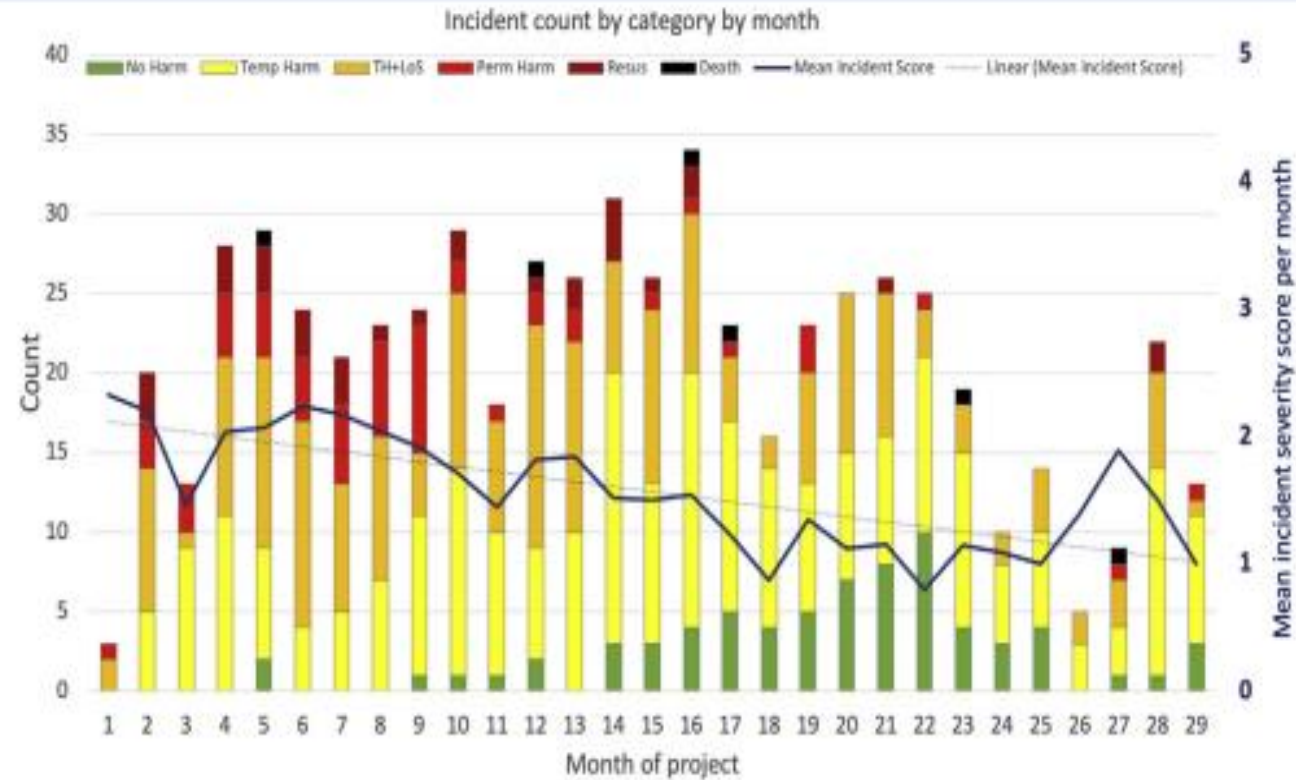


Fig 3. Incident categories by month of program. Solid line represents mean incident severity score. Broken line represents linear regression line. Regression Equation: $y = -0.044x + 2.215$ (ANOVA $p < 0.01$, 95% CI for slope = -0.034 to -0.055). Categories: No Harm; Temp(orary) harm; Temporary Harm with increased length of stay (TH+LoS); Perm(anent) Harm; Resus(citation) required; Death.



RESOURCES? [HTTPS://WWW.GLOBALTRACH.ORG](https://www.globaltrach.org)

The Global Tracheostomy Collaborative

Howdy, Rena Laliberte



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GLOBAL TRACHEOSTOMY COLLABORATIVE

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Health Care Professionals Education

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Bite-Size Training

Module 1	Module 2	Module 3	Module 4	Module 5
Introduction to Tracheostomies Click on the document title to open the PDF in full screen to read, download, or print 1.1 What is a Tracheostomy? 1.2 Indications and Anatomy 1.3 Performing a Tracheostomy 1.4 Physiological Changes 1.5 Tracheostomy Tubes				



GLOBAL TRACHEOSTOMY COLLABORATIVE

Health Care Professionals Education

Bite-Size Training

Module 1	Module 2
Tracheostomy Maintenance • 2.1 Daily Checks and Humidification • 2.2 Suctioning • 2.3 Stoma Care • 2.4 Inner Cannula Care • 2.5 Oral Care and Swallowing • 2.6 Cuff Management • 2.7 Changing a Tracheostomy Tube • 2.8 Weaning, Downsizing and Speaking Valves • 2.9 Decannulation • 2.10 Bedside Equipment • 2.11 Laryngectomy Humidification	

Bite-Size Training

Module 1	Module 2	Module 3
Tracheostomies in Paediatrics • 4.1 Paediatric Tracheostomy Management • 4.2 Paediatric Tracheostomy- Initial Care • 4.3 Paediatric Tracheostomy- Routine Care • 4.4 Paediatric Tracheostomy- Career Competencies • 4.5 Paediatric Tracheostomy- Basic Emergency Care • 4.6 Paediatric Tracheostomy- Advanced Emergency Care • 4.7 Paediatric Tracheostomy- Discharge Planning		



9TH INTERNATIONAL TRACHEOSTOMY SYMPOSIUM

*The David Rubenstein Forum
at the University of Chicago
Chicago, IL*

Save the Date!



