

Aligning Tracheostomy Education Within Therapy Services

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Problem

- There previously was no established or consistent tracheostomy education or competency for therapy services (PT/OT/SLP) at UChicago Ingalls Memorial Hospital.
- This project was in response to requests from inpatient therapists for additional clinically relevant and applicable tracheostomy education. Many therapists self-reported the lack of knowledge and understanding with this patient population.
- While not a high volume, patients with tracheostomies may be cared for within the community setting without formal competencies or education. This population is considered a “high risk and low incidence” patient demographic.
- UCM Annual operating plan: Empower staff and providers with data-driven insights to ensure equitable outcomes and improve health across all communities and populations.**

Goal

The aim of this quality improvement project was to improve staff's self-reported comfort levels while treating patients who have tracheostomies and overall tracheostomy knowledge related to safety, function, components, accessory/ occlusion device type, and tracheostomy related swallowing changes.

Intervention Design

- A pre-survey was conducted with a multidisciplinary therapy team (PT, PTA, OT, COTA, SLP) across inpatient rehab and acute care units at UChicago Ingalls Memorial Hospital.
- A total of 29 participants with varying levels of years of experience and disciplines participated in this quality improvement project
- The survey was comprised of general demographic information along with 8 self-reported comfortability questions on a 1-to-5 point Likert scale ranging from strongly disagree to strongly agree, two set of matching questions, one true/ false question and one free response question.
- Questions on the survey can be broken down into the following categories: **comfort; safety; function of tracheostomy; components; accessory or occlusion device type; and swallowing.**
- Participating therapists completed a 45-minute tracheostomy educational interactive in-service provided by two speech-language pathologists. Key points of the education were provided as a reference guide for staff.
 - Questions were answered throughout in-service
 - Hands on components during in-service (e.g., accessories, types of tracheostomies, and respiratory attachments)
- Therapists were then asked to complete the post- survey to assess self-reported changes in comfortability and knowledge.

UChicago Medicine Abilitylab

Tracheostomy Education

Number of years of experience

Acute Care Inpatient Rehab

PT PTA OT COTA SLP

1. How comfortable are you in treating patients with tracheostomies?

2. How confident are you in your knowledge of tracheostomy care?

3. How confident are you in your knowledge of tracheostomy safety?

4. How confident are you in your knowledge of tracheostomy function?

5. How confident are you in your knowledge of tracheostomy components?

6. How confident are you in your knowledge of tracheostomy accessories?

7. How confident are you in your knowledge of tracheostomy swallowing?

8. How confident are you in your knowledge of tracheostomy related swallowing changes?

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Discipline	Participants	Level of Care		Years of experience			
		Acute	Inpatient Rehab	0-2	3-5	6-9	10+
PT	7	2	5	4	0	2	1
PTA	3	0	3	0	0	0	3
OT	10	3	7	3	0	3	4
COTA	3	0	3	0	1	0	2
SLP	6	3	3	0	2	1	3
Total	29	8	21	7	3	6	13



