GUIDELINE
Anesthetic Considerations for Bariatric Surgery

STATUS: Approved
DIVISION(S): Anesthesia
LOCATION(S): Maine Medical Center

I. PURPOSE: To provide guidance on the anesthetic management of bariatric surgery patients

II. SCOPE: Anesthesia providers at Maine Medical Center

III. DEFINITIONS: None

IV. GUIDELINE:

Pre-operative Evaluation
Patients who present for bariatric surgery frequently have several obesity-related co-morbidities including diabetes, OSA (often undiagnosed), Obesity Hypoventilation Syndrome, HTN, CHF, DVT/PE. The bariatric patient may also have several medical/management issues related to the mechanical effects of obesity including transfer to and from the OR table; positioning, airway management, ventilation and airway pressures, reverse Trendelenburg position (securing the patient to the OR table, hypotension), post-operative comfort [large bed, lifting devices etc.], and OR table weight maximum limits.

Transport/Weight Considerations


OR Tables: OR Table configuration impacts weight bearing capacity (Normal vs Reverse orientation), transfer from bed to OR table [and postoperatively when the patient is less able to assist] may benefit from the use of assist devices such as a lateral air transfer device or other lifting devices to protect the patient and the healthcare providers from injury.

Lines and Monitors
- Standard ASA monitors. Non-invasive blood pressure will require large cuffs and/or placement on the forearm.
- Central and arterial lines are not specifically indicated for bariatric surgery unless patient has other indications.
- Avoid placing any esophageal tube or monitor except on the direction of the surgeon.
- Temperature monitoring can be obtained with a nasopharyngeal probe.

Induction
Patients have a higher likelihood for a difficult airway and, with reduced respiratory reserve, may more rapidly desaturate reducing the time for airway management. Pillows, blanket ramp or wedge (available in the Anesthesia Workroom) under the neck/shoulders may be required to optimize airway alignment for a more facile intubation. Other positioning considerations include intubating with the table in Trendelenburg.

Difficult airway Algorithm:
http://anesthesiology.pubs.asahq.org/data/journals/jasa/930996/12ff01.png

Intraoperative
After the patient has been intubated you may see are increased plateau and peak pressures which can worsen when you are asked to place the patient in reverse Trendelenburg. The surgeon may ask you to remove the pillows, blankets or wedge which will only further work against you. Ultimately it is a discussion between you and the surgical team regarding what is best for the patient.

Other common surgeon requests for bariatric surgeries include an esophageal bougie, endoscope, or OG versus NG tube (leak test). The esophageal bougie is advanced and retracted by the
anesthesia team as directed by the surgeon. If an endoscope is used it is placed by the surgeon at the beginning of the surgery and removed by them towards the end. A leak test is often done with an OG/NG and a 60cc syringe. When directed you briskly administer 60cc of air to help the surgeon detect a leak in their repair.

Further considerations include drug dose calculations may be based on either total body weight [TBW] or ideal body weight [IBW] depending on the pharmacokinetics and the distribution of the drug. Consider using rapidly excreted/metabolized anesthetic agents. Anesthetic agents are likely to linger longer in bariatric patients given they are absorbed by large fat depots and poor peripheral perfusion may slow their uptake and excretion. Additionally, decreased respiratory function increases wash-out times.

**Emergence/Post-Operative Management**
Consider extubating in a similar position to intubation to maximize FRC and oxygenation. Several factors increase bariatric patients risk for post-op respiratory depression. Other considerations include elevating the head of the bed, administering supplemental oxygen and minimizing narcotics and sedatives. Often these patients will require CPAP/BiPAP which is NOT contraindicated per Dr. Sahagian.

**Pain Management**
Pain management can be complex as narcotics significantly increase the risk for respiratory depression. The best approach is to maximize non-opioid analgesics which includes: acetaminophen, NSAIDs, Ketamine, Regional anesthesia (when indicated). Opioids may be utilized when carefully monitored and after non-opioid options have been optimized.

V. ATTACHMENTS: None
VI. REFERENCES: None