THE UNIVERSITY OF
CHICAGO



9TH INTERNATIONAL TRACHEOSTOMY SYMPOSIUM

OCTOBER 23-24, 2025

INTERDISCIPLINARY ASSESSMENT OF TRACHEOSTOMY CARE KNOWLEDGE: AN OPPORTUNITY FOR QUALITY IMPROVEMENT

PANELRADHIKA DUGGAL ^A, RUTH J. DAVIS ^B, SWATHI APPACHI ^C, WILLIAM S. TIERNEY ^C, BRANDON D. HOPKINS ^C, PAUL C. BRYSON ^C

AMERICAN JOURNAL OF OTOLARYNGOLOGY VOLUME 44 ISSUE 4 JULY-AUGUST 2023

- Results
- 173 nurses, respiratory therapists, and residents participated in this study. Over 75 % of respondents identified correct answers to questions addressing basic tracheostomy care, such as suctioning and humidification. Significant variation was observed in identification and management of tracheostomy emergencies, and appropriate use of speaking valves. Only 47 % of all respondents identified all potential signs of tracheostomy tube displacement. **Respiratory therapists with over 20 years of experience ($p = 0.001$), were more likely to answer correctly than those with less. Nurses were less likely than respiratory therapists to have received standardized tracheostomy education ($p = 0.006$) and were less likely than others to choose the appropriate scenario for speaking valve use ($p = 0.042$), highlighting the need for interdisciplinary education.**



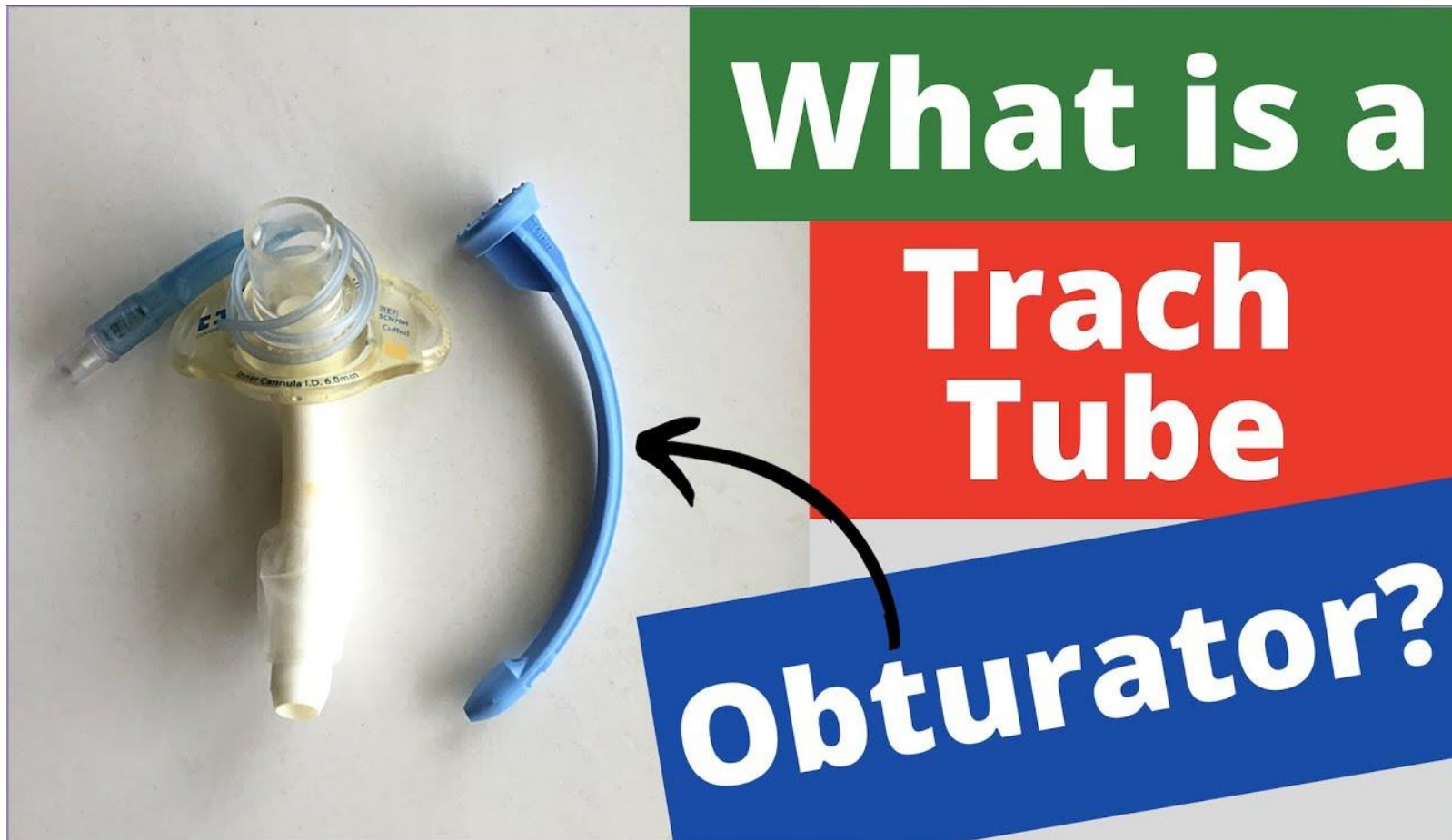
WHO IS MINDING THE STORE?