Request for
education

Pre- Survey

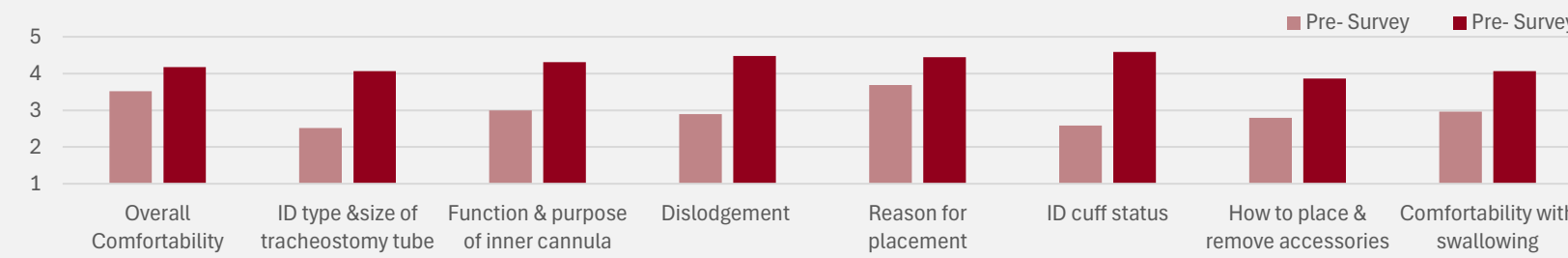
Education
Presentation
+ Handout

Post -Survey

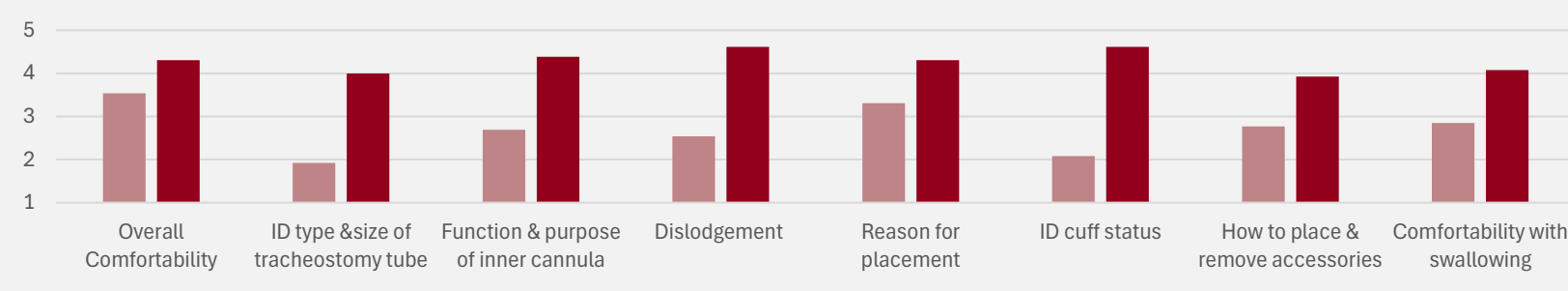
Results

- Overall, therapists across all disciplines self-rated comfortability with tracheostomies improved from pre- to post- survey (+1.25)
- OT/COTAs
 - Reported the greatest change in overall self- perceived comfortability (+1.57)
 - Reported a high change in confidence in ability to ID cuff status (+2.0)
- PT/PTAs
 - Reported a high change in confidence in ability to ID type and size of tracheostomy (+2.08), what do to in dislodgement situation (+2.08) and ability to ID cuff status (+2.54)
- SLPs had the highest self-reported comfortability during pre-survey and the least amount of increased change from pre- to post- survey (+0.17)

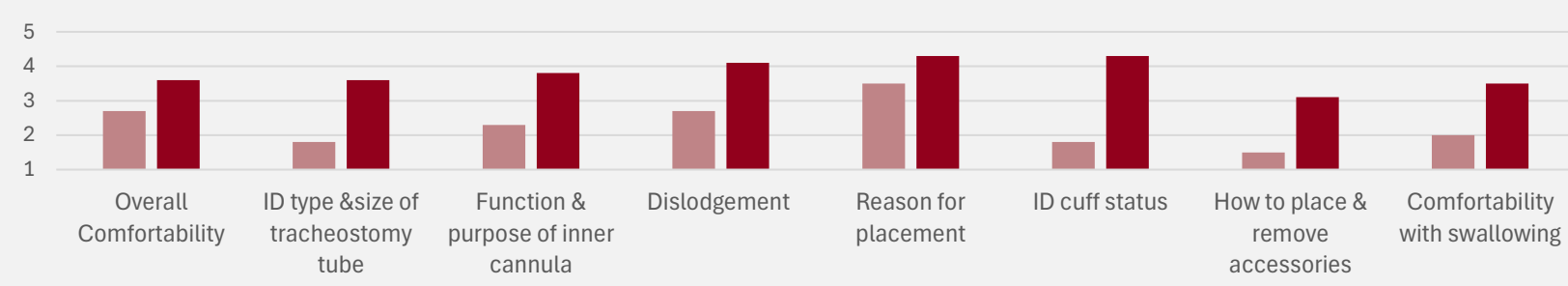
Self- Reported Comfortability: All Therapy Disiplines (PT/ OT/ SLP)



