University Hospitals Sussex
NHS Foundation Trust

# Failed Intubation in the Obstetric Patient

Maternity Protocol: MP044

Date agreed: August 2022

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| **Guideline Reviewer:** | Róisín Monteiro |
| **Version:** | 4 |
| **Approval Committee:** | Women's Services Safety and Quality Committee |
| **Date agreed:** | August 2022 |
| **Review date:** | August 2025 |
| **Cross reference:** | **MP050** Caesarean section |

**Contents**

## Key Principles

*A protocol is a set of measurable, objective standards to determine a course of action. Professional judgement may be used in the application of a protocol.*

## Scope

This protocol applies to:

- All people requiring general anaesthesia the peri-partum period.

## Responsibilities

Anaesthetists, Midwives & Obstetricians:

- To access, read, understand and follow this guidance
- To use their professional judgement in application of this protocol

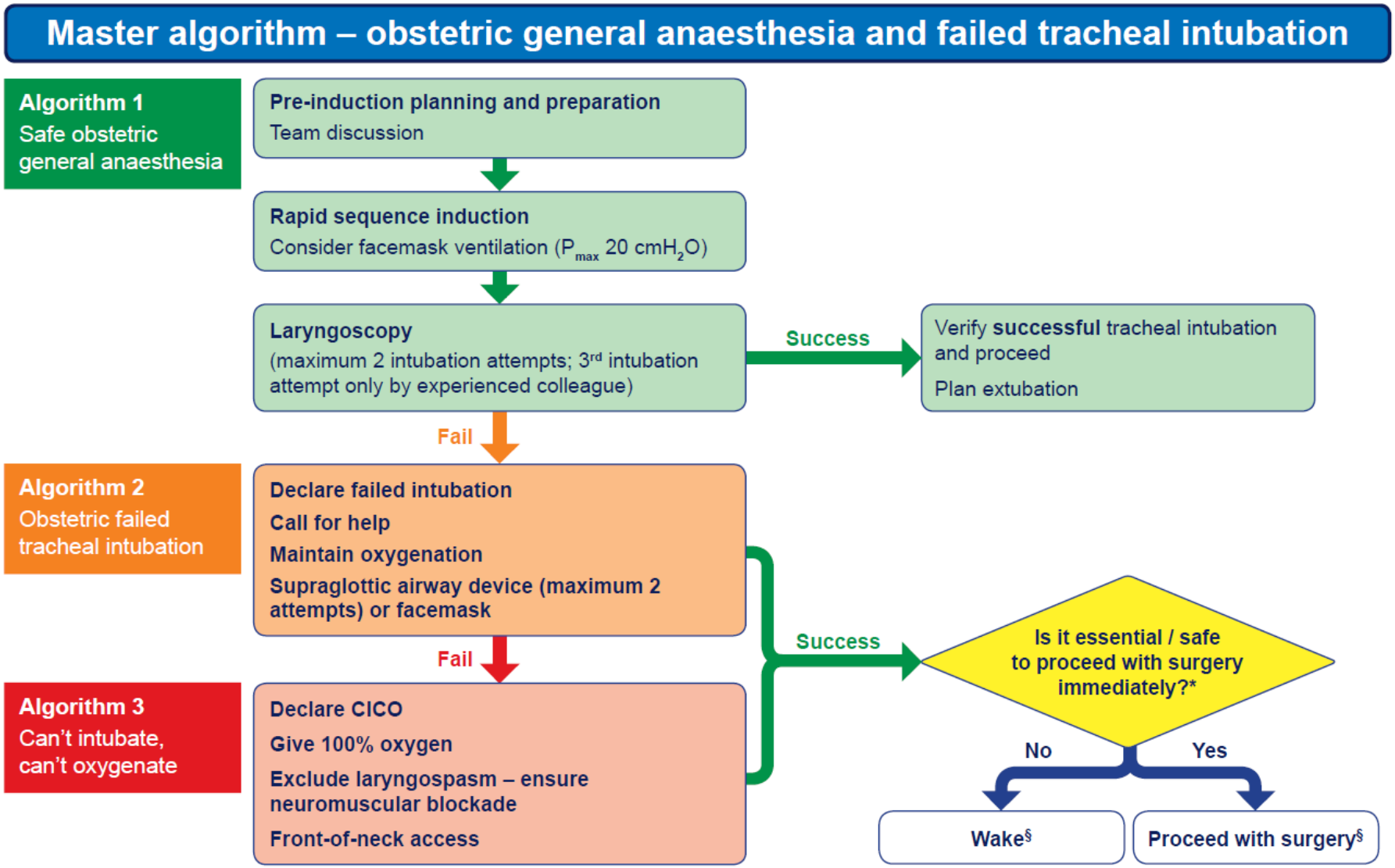
Management Team:

- To ensure the protocol is reviewed as required in line with Trust and National recommendations
- To ensure the protocol is accessible to all relevant staff

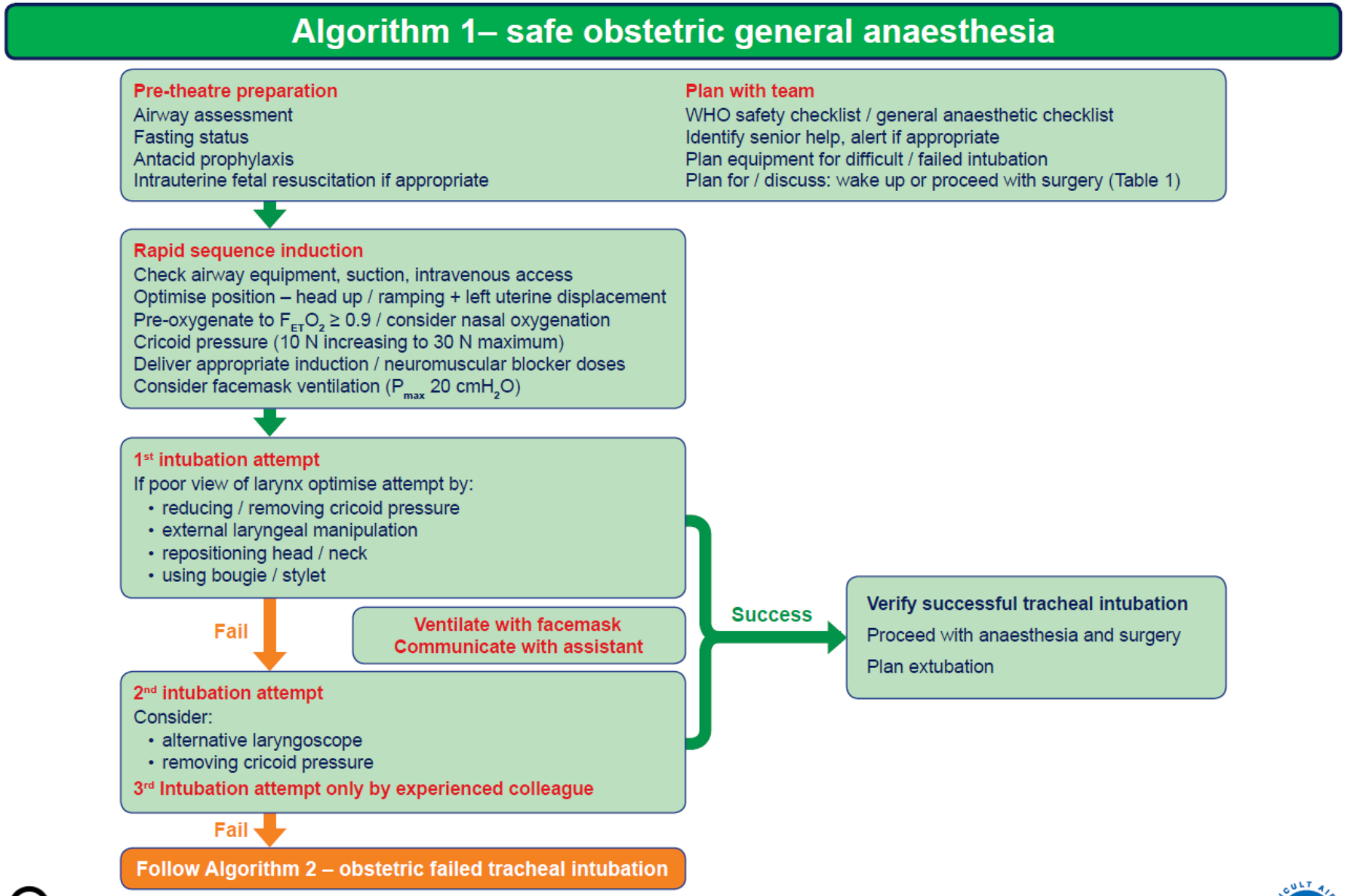
**Background**

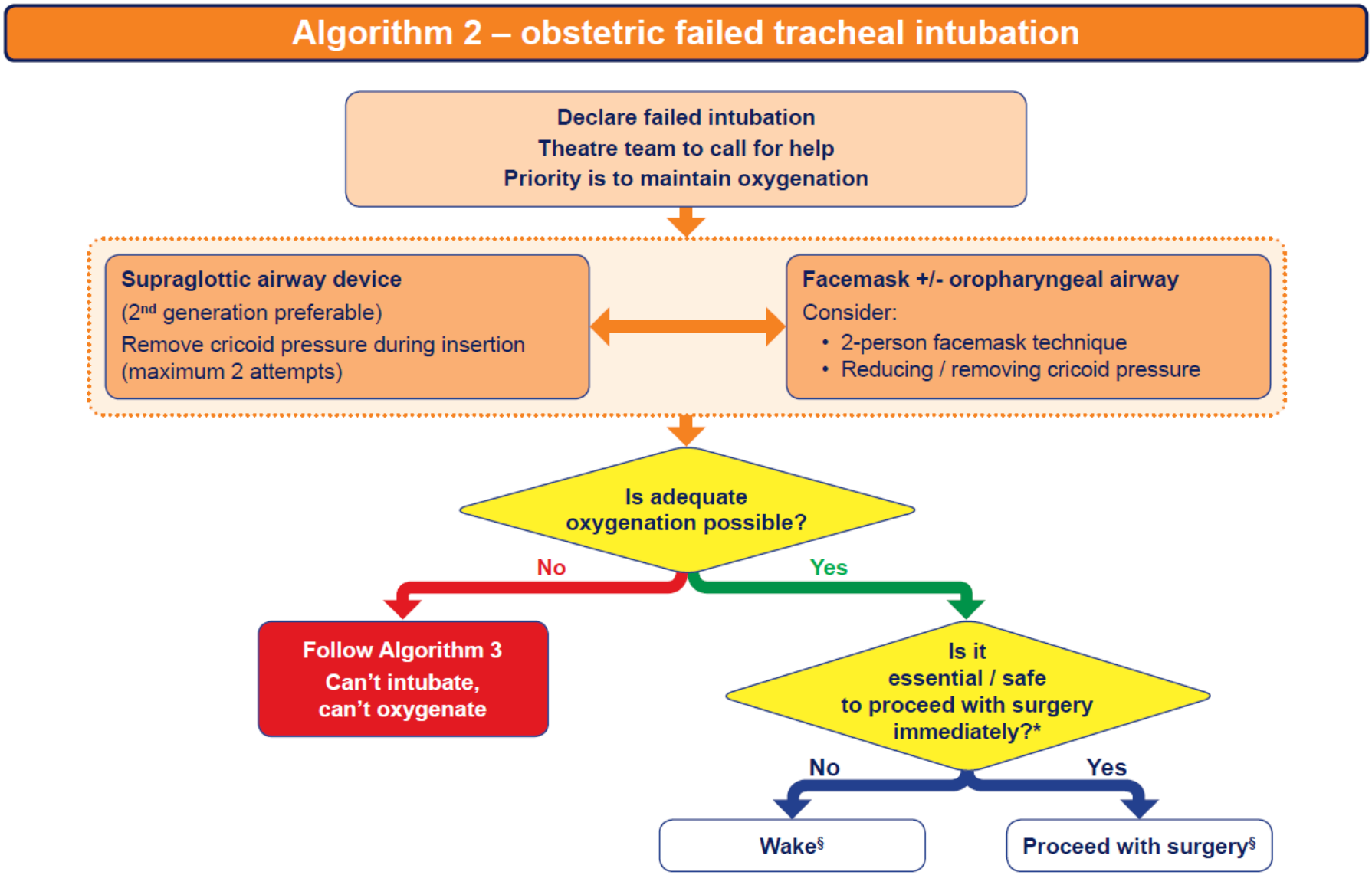
Differences between pregnant patients and other patient populations include pregnancy-related changes in maternal physiology (eg, rapid oxygen desaturation, increased risk of aspiration, increased risk of a difficult airway), the need to consider both the maternal and fetal status, and human factors which may influence practice, including the time critical nature of most obstetric general anaesthetics.