TRACHEOSTOMY CARE AND EDUCATION IN THE HOSPITAL SETTING VARIES DRAMATICALLY

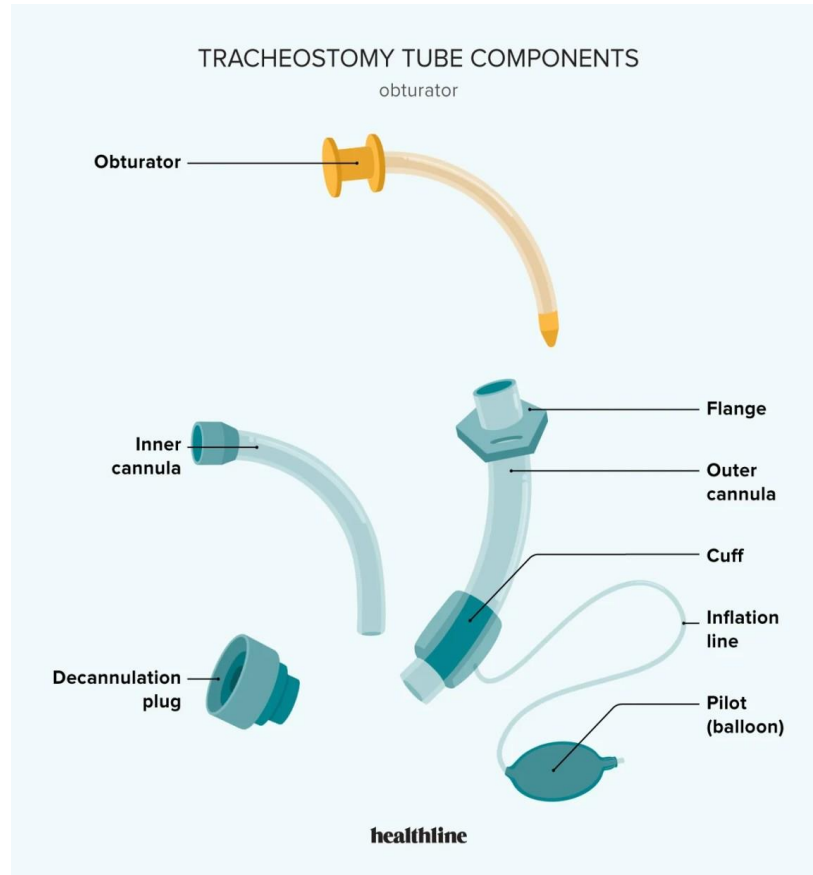
- Respiratory Therapists (or a combination of RT's and Nursing)
- Nursing
- Speech Pathologists
- Providers
- Social Worker/Discharge planning
- Many have nothing and assume DME companies provide education post discharge
- Some facilities DO have aggressive safety and educational protocols or are in the process of creating collaborative teams