Self- Reported Comfortability: OT & COTA

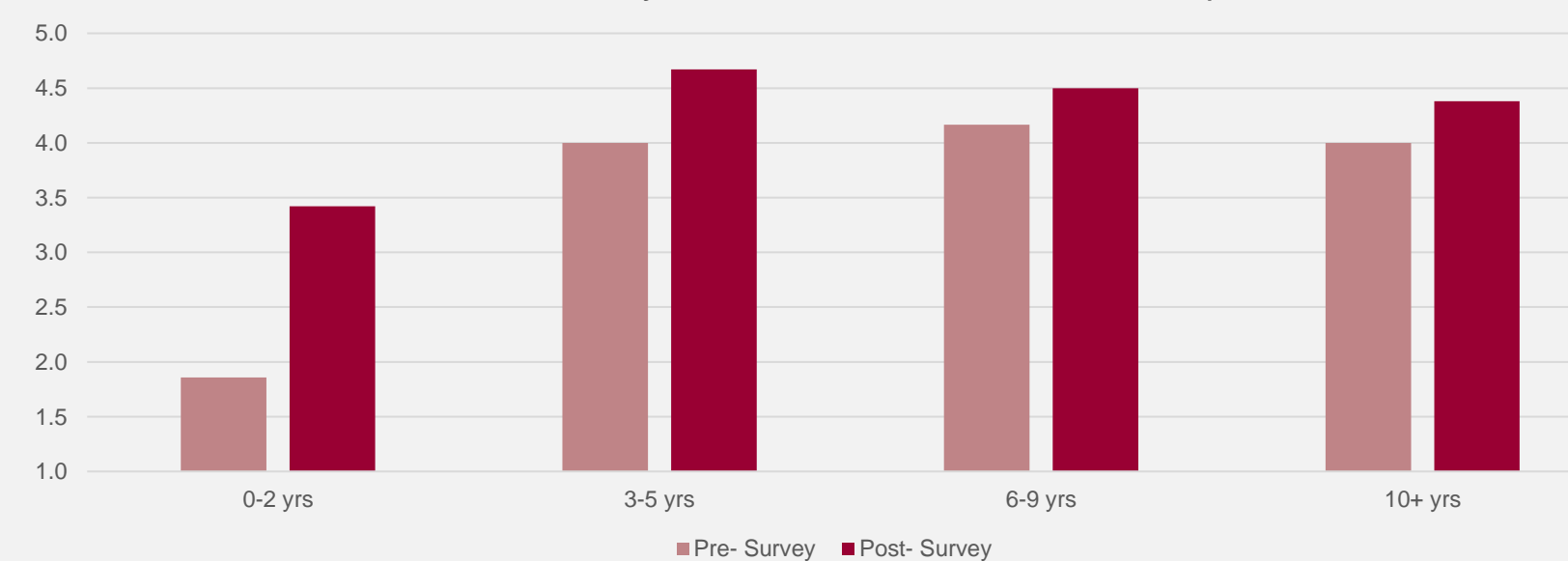


Self- Reported Comfortability: PT & PTA

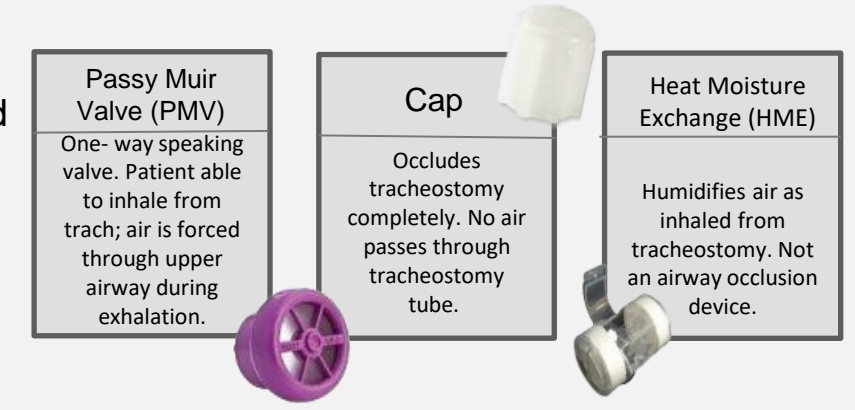


- Therapists with the least number of years of experience (0-2 yrs) self-reported considerably less comfortability and knowledge while treating patients with tracheostomies. This group of clinicians demonstrated the greatest change in overall comfortability and knowledge from pre- to post survey (+1.56).
- Therapists within the 3-5yr of experience (+0.67), 6-9 yrs (+0.33), and 10+ yrs (+0.38) group all had increased self-reported comfortability and knowledge from pre- to post survey however not as significantly as the 0-2yrs of experience group.

