# The Role of Speech-Language Pathologists in Tracheostomy Care: Addressing Educational Gaps and Enhancing Competence

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## BACKGROUND

- **Tracheostomy prevalence:** ~10% of mechanically ventilated adults require a tracheostomy; pediatric complication rates up to ~30%, with in-hospital mortality ~8%.
- **Care complexity:** Patients often require prolonged ICU care, multidisciplinary follow-up, and skilled caregiver training.
- **SLP role:** Critical for communication, swallowing, patient/family education, and capping/decannulation progression.
- **Educational gap:**
  - Most SLPs report ≤10 hrs of formal training; some report none.
  - Graduate curricula rarely cover emergencies (dislodgement, desaturation, obstruction).
  - Confidence is especially low in managing ventilator-dependent patients.
- **Multidisciplinary evidence:** Standardized tracheostomy teams reduce LOS, improve safety, and streamline care.
- **Need identified:** Simulation-based training improves emergency preparedness in other fields but is rarely applied to SLPs.

## OBJECTIVES

1. **Identify** baseline training, clinical experience, and caseload of SLPs managing tracheostomy patients.
2. **Assess** self-reported confidence in tracheostomy-related care tasks.
3. **Evaluate** the impact of ENT-led training on SLP confidence using pre/post surveys and paired t-tests.
4. **Collect** qualitative feedback on training effectiveness and perceived future needs.

## METHODS

**Design:** Pre- and post-intervention survey of 17 SLPs.

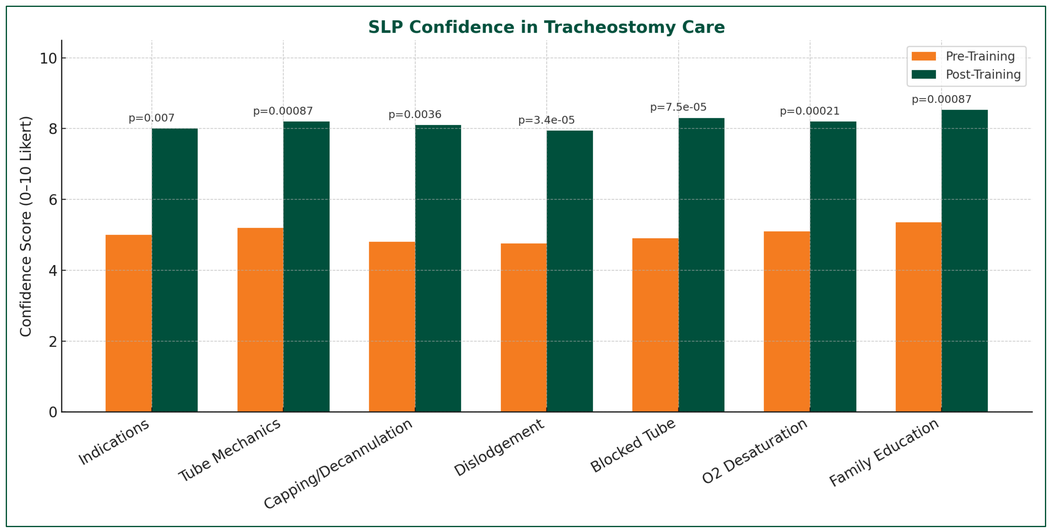
**Demographics:**
- 59% acute care, 29% inpatient rehab, 18% mixed/outpatient.
- 76% managed ≤5 trach patients/month.
- 71% had ≤10 hrs of training; 18% had none.
- 88% female, 12% male.
- Experience varied: 29% >12 years, 29% 6–8 years.

**Survey domains (Likert 0–10):**
- Understanding trach indications.
- Tube types and mechanics.
- Capping/decannulation trials.
- Dislodgement management.
- Blocked tube/obstruction.
- Oxygen desaturation.
- Family/patient education.

**Training intervention:** ENT-led curriculum including:
- Anatomy, tube types, and sizing.
- Emergency scenarios (dislodgement, obstruction, desaturation).
- Patient/family education and home safety checklist.
- SLP role in communication, swallowing, and care progression.

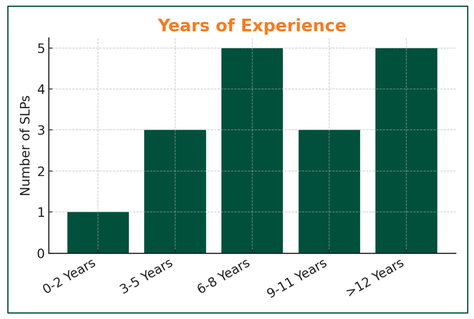
**Analysis:** Paired t-tests, significance set at $p < 0.05$.