QUESTION OF THE DAY



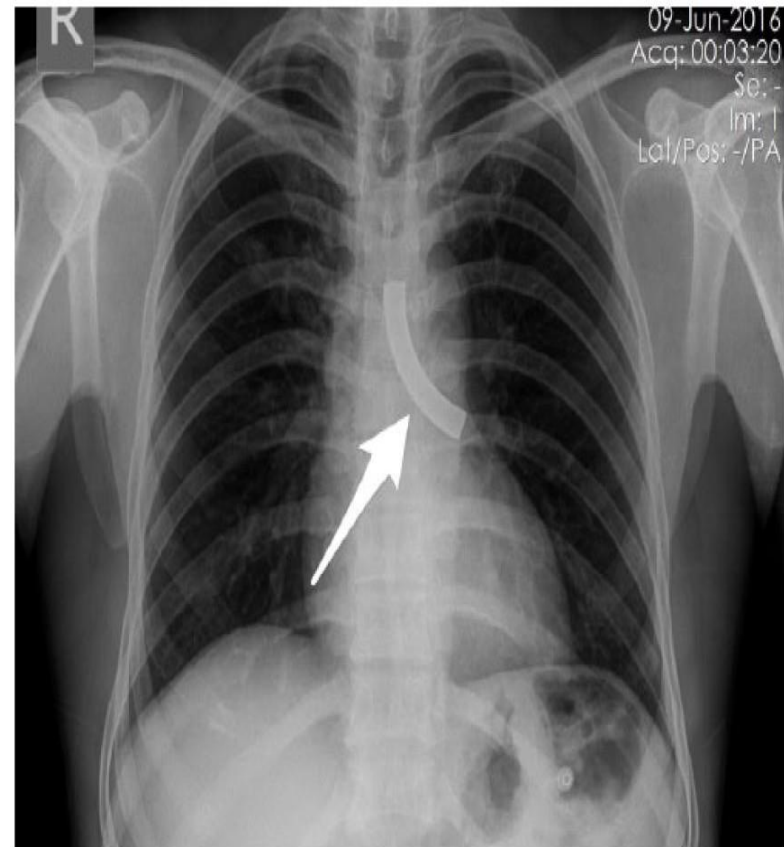
WHAT IT IS-



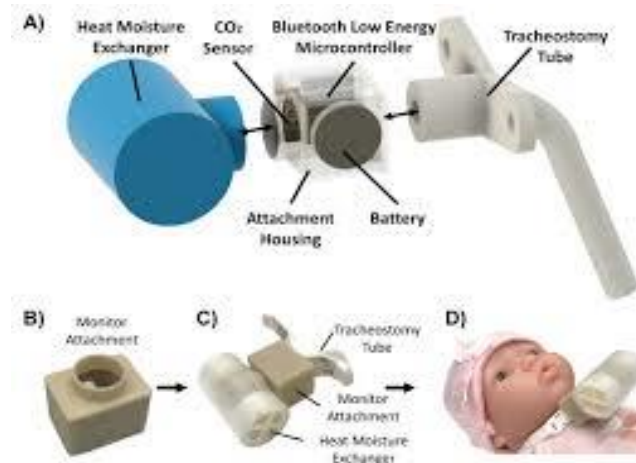
- The primary purpose of an obturator in a tracheostomy tube is to guide the tube's insertion into the trachea during a tracheostomy procedure or tube change. It provides a smooth, rounded surface to protect the airway from damage during insertion and is removed once the outer cannula is properly placed.



WHAT IT ISN'T



SO MANY TRACHS SO MUCH TO KNOW

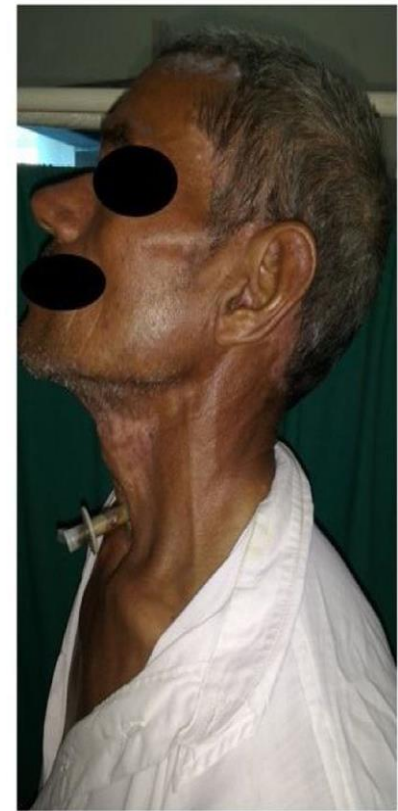


MONTGOMERY “T” TUBES

- Combination of tracheal stent and artificial airway
- Prevents post operative stenosis after laryngotracheal surgery
- To assist in patency of subglottic stenosis
- To maintain structural integrity of the trachea due to trauma and collapse



