

## Significant Event Audit Case Example: Implementing a BOAS box

### Section A: Case example on the six stages of a significant event audit

A Significant Event Audit (SEA) is a retrospective audit, which looks at one case in detail from beginning to end to either increase the likelihood of repeating outcomes that went well or to decrease the likelihood of repeating outcomes that went badly. SEAs may result in further development of guidelines, protocols or checklists and may result in the need for additional clinical audits (process/ structure or outcome). SEAs are conducted by bringing your team and the relevant case notes together to discuss the event. It is important that the event is discussed without any blame – allowing team members to provide honest and constructive feedback on how they contributed to the care process. An SEA is completed in 6 stages. The following points will take you through the steps that this practice took to put an SEA into practise.

#### 1. Identify the significant event

**Create a brief description of the event, context and outcome to be discussed in the meeting.**

A patient recovering from surgery to correct the physiological effects of Brachycephalic Obstructed Airway Syndrome (BOAS) went into respiratory distress and died.

#### 2. Collect all the relevant information

**Gather all relevant information, such as case files and staff accounts etc., which contribute to the case.**

Information from the team members involved and the hospital and anaesthetic sheets were collected.

#### 3. The meeting and analysis

**In a team discussion regarding the event, analyse the event and its causes to suggest where changes can be made.**

**Indicate changes that could aid in achieving the desired outcome. It is important to ensure this meeting provides an environment where all staff members are encouraged to speak freely and honestly.**

In the meeting the team discussed that although they had treated the patient quickly and appropriately the patient still died.

#### 4. Decide what changes need to be made

**Confirm which changes should be made, and make a prediction on the effect this will have. It may be that no change is required or there is only a need to disseminate the findings. Where changes are made, they could be in the form of checklists, guidelines or protocols. Following the meeting, a final report detailing the key points raised in stages 1-4 should be written.**

An emergency BOAS box was to be designed so that all equipment required for a patient recovering from this surgery would be close to the patient. This would save valuable time which could mean the difference between life and death.

## 5. Implement the changes

**Develop an action plan. What needs to be done by whom, when and how? Ensure the whole practice team is aware of the changes and what role they play in implementing them. Monitor the changes once implemented and set a time to review them. The length of time required for monitoring will be dependent on the event.**

The box was designed by Elisa Best, a soft tissue surgeon. It contained monitoring equipment as well as intubation and tracheostomy equipment.

## 6. Review the changes

**The team should sit down together to review the changes and discuss what went well and what didn't. You could also share what you have found with clients and the profession. Further audit may be required to monitor the change.**

Since the box has been implemented, there has not been a patient deteriorate enough for it to be used, however the team members looking after the patients have praised its availability as knowing it is there reduces any stress and improves their patient care.

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Section B: The creation of a BOAS box after the death of a patient post operatively.

<b>Name of initiative:</b>	BOAS box
<b>Start date of the initiative:</b>	June 2018
<b>Submitted by:</b>	Elisa Best, Referral Soft tissue Surgeon
<b>Practice/Organisation:</b>	Rowe referrals

### Introduction

We offer a referral service for soft tissue surgery and as a result operate on brachycephalic dogs to correct their airway abnormalities on a regular basis. They are cared for post operatively by our emergency service. In June 2018 we lost a BOAS patient in the early hours of the morning as it went into acute respiratory distress and died. This was the first and so far only BOAS patient that we have lost post-surgery. One of the issues is realising when these patients can no longer be managed conservatively and anaesthesia and reintubation/tracheostomy tube is required. This can often be a very rapid decision. Although all the items required for this are of course available in our hospital, in an emergency situation having them close to hand saves valuable time which can mean the difference between life and death for the patient.

### Aims

The aim was to make all the items required for the particular post op BOAS patient available in an easy to access format. This should help reduce stress on our night team as well as possibly saving the patient's life.

### Actions

I designed what I call the BOAS box. This is a large Tupperware container that contains everything that is required for that particular patient. It contains an appropriately sized ET tube for that patient (based on what it was intubated with previously) a working pulse oximeter, laryngoscope and emergency intubation kit (if airway too swollen to pass anything) a tracheostomy tube and instructions on how to place it, instructions on medical management and when to intervene including drug doses, a spay hook and induction agent. It does not replace the crash trolley but is tailor-made to that patient.

### Impact of intervention

The impact has been to improve the quality of post op care for our BOAS patients and to reduce stress in our night staff who look after these cases.



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Interested in submitting your own case example? Email us at [ebvm@rcvsknowledge.org](mailto:ebvm@rcvsknowledge.org)

