

***Banner University Medical Center- Phoenix Bariatric Surgery Anesthesia and ERAS  
Protocol (last updated June 2026)***

**Standard 4.9 Anesthesia Services**

**PAT**

- Labs
  - CBC, CMP and pertinent micronutrient labs to be obtained at pre-operative visit within 6 months of surgery. Can be repeated if indicated (eg anemia, ESRD, change in clinical status)
  - Additional labs in perioperative period if significant co-morbid conditions/risk factors (anticoagulants, therapeutic drug levels ex. Seizure meds)
- Pre-operative instructions
  - Patients can consume clear liquids up to 2 hours prior to surgery
  - Patients can be offered a carbohydrate loading clear beverage (Gatorade or similar medical grade equivalent) to be consumed up to 2 hours prior to surgery

**Day of Surgery**

- *Pre-Operative Phase – Nursing Staff*
  - Medications:
    - *Acetaminophen* 1000 mg P.O. once
    - *Scopolamine* 1 mg patch once
    - *Aprepitant* 40-80 mg PO once
    - *Gabapentin* 300 mg PO once
    - *Lovenox* 40-60 mg subcutaneous once OR *Heparin* 5000-7500 units subcutaneous once (if GFR <60)
    - 1L 0.9% sodium chloride fluid bolus (if no diagnosis of heart failure, pulmonary hypertension, oxygen dependence, CKD or ESRD)
  - Labs:
    - POC glucose
    - Urine HCG
    - Potassium (ESRD patients)
    - Type and Screen (when indicated)
    - Serum nicotine (when indicated)
- *Intraoperative Phase - Anesthesia colleagues*
  - Intraoperative Analgesia
    - Minimize intravenous opioids
      - *Ketamine* 10-30 mg IV to be administered at the discretion of the anesthesia team
      - *Ketorolac* 15 mg – 30 mg IV at the end of the case, unless contraindicated
      - Truncal Blocks on all patients (TAPP or EOBI)

- Encourage wound infiltration by surgical/anesthesia team if no regional anesthesia provided
- Postoperative Nausea and Emesis Prophylaxis
  - Should be given in all patients unless contraindicated
    - *Dexamethasone* 4-8 mg IV at induction
    - *Ondansetron* 4 mg IV at the end of the case
- Fluid Administration Goal
  - Fluid goal of  $\leq 500$  mL/hr
  - Recommend low basal rate with small (200 mL) boluses as needed for low BP
  - Consider colloid as needed for fluid unresponsiveness
- *Postoperative Management*
  - PACU Analgesic Management
    - Patients  $\geq 18$  years old:
      - *Oxycodone* 5 mg P.O. PRN once for visual analog scale (VAS) pain 4-7 or comfort goal
      - *Oxycodone* 10 mg P.O. PRN once for visual analog scale (VAS) pain  $>7$  or comfort goal
      - *Toradol* 15mg –30 mg IV once (if not given intraop) and continue q6h for 48 hours post op
      - *Methocarbamol* 500-750 mg TID
      - *Acetaminophen* 650 mg Q6H unless contraindicated
      - *Fentanyl* 25 mcg IV PRN VAS pain  $\geq 7$  or comfort goal.
        - May repeat every 5 minutes up to a maximum of 100 mcg
      - Abdominal binders are applied
- *Hemodynamic monitoring*

In accordance with the ASA (American Society of Anesthesiologists) standards and practice parameters, the patient's oxygenation, ventilation, circulation and temperature will be continuously evaluated throughout the entirety of the procedure.

**Oxygenation:** to ensure adequate oxygen concentration of the inspired gas and blood of the patient. While under general anesthesia using mechanical ventilation, the concentration of oxygen is measured with the use of an oxygen analyzer in conjunction with a low oxygen concentration limit alarm. Additionally, a quantitative method of assessing oxygenation in the form of pulse oximetry is used including variable pitch pulse tone and low threshold alarms. Adequate exposure of the patient is also necessary to further evaluate color.

**Ventilation:** to ensure adequate ventilation of the patient. While under general anesthesia qualitative signs including chest excursion, observation of the reservoir breathing bag and auscultation of breath sounds are useful. Additionally, continuous monitoring of expired carbon dioxide, capnography, and quantitative monitoring of the volume of expired gas are mandatory. The use of the anesthesia

machine/mechanical ventilation requires the use of a device capable of detecting disconnection of components of the breathing system with an audible alarm.