MONTGOMERY "T" TUBE



LARYNGECTOMY “LARY” TUBE

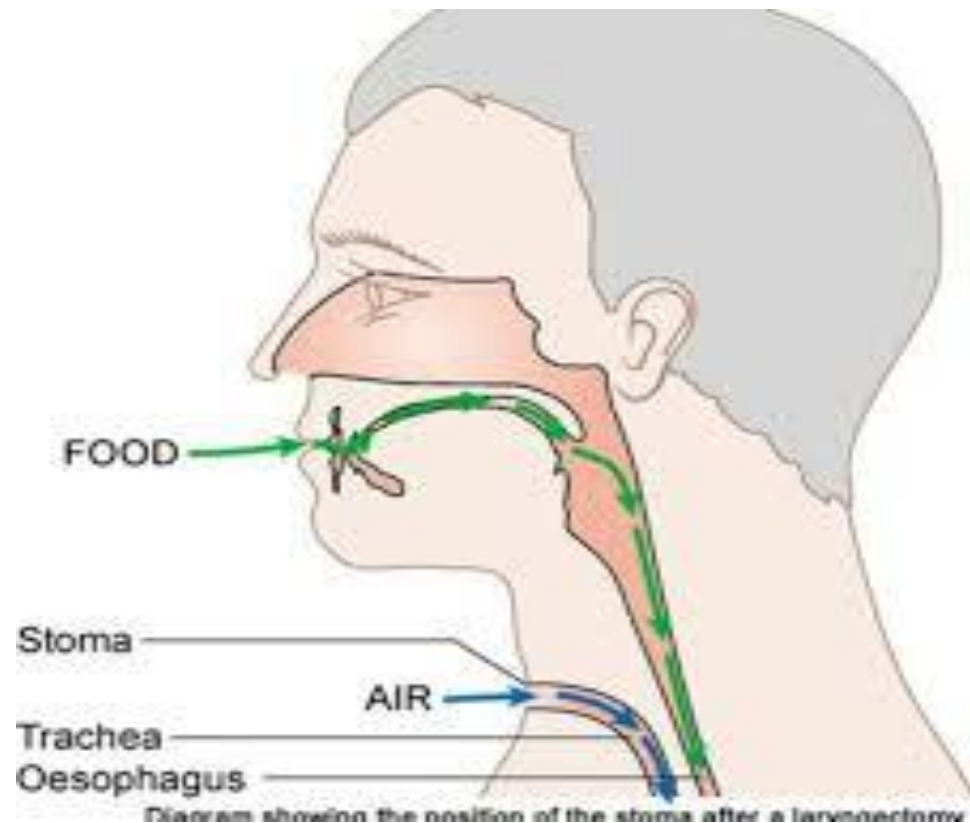
- Full or partial removal of the larynx due to cancer, damage or other health condition
- Complete laryngectomy results in loss of speech (complete removal of larynx which houses vocal cords)
- Speech is possible with implanted prosthetic device or electrolarynx
- Complete loss of connection with upper airway for a complete.



LARYNGECTOMY “LARY” TUBE



TRACHEOSTOMY SAFETY EXAMPLES

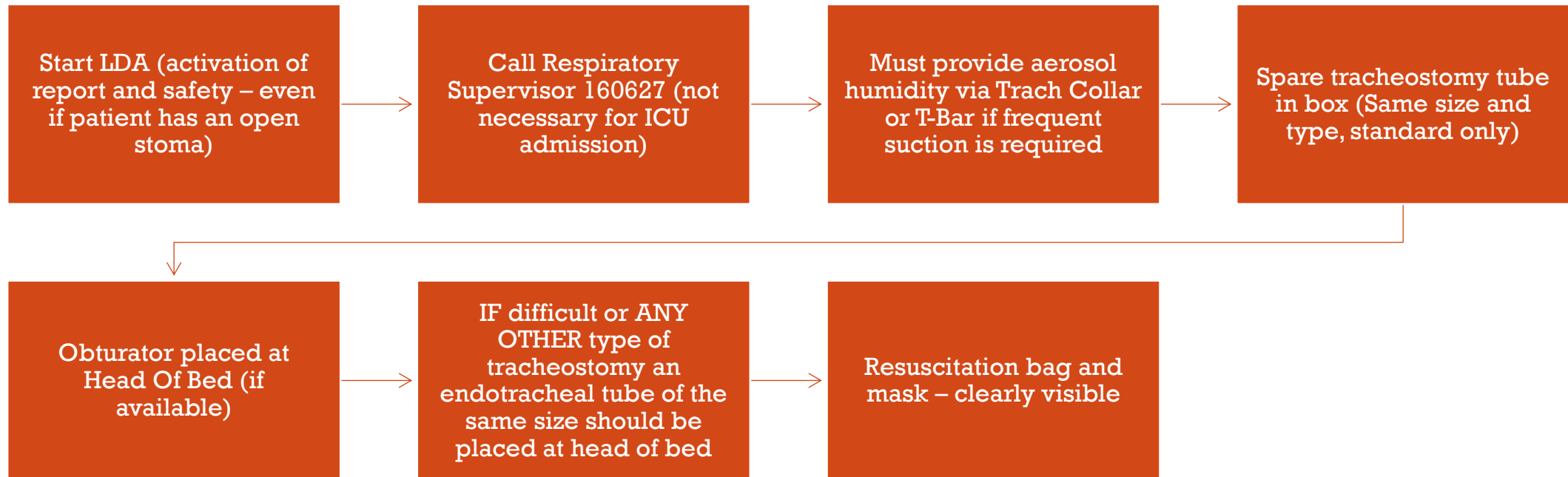


THE STORY OF ONE HOSPITAL

- All patients with artificial airways are seen and assessed daily by RT's.
- Report is generated every morning – GPU patients are seen by a Therapist or “Trach Navigator”
- ICU tracheostomy patients are cared for by Therapists (vented or non-vented- includes tracheostomy care, tracheostomy changes (cuffed to uncuffed) exception: difficult airway or initial tracheostomy change: percutaneous to standard.
- Capping trials ICU and GPU performed by RT, decannulation performed by RT or surgical staff
- Daily floor assessments are documented in the EHR and include site assessment, FI02 (if using) humidification type, spare tracheostomy or ETT tube, suction, resuscitation bag/mask
- RN/RT discussion if any concerns or signs of tissue breakdown caused by device or ties.
- Appropriate safety signage posted at head of bed



