

Failed intubation in obstetrics

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Abstract

Failed intubation in obstetrics is rare. However, if the situation is not managed appropriately the consequences for the mother and newborn may be catastrophic. The skill of managing the airway seems to be decreasing, primarily because the skills are not being practised in general or obstetric anaesthesia. Solutions for this decrease in skills may include improved training and the use of manikins, both for role play and for practising skills. The priority of airway management is to provide oxygen to the mother and to call for assistance. Oxygen can be provided using basic airway, intubation, and, if necessary, surgical airway skills. Such skills need to be practised on manikins and non-obstetric patients. The decreasing incidence of general anaesthetics means that planning and preparation should be meticulous before and during caesarean section. Ideally, the first intubation attempt should be the best. If a failed intubation occurs, initially techniques such as the use of a bougie, McCoy blade or the left molar approach may be considered, provided hypoxia is avoided. If intubation is unsuccessful the mother should be woken and a regional technique or awake fiberoptic intubation from a suitably experienced practitioner should be considered. A simple protocol shown in this article can be used as a training tool to assess skills, decision-making and teamwork in the event of a failed intubation. Extubation after a difficult intubation should be done with care, and the patient warned of the difficulty in case of further anaesthetics.

Keywords Airway; basic skills; caesarean section; extubation; obstetrics

Experience and training in airway management skills is an essential part of an anaesthetist's education. The European Working Time Directive has impacted on trainee working hours and the introduction of specialist training is a further threat to available training time.

The incidence of failed intubation in the obstetric population in the UK is approximately one in 300 compared with an

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Learning objectives

After reading this article you should be able to:

- know a practical approach to managing failed intubation in obstetrics
- develop and optimize a teaching strategy to deal with potential complications of airway management in obstetrics
- understand the importance of cognitive management in dealing with stressful scenarios.

incidence of one in 1000 in the general surgical population. By contrast, an incidence as low as one in 750 has been quoted in a South African delivery unit, where general anaesthesia and intubation are regularly practised.

Airway management skills are diminishing, and this may partly explain the three most recent obstetric deaths caused by failed intubation in the Confidential Enquiry into Maternal and Child Health (CEMACH) report. This decrease in airway skills is probably associated both with an increase in regional techniques in the management of caesarean section, and a reduction in the experience of trainees regularly intubating patients in obstetric and non-obstetric practice. The increase in the use of the laryngeal mask airway (LMA) for most general anaesthetics also contributes to reduced experience, in both bag valve mask skills and intubation.

Many detailed airway algorithms have been published that deal with every potential complication. Although comprehensive in content, the excessive detail contained within many of these algorithms may lead to confusion, particularly in inexperienced doctors who may encounter such emergency situations for the first time. To minimize any such confusion, the use of a simple protocol would be preferable, in which the only requirement is the use of a small number of airway adjuncts. Such a protocol (Figure 1) can be used for training and assessment purposes, potentially decreasing cognitive load and optimizing performance.

Airway training is the responsibility of trainers and trainees. It is important to recognize that any skill has a cognitive component; inexperience and unfamiliarity may result in cognitive overload impacting on performance. Reducing cognitive load can improve performance by allowing focus on the skill at hand. Ideally, all trainees should practise airway scenarios and skills on a manikin together with the theatre team, as part of their competency-based training, preferably while being assessed by a senior trainer. This also allows assessment of relationships with the team.

The techniques listed in Figure 1 can be practised on manikins and non-emergency patients in a controlled fashion. The theoretical knowledge, training and previous experience gained in such scenario practice provide the cornerstones of successful management of an airway crisis. This training can then be extended to supervising general anaesthesia on patients. It is important that trainers are on the delivery suite as much as possible to provide such supervision and structured feedback. Development of checklists similar to those used in aviation training – may allow structured skills training with appropriate

