

Department of Anesthesiology Guidelines for the Preoperative Preparation of the Surgical Patient

University of Connecticut Health Center John Dempsey Hospital/Farmington Surgery Center

Delivery of a safe anesthetic requires current, objective information prior to the surgical procedure. The patient's medical status should be stable, optimized and documented. Laboratory testing is warranted under certain circumstances, although these requirements are becoming less frequent. The following guidelines should help to avoid unnecessary testing, promote cost effectiveness, prevent unnecessary delay, and ensure a safe surgical procedure.

History and Physical Examination

A legible history and physical examination is the *cornerstone of preoperative preparation*. If a patient routinely receives care from a specialist, i.e. cardiologist or pulmonologist, a recent note from that physician about the patient's current status is invaluable for our evaluation. Additional information such as a recent stress test, pulmonary function tests, echocardiograms, etc., is always helpful.

The Anesthesiologist desires information with regards to the following:

1. What are the patient's ongoing medical problems?
2. Is the patient optimally managed?
3. What is the patient's cardiopulmonary functional reserve, and are there any objective tests available to document this?
4. What is the current medical regimen?

We ***do not*** ask the referring physician or specialist to "***clear the patient for surgery***". What we do ask is for *objective information* so we can determine anesthetic risk, discuss these with the patient, and plan optimal anesthetic management. If there is any question as to the adequacy of information requested in questions 1-4 above, the patient should be referred to the Pre-admission Evaluation Center (PEC).

History and physical examination, per JCAHO standards, must be less than 30 days old in stable patients (from the date of planned surgery), and updated on the day of surgery.

EKG and Laboratory Data

There is mounting evidence that routine preoperative testing is very expensive and does not improve overall outcome. Other than a *few routine caveats*, preoperative testing should be *individualized* based on the H & P and the severity and duration of the planned procedure. A debilitated patient requiring a minor procedure (cataract surgery) may need little additional testing, whereas a healthy patient undergoing major vascular surgery (thoracotomy) may require a significant work up.

A surgical classification system is enclosed which categorizes procedures by their relative risk and invasiveness. Categories 1-2 are relatively minor procedures and lab work should be guided by the patient's medical condition. Categories 3-5 procedures are more extensive and usually require additional testing even in healthy patients.

The only required preoperative test is an EKG in all patients over 50, or in diabetics over the age of 40. All other testing is dictated by patient condition or surgical procedure. Please refer to the attached guideline sheet which you can share with your office staff.

NPO Requirements

Adults NPO after midnight

For late afternoon cases only:

Clear liquids until 4 hours prior to scheduled arrival at surgical site

Water, black coffee or tea (**NO CREAM OR MILK**, sugar is OK)

Clear broth or juice; no pulp - "see through"

These afternoon case exceptions will be discussed **individually with the patient by the preoperative nurse** the day before surgery and should not be discussed by the surgeons' office with the patient.

Children 1-10 NPO 6 h for food, including animal/breast milk, or formula
NPO 2 h for clear liquids

Children < 1 NPO 6 h for food, including animal milk or formula
NPO 4 h for **breast milk**
NPO 2 h for clear liquids

Note: all times are prior to **scheduled arrival time**

Medication on the Day of Surgery

Take most routine medication on the morning of surgery with a sip of water, especially cardiac, hypertension, GERD/ulcer, pulmonary, neuro/seizure meds. The exceptions are ACE-Inhibitors (i.e. lisinopril, captopril, benazepril) which should be held on the day of surgery.

Diabetic patients should be scheduled as the first case of the day if possible. Otherwise, they should plan to arrive at the facility in the early morning where a glucose can be immediately checked and intravenous fluids started. Depending on the medications taken, the following protocol should be followed:

Treatment	Evening before Surgery	Day of Surgery
Oral agents	Hold	Hold
Insulin injection	Take usual dose	Hold
Insulin pump	Continue basal rate	Continue basal rate

Patients on **anticoagulants**: i.e. heparin, low molecular weight heparin (Lovenox), coumadin, clopidogrel (Plavix), ticlopidine (Ticlid) and aspirin (MD prescribed). These patients require **specific instructions** to be determined on a case-by-case basis by the surgeon, anesthesiologist and cardiologist (or physician who prescribed the anticoagulation regimen). The risk of discontinuing anticoagulation, especially in patients with coronary stents, must be balanced against the risk of increased surgical bleeding. ACC/AHA Peri-operative Cardiovascular Evaluation Practice Guidelines have been published in *Circulation*, Sept 2007 for further reference.

Preoperative Laboratory Guidelines (3/08)

EKG

All patients over 50 (this is the only routine test by age criteria)

Patients with a history of cardiac disease

Diabetic patients over 40

Glucose

Diabetic patients on day of surgery, whether on insulin or oral agent

Hematocrit and Platelet Count

Indicated by patient history (ongoing blood loss, anemia, chemo Rx) or anticipated surgical blood loss, invasive surgery

Electrolytes, BUN, Creatinine

Indicated by patient history, or invasive surgery, anticipated blood loss

Chronic diuretic use is not an indication for serum K testing in otherwise healthy patients

Coagulation tests

Indicated for patients with history of bleeding disorder, or on anticoagulants

If not documented as being normal, need testing on the day of surgery

Chest X Ray and Pulmonary Function Tests

Indicated for pulmonary debilitated patients, or those with recent change in symptoms.

Indicated for major thoracic surgery

EKG Abnormalities

The following **new onset EKG abnormalities** require further cardiac evaluation:

Any **new** onset cardiac arrhythmia, i.e. atrial fibrillation or flutter, SVT

LBBB or RBBB

Type 2 second degree or 3rd degree heart block

ST wave elevation or depression

Q wave pattern indicative of MI

Prolonged QT interval with hx of syncope or family hx of sudden death

Short PR interval with palpitations, syncope

The following diagnoses, if appropriately noted in **previous EKGs** or by **physician history**, usually do not require further evaluation:

First degree or Type 1 second degree heart block

Known RBBB, LBBB, LAFB

PVCs

SURGICAL CLASSIFICATION SYSTEM

Category 1

Minimal risk to pt independent of anesthesia
Minimally invasive procedure with little/no blood loss
OR used principally for anesthesia and monitoring

Breast biopsy/skin/subq lesion excision
BTM
Hysteroscopy
Cystoscopy
Circumcision/vasectomy

Category 2

Mild risk to pt independent of anesthesia
Minimal to moderately invasive procedure
Blood loss < 500 ml

Diagnostic laparoscopy/tubal ligation
D & C
Arthroscopy
Inguinal/umbilical hernia repair
T & A
Septo/rhinoplasty
Laparoscopic cholecystectomy

Category 3

Moderate risk to patient independent of anesthesia
Moderate to significantly invasive procedure
Blood loss 500-1500 ml

Hysterectomy
Open cholecystectomy
Laminectomy
Total joint replacements
Major GI/GU surgery

Category 4

Major risk to patient independent of anesthesia
Highly invasive procedure
Blood loss > 1500

Major orthopedic, GI, GU, vascular surgeries

Category 5

Critical risk to patient independent of anesthesia
Post operative ICU stay with invasive monitoring
Highly invasive procedure
Major blood loss potential

Cardiothoracic procedures
Intracranial procedures
Major vascular, skeletal, neurological procedure