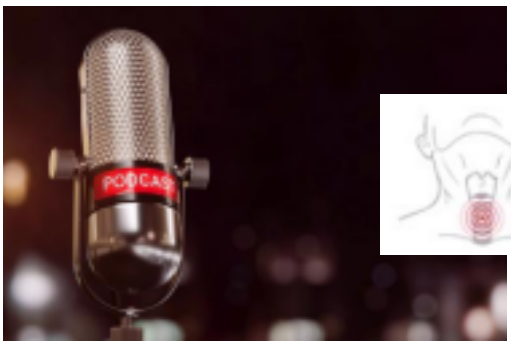
NTSP Podcast series



National Tracheostomy Safety Project

This month's top papers: November 2023

Welcome to the latest blog in the literature podcast from the NTSP. We try to bring you a quick roundup of what is hot in the world of tracheostomy and laryngectomy publications by scouring internationally recognised journals and media and bringing you the highlights.

The papers we will discuss this month are detailed below, along with an automated transcript of the podcast. Please note that the transcript is generated by AI and so may not be totally accurate.

You can find the links to the podcast on www.tracheostomy.org.uk and by searching for NTSP on your favourite podcast platform. Some of the podcasts are also uploaded to YouTube if you prefer to get your news that way. Check out the NTSP YouTube channel at https://www.youtube.com/c/NationalTracheostomySafetyProject. Please follow us and/or subscribe to keep up to date! https://x.com/NTSP_UK

Please note that the comments below and on the podcasts represent the individual authors' opinions and do not reflect the opinions of any of the organisations that the authors work for. Please leave any comments in the chat function or via X.

This month's top papers

- Revisiting the Great Ormond Street Hospital protocol for ward decannulation of children with tracheostomy
- Long-term outcomes of standardized training for caregivers of children with tracheostomies: The IStanbul PAediatric Tracheostomy (ISPAT) project.
- Early versus late tracheostomy in critically ill COVID-19 patients.
- Transoral robotic supraglottic laryngectomy: Long-term functional and oncologic outcomes.
- Factors Affecting the Quality of Life of Parents Caring for Pediatric Patients with a Tracheostomy.
- Tracheostomy care quality improvement in low- and middle-income countries: A scoping review

NTSP Podcast Series

Revisiting the Great Ormond Street Hospital protocol for ward decannulation of children with tracheostomy

Lay Summary:

This study investigated the safety and effectiveness of a specific five-day plan used at Great Ormond Street Hospital (GOSH) to remove a tracheostomy tube from a child. A tracheostomy is a critical procedure, and removing the tube (decannulation) is a major, high-stakes final step that must be done carefully to ensure the child can breathe on their own. Since there is no universal agreement on the safest method, the GOSH team reviewed their own established five-day protocol.

This systematic plan involves gradually downsizing the tube, temporarily blocking it off (capping) for increasing periods, and closely observing the child to ensure breathing remains stable. The team also incorporates a final check, like an endoscopy or sleep study, for children considered high-risk.

The study looked back at the records of 112 children over five years and found the protocol to be overwhelmingly effective and safe. The overall success rate for removing the tube was very high at 85.7%. Crucially, the decannulation failure rate—where the child had to have the tube reinserted shortly after removal—was exceptionally low, at only 3.6%. The main factor found to predict failure was a history of having failed a previous decannulation attempt. The authors conclude that the GOSH 5-day ward decannulation protocol is a robust, effective, and safe pathway that successfully guides the vast majority of children to full airway independence.

Summary for Healthcare Professionals:

This retrospective cohort study evaluated the efficacy and safety profile of the Great Ormond Street Hospital (GOSH) 5-day ward decannulation protocol in children with tracheostomy, aiming to establish a benchmark standard given the lack of consensus on optimal pediatric methods. The study reviewed 112 patient records from a single quaternary care center spanning a five-year period. The GOSH protocol is a standardized, stepwise process incorporating tracheostomy tube downsizing, capped trials, and continuous clinical observation.

