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RATIONALE

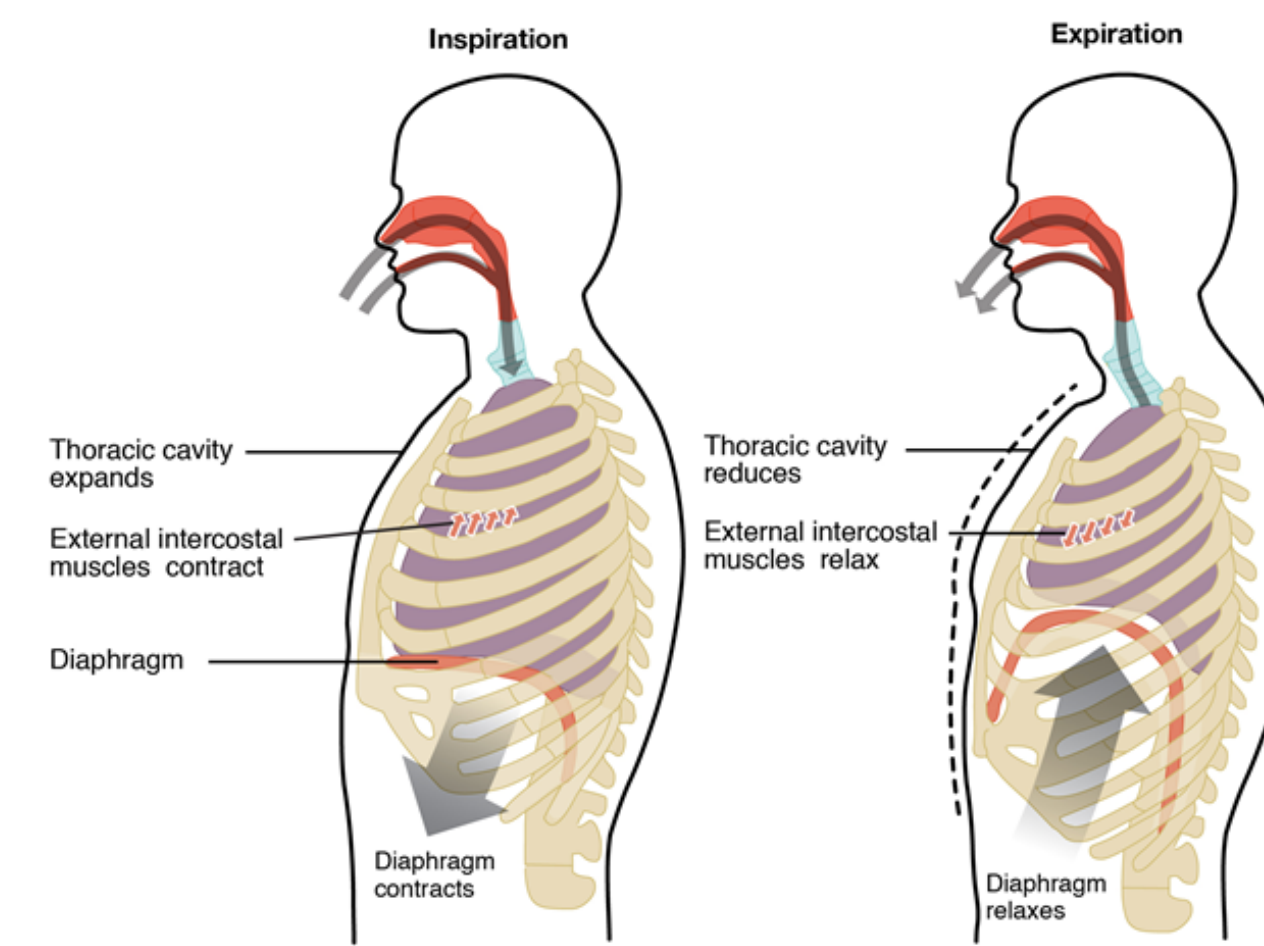
- The inclusion of a Physical Therapist in an interdisciplinary tracheostomy team is not common practice.
- Yet, the presence of a tracheostomy tube fundamentally alters intrathoracic pressure due to the open nature of the respiratory system via the loss of glottal closure.
- The role of the Physical Therapist as a member of the tracheostomy team is crucial due to the anatomical changes that result from the presence of a tracheostomy.

