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South East Coast Ambulance Service NHS Foundation Trust

Clinical Bulletin

Adult Endotracheal Intubation

Written By:

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Applies To: All staff

Does the information in this bulletin change any existing Trust policy or procedure?

Yes

If Yes, which policy or procedure does it change?

Scope of practice policy

Headline action

The Trust has taken the decision, following an in-depth review, to phase out the practice of adult endotracheal intubation from our paramedics' scope of practice over the next eight months. This step has already been taken for paediatric endotracheal intubation.

By April 2023, all staff will have undergone their key skills for 2022/23 to ensure competency in the stepwise approach to airway management including advanced airway management using supra-glottic devices.

Developing evidence and international guidelines demonstrate that endotracheal intubation for airway management in the setting of cardiac arrest is of uncertain benefit and should only be carried out in settings where success rate is 95% or greater within 2 attempts.

The exposure to cardiac arrest management along with access to second generation supraglottic devices means that in line with many other services in England the Trust will move to endotracheal intubation being within the remit of specialist practice (the Critical Care Paramedic cohort only).

The use of a laryngoscope for airway clearance in cases of foreign body airway obstruction (FBAO) differs from laryngoscopy to facilitate passage of a tube into the trachea. The technique of direct laryngoscopy with the use of Magill forceps to facilitate the removal of an FBAO is an essential skill which must be retained within paramedic practice and the removal of intubation will not affect this for paramedic staff.

The Trust will be taking a phased approach to the removal from scope of practice:

1. With immediate effect for paramedics joining the Trust endotracheal intubation will not be in scope.

2. Recognising the burden of responsibility of endotracheal intubation, any paramedic may take the professional decision to opt out from endotracheal intubation with immediate effect or anytime before April 2023.
3. From 1st April 2023 endotracheal intubation will cease to be within paramedic scope of practice.

Background

The evidence base for intubation in out of hospital cardiac arrest (OHCA) remains uncertain. In the UK paramedics currently only intubate patients without the use of drugs and the majority of these patients are in cardiac arrest. The AIRWAYS-2 (1) study compared the use of an i-gel Supraglottic Airway Device (SAD) against a standard tracheal tube and the results indicate that using a SAD is just as effective as an endotracheal tube. Additionally, first-time success rates were higher when using an SAD.
The study concluded that familiarity, competence, and proficiency with the airway device is arguably more important and using a SAD is a single-operator technique which allows clinicians to concentrate on providing essential lifesaving interventions such as effective chest compressions and defibrillation.

The current evidence base has been reviewed by the College of Paramedics and it presents a mixed picture of the value of intubation of cardiac arrest patients by paramedics (2).
The recent, large 'PART' trial (*n* = 3,004) conducted in the United States of America demonstrated first pass success (FPS) in paramedic intubation was just 52% (3). Meanwhile, the AIRWAYS-2' trial in the UK (*n* = 9,296) found success after up to two attempts to be 79% (and did not report FPS).

UK evidence suggests that ambulance clinicians attend approximately three OHCA per year (4) and as such, exposure to intubation opportunity is likely to be low compared to the total clinical workload.
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A recent internal retrospective review as part of a publication of Critical Care Paramedic (CCP) practice (5) found a first pass success rate of 85.3% and 97.5% within 2 attempts (99.4% in 3) a similar review of first pass success in the non CCP cohort demonstrated a rate of 67.6%, data for 2nd pass was not available.
Data from the specialist practice cohort in London Ambulance Service found first pass success and overall success of 90.8% and 96.4%, respectively (6).

Given the current position of no clear survival benefit associated with intubation and the reported efficacy of SADs, the most recent consensus from the International Liaison Committee on Resuscitation (ILCOR) recommended a SAD for OHCA in settings with "low intubation success" and SAD or intubation for OHCA in settings with "high intubation success" but did not define "high" or "low" (7). The most recent ERC guidelines (8) recommend that "rescuers with a high intubation success rate should use intubation" and define this as greater than 95% within two attempts.

The use of the 22/23 key skills programme will allow the consolidation of the stepwise approach to airway management. It will ensure that best practice with the clinical devices and equipment utilised within the Trust are in line with current best international recommendations.

Links to trust-wide learning and evidence

1) Effect of a Strategy of a Supraglottic Airway Device vs Tracheal Intubation During Out-of-Hospital Cardiac Arrest on Functional Outcome
The AIRWAYS-2 Randomized Clinical Trial
Benger, J. R. etal.
JAMA. 2018;320(8):779-791. doi:10.1001/jama.2018.11597

2) https://www.collegeofparamedics.co.uk/COP/Professional_development/Intubation_Consensus_Statement_/COP/ProfessionalDevelopment/Intubation_Consensus_Statement_.aspx?hkey=5c999b6b-274b-42d3-8dbc-651c367c0493

3) Effect of a Strategy of Initial Laryngeal Tube Insertion vs Endotracheal Intubation on 72-Hour Survival in Adults With Out-of-Hospital Cardiac Arrest
A Randomized Clinical Trial
Wang, H.E. etal. *JAMA.* 2018;320(8):769-778. doi:10.1001/jama.2018.7044

4) Mechanical versus manual chest compression for out-of- hospital cardiac arrest (PARAMEDIC): a pragmatic, cluster randomised controlled trial.
Perkins, G. D. et al. The Lancet, 2015 Volume 285, pp. 947-55.

5) Drug-free tracheal intubation by specialist paramedics (critical care) in a United Kingdom ambulance service: a service evaluation.
Houghton Budd, S., Alexander-Elborough, E., Brandon, R. *et al*
BMC Emerg Med **21,** 144 (2021). https://doi.org/10.1186/s12873-021-00533-0

6) Advanced Airway Management by Advanced Paramedic Practitioners in Critical Care (APP-CC) in a UK Ambulance Service: A Retrospective Review.
McIntyre, I. etal. *London Ambulance Service NHS Trust*

7) International Consensus on Cardiopulmonary Resuscitationand Emergency Cardiovascular Care Science with Treatment Recommendations.
Soar, J. etal
Circulation, Volume 140, pp. e826-80

8) European Resuscitation Council Guidelines 2021: Adult advanced life support
Published: March 24, 2021 https://doi.org/10.1016/j.resuscitation.2021.02.010

Quality impact assessment summary

There is a QIA and EIA for this change in practice

Key points

- Endotracheal intubation will not be in scope of practice for any paramedic joining the Trust with immediate effect
- Endotracheal intubation will be removed from the Paramedic scope of practice entirely from April 2023
- Paramedics may take the professional decision to release themselves from the burden of responsibility and remove endotracheal intubation from their scope ahead of April 2023
- The use of a laryngoscope will remain within scope for the visualisation and removal of foreign bodies in the upper airway
- Endotracheal intubation for both adult and paediatric patients will remain within the Critical Care Paramedic scope of practice