Management of the difficult airway for anaesthesia for any patient requires an algorithmic approach, to allow focussed intervention. The Obstetric Anaesthetists' Association and Difficult Airway Society (OAA/DAS) have created algorithms for the management of the unanticipated difficult airway for pregnant patients. They also include a decision making tool which may be useful for deciding whether to continue with caesarean delivery after a failed intubation. The UHS Trust protocol support the use of the OAA/DAS Guidelines.




*See Table 1, §See Table 2




Algorithm 2 – obstetric failed tracheal intubation
Declare failed intubation
Theatre team to call for help
Priority is to maintain oxygenation
Supraglottic airway device
(2nd generation preferable)
Remove cricoid pressure during insertion
(maximum 2 attempts)
Facemask +/- oropharyngeal airway
Consider:
• 2-person facemask technique
• Reducing / removing cricoid pressure
Is adequate oxygenation possible?
No
Yes
Follow Algorithm 3
Can't intubate, can't oxygenate
Is it essential / safe to proceed with surgery immediately?*
No
Yes
Wake§
Proceed with surgery§
*See Table 1, §See Table 2
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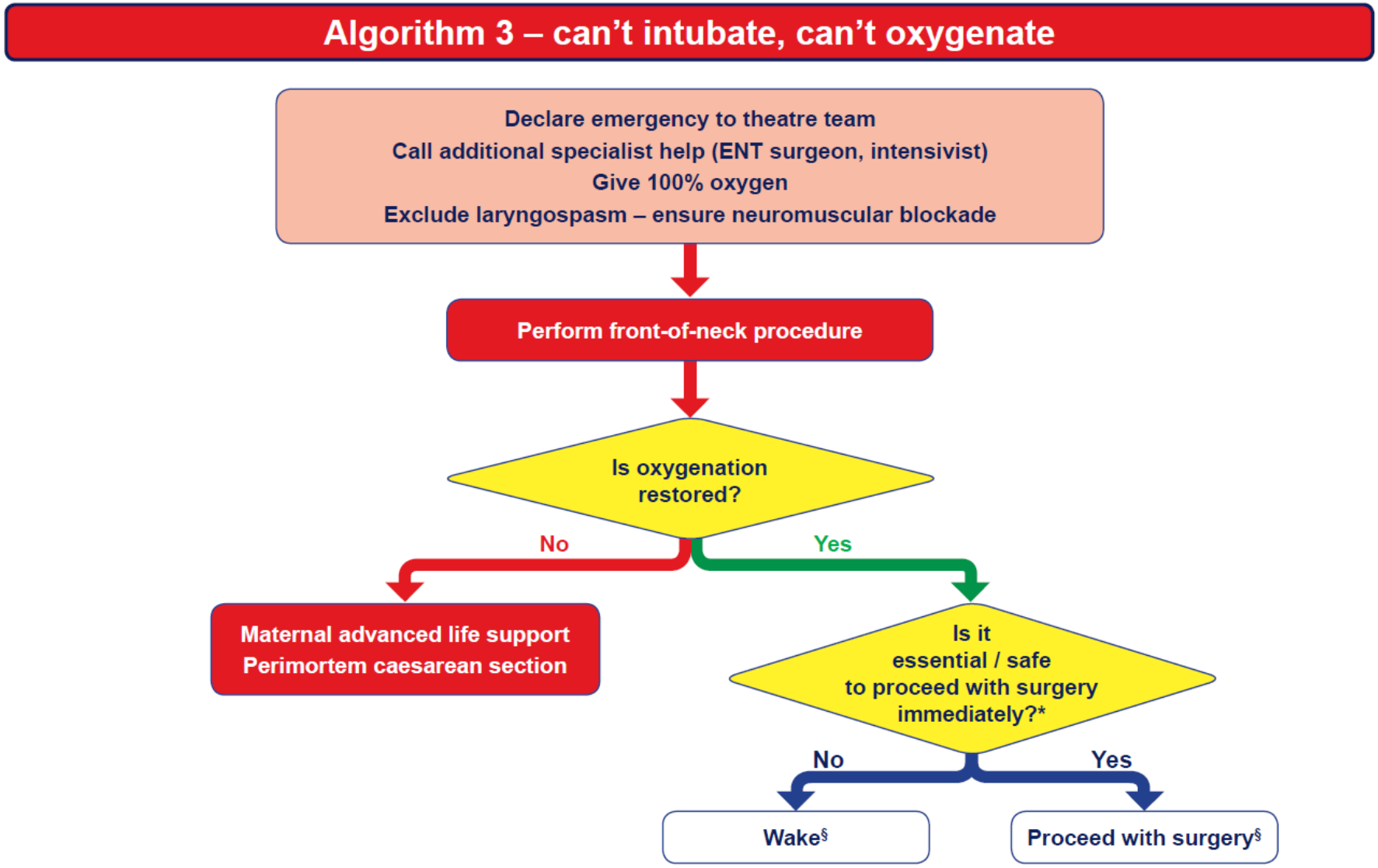


