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**Clinical management**

# Johns Hopkins consensus on preoperative evaluation

With the shift to outpatient surgery and same-day admissions, as many as 90% of patients arrive at the facility on the day of their surgery. More complex surgery is being done in the outpatient setting, and even patients with fairly serious health problems are having surgery on a same-day basis.

This makes the preoperative process harder to coordinate, and it is more difficult for nurses and anesthesia providers to get the information they need about patients before surgery. There also is a wide variation in preoperative testing practices.

Seeing the need for a framework for this process, a consensus group at Johns Hopkins developed guidelines on preoperative evaluation, an effort led by anesthesiologist L. Reuven Pasternak, MD. Dr Pasternak also chaired the task force that developed the American Society of Anesthesiologists (ASA) Practice Advisory for Preanesthesia Evaluation.

The Johns Hopkins guidelines used an empirical approach because definitive studies are still lacking, he says. The guidelines rely on ASA physical status as well as a surgical procedure risk classification system developed by the Johns Hopkins group. Procedures are classified from Levels 1 to 5 according to risks independent of the patient's underlying health status or type of anesthesia, such as blood loss and invasiveness. The ASA status plus the surgical risk are combined in a matrix to indicate whether patients should have a preoperative evaluation on the day of surgery or before the day of surgery by a primary care provider or by an anesthesia provider.

These tables are from the Johns Hopkins guidelines.

## Conditions for which preoperative evaluation is recommended prior to the day of surgery

### General

- Medical condition inhibiting the ability to engage in normal daily activity
- Medical conditions necessitating continual assistance or monitoring at home within the past 6 months
- Admission within the past 2 months for acute condition or exacerbation of chronic condition

### Cardiocirculatory

- History of angina, coronary artery disease, myocardial infarction
- Symptomatic arrhythmias
- Poorly controlled hypertension (diastolic >110, systolic >160)
- History of congestive heart failure

### Respiratory

- Asthma/chronic obstructive pulmonary disease requiring chronic medication or with acute exacerbation and progression within past 6 months
- History of major airway surgery or unusual airway anatomy
- Upper and/or lower airway tumor or obstruction
- History of chronic respiratory distress requiring home ventilatory assistance or monitoring

### Endocrine

- Non-diet controlled diabetes (insulin or oral hypoglycemic agents)
- Adrenal disorders
- Active thyroid disease

### Neuromuscular

- History of seizure disorder or other significant central nervous system disease (eg, multiple sclerosis)
- History of myopathy or other muscle disorders

### Hepatic

- Any active hepatobiliary disease or compromise

### Musculoskeletal

- Kyphosis and/or scoliosis causing functional compromise
- Temporomandibular joint disorder
- Cervical or thoracic spine surgery

### Oncologic

- Patients receiving chemotherapy
- Other onocologic process with significant physiologic residual or compromise

### Gastrointestinal

- Massive obesity (>140% ideal body weight)
- Hiatal hernia
- Symptomatic gastroesophageal reflux

# Recommended laboratory testing

*These tests are those required for administration of anesthesia and are not intended to limit those required by surgeons for issues specific to their surgical management.*

### Electrocardiogram

- Age 50 or older
- Hypertension
- Current or past significant cardiac disease
- Current or past circulatory disease
- Diabetes mellitus (age 40 or older)
- Renal, thyroid, or other metabolic disease
- Procedure Level 5

### Chest x-ray

- Asthma or chronic obstructive pulmonary disease that is debilitating or with change of symptoms or acute episode within past 6 months
- Cardiothoracic procedure
- Procedure Level 5

### Serum chemistries

- Renal disease
- Adrenal or thyroid disorders
- Diuretic therapy
- Chemotherapy
- Procedure Level 5

### Urinalysis

- Diabetes mellitus
- Renal disease
- Genitourologic procedure
- Recent genitourinary infection
- Metabolic disorder involving renal function
- Procedure Level 5

### Complete blood count

- Hematologic disorder
- Vascular procedure
- Chemotherapy
- Procedure Level 4

### Coagulation studies

- Anticoagulation therapy
- Vascular procedure
- Procedure Level 5

### Procedure Level 4

Highly invasive procedure with blood loss >1,500 cc; major risk to patient independent of anesthesia.

*Includes: Major orthopedic-spinal reconstruction, major reconstruction of GI tract, major genitourinary surgery such as radical retropubic prostatectomy, major vascular repair without postoperative ICU stay.*

### Procedure Level 5

Highly invasive procedure with blood loss >1,500 cc; critical risk to patient independent of anesthesia; usual postoperative ICU stay with invasive monitoring.

*Includes: Cardiothoracic procedure; major procedure on oropharynx; major vascular, skeletal, neurologic repair.*

*Source: Pasternak L R, Rosenfeld B A, Handelsman J C, et al. A consensus approach to preoperative evaluation using the Johns Hopkins risk classification system. Reprinted with permission.*

*A copy of the Johns Hopkins consensus guidelines, with the matrix and surgical risk classification, is available by e-mailing Dr Pasternak at reuvenpast@msn.com*