

What a Pain in the neck; Recurrent anesthetics after a gunshot wound to the neck

Educational Objectives

By the conclusion of this learning module, participants will be able to:

- Understand principles of airway management of a low tracheostomy airway and tracheal transection
- Recommendations for management of a baclofen pump
- Recognize the physiologic implications and management of a chronic spinal cord transection
- Recognize considerations for management of a tracheal esophageal fistula

Case Stem

15 year old male with PMHx of gunshot wound at 4 years of age resulting in perforated trachea/esophagus/spinal cord injury, now with tracheostomy and blind tracheal/esophageal proximal and distal pouches status post repair and subsequent tracheostomy. He has a proximal esophagocutaneous fistula, and wishes to regain continuity of his esophagus so he may eat a cheeseburger. He presents for:

Right neck dissection with takedown of his esophagocutaneous fistula, right VATS with complete esophageal mobilization and repair of his acquired esophageal atresia. Surgeon requests lung isolation for the case.

Additional Medical History	Social History	Medications
<ul style="list-style-type: none">- GT dependence- Clonus/Spastic paraplegia- Neurogenic Bladder and incontinence- Nonverbal due to tracheal/VC injury- Depression- Nighttime CPAP Dependence- Moderately well controlled asthma	<ul style="list-style-type: none">- Shot by his brother after accidental discharge from a gun found in his front yard yard.- Prefers to communicate by mouth words rather than assistive language device- Occasionally vapes with his brother through his stoma	<ul style="list-style-type: none">- Albuterol INH- budesonide-formoterol INH- Baclofen Intrathecal Pump- Clonazepam- risperidone- Oxybutynin- Sertraline- Sulfamethoxazole-trimethoprim- Trazodone

Allergies:
Environmental; No known drug allergies.

Discussion

Planning the anesthetic

How would you assess this patient's airway? What is a low tracheostomy and how does that change your management? Your hospital does not have a cardiac surgery program and cannot access emergency cardiopulmonary bypass. Is it OK to do this case without?

What is baclofen used for and what is its mechanism of action? What are the important elements of evaluating someone with an intrathecal baclofen pump? Can the pump be affected by electrocautery or magnet placement? Are there any other relevant implications from drugs this patient is taking?

What is Autonomic Dysreflexia (ADR)? At what level lesion does this become an anesthetic factor? What are the associated hemodynamic consequences? How will you monitor this patient? How would you manage this patient's sympathetic response during the case? Is regional anesthesia a consideration? What types of neuraxial or regional anesthesia could be used? Are there alternative options for controlling sympathetic output?

Conduct of Anesthesia:

How would you induce this patient?

What kind of airway would you put in place for the surgery to allow for lung isolation?

What intraoperative monitoring would you use?

You're learning POCUS and have your US available when suddenly the patient becomes hypotensive. How could you evaluate the patient?