The primary outcome metrics confirmed the high efficacy of the protocol. The overall decannulation success rate was 85.7%, with an impressively low decannulation failure rate of 3.6%. The median duration of tracheostomy for the cohort was 1.1 years. Multivariate analysis identified only a prior history of failed decannulation as a statistically significant predictor of current decannulation failure (P=0.007). The protocol also demonstrated success in significantly reducing the reliance on operating room decannulation procedures.

The authors conclude that the GOSH 5-day ward protocol provides a safe, standardized, and highly effective pathway for airway liberation. This study supports the continued use of the protocol and serves as a robust, evidence-based benchmark for other pediatric centers aiming to improve the safety and efficiency of their own decannulation pathways.

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Long-term outcomes of standardized training for caregivers of children with tracheostomies: The IStanbul PAediatric Tracheostomy (ISPAT) project.

Lay Summary:

This study reports on the long-term effectiveness of a detailed, standardized training program—the IStanbul Paediatric Tracheostomy (ISPAT) project—designed for parents and caregivers of children with a tracheostomy tube. The main goal was to see if the training successfully protected children from dangerous complications during their first year at home.

The findings showed that the training was highly effective in the short term: caregivers who demonstrated a higher readiness for discharge had a significantly lower rate of unscheduled readmissions in the first month. This confirmed that proper initial training directly translates to safer early home care.

However, the study also revealed the persistent and complex challenges of long-term care. Over the full year, the most frequent reason children had to return to the hospital was lower respiratory tract infections (LRTIs), occurring in 40.8% of patients. Tragically, major complications like accidental tube dislodgement were the most frequent cause of mortality. The researchers also noted that while parents initially learned a lot, their specialized knowledge tended to decline over the 12-month period. The study concludes that while initial training is vital, a strategy of continuous support and mandatory refresher training is necessary to ensure sustained safety and prevent severe long-term complications.

Summary for Healthcare Professionals:

This longitudinal cohort study evaluated the long-term clinical outcomes (up to one year) following the implementation of the standardized caregiver training program, the IStanbul Paediatric Tracheostomy (ISPAT) project. The primary objective was to assess the program's efficacy in reducing morbidity and mortality post-discharge.

The analysis demonstrated a strong initial efficacy: a significant negative correlation was found between Caregiver Readiness for Discharge (RD) and the rate of unplanned readmission within the first month ($p<0.001$). However, long-term morbidity remained a challenge. Over 12 months, the most frequent cause of unscheduled readmissions was Lower Respiratory Tract Infections (LRTIs) (40.8%). Furthermore, Tracheostomy-Related Adverse Events (TRAEs) were the most frequent cause of mortality (16.3% overall mortality).

The study observed a critical finding: despite strong initial competency, there was a measurable decline in caregiver knowledge over the 12-month period. The authors conclude that while initial standardized training is effective, its benefits are not sustained. They recommend developing a robust, formalized post-discharge program that includes continuous surveillance and mandatory refresher training sessions to counteract the decay of essential knowledge and improve long-term outcomes.

NTSP Podcast Series

Early versus late tracheostomy in critically ill COVID-19 patients.

Lay Summary:

This review looked at whether performing a tracheostomy early or later in critically ill COVID-19 patients made a difference in their recovery or survival. A tracheostomy is a breathing tube often needed for patients who require long-term mechanical ventilation (MV). The main question during the pandemic was if delaying the procedure was safer, as it is considered a high-risk event for spreading the virus.

Researchers analyzed the best available studies, comparing patients who received a tracheostomy within 7 to 14 days (early) versus those who received it later (late). The most important finding was that the timing of the tracheostomy probably makes little or no difference to the patient's chance of dying (mortality). This is key because it suggests that doctors don't need to delay the procedure out of fear of harming the patient's long-term survival.