THE STORY OF ONE HOSPITAL



TRACHEOSTOMY SAFETY EXAMPLES

This patient has a

TRACHEOSTOMY

There is a potentially patent upper airway (Intubation may be difficult)

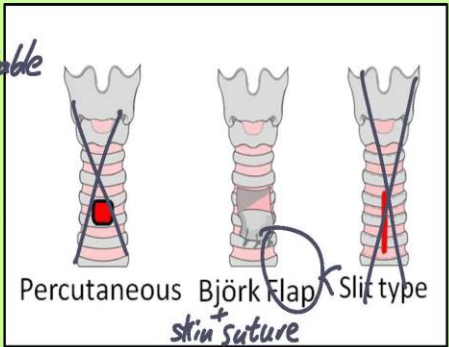
Surgical / ~~Percutaneous~~

Performed on (date) 2/2/20

Tracheostomy tube size (if present) 8.0 Adjustable

Hospital / NHS number RM2696100Z

** Difficult airway **
Glidescope grade 3 view
Trachy for failed extubation +
difficult re-intubation



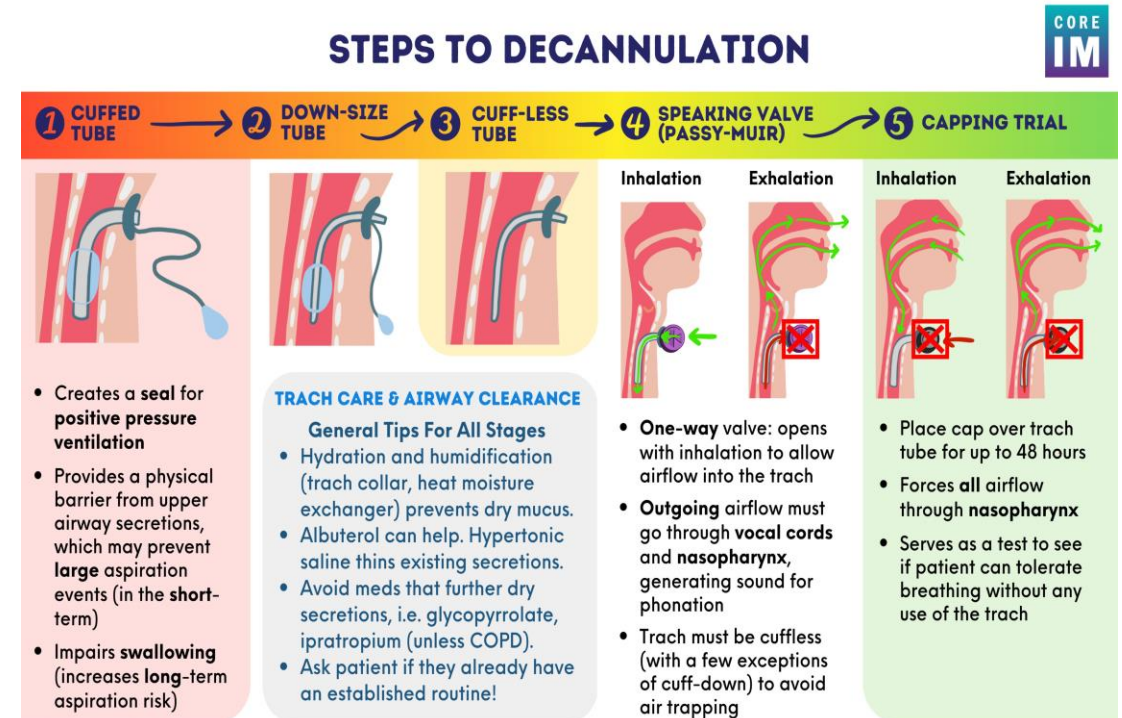
Percutaneous Björk Flap Slit type

skin + suture

Emergency Call: Anaesthesia 213 ICU 215 ENT 614 MaxFax 619 Emergency Team 2222

Airway team.

www.tracheostomy.org.uk



There can be a lot of clinician and institutional variability to decannulation pathways. This is a general roadmap.