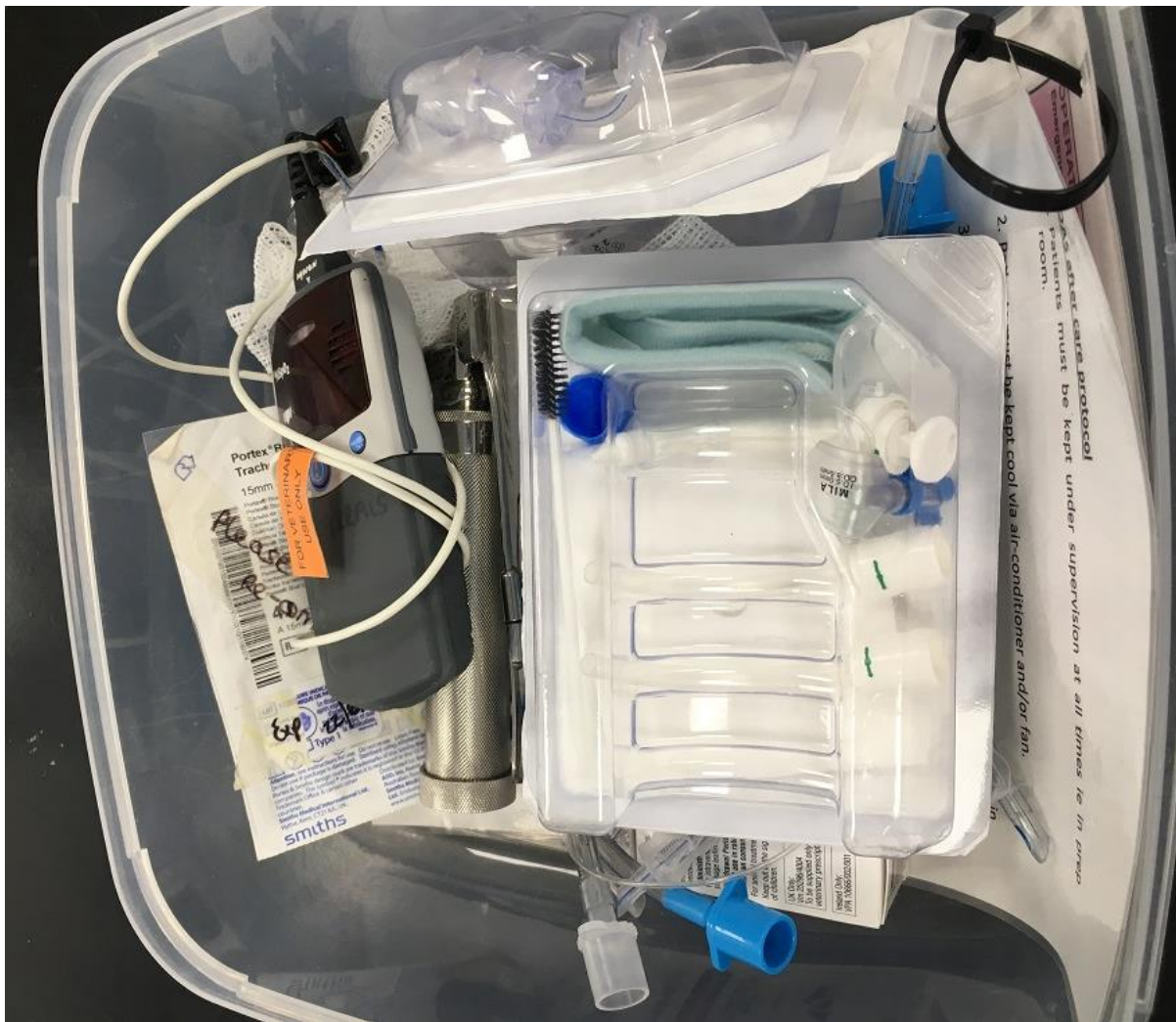
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#### Section C: The BOAS box

The BOAS box, implemented in practice by Elisa Best includes:

- ⇒ Tracheostomy tube
- ⇒ Endotracheal tube
- ⇒ Pulse oximeter
- ⇒ Spay hook
- ⇒ Pre-drawn induction agent
- ⇒ Post-BOAS treatment guidelines
- ⇒ Drug dosage list





2. Patients must be kept cool via air-conditioner and/or fan.

3. Any patient that becomes excited or agitated should be sedated the first instance with ACP at 0.05mg/kg. Sedated animals must be closely monitored.

4. Should respiratory effort increase, animals may receive additional doses of dexmedetomidine.

The dose we use is primed & 0.15mg/kg but this dose repeated or increased if required (0.2mg/kg).

If the patient becomes cyanotic supplementary oxygen is given using mask or flow by. Avoid oxygen cages if possible.

5. If the patient does not respond to mild sedation or dexmedetomidine, prepare to anaesthetise and intubate if necessary. Make sure you have a functional laryngoscope. Be aware that there may be significant airway swelling. A need to use a much smaller ET tube than expected. A difficult to intubate the dog. Once intubated tracheostomy tubes should be placed. Instructions state




Chapter 6 Emergency management of respiratory distress

### OPERATIVE TECHNIQUE 6.1



#### Emergency tracheostomy

**Patient positioning and preparation**  
Dorsal recumbency, with support under neck, and forelegs secured on either side of the thorax. The water neck should be clipped and aseptically prepared if time allows.



**Assistant**  
Identify.

**Additional instructions**  
Tracheostomy tube (younger than 70% of the diameter of the trachea). The trachea is 1/4 of the diameter of the trachea or 1/2 of the diameter of the trachea. The trachea is 1/4 of the diameter of the trachea or 1/2 of the diameter of the trachea.

**Surgical technique**

**Approach:**  
The larynx and trachea should be palpated and then an approximately 7 cm (length depends on the size of the animal) skin incision made running caudal from the larynx.

**Surgical manipulations**

1. Separate the sternohyoideus muscles at the midline and pull laterally. The trachea is visualized.
2. Place stay sutures around the tracheal rings just cranial and caudal to the proposed annular ligament incision. These stay sutures allow for stabilization of the trachea when changing the tracheostomy tube.
3. Make an incision in one of the annular ligaments between the third and fifth tracheal rings. The incision of the annular ligament should not extend more than 50% of the diameter of the trachea.
4. Place the tube and secure it by tying cotton umbilical tape around each side of the tube flange and then tying the ends together behind the animal's neck.

**Closure**  
The skin and subcutaneous tissue should be partially closed from each end of the incision.

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