*See Table 1, §See Table 2

## Table 1 – proceed with surgery?

| | Factors to consider | WAKE | | | PROCEED |
|---|---|---|---|---|---|
| Before induction | **Maternal condition** | • No compromise | • Mild acute compromise | • Haemorrhage responsive to resuscitation | • Hypovolaemia requiring corrective surgery<br>• Critical cardiac or respiratory compromise, cardiac arrest |
| | **Fetal condition** | • No compromise | • Compromise corrected with intrauterine resuscitation, pH < 7.2 but > 7.15 | • Continuing fetal heart rate abnormality despite intrauterine resuscitation, pH < 7.15 | • Sustained bradycardia<br>• Fetal haemorrhage<br>• Suspected uterine rupture |
| | **Anaesthetist** | • Novice | • Junior trainee | • Senior trainee | • Consultant / specialist |
| | **Obesity** | • Supermorbid | • Morbid | • Obese | • Normal |
| | **Surgical factors** | • Complex surgery or major haemorrhage anticipated | • Multiple uterine scars<br>• Some surgical difficulties expected | • Single uterine scar | • No risk factors |
| | **Aspiration risk** | • Recent food | • No recent food<br>• In labour<br>• Opioids given<br>• Antacids not given | • No recent food<br>• In labour<br>• Opioids not given<br>• Antacids given | • Fasted<br>• Not in labour<br>• Antacids given |
| | **Alternative anaesthesia**<br>• **regional**<br>• **securing airway awake** | • No anticipated difficulty | • Predicted difficulty | • Relatively contraindicated | • Absolutely contraindicated or has failed<br>• Surgery started |
| After failed intubation | **Airway device / ventilation** | • Difficult facemask ventilation<br>• Front-of-neck | • Adequate facemask ventilation | • First generation supraglottic airway device | • Second generation supraglottic airway device |
| | **Airway hazards** | • Laryngeal oedema<br>• Stridor | • Bleeding<br>• Trauma | • Secretions | • None evident |

Criteria to be used in the decision to wake or proceed following failed tracheal intubation. In any individual patient, some factors may suggest waking and others proceeding. The final decision will depend on the anaesthetist's clinical judgement.

# Table 2 – management after failed tracheal intubation

## Wake

- Maintain oxygenation
- Maintain cricoid pressure if not impeding ventilation
- Either maintain head-up position or turn left lateral recumbent
- If rocuronium used, reverse with sugammadex
- Assess neuromuscular blockade and manage awareness if paralysis is prolonged
- Anticipate laryngospasm / can't intubate, can't oxygenate

## After waking

- Review urgency of surgery with obstetric team
- Intrauterine fetal resuscitation as appropriate
- For repeat anaesthesia, manage with two anaesthetists
- Anaesthetic options:
  - Regional anaesthesia preferably inserted in lateral position
  - Secure airway awake before repeat general anaesthesia

## Proceed with surgery

- Maintain anaesthesia
- Maintain ventilation - consider merits of:
  - controlled or spontaneous ventilation
  - paralysis with rocuronium if sugammadex available
- Anticipate laryngospasm / can't intubate, can't oxygenate
- Minimise aspiration risk:
  - maintain cricoid pressure until delivery (if not impeding ventilation)
  - after delivery maintain vigilance and reapply cricoid pressure if signs of regurgitation
  - empty stomach with gastric drain tube if using second-generation supraglottic airway device
  - minimise fundal pressure
  - administer $H_2$ receptor blocker i.v. if not already given
- Senior obstetrician to operate
- Inform neonatal team about failed intubation
- Consider total intravenous anaesthesia