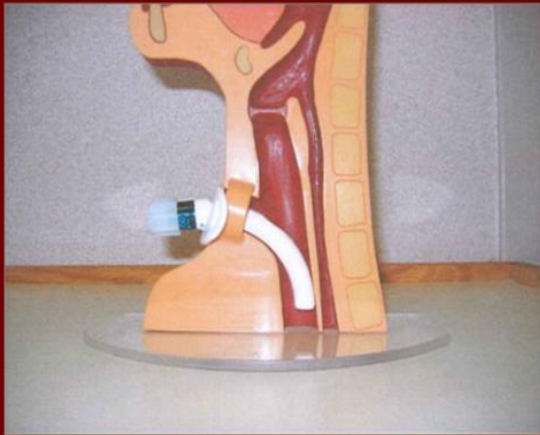


TRACHEOSTOMY CAPPING TRIALS

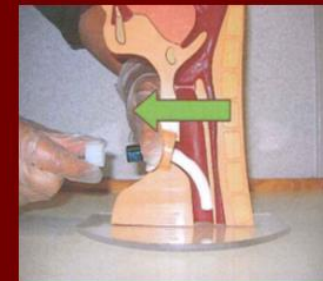
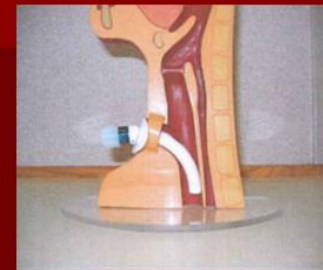
ATTENTION!

(Post this sign outside patient's door)

- Tracheostomy Capping in Progress
- Contact RN with questions



Tracheostomy Capping (Mini Poster) Emergency Removal If Patient is in Distress



- 1. **REMOVE CAP**
 - Stabilize tracheostomy and pull cap straight out; away from the patient.
 - Insert clean inner cannula.
- 2. **Provide supplemental oxygen**
 - Via tracheostomy collar or ambu bag depending on clinical condition.
 - Suction patient if needed.
- 3. **Delegate to have the following contacted:**
 - **GPU:** Physician **AND** Respiratory Supervisor 146-3030
 - **Adult ICU:** Physician **AND** Unit Respiratory Therapist
- ***If patient's condition does not improve quickly or worsens, call code blue (16-1111).**



HOW TO START?

- Gather information and network with facilities that have formed collaborative teams already.
- EVIDENCE is crucial – bring the facts
- When groups are siloed, mistakes happen – you don't know what you don't know or what they don't know until you are together
- Reach out to all key personnel
- Use as a safety/quality initiative
- Do you have a risk management department? Is there access to sentinel events that have occurred?
- You need to take the first steps for the sake of the patients



COLLABORATIVE TEAM EDUCATION

- Speech Pathology is responsible for swallow studies and assessments necessary for determination of speaking valve.
- Mechanically ventilated patients have, on occasion, used inline speaking valves
- Ventilator alarms need to be adjusted, and patients monitored closely
- More commonly seen in long term facilities
- RT's "train the trainer" **WE** train the nurse educators on the floors. The nurse educators in turn train the their nurses to provide basic tracheostomy care.
- Sutured tracheostomy tubes, cuffed tubes and capping trials are only allowed in specific areas where more advanced education has been provided, and nurses have more experience with tracheostomy patients (IE: post operative areas)



ICU NURSING STAFF EDUCATION

- Provided monthly by the **RT Clinical Educator** = ME 
- Focus on different types of tracheostomy tubes
- Cuffed versus cuffless tracheostomy tubes
- Communication with RT if transferred to outside facility or floors
- Tracheostomy emergencies : obstruction, accidental decannulation, spontaneously breathing patients, nonbreathing patients (Respiratory Therapists downsize, cap, decannulate and replace tracheostomy tubes that have accidentally been dislodged)
- Safe suctioning
- Skin integrity



PATIENT EDUCATION IMPORTANT CONSIDERATIONS

- Who is responsible for providing education to the patient post tracheostomy?
- Consider – has the patient even SEEN their tracheostomy? (hand mirrors)
- Is patient discharging to home or long-term facility? (Using O2/humidity or just humidity)
- Who orders supplies for home ? Case Manager? Social Work? Midlevel? Provider?
- Does the patient live alone or with family?
- Is the patient insured with access to equipment and supplies?
- What education/support does the DME provide ?
- **The worst mistake anyone can make is assuming everyone knows exactly what to do for this unique patient population**



PATIENT EDUCATION BOOKLET

Tracheostomy Care

HENRY
FORD
HEALTH



henryford.com



TRACH NAVIGATOR? A PILOT PROGRAM

- Pilot position
- Similar in theory to a COPD Navigator
- Responsible for providing support and education to new tracheostomy patients
- Also provides support to existing tracheostomy patients who have "fallen through the cracks"
- Receives referrals from providers
- Goal permanent position, certification? Education?
- Part of a multidisciplinary team consisting of case management, nursing, speech pathology and the Physician. (ENT or Surgeon)



CONSIDERATIONS FOR PATIENTS AT HOME

- Patient's age ranges from infant to adult, each with their own special considerations
- Patients may need to care for themselves, caregivers need instruction on how to care for their loved one
- What equipment is needed in the home? Suction? Oxygen? Ventilator? Humidification type? Ties? Inner Cannulas? Disposable or Non-disposable
- What is needed when a patient travels? Emergency Bag – what items should be included
- What if a patient is home alone and cannot speak? If 911 is called has local police, fire, EMS been notified of this home address and the patient's inability to speak?
- Is there an emergency plan in place? Security Cameras? Emergency Device? Contact Person with access to the home



THE WORK IS BEING DONE

- Many organizations are taking steps to improve care, safety and education for patients with tracheostomies.
- Multidisciplinary teams are the best choice for covering all the steps necessary to decrease length of stay and time to decannulation or SAFE discharge to home.
- Know your patients and the WHY for the need for tracheostomy and if this will be a temporary or more permanent solution to a pathology.
- Do not assume “someone” is taking care of the patient and providing education to them or their caregivers.
- Do not assume the proper equipment is being sent to their home and that they will know how to use it once there.