However, the review found that choosing early tracheostomy probably leads to faster recovery metrics. Specifically, it reduces the total time a patient needs to be on a breathing machine and significantly shortens the length of their stay in the Intensive Care Unit (ICU). Furthermore, the procedure was confirmed to be safe for healthcare workers when proper protective gear was used. The conclusion is that choosing the early approach is beneficial for recovery speed and hospital resource management without compromising survival.

Summary for Healthcare Professionals:

This Cochrane systematic review synthesized randomized controlled trials (RCTs) and high-quality observational data to evaluate the clinical effectiveness of early versus late tracheostomy in critically ill patients with COVID-19. Early tracheostomy was typically defined as placement within 7 to 14 days of commencing mechanical ventilation (MV).

The analysis focused on primary outcomes including overall mortality, duration of MV, and ICU length of stay (LOS). The evidence demonstrates that the timing of the procedure probably makes little or no difference to overall mortality. However, early tracheostomy consistently demonstrated significant resource utilization and efficiency benefits. It probably reduces the duration of mechanical ventilation and reduces the length of ICU stay.

This finding is critical for managing system capacity, especially during public health crises. The review also addressed major safety concerns relevant to the pandemic, concluding that the procedure is safe for healthcare workers when appropriate personal protective equipment (PPE) is employed. The authors conclude that while there is no clear mortality benefit, the evidence supports implementing an early tracheostomy strategy to accelerate patient liberation from MV and decrease ICU LOS, thereby optimizing critical care capacity without increasing patient mortality risk.

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Transoral robotic supraglottic laryngectomy: Long-term functional and oncologic outcomes.

Lay Summary:

This study reports on the long-term success of a modern, minimally invasive procedure called Transoral Robotic Supraglottic Laryngectomy (TORS-SGL) used to treat laryngeal (voice box) cancer. This technique uses a surgical robot inserted through the mouth to remove cancer from the supraglottis, aiming to preserve the voice box and the patient's ability to speak and swallow normally. Researchers looked back at the records of 23 patients who had the TORS-SGL surgery between 2012 and 2015, following them for at least five years to check both cancer survival and functional recovery.

The findings were excellent across the board. In terms of cancer survival, the results were very strong: 82.3% of patients were alive and 86.9% were disease-free after five years. This demonstrates that the minimally invasive approach is just as effective at treating the cancer as more traditional, open surgeries. The functional results were also highly successful. Only two patients needed a temporary tracheostomy (breathing tube in the neck), and both were successfully removed (decannulated). Crucially, almost all patients were able to resume a normal diet by mouth, with only one patient requiring long-term feeding tube dependence. The study concludes that TORS-SGL is a highly effective procedure that provides excellent long-term survival while successfully preserving the essential functions of the larynx, representing a major advance for patients with supraglottic tumors.

Summary for Healthcare Professionals:

This retrospective cohort study investigated the long-term functional and oncologic outcomes of Transoral Robotic Supraglottic Laryngectomy (TORS-SGL) in 23 patients with supraglottic laryngeal cancer, with a minimum follow-up of five years. The objective was to validate TORS-SGL as an effective minimally invasive organ preservation technique. Oncologic outcomes demonstrated robust long-term survival metrics: the 5-year Overall Survival (OS) rate was 82.3%, and the 5-year Disease-Free Survival (DFS) rate was 86.9%. Only three patients experienced local recurrence (13.0%).

Functional outcomes were highly successful. The rate of tracheostomy (TT) requirement was low (8.7%), and all two patients who required it were successfully decannulated. Furthermore, swallowing function was successfully preserved; all but one patient (4.3%) achieved full oral feeding with only one case requiring long-term feeding tube support.

The authors conclude that TORS-SGL is an effective and safe technique that delivers excellent long-term oncologic control while minimizing surgical morbidity and preserving critical laryngeal functions. This evidence supports TORS-SGL as a superior organ preservation option for select supraglottic tumors, providing comparable survival rates to conventional therapies while maximizing functional recovery.

NTSP Podcast Series

Factors Affecting the Quality of Life of Parents Caring for Pediatric Patients with a Tracheostomy.

