

Appropriateness for Ambulatory Surgery: No Magic Formula

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As the director of a preoperative clinic, one of the recurring challenges I face is the appropriate scheduling of ambulatory versus inpatient procedures. It is remarkable how many patients with significant medical issues may safely undergo ambulatory procedures if carefully selected. Innovative surgical techniques, shorter-acting anesthetic agents, and changes in reimbursement models have increased interest in ambulatory surgery. At the same time, however, an aging population with an increasing disease burden significantly complicates the decision as to who is an appropriate candidate for an outpatient procedure.

Fundamentally, the only absolute requirement for ambulatory surgery is that the patient returns home after the procedure. A popular approach suggested by Drs. Apfelbaum and Cutter, well-known experts in ambulatory anesthesiology, is the “4 P’s” mnemonic (1), which recommends matching the correct patient, procedure, personnel, and place. We will discuss these issues in more detail using a similar framework evaluating three criteria: the patient’s characteristics (comorbidities, preoperative function, support at home), the capabilities of the facility and staff, and the nature of the proposed procedure (and recovery). If all three align, it is reasonable to proceed with ambulatory surgery.

The Patient

Most attention is typically devoted to the patient’s comorbidities. Table 1 lists several medical conditions of concern. The patient’s available support network and psychosocial issues are also important to keep in mind: Is someone available to care for the patient? Is the home environment conducive to recovering from surgery?

Table 1. Summary of Patient Comorbidities Relating to Ambulatory Anesthesia (2-4)

Condition	Further Evaluation	Concerns
Reactive airways / asthma	None	Respiratory complications
Age > 65	None	Hemodynamic variation, postoperative function
Ex-premature infant	Hematocrit > 30, >60 weeks post-conceptual age	Apnea, bradycardia
Coronary artery disease	None if moderate—good function and stable	Potential cardiovascular complications
Implanted cardiac device (defibrillator, pacemaker)	Consult expert for possible interrogation and/or reprogramming	Cautery interference, device damage

Obstructive sleep apnea	None if already diagnosed; evaluate optimization of comorbidities	Difficult airway; minimize opioids; postoperative CPAP availability
Diabetes mellitus	None if controlled	Avoid hypoglycemia, wound healing concerns
Morbid obesity	None	Respiratory complications, difficult airway, risk of OSA
Malignant hyperthermia	None	Avoid triggers; dantrolene availability
Difficult airway history or concern	Examine old records if available, careful airway exam	Consider an awake intubation; Ensure viable "Plan B" for failed intubation

OSA=obstructive sleep apnea; CPAP=continuous positive airway pressure

The Facility and Staff

Considerations about the surgical location include surgical equipment (e.g. bariatric beds and long instruments for obese patients), anesthetic resources (difficult airway supplies, available medications), and the ability of the available personnel to handle emergencies and complications. For example, a rapid-turnover endoscopy suite may not be a suitable venue for a morbidly obese patient with a known difficult airway. A surgical center that frequently performs head and neck procedures may well be. The ability to escalate care via transfer to an emergency department and/or inpatient setting should also be considered.

The Surgical Procedure

Rather than generating a list of allowed or disallowed procedures, one should consider the risk of complications and ability of a patient to return home. As long as patients can tolerate oral intake and control their pain with oral analgesics, patients may undergo low-risk procedures on an ambulatory basis. Higher-risk surgery (e.g. intraperitoneal, perhaps even some arthroplasties) may also be considered, but should be taken on a case-by-case basis.

Conclusions

Rather than enforcing rigid criteria, one should take an individualized approach to scheduling ambulatory procedures. A critical appraisal of the patient, the facility, and the proposed surgery will generally lead to a correct decision. It is also important to emphasize the need for proper preoperative evaluation. It is well-established that preoperative clinics run by anesthesiologists improve efficiency and cost-effectiveness and may even decrease postoperative morbidity and mortality (5-7).

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