RESOURCES

- Online education for healthcare providers, caregivers and families through various hospitals and other organization
- YouTube videos
- Manufacturer websites
- Make sure the information you are accessing are from credible resources and based in evidence.
- Some of the best multidisciplinary education and rounding models are from the UK. (Global Tracheostomy Initiative)
- Online collaborative groups

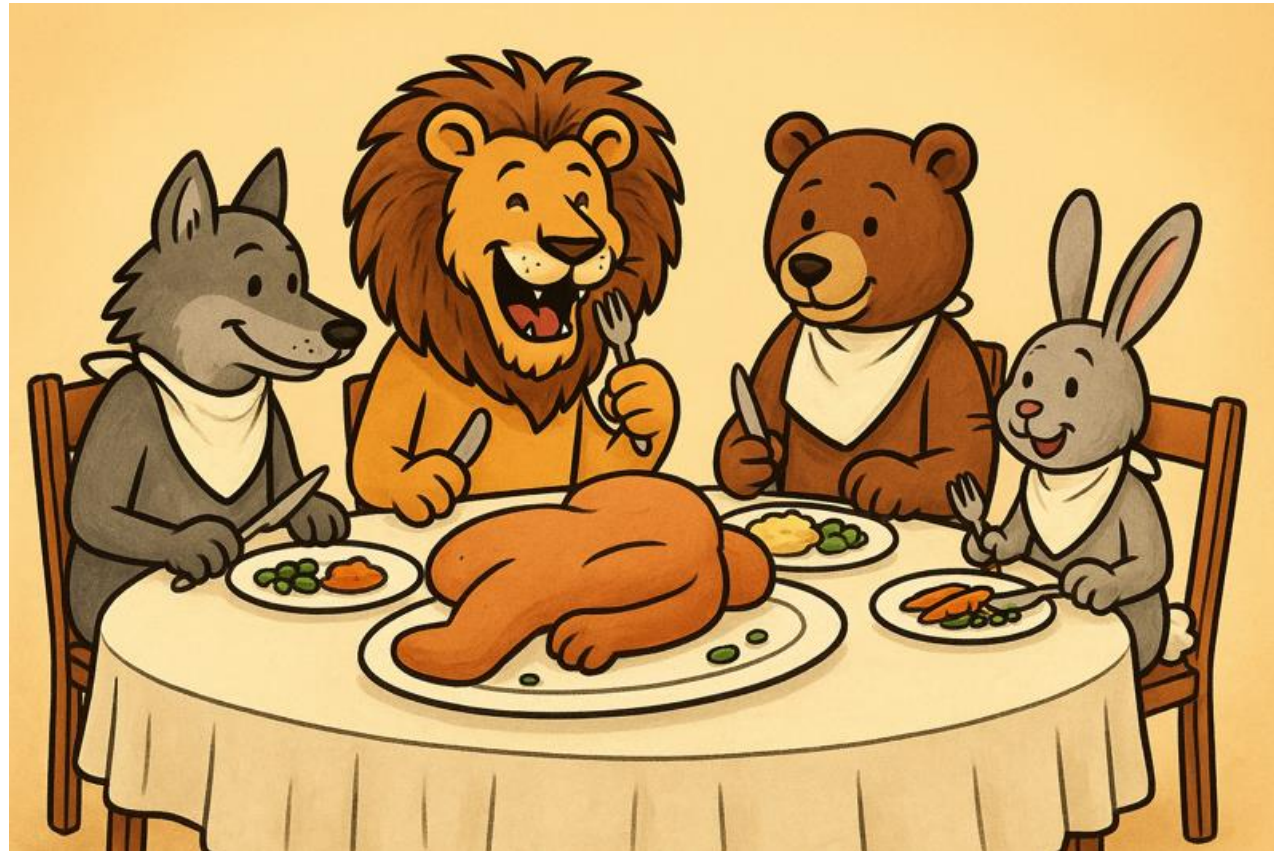


RESPIRATORY THERAPISTS

- Respiratory Therapists are **THE** airway experts
- There is no other service that has received the level of education that we do regarding artificial airways and how to handle emergencies
- Are you part of a tracheostomy team at your facility? If not, why?
- Is your experience with tracheostomy patients limited? There are resources available to expand your knowledge – you will never know where or when you will need to use it.
- Remember if you do not have a seat at the table, you may be on the menu.



DINNER IS SERVED



THANK YOU

IT'S TIME FOR QUESTIONS!

- Rena Laliberte BS, RRT, CPFT
- Henry Ford Hospital – Detroit
- rlalibel1@hfhs.org