Lay Summary:

This study investigated the significant impact that caring for a child with a tracheostomy (a breathing tube in the neck) has on the parents' quality of life (QOL) after the child is sent home from the Pediatric Intensive Care Unit (PICU). For a child, having a tracheostomy means they are often highly dependent on technology and specialized care. Researchers surveyed the parents of 26 children to understand how the child's functional status affects the well-being of the primary caregivers.

The study used two main tools: the Functional Status Scale (FSS) to measure how well the child was functioning (including breathing, feeding, and mental status) and the WHOQOL-BREF scale to measure the parent's QOL in areas like physical, social, and psychological health.

The findings showed a clear connection: the more difficulty the child had functioning (a higher FSS score), the worse the parent's QOL was. Specifically, parents reported reduced scores across four key areas of their own health: physical, psychological, social relationships, and environment. For instance, their social life and ability to engage with the community were significantly impacted. The authors conclude that this study, the first to directly compare a child's objective functional status with a parent's quality of life, highlights the extreme burden on caregivers. They recommend that healthcare systems must prioritize psychological and social support for these parents alongside training to manage the child's medical equipment.

Summary for Healthcare Professionals:

This retrospective cohort study evaluated the correlation between the functional status of pediatric tracheostomy patients and the Quality of Life (QOL) of their primary caregivers post-discharge from the Pediatric Intensive Care Unit (PICU). The study included the parents of 26 children (out of 119 total tracheostomies performed between 2011 and 2021) and utilized two validated scales: the Functional Status Scale (FSS) for patient functional disorder and the WHOQOL-BREF for parental QOL.

The primary finding established a significant negative correlation ($p \leq 0.004$) between a child's FSS score and the parents' QOL across multiple domains. An elevated mean FSS score of 17.84 (indicating greater functional disorder in the child) correlated directly with a reduction in mean scores for parental physical health, psychological health, social relationships, and environmental health. The greatest negative impact was observed in the social relationships domain.

The study is significant as it directly compares a child's objective morbidity (FSS score) with their caregiver's QOL. The authors conclude that the parental QOL is reduced in four major domains and is directly and significantly affected by the degree of the child's functional disorder. This mandates the implementation of standardized, routine screening of caregiver QOL during post-discharge follow-up to identify and target necessary psychological and social support interventions for this high-burden population.

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Tracheostomy care quality improvement in low- and middle-income countries: A scoping review

Lay Summary:

This important global study reviewed the major challenges of providing high-quality tracheostomy care in low- and middle-income countries (LMICs). A tracheostomy is a life-saving procedure, but safe long-term care requires specific skills and continuous support. Researchers surveyed hospital staff, patients, and caregivers worldwide to identify the most severe problems. The top three challenges identified by the participants were deeply concerning: the limited availability of doctors and nurses with tracheostomy expertise (rated 8/10 for severity), major inequities in access to care (7/10), and significant problems with the affordability of necessary supplies and follow-up (6/10). Caregivers also pointed out major gaps in education, inconsistent cleaning methods, and feeling unprepared to handle emergencies.

Because many of these problems stem from systemic issues like geographic isolation, financial strain, and permanent workforce shortages, the study concludes that simple local fixes are not enough. There is an urgent need for global public health organizations and policymakers to invest in innovative, standardized training frameworks. These solutions must be scalable—meaning they can be easily implemented across large, resource-constrained areas—to bridge the gaps in training and ensure equitable access to safe, quality care for all tracheostomy patients. Enhanced interdisciplinary collaboration is deemed critical for improving outcomes and reducing the substantial burden on caregivers.

Summary for Healthcare Professionals:

This scoping review employed a global multi-stakeholder survey to comprehensively identify and quantify critical gaps in tracheostomy care quality within Low- and Middle-Income Countries (LMICs). The review synthesized quantitative severity ratings and qualitative insights from healthcare professionals (HCPs), patients, and caregivers. The findings quantified three paramount challenges reflecting systemic failures: the limited availability of HCPs with tracheostomy expertise (Median Severity Score: 8), persistent inequities in access to care (Median Score: 7), and significant affordability concerns (Median Score: 6).