**Circulation:** to ensure adequate functioning of the patient's circulatory function. The use of continuous electrocardiogram for entirety of procedure is mandatory. Patients shall also have arterial blood pressure and heart rate evaluation at a minimum of every five minutes. Additionally, all patients will have circulation continuously monitored by one of the following: pulse oximetry, monitoring of intra-arterial pressure tracing, palpation of pulse, auscultation of heart sounds, ultrasound peripheral pulse monitoring.

**Temperature:** to ensure maintenance of appropriate body temperature of the patient. Every patient under anesthesia will have temperature monitored for the entirety of the procedure.

**Arterial Line:** arterial cannulation and monitoring may be considered with evaluation of patient's co-morbid conditions. Indications for arterial line include the need for: continuous beat-to-beat monitoring of blood pressure, frequent sampling of blood for laboratory analysis, evaluation of respirophasic variation (to predict fluid responsiveness), continuous cardiac output monitoring.

**Central Venous Line:** a central venous line may also be considered with evaluation of patients' co-morbid conditions. Indications for a central venous line include the need for: central venous oxyhemoglobin saturation, pulmonary artery pressure, emergent venous access, high volume resuscitation, drug infusions that may cause phlebitis or sclerosis in the peripheral veins.

***Standards for Basic Anesthetic Monitoring: Developed By: Committee on Standards and Practice Parameters (CSPP) Last Affirmed: December 13, 2020 (last amended October 20, 2010) (original approval: October 21, 1986)***

- *Difficult airway management:* in the event of an anticipated or unanticipated difficult airway, we refer to and follow the ASA (American Society of Anesthesiologists) Practice Guidelines for Management of the Difficult Airway (please see attached). A difficult airway includes but are not limited to difficult facemask ventilation, difficult laryngoscopy, difficult supraglottic airway ventilation, difficult or failed tracheal intubation, difficult or failed tracheal extubation, difficult or failed invasive airway and inadequate ventilation.

***Apfelbaum JL, Hagberg CA, Connis RT, Abdelmalak BB, Agarkar M, Dutton RP, Fiadjoe JE, Greif R, Klock PA, Mercier D, Myatra SN, O'Sullivan EP, Rosenblatt WH, Sorbello M, Tung A. 2022 American Society of Anesthesiologists Practice Guidelines for Management of the Difficult Airway. Anesthesiology. 2022 Jan 1;136(1):31-81. doi: 10.1097/ALN.0000000000004002. PMID: 34762729.***

- *Mobilization and positioning while under sedation:* for the entirety of the procedure, the patient is periodically evaluated (upper extremities, lower extremities, pressure points, face) at an interval of every hour to minimize the risk of peripheral neuropathy (brachial plexus, ulnar, radial, median, sciatic, femoral, peroneal), soft tissue, joint, vascular and ocular damage.
  - Patients are positioned with extended legs, pillows under the knees, and feet flat on a footboard. Feet are secured to the footboard to ensure no medial or lateral rotation of the ankles. The bed is tested in reverse Trendelenburg to ensure the feet remain flat. SCDs are placed on BLE upon entry to OR and ensured to be on prior to induction of general anesthesia
  - Arms are extended with wrists and hands in supination if possible. Wrists are padded with blue towels to prevent nerve injury. Arms are left flat when possible. When arms will not lie flat, the arm is padded with blue towels to ensure the absence of stress on the elbows/wrists. Shoulders are aligned to prevent neuropathy. Arms are wrapped with gel-pad and towel in a “sled” fashion and taped around or fixed with Velcro wraps to ensure the arms do not fall off the arm boards. The arms and wrists are checked by anesthesia throughout the case to ensure positioning is maintained. The BUE are checked after the robot is docked to ensure this process has not changed position or left any instability.
  - All pressure points are padded.
  - Hover mats are placed on the OR table so patients can be moved to a hospital bed following surgery. Patients are generally able to move onto the OR table and assist with positioning onto the OR table prior to the case. If patients are severely restricted, the hover mat is placed under them in the pre-op area to assist with each movement.
- All anesthesia providers in the group are trained in the care of difficult airway, difficult IV placement, and means of invasive hemodynamic monitoring. Specialty anesthesiology is available within the group for cardiac anesthesia and transplant anesthesia. These anesthesiologists cover patients who have end-stage organ status and are pre-transplants/severe heart failure with destination therapy. These patients are often pre-admitted and medically optimized for several days prior to surgery by critical care medicine, cardiology heart-failure team, hepatology transplant team, or other service as indicated (pulmonology, nephrology) and if indicated, hemodialysis/CRRT/ECMO are all available.