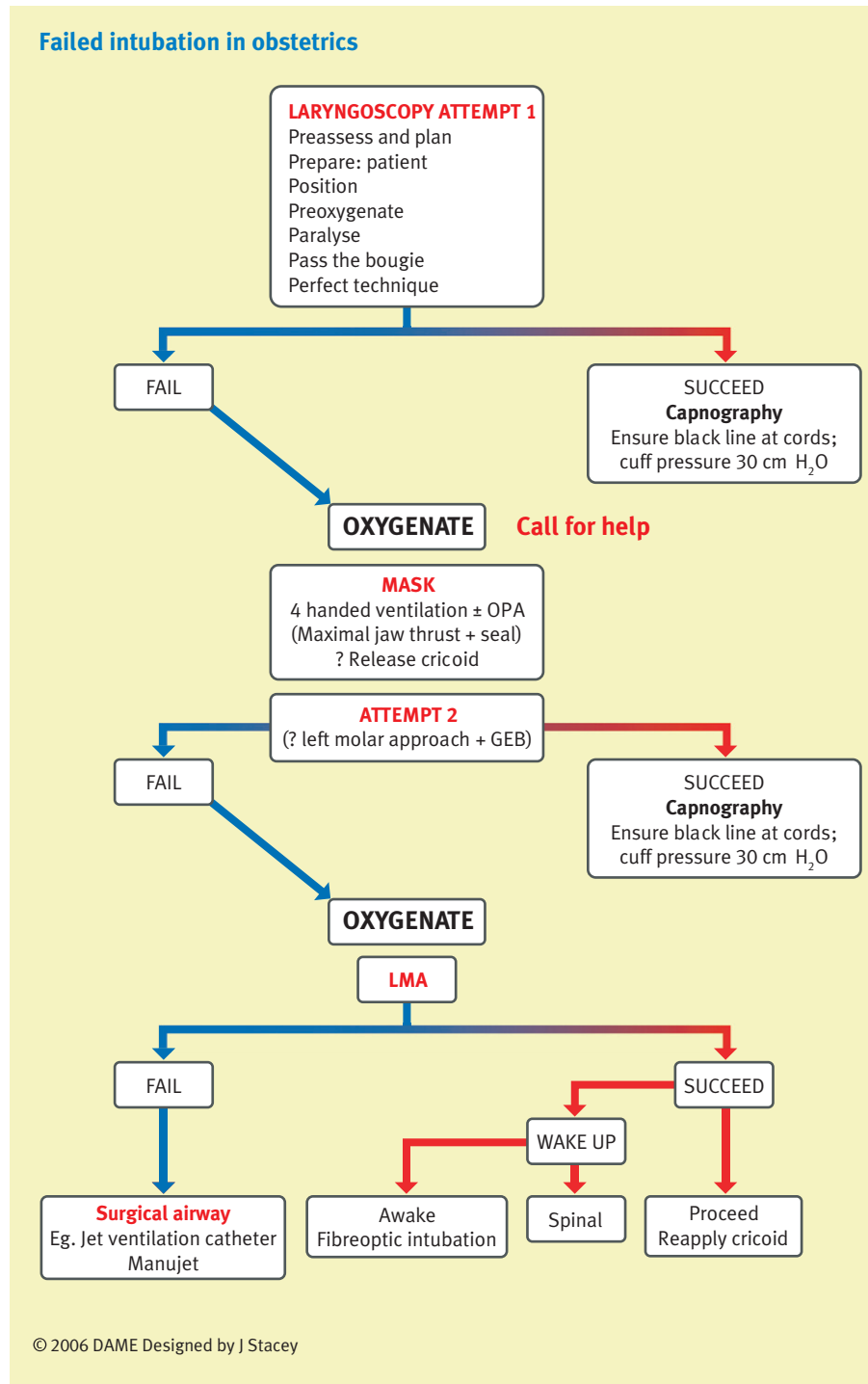


Figure 1

opportunities for focused feedback. The airway algorithm (Figure 1) is combined with the checklist in Table 1, and used for teaching, assessment and structured feedback.

Pre-assessment

The anaesthetist should be warned at the earliest opportunity of the likelihood of a general anaesthetic caesarean section and the reason for it. An airway assessment should look for potential difficulties. This assessment is unlikely to give useful information

in terms of a difficult intubation, but it does allow an appropriate management plan to be instituted. The lack of any abnormality in the airway assessment does not exclude an airway problem subsequently. If the patient is thought to be a difficult intubation, help from a senior anaesthetist should be sought at the earliest opportunity. Once the anaesthetic decision is made, the plan to follow should be simple. Although a catastrophic event may be very rare, there is no room for complacency, and appropriate strategies must be taught and practised. Not every problem is

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