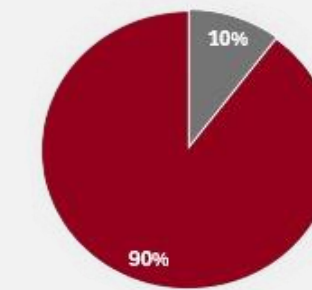
Overall Comfortability with Trachs Based on Years of Expeirence



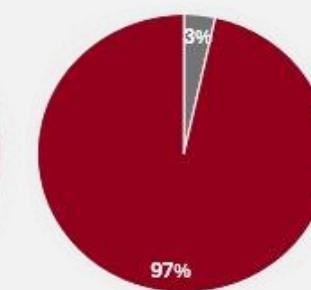
- Therapists were asked to match the name of three common tracheostomy accessories utilized at Ingalls to the pictured accessory and definition of function. The three accessories were: Passy Muir Valve (PMV), cap, and Heat Moisture Exchange (HME).
- There was noted improvement in identification and definition of function across all disciplines from pre- to post survey



Identification of Trach Accessory

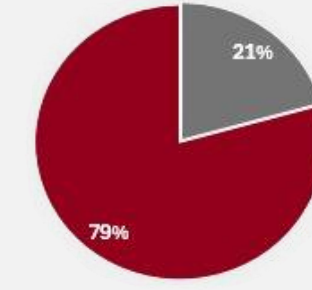


Pre- survey

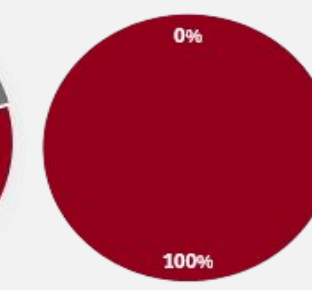


Post- survey

Function of Trach Accessory Definition



Pre- survey



Post- survey

Incorrect Correct

Conclusions

- Increasing education and conversations surrounding patients with tracheostomies demonstrated improved self-reported comfortability and knowledge within a multidisciplinary team across two levels of care.
- An annual in-service improved therapists understanding and comfortability in treating patients with tracheostomies.
- Surveying self-reported comfort level and understanding of tracheostomies periodically may provide insight into where an organization can push in to support staff development.
- By expanding on therapists' knowledge and skill of what to do in emergency situations, health care providers can reduce response time in emergencies.
- Use of annual tracheostomy education and care is essential in the community hospital setting across all therapy related disciplines.
 - May improve specific knowledge and perceived comfortability with this population.
- This quality improvement project suggests it is feasible for department level education to provide beneficial information to support comfort with and knowledge of tracheostomies.

Next Steps

- Annual adaption of tracheostomy in-services at the community hospital setting for inpatient therapy services may continue to improve self-reported comfortability and knowledge.
 - Additional investigation of gaps in tracheostomy care within the therapy department can lead to new content areas to focus development of additional educational offerings. This approach will serve to build on knowledge from previous education, thereby expanding the depth and variety of education offered to improve overall tracheostomy care.
- When newly hired therapists are onboarded to the department, therapists may complete education related to specific competencies prior to treating patients with tracheotomies.
- Therapists may benefit from hands on trach competency training for PT/ OT/ SLP
- Collaborate with other disciplines for therapists to participate in mock tracheostomy decannulation codes to improve confidence and comfortability during emergency situations.
- Future work may expand on the correlation between perceived comfort while treating patients with tracheostomies versus competence with treating patients with tracheostomies.
- While many studies have called for structured education programs to improve competencies related to tracheostomy management, there is currently no widely accepted structured education or curriculum.
- By increasing tracheostomy knowledge at the community hospital setting, potentially preventable infections and complications related to tracheostomies may be further explored.

Acknowledgements

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