

Implementation of a Referral Pathway and Peri-operative Checklist for Delivery of Surgical Tracheostomy Provision during the COVID-19 Pandemic.

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Globally the SARS-CoV-2 pandemic has posed significant challenges in the delivery of clinical care, in part owing to the lack of an evidence base for treatment and formalised patient care pathways. Guidelines have been published on the technical protocol for surgical tracheostomy in SARS-CoV-2 patients [2], however it is important to also focus on the pre-operative referral process. In order to make assertions on whether tracheostomy may have aided weaning, it would be necessary to implement formal, standardised methods of patient selection and record variables that may allow eventual patient prognostication. With a view to address this issue we have established a COVID-19 tracheostomy referral pathway based on work by The British Laryngological Association (BLA) and multidisciplinary stakeholders at Barts Health NHS Trust (see online Appendix 1) [3].

Two intensive care consultants were initially required to make a decision to proceed with tracheostomy, in discussion with the surgical tracheostomy liaison multidisciplinary team (MDT). The tracheostomy liaison MDT reviewed each referral (Referral Form for Tracheostomy during the Covid-19 pandemic; see online Appendix 2) against the preconditions set out in the COVID-19 Tracheostomy

Guideline to ensure it was appropriate with reference to the highest level of evidence available. [3] Predetermined departments within the trust employed the use of two newly created surgical checklists, the preparatory and procedural checklist (see online Appendix 3), created from work developed by the Barts Health NHS Trust MDT and The British Laryngological Association (BLA). [3] The focus of our department was on implementing clinical guidance to ensure the provision of the tracheostomy service was based on best available evidence and involved all relevant stakeholders.

In concordance with the guideline recommendations, of the forty-one patients during the referral period who received a tracheostomy, 88% had an FiO₂ ≤ 50%, 68% had PEEP ≤ 8 cm H₂O and 71% were apyrexial. The creation of an agreed and formalised tracheostomy referral pathway has been successful in standardising our practice, ensuring the guideline recommendations were met and minimised the potential risk to patient and healthcare staff [4]. The preparatory and procedural checklists can be used to prevent communication errors and avoidable disasters as demonstrated by other surgical safety checklists. In a recent systematic analysis, P. Staibano et al. [5] suggest that early tracheostomy may reduce ICU stay and

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appears to be a relatively effective and safe treatment for patients with COVID-19, and also safe for the HCPs performing the procedures who are wearing personal protective equipment. However, the conclusions are limited by the observational nature of included studies. Departments must continue to focus on 'how' to deliver the service by adopting a rational approach to multi-disciplinary decision making and patient selection. Therefore, we feel that implementing similar ways of approaching the referral process, decision making surrounding surgical tracheostomy and documentation of clinical indications and contraindications may prove very useful, especially in the event of continued waves of Covid-19.

Appendix 1. Standard Operating Procedure for Tracheostomies during COVID-19 Pandemic

Appendix 2. Referral Form for Surgical Tracheostomy during the COVID-19 Pandemic

Appendix 3. Tracheostomy Preparatory and Procedural Checklist

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References

1. Martin-Villares, C., Perez Molina-Ramirez, C., Bartolome-Benito, M. et al. (2020). Outcome of 1890 tracheostomies for critical COVID-19 patients: a national cohort study in Spain. *Eur Arch Otorhinolaryngol.* (2020).
2. Takhar A, Walker A, Tricklebank S, Wyncoll D, Hart N, Jacob T, et al. (2020). Recommendations of a practical guideline for safe tracheostomy during the COVID-19 pandemic. *Eur. Arch. Oto-Rhino-L.*
3. British Laryngological Association. (2020) COVID-19 Tracheostomy Guideline. <https://www.britishlaryngological.org/>. Accessed: 3th of September 2020.
4. Tran K, Cimon K, Severn M, et al. (2012). Aerosol generating procedures and risk of transmission of acute respiratory infections to healthcare workers: a systematic review. *Plos One* 7: e35797.
5. Staibano P, Levin M, McHugh T, et al (2021). Association of Tracheostomy with Outcomes in Patients with COVID-19 and SARS-CoV-2 Transmission among Health Care Professionals: A Systematic Review and Meta-analysis. *JAMA Otolaryngol Head Neck Surg* 147(7): 646-655.

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