Qualitative thematic analysis further revealed pervasive issues with inadequate education and training, inconsistent suctioning and stoma care techniques, and insufficient caregiver empowerment. The barriers specific to underserved populations include geographic access limitations, financial strain, and workforce shortages. The authors conclude that addressing these significant global challenges requires a multi-pronged approach. The emphasis must shift toward developing and implementing innovative, scalable training frameworks, establishing standardized care pathways, and initiating policy-level changes to fundamentally address the systemic inequities that jeopardize patient safety in LMICs. Enhanced interdisciplinary collaboration and patient-centered approaches are highlighted as critical strategies for improving outcomes and reducing caregiver burden.

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Scientific abstracts and references

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Int J Pediatr Otorhinolaryngol. 2023 Nov 17;176:111787. doi: 10.1016/j.ijporl.2023.111787. Online ahead of print.

Revisiting the Great Ormond Street Hospital protocol for ward decannulation of children with tracheostomy.

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INTRODUCTION: Tracheostomy decannulation is an important and final step in managing patients once the underlying issue requiring a tracheostomy resolves. However, no consensus exists on the optimal method to decannulate a paediatric patient. We revisit the Great Ormond Street Hospital (GOSH) tracheostomy decannulation protocol, a 5-day process involving downsizing the tracheostomy tube, capping, and observation, to evaluate its effectiveness and assess if changes to the protocol are required. METHOD: This is a retrospective study, reviewing patient records between April 2018 and April 2023 from a single quaternary care centre. Data extracted include comorbidities, age at the time of decannulation, duration of tracheostomy, reason for tracheostomy insertion, whether a decannulation attempt was successful or not, and the timings of decannulation failure. RESULTS: 66 patients that met the selection criteria underwent a decannulation trial between April 2018 and April 2023. 32 patients were male, and 34 patients were female. Age at attempted decannulations ranged from 1 year to 18 years, with an average age of 6.1 years. There were a total of 93 attempts at decannulation, with 51 (54.8%) successful attempts, 35 (56.5%) first decannulation attempt successes, and 42 (45.2%) unsuccessful attempts. 17 patients had 2 attempts at decannulation, and 4 patients had 3 or more attempts at decannulation. Of the unsuccessful attempts, patients mostly failed on capping of the tracheostomy tube with 33 failures (35.5%). CONCLUSION: The GOSH protocol achieved similar success rates to comparable protocols. The protocol's multi-step approach provides thorough evaluation and support for patients during the decannulation process, and its success on a complex patient cohort supports its continued use.

Pediatr Pulmonol. 2023 Nov 20. doi: 10.1002/ppul.26749. Online ahead of print.

Long-term outcomes of standardized training for caregivers of children with tracheostomies: The IStanbul PAediatric Tracheostomy (ISPAT) project.

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BACKGROUND AND OBJECTIVES: Children with tracheostomies are at increased risk of tracheostomy-related complications and require extra care. Standardized training programs for caregivers can improve tracheostomy care and reduce complications. In this study, we compared caregiver knowledge and skill scores after a standardized theoretical and practical training program on tracheostomy care (IStanbul PAediatric Tracheostomy (ISPAT) project) immediately and 1 year post-training and evaluated how this training affected the children's clinical outcomes. MATERIALS AND METHODS: We included 32 caregivers (31 children) who had received standardized training a year ago and administered the same theoretical and practical tests 1 year after training completion. We recorded tracheostomy-related complications and the number and reasons for admission to the healthcare centers. All data just before the training and 1 year after training completion were compared. RESULTS: After 1 year of training completion, the median number of correct answers on the theoretical test increased to 16.5 from 12 at pretest ($p < 0.001$). Compared with pretest, at 1-year post-training practical skills assessment scores, including cannula exchange and aspiration, were significantly higher (both $p < 0.001$) and mucus plug, bleeding, and stoma infection reduced significantly ($p = 0.002$, 0.022, and 0.004, respectively). Hands-on-training scores were better than pretest but declined slightly at 1 year compared to testing immediately after training. Emergency admission decreased from 64.5% to 32.3% ($p = 0.013$). Hospitalization decreased from 61.3% to 35.5% ($p = 0.039$). CONCLUSION: Our findings indicate that caregiver training can lead to a persistent increase in knowledge and skill for as long as 1 year, as well as improvements in several measurable outcomes, although a slight decrease in scores warrants annual repetitions of the training program.