BACKGROUND

- Prior to the development of an interdisciplinary tracheostomy team in our Level II Trauma hospital, Physical Therapists and Occupational Therapists were not permitted to place speaking valves during therapy and were not trained in standard tracheostomy care including suctioning and donning/doffing speaking valves.
- Additionally, Speaking valve tolerance was assessed by the Speech-Language Pathologist in only a resting state and not during the dynamic mobility tasks.
- An interdisciplinary tracheostomy team was established in March 2018 which included: Trauma Physician, Trauma PA, Speech-Language Pathologist, Physical Therapist, and Respiratory Therapist.
- Three key areas-education, coordination, and communication, were identified as duties of the Physical Therapist member of the tracheostomy team.

INTRATHORACIC PRESSURE

- Speaking valve placement results in the return of a closed respiratory system by allowing for glottal closure in the individual with tracheostomy.
- As a result, individuals with tracheostomy who have speaking valves in place will not only demonstrate increased postural control and dynamic standing balance (Massery et al., 2013), but also an increase in gross pushing forces (Davis et al., 1964) and improved bowel/bladder emptying (Hodges et al., 2000).
- For these reasons, speaking valve use during Physical and Occupational Therapy is of the utmost importance, and tolerance of speaking valve use during these dynamic tasks provides vital information regarding the patient's readiness for capping trials.



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METHODOLOGY: THE ROLE OF THE PHYSICAL THERAPIST

Education	<ul style="list-style-type: none"> ■ In conjunction with the Speech Language Pathologist, the Physical Therapist completed individual competencies with all Physical and Occupational Therapists in the department regarding cuff deflation and monitoring and documenting signs of distress during speaking valve placement.
Coordination	<ul style="list-style-type: none"> ■ After a patient with a tracheostomy demonstrated speaking valve tolerance for 20 minutes or greater with a Speech-Language Pathologist across three sessions, the Physical Therapist member of the tracheostomy team facilitated a co-assessment session with a Speech-language Pathologist and a Physical Therapist to assess speaking valve tolerance during mobility tasks. ■ A co-assessment session was deemed successful if the patient was able to tolerate the speaking valve in place throughout the session with stable O2 saturation, respiratory rate, and heart rate, with the Physical/Occupational Therapist also monitoring for any increased accessory muscle use or increased work of breath.
Communication	<ul style="list-style-type: none"> ■ An interdisciplinary tracheostomy team meeting took place once a week, at which time there was discussion regarding readiness for speaking valve use during Physical and Occupational Therapy. ■ An interdisciplinary note was then completed documenting approval for valve use and progress towards decannulation process as well as barriers to decannulation.

RESULTS

- Following the implementation of the interdisciplinary tracheostomy team which includes a Physical Therapist, per protocol, all patients with tracheostomy wear speaking valves during Physical and Occupational Therapy after a successful co-assessment is completed with a Speech-Language Pathologist during mobility tasks.
- The education, coordination, and communication efforts of the Physical Therapist member of the tracheostomy team resulted in increased speaking valve use during Physical and Occupational Therapy, and provided a significant contribution regarding a patient's ability to tolerate speaking valve use during tasks of increased physical demand.

CONCLUSIONS

- Interdisciplinary tracheostomy teams in an acute care setting that include a Physical Therapist as a team member can cultivate a culture of interprofessional cooperation and enhance the decannulation process.

REFERENCES

- Bartow, C., Collins, N., Kopp, E., & Guillaumondegui, O. (2018). Benefits of a Multidisciplinary Tracheostomy Team: Acute Care Experience. *Perspectives on Swallowing and Swallowing Disorders (Dysphagia)*, 3(13), 89-100. <https://doi.org/10.1044/persp3.SIG13.89>
- Davis, P.R. & Troup, J.D.G. (1964). Pressures in the trunk cavities when pulling, pushing and lifting. *Ergonomics*, 7(4), 465-474. <https://doi.org/10.1080/0014013640893076>
- Massery, M., Hagins, M., Stafford, R., Moerchen, V., & Hodges, P.W. (2013). Effect of airway control by glottal structures on postural stability. *Journal of Applied Physiology*, 115(4), 483-490. <https://doi.org/10.1152/jappphysiol.01226.2012>
- Wills, R. (2015). The Interthoracic connection. *Respiratory Therapy*, 10(2), 24-26.