

ROUTINE PREOPERATIVE LAB TEST GUIDELINES

For adult patients (≥ 16 years) undergoing elective surgery

TESTS WITHIN 6 MONTHS OF SURGERY are valid, provided there has been no interim change in the patient's condition.

CLINICAL JUDGEMENT IS REQUIRED as additional tests may be appropriate for patients with complex or uncommon surgical or medical conditions.

EXCLUSIONS this guideline does not apply to patients undergoing **cardiac surgery** or **cesarean section**.

MINOR SURGERY

Associated with an expected blood loss of <500mL, minimal fluid shifts and is typically done on an ambulatory basis (day surgery/ same day discharge)*. It includes cataract surgery; breast surgery without reconstruction; laparoscopic cholecystectomy and tubal ligation; and most cutaneous, superficial, endoscopic and arthroscopic procedures.

DO NOT ORDER PREOP TESTS including: chest x-rays, Na⁺, K⁺, Cl⁻, TCO₂, serum glucose, CBC, ECG, INR, urinalysis, renal, liver or thyroid function tests in asymptomatic** patients.

** **ASYMPTOMATIC** implies the patient does not have new or worsened symptoms to suggest a new lab test abnormality. (e.g. if the patient does not have new or worsened symptoms of an arrhythmia, congestive heart failure, dyspnea or ischemic heart disease, an ECG would not be recommended).

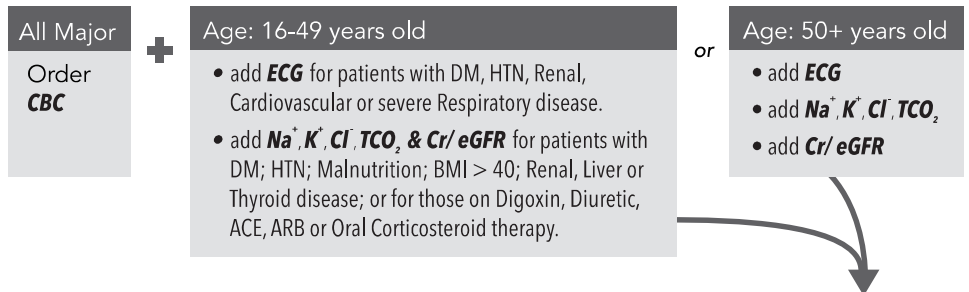


For more information, see choosingwiselycanada.org/recommendations/anesthesiology

MAJOR SURGERY

Associated with an expected blood loss of >500mL, significant fluid shifts and typically, at least one night in hospital*. Includes laparoscopic surgery (except cholecystectomy and tubal ligation); open resection of organs; large joint replacements; mastectomy with reconstruction; and spine, thoracic, vascular, or intracranial surgery.

* If the surgery is typically ambulatory but the patient has a medical or social reason for overnight admission (i.e. OSA, no support at home), still consider the surgery minor in determining which lab tests to order.



MAJOR SURGERY, ALL AGES: Other tests indicated by patient characteristics & medications

- **Oral Corticosteroids, DM or BMI > 40:** add Hemoglobin A1C or fasting plasma glucose.
- **Malnutrition, BMI > 40, or Liver disease:** add liver function tests and INR.
- **At high risk for iron deficiency:** add serum iron, TIBC and Ferritin.
- **Thyroid disease:** add TSH.

Chest X-rays - Not recommended for **any** surgery **except** to facilitate the diagnosis of new/ worsened symptoms, or if ordered by the surgeon prior to thoracic surgery or to work up a malignancy.

SPECIFIC DIRECTIONS FOR OTHER TESTS & CONDITIONS

- **Urinalysis:** Not recommended except for specific surgeries, at the surgeon's discretion.
- **Pulmonary function tests, spirometry, or arterial blood gases:** No routine indications except prior to thoracic surgery, as ordered by the surgeon.
- **Pregnancy testing:** Will be carried out by preoperative staff as required.
- **Perioperative type and screen:** Will be ordered by surgeon, anesthesiologist or pre-anesthesia clinic when indicated, or by pre-anesthesia clinic where maximum allowable blood loss or type and screen criteria have been instituted.
- **Warfarin therapy:** It is unnecessary to test the INR remote from the surgery date solely for the purpose of the preoperative work up.
- **Antiepileptic drug (AED) levels:** Should be obtained only for patients on Carbamazepine, Phenobarbital, Phenytoin, or Valproic acid who meet at least one of the following criteria: a history of unstable AED levels, a seizure within the last 6 months, or undergoing major gastrointestinal surgery.

LEGEND: TESTS

- **CBC:** Complete Blood Count.
- **Cr/ eGFR:** Creatinine and if available, estimated Glomerular Filtration Rate.
- **ECG:** Electrocardiogram.
- **Liver function tests:** AST, ALT, Alk Phos, GGT, albumin, total and direct bilirubin.
- **Na⁺, K⁺, Cl⁻, TCO₂:** Serum sodium, potassium, chloride and total carbon dioxide.

LEGEND: PATIENT CHARACTERISTICS

- **ACE:** Angiotensin Converting Enzyme inhibitor medication.
- **ARB:** Angiotensin Receptor Blocker medication.
- **DM:** Diabetes Mellitus.
- **HTN:** Hypertension.
- **Cardiovascular disease:** Previous or current myocardial infarction, angina, congestive heart failure, valvular heart disease, atrial fibrillation or other arrhythmia, stroke, TIA or peripheral vascular disease.
- **Severe respiratory disease:** Dyspnea or other physical limitation prevents the patient from climbing a flight of stairs or running a short distance.
- **Renal disease:** History of proteinuria or elevated creatinine / reduced GFR.
- **Liver disease:** Includes jaundice, hepatitis, cirrhosis, hepatic metastases and ethanol abuse (defined as average intake > 2 standard drinks per day).
- **Malnutrition:** Includes patients with BMI < 19; unintentional ≥ 10% body weight loss over previous 6 months; inflammatory bowel disease; oral, esophageal, gastric or pancreatic malignancy.
- **High risk of iron deficiency:** Anemic patients with low MCV or high RDW on CBC.



For more examples of minor & major surgery, please see the reverse side.

To access the electronic version of this document, please visit: wrha.mb.ca/extranet/eipt/EIPT-003.php

For an interactive preop test decision aid, visit: logixmd.com/preop or use the QR code above

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