Cochrane Database Syst Rev. 2023 Nov 20;11(11):CD015532. doi: 10.1002/14651858.CD015532.

Early versus late tracheostomy in critically ill COVID-19 patients.

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BACKGROUND: The role of early tracheostomy as an intervention for critically ill COVID-19 patients is unclear. Previous reports have described prolonged intensive care stays and difficulty weaning from mechanical ventilation in critically ill COVID-19 patients, particularly in those developing acute respiratory distress syndrome. Pre-pandemic evidence on the benefits of early tracheostomy is conflicting but suggests shorter hospital stays and lower mortality rates compared to late tracheostomy. OBJECTIVES: To assess the benefits and harms of early tracheostomy compared to late tracheostomy in critically ill COVID-19 patients. SEARCH METHODS: We searched the Cochrane COVID-19 Study Register, which comprises CENTRAL, PubMed, Embase, ClinicalTrials.gov, WHO International Clinical Trials Registry Platform, and medRxiv, as well as Web of Science (Science Citation Index Expanded and Emerging Sources Citation Index) and WHO COVID-19 Global literature on coronavirus disease to identify completed and ongoing studies without language restrictions. We conducted the searches on 14 June 2022. SELECTION CRITERIA: We followed standard Cochrane methodology. We included randomized controlled trials (RCTs) and non-randomized studies of interventions (NRSI) evaluating early tracheostomy compared to late tracheostomy during SARS-CoV-2 infection in critically ill adults irrespective of gender, ethnicity, or setting. DATA COLLECTION AND ANALYSIS: We followed standard Cochrane methodology. To assess risk of bias in included studies, we used the Cochrane RoB 2 tool for RCTs and the ROBINS-I tool for NRSIs. We used the GRADE approach to assess the certainty of evidence for outcomes of our prioritized categories: mortality, clinical status, and intensive care unit (ICU) length of stay. As the timing of tracheostomy was very heterogeneous among the included studies, we applied GRADE only to studies that defined early tracheostomy as 10 days or less, which was chosen according to clinical relevance. MAIN RESULTS: We included one RCT with 150 participants diagnosed with SARS-CoV-2 infection and 24 NRSIs with 6372 participants diagnosed with SARS-CoV-2 infection. All participants were admitted to the ICU, orally intubated and mechanically ventilated. The RCT was a multicenter, parallel, single-blinded study conducted in Sweden. Of the 24 NRSIs, which were mostly conducted in high- and middle-income countries, eight had a prospective design and 16 a retrospective design. We did not find any ongoing studies. RCT-based evidence We judged risk of bias for the RCT to be of low or some concerns regarding randomization and measurement of the outcome. Early tracheostomy may result in little to no difference in overall mortality (RR 0.82, 95% CI 0.52 to 1.29; RD 67 fewer per 1000, 95% CI 178 fewer to 108 more; 1 study, 150 participants; low-certainty evidence). As an indicator of improvement of clinical status, early tracheostomy may result in little to no difference in duration to liberation from invasive mechanical ventilation (MD 1.50 days fewer, 95%, CI 5.74 days fewer to 2.74 days more; 1 study, 150 participants; low-certainty evidence). As an indicator of worsening clinical status, early tracheostomy may result in little to no difference in the incidence of adverse events of any grade (RR 0.94, 95% CI 0.79 to 1.13; RD 47 fewer per 1000, 95% CI 164 fewer to 102 more; 1 study, 150 participants; low-certainty evidence); little to no difference in the incidence of ventilator-associated pneumonia (RR 1.08, 95% CI 0.23 to 5.20; RD 3 more per 1000, 95% CI 30 fewer to 162 more; 1 study, 150 participants; low-certainty evidence). None of the studies reported need for renal replacement therapy. Early tracheostomy may result in little benefit to no difference in ICU length of stay (MD 0.5 days fewer, 95% CI 5.34 days fewer to 4.34 days more; 1 study, 150 participants; low-certainty evidence). NRSI-based evidence We considered risk of bias for NRSIs to be critical because of possible confounding, study participant enrollment into the studies, intervention classification and potentially systematic errors in the measurement of outcomes. We are uncertain whether early

