

# Head and Neck Cancer

## Free Flap Reconstruction Cases

- Guideline name - Complex Head and Neck Cancer Surgery with Free Flap Reconstruction
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- Author & revision date - Morgan K. Dooley January 6, 2016
- Guideline text:
  - New concepts: Special emphasis on intra-operative fluid management and avoiding post-operative mechanical ventilation / prolonged ICU admission
  - Surgeon-specific considerations: Please consult with the individual surgeon re: plans for intra-operative nerve monitoring and/or the use of long-acting paralytics
  - Known trouble areas: Prior head/neck radiation and/or surgeries are common amongst this population. Be aware of the potential for difficult airway management. Consider the use of fiberoptic techniques or awake tracheostomies (in consultation with ENT surgical staff) as appropriate. Refer to the images frequently available in ENT clinic notes (in EeMR) from their indirect examinations using fiberoptic flexible laryngoscopy when formulating your airway management plan.
  - Clinical:
    - Pre-op considerations: Review all available prior anesthesia records and ENT clinic notes / images when formulating the airway management plan. Discuss directly with ENT staff as appropriate.

- POHA considerations: Minimize use of sedatives that promote respiratory depression in cases with high concern for difficult airway management.
  
- Intra-op considerations:
  - PIV access: At least 2 PIVs, with at least 1 PIV that is 18g or larger. Important to check with ENT staff PRIOR to placement of any lines whether a particular extremity must be avoided as a potential graft donor site
  - Arterial line: Consider placement in POHA as time allows to facilitate turnover
  - Patient warming via “under-body” bair hugger
  - Airway management: Varies widely. Some patients will have a pre-existing tracheostomy or will require an awake tracheostomy. Those who do not can typically be intubated with a standard ETT initially. These cases frequently involve the creation of a tracheostomy early in the case, with placement of an armored ETT through the new stoma which is then sutured in place. The armored ETT is usually converted to a standard tracheostomy tube at the end of the case
  - Fluid Management: Goals are < 5L Crystalloid, <3 units PRBCs, <2L albumin
  - Vasopressor use: No longer thought to be contraindicated. Use as needed to maintain adequate perfusion
  - Positioning: 180 degrees away from the anesthesia provider
  - Blood Bank: Type and Cross for at least 2 units of PRBCs should be confirmed pre-operatively
  - Operative time: Varies. Goal is < 10 hours
  - Pain Management: Consider intra-op ketamine infusion. Common dosing regimen = 0.5 mg/kg bolus at induction, followed by 0.6 mg/kg/hr ( = 10 mcg/kg/min) infusion (discontinue at least 1 hour prior to "wake-up")
  
- Post-op considerations: Goal in most cases is for the return of adequate spontaneous ventilation, transport from OR to PACU with supplemental O2 via trach-collar. Some factors that might indicate the need for continued mechanical ventilation with immediate transfer to the ICU post-op include:
  - Current ETOH abuse
  - > 7L crystalloid administration intra-op
  - Unstable cardiopulmonary status intra-op
  
- Room set-up
  - A-line set-up with supplies for sending ABGs, IV bag with blood pump tubing connected to fluid warming system
  
- Pictures
  - Please see attachments to the email

- 1-3 references

- Patel RS<sup>1</sup>, McCluskey SA, Goldstein DP, Minkovich L, Irish JC, Brown DH, Gullane PJ, Lipa JE, Gilbert RW. Clinicopathologic and therapeutic risk factors for perioperative complications and prolonged hospital stay in free flap reconstruction of the head and neck. *Head Neck*. 2010 Oct;32(10):1345-53. doi:10.1002/hed.21331
- Clark JR<sup>1</sup>, McCluskey SA, Hall F, Lipa J, Neligan P, Brown D, Irish J, Gullane P, Gilbert R. Predictors of morbidity following free flap reconstruction for cancer of the head and neck. *Head Neck*. 2007 Dec;29(12):1090-101
- Clemens MW<sup>1</sup>, Hanson SE, Rao S, Truong A, Liu J, Yu P. Rapid awakening protocol in complex head and neck reconstruction. *Head Neck*. 2014 Feb 15. doi:10.1002/hed.23623