(EOM) testing revealed ~75% motility restriction in supraduction and adduction of the right eye. She had significant swelling of the right upper and lower lids, and proptosis with a 5 mm protrusion of the right eye compared with the left eye. A CT scan that was obtained at that time was significant for a hyperdense lesion in the superomedial aspect of the right orbit consistent with haemorrhage (Fig. 1).

Because of the decrease in vision and significant pain, the patient was taken to the operating theatre the same day by ophthalmology for an orbitotomy, and drainage of the right superior SPH of the orbital roof with drain placement. The surgery and postoperative course were uncomplicated. Immediately after operation, the patient’s vision was noted to be correctable by pinhole acuity to that of what the left eye was before operation, IOP of the right eye improved, and motility restriction of EOMs was noted to be unchanged. On the fourth postoperative day, the patient’s EOMs were markedly improved with minimal restriction in supraduction and adduction. The orbital drain was removed on the sixth postoperative day with no further complications.

Our patient went on to have another OGD under general anaesthesia 3 months later. At that time, she had a platelet count of 35 000 U litre\(^{-1}\) and she was given a platelet transfusion before the procedure. This OGD, and also two subsequent ones, was uneventful. Of note, all of these cases were performed without the use of a short-acting opioid infusion such as remifentanil. Several factors are likely to have contributed to the development of SPH in our patient and warrant further investigation. Although not to the extent of retrobulbar haemorrhage,\(^{2-6}\) we believe that SPH also merits recognition as a potential consequence of tracheal extubation after general anaesthesia.

**Declaration of interest**

None declared.

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**Cognitive tool for dealing with unexpected difficult airway**

Editor—I would like to draw your attention to a novel cognitive tool for dealing with the unexpected difficult airway.

The ‘Can’t Intubate, Can’t Ventilate’ airway crisis is arguably the most time-critical emergency that is encountered in the operating theatre. It is also one of the few causes of morbidity and mortality that are directly related to the conduct of anaesthesia. Therefore, considerable effort is made by the anaesthetic profession to establish guidelines and procedures to avoid failures in airway management. One important aspect of that work is the difficult airway algorithms that are published, and regularly revised, by national and regional bodies.\(^{1,2}\) All anaesthetists receive training in airway management and the use of different devices and adjuncts devised to facilitate it.

Despite all this training and the existence of algorithms, clinicians sometimes fail to act quickly enough, or at all, to resolve the situation. The endpoint in all difficult airway algorithms—the emergency surgical airway (ESA)—is a very rare procedure, and it can be hard to overcome the resistance to perform it for an inexperienced or unprepared anaesthetist.

Recognizing these obstacles to effective management of the failed airway, and also the fact that not all attempts at airway management are made in the operating theatre, two physicians have developed the Vortex Approach\(^{1}\) (http://vortexapproach.com/Vortex_Approach/Vortex.html). The Vortex is meant to be used as a ‘high stakes cognitive aid’, that is, as an easy to remember guide to quick and focused decision-making in an airway emergency. It emphasizes the importance of establishing effective alveolar oxygen delivery and can be used regardless of which airway management strategy is chosen initially. The tool is presented as a funnel divided into three segments (Fig. 1), each representing one of the non-surgical airway techniques—face mask, laryngeal mask, and tracheal tube. After an optimal attempt has been made using the planned technique, the operator proceeds with the next, while conceptually sliding down the slope of the funnel (hence the name ‘Vortex’). It is often necessary to make more than one attempt at each technique before declaring that an ‘optimal’ attempt has been made. Different manipulations, adjuncts, or both can then be used to improve the chances at success. When optimal attempts at all three non-surgical techniques have been made, the operator moves into the centre and bottom of the funnel, which represents the ESA. The Vortex Approach thus helps the clinician to move forward, avoiding repeated attempts at methods that have already proven unsuccessful.

I recently encountered an unexpected difficult airway, where I ended up performing an emergency tracheostomy—the first and hopefully last one of my career. Luckily, the patient survived neurologically intact. Even though the outcome would have been the same regardless of which difficult airway algorithm had been used, the simplicity of the Vortex made the decision-making faster and more focused. This was also noticed by the rest of the team members, who
later commented on the apparent calm and resolve that I demonstrated.

Teaching the Vortex Approach to anaesthetists and other healthcare professionals likely to encounter airway emergencies should be considered.

Acknowledgement
Written consent has been obtained from the patient before submission.

Declaration of interest
None declared.

![The Vortex Approach](https://academic.oup.com/bja/article-abstract/112/4/773/234283)

Fig 1 The Vortex Approach.

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