tracheostomy (≤ 10 days) increases or decreases overall mortality (RR 1.47, 95% CI 0.43 to 5.00; RD 143 more per 1000, 95% CI 174 less to 1218 more; I2 = 79%; 2 studies, 719 participants) or duration to liberation from mechanical ventilation (MD 1.98 days fewer, 95% CI 0.16 days fewer to 4.12 more; 1 study, 50 participants), because we graded the certainty of evidence as very low. Three NRSIs reported ICU length of stay for 519 patients with early tracheostomy (≤ 10 days) as a median value, which we could not include in the meta-analyses. We are uncertain whether early tracheostomy (≤ 10 days) increases or decreases the ICU length of stay, because we graded the certainty of evidence as very low. AUTHORS'
CONCLUSIONS: We found low-certainty evidence that early tracheostomy may result in little to no difference in overall mortality in critically ill COVID-19 patients requiring prolonged mechanical ventilation compared with late tracheostomy. In terms of clinical improvement, early tracheostomy may result in little to no difference in duration to liberation from mechanical ventilation compared with late tracheostomy. We are not certain about the impact of early tracheostomy on clinical worsening in terms of the incidence of adverse events, need for renal replacement therapy, ventilator-associated pneumonia, or the length of stay in the ICU. Future RCTs should provide additional data on the benefits and harms of early tracheostomy for defined main outcomes of COVID-19 research, as well as of comparable diseases, especially for different population subgroups to reduce clinical heterogeneity, and report a longer observation period. Then it would be possible to draw conclusions regarding which patient groups might benefit from early intervention. Furthermore, validated scoring systems for more accurate predictions of the need for prolonged mechanical ventilation should be developed and used in new RCTs to ensure safer indication and patient safety. High-quality (prospectively registered) NRSIs should be conducted in the future to provide valuable answers to clinical questions. This could enable us to draw more reliable conclusions about the potential benefits and harms of early tracheostomy in critically ill COVID-19 patients.

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Transoral robotic supraglottic laryngectomy: Long-term functional and oncologic outcomes.

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OBJECTIVES: Minimally invasive transoral organ preservation surgeries are being increasingly used for supraglottic tumors. This study investigates the long-term functional and oncologic outcomes of transoral robotic supraglottic laryngectomy (TORS-SGL). MATERIALS AND METHODS: Twenty-three patients with supraglottic laryngeal cancer who underwent TORS-SGL between 2012 and 2015 at a tertiary referral hospital were retrospectively analyzed with at least 5 years of follow-up. The head and neck tumor council and the multidisciplinary oncological board decided whether the patients were suitable for robotic surgery, and the necessity of adjuvant radiotherapy or chemotherapy. Inclusion criteria was histopathological diagnosis of squamous cell carcinoma of the larynx. RESULTS: Twenty-one patients with T1-T3 supraglottic squamous cell carcinoma were included in this study. Mean follow-up was 48.8 months. Local control was 94.4 % at 2 years and 85.9 % at 5 years. Disease-free survival and overall survival were 85.7 % and 81 % at 2 years and 69.3 % and 57.1 % at 5 years, respectively. There was no permanent tracheostomy or prolonged swallowing dysfunction among patients. Age, perineural and lymphovascular invasion were found to be risk factors affecting overall survival. CONCLUSION: TORS-SGL is a feasible, safe and reliable approach with excellent functional results for T1, T2, and selected T3 supraglottic tumors, providing acceptable long-term oncologic results when compared to alternative treatment modalities.