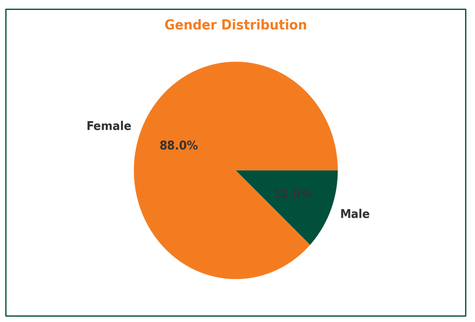
## CONFIDENCE GAINS (PRE vs POST TRAINING)

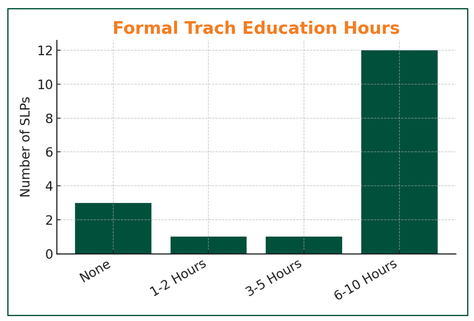


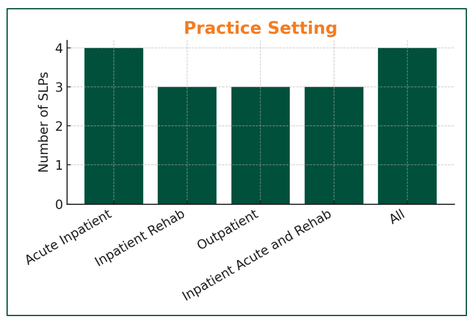

All 7 domains improved significantly (p<0.01)

## SLP DEMOGRAPHICS



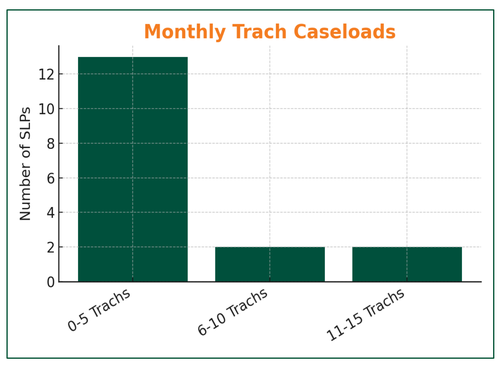



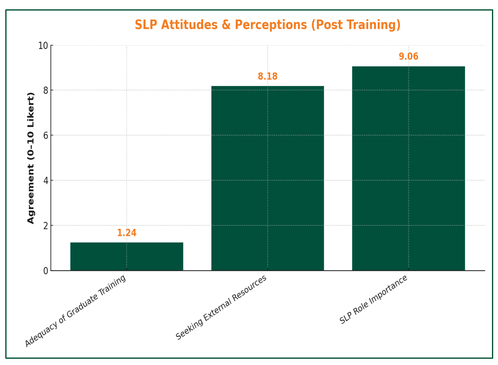




Most SLPs had ≤10 hrs training; 29% had >12 yrs experience; 59% acute care.

## CASELOADS & ATTITUDES




76% managed ≤5 patients/month; SLPs rated their role 9.1/10, but grad training only 1.2/10.

## SUMMARY OF CONFIDENCE GAINS

| Domain | p-value |
|---|---|
| Indications | 0.007 |
| Tube Mechanics | 0.00087 |
| Capping/Decannulation | 0.036 |
| Dislodgement | 3.1e-05 |
| Blocked Tube | 7.5e-05 |
| $O_2$ Desaturation | 0.00021 |
| Family Education | 0.00087 |

SLPs showed significant confidence gains in every domain following ENT-led training (all $p < 0.05$).

## DISCUSSION/CONCLUSIONS

**Educational gap confirmed**: Most SLPs lack structured tracheostomy training.
**Impact**: ENT-led training significantly improved confidence across all domains.
**Interprofessional implications:**
- Enhanced SLP-ENT collaboration strengthens patient safety.
- Improved emergency response, decannulation, and education.

**Recommendations for curriculum reform:**
- **Graduate level**: Standardize simulation-based trach module with competency check-offs.
- **Post-graduate**: Annual simulation refreshers and interprofessional workshops.
- **Institutional**: Protocols, order sets, checklists, emergency algorithms.

**Future directions:**
- Expand to multi-site studies with larger cohorts.
- Track objective outcomes (LOS, decannulation, complications).
- Develop national SLP tracheostomy curriculum.

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