NTSP Podcast Series

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Factors Affecting the Quality of Life of Parents Caring for Pediatric Patients with a Tracheostomy.

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Objectives This study aimed to evaluate factors affecting the quality of life (QOL) of parents of children who underwent placement of a tracheostomy while in the pediatric intensive care unit (PICU) through postdischarge use of a standardized questionnaire, Functional Status Scale (FSS) for patients, and WHOQoL-BREF (a QOL scale) for parents. Methods The parents were initially contacted by telephone, postdischarge, during which the standardized questionnaire was completed. The functional status of the patients was evaluated using the FSS, and the QOL of parents was determined through use of the WHOQoL-BREF scale. Results From 2011 to 2021, tracheostomy was performed in 119 PICU patients. Overall, 93 patients were excluded due to death in 66 (56%), decannulation in 24 (20%) and, 3 (2%) were not available for follow-up. The parents of 26 (22%) patients were available for follow-up and for which the standardized questionnaire FSS and WHOQoL-BREF QOL scales were completed. The mean FSS score of the patients was elevated at 17.84. In comparison, reduced mean scores were observed for parental physical health of 20.61, psychological health of 20.57, social health of 11.15, and environmental health of 29.00. As a result, a moderate ($r < 0.80$), yet significant ($p \leq 0.004$) negative correlation was found between the FSS scores of patients and the physical, social relationships, environmental, and psychological health QOL scores of parents. Conclusion This study is unique in that, to our knowledge, it is the first to compare parental QOL with the FSS of pediatric patients who have undergone a tracheostomy while hospitalized in the PICU. Our findings indicate that the parental QOL was reduced in four areas and correlates with an elevation in FSS score (indicating a greater functional disorder) of pediatric patients who had previously undergone a tracheostomy while hospitalized in the PICU.

PLOS Glob Public Health. 2023 Nov 9;3(11):e0002294. doi: 10.1371/journal.pgph.0002294. eCollection 2023.

Tracheostomy care quality improvement in low- and middle-income countries: A scoping review.

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Tracheostomy is a lifesaving, essential procedure performed for airway obstruction in the case of head and neck cancers, prolonged ventilator use, and for long-term pulmonary care. While successful quality improvement interventions in high-income countries such as through the Global Tracheostomy Collaborative significantly reduced length of hospital stay and decreased levels of anxiety among patients, limited literature exists regarding tracheostomy care and practices in low and middle-income countries (LMIC), where most of the world resides. Given limited literature, this scoping review aims to summarize published tracheostomy studies in LMICs and highlight areas in need of quality improvement and clinical research efforts. Based on the PRISMA guidelines, a scoping review of the literature was performed through MEDLINE/PubMed and Embase using terms related to tracheostomy, educational and quality improvement interventions, and LMICs. Publications from 2000-2022 in English were included. Eighteen publications representing 10 countries were included in the final analysis. Seven studies described baseline needs assessments, 3 development of training programs for caregivers, 6 trialed home-based or hospital-based interventions, and finally 2 articles discussed development of standardized protocols. Overall, studies highlighted the unique challenges to tracheostomy care in LMICs including language, literacy barriers, resource availability (running water and electricity in patient homes), and health system access (financial costs of travel and follow-up). There is currently limited published literature on tracheostomy quality improvement and care in LMICs. Opportunities to improve quality of care include increased efforts to measure complications and outcomes, implementing evidence-based interventions tailored to LMIC settings, and using an implementation science framework to study tracheostomy care in LMICs.