

Reducing Low-Value Care: PRE-OP TESTING

Low-risk surgery examples:¹

- Cataract surgery
- Arthroscopic procedures
- Endoscopic procedures
- Breast lumpectomy
- Bunionectomy
- Dental extractions
- Tendon surgery
- Vasectomy

ASA Levels:⁵

- I. Normal, healthy patient
- II. Mild systemic disease
- III. Severe systemic disease
- IV. Severe systemic disease that is a constant threat to life
- V. Not expected to survive without the operation

Routine pre-op testing is not recommended prior to low-risk surgeries for lower-risk patients

From 2016 to 2018 in Oregon, over half of all measured pre-op testing was low-value, affecting nearly 500,000 people at a cost of over \$23 million.² Reducing unnecessary pre-op testing presents an opportunity to significantly reduce health care spending and improve the quality of care delivered to Oregonians.

Routine preoperative testing is not recommended in low-risk surgeries, as it is unlikely to result in changes to anesthesia management or patient outcomes.³

Selective, indicated preoperative testing should be administered after consideration of patient evaluation, patient history, medical record review, and invasiveness of procedure, for the purposes of guiding or optimizing perioperative management.^{4,8}

Pre-Op Testing for Low-Risk Procedures⁶

Pre-Op Test	Lower risk patients (ASA I-II)	Higher risk patients (ASA III-V)
Complete blood count (CBC)	DO NOT ROUTINELY ORDER	CONSIDER ORDERING PER RECOMMENDATIONS BELOW
Metabolic panel (BMP/CMP)		
Coagulation Studies (PT/PTT)		
EKG		
Pulmonary function test (PFT)	DO NOT ROUTINELY ORDER (except urological procedures)	
Urinalysis (UA)	DO NOT ROUTINELY ORDER (consider in patients with diabetes)	
Hemoglobin A1c	DO NOT ROUTINELY ORDER	
Chest x-ray	DO NOT ROUTINELY ORDER	

Choosing Wisely®

“Don’t obtain baseline laboratory studies in patients without significant systemic disease (ASA I or II) undergoing low-risk surgery – specifically CBC, BMP or CMP, coagulation studies when blood loss (or fluid shifts) is/are expected to be minimal.”
 - American Society of Anesthesiologists⁷

“Avoid routine preoperative testing for low risk surgeries without a clinical indication.”
 - American Society for Clinical Pathology¹⁰

“Don’t perform routine pre-operative testing before low-risk surgical procedures.”
 - Society of General Internal Medicine¹¹

“Avoid admission or preoperative chest x-rays for ambulatory patients with unremarkable history and physical exam.”
 - American College of Radiology¹²

Recommended Clinical Considerations

Preoperative testing should not be ordered in the absence of clinical indicators, but rather based on the presence of specific clinical characteristics⁸, such as those below. It is recommended that organizations further define these considerations, using evidence and key stakeholder consensus.

	Clinical Considerations ^{8,9}
All tests	Consider findings of clinical evaluation (including new or worsening symptoms), patient history, current medications, alcohol/illicit drug use, and invasiveness of procedure
Complete blood count (CBC)	Cardiovascular, renal, or liver disease, history of hematologic disorders
Metabolic panel (BMP/CMP)	Renal or liver disease, endocrine dysfunction
Coagulation Studies (PT/PTT)	Renal or liver disease, bleeding disorders, known coagulopathies
EKG	Cardiac symptoms or cardiovascular disease, diabetes, renal disease
Pulmonary function test (PFT)	Significant respiratory disease or restrictive respiratory function
Urinalysis (UA)	Urologic procedures or when UTI symptoms are present
Hemoglobin A1c	Diabetes without A1c in the last 3 months

Pre-Operative Consultation

Prior to surgery, each patient’s history, medications, and physical status should be assessed by the surgeon. However, additional pre-op consultation is not always necessary. Outside consultation can result in longer surgical wait times, low-value testing, and increased costs.⁹

Low-Risk Procedure ¹³	Lowest risk - ASA I	Low risk - ASA II	Higher risk - ASA III-V
Minimally invasive (ex. cataract surgery, hysteroscopy, vasectomy, bronchoscopy)	NO PRE-OP VISIT	NO PRE-OP VISIT	PRE-OP VISIT RECOMMENDED
Minimal to moderately invasive (ex. dental extractions, breast biopsy, cystoscopy)		PRE-OP VISIT: RN ONLY	

Implementation Suggestions

Targeted quality improvement initiatives can lead to successfully decreasing low-value preoperative testing, while continuing to provide safe and effective patient care. Here are some actionable steps you can take within your organization:

- 1. Provide pre-op testing education and awareness to key stakeholders including surgeons, anesthesiologists, primary care physicians, surgical office assistants, preadmission nursing staff, etc.**
 - a. Use a variety of communication channels such as newsletters, emails, webinars, and meetings.
 - b. Identify a provider champion who can guide others, identify barriers, and assist with process improvement changes.
- 2. Use the recommendations in this document as a foundation to collaboratively create clinical decision tools and processes that will help guide providers on the need for preoperative consultation and testing.**
 - a. Involve surgeons, anesthesiologists, and primary care/pre-op clinics in the development of clinical decision tools.
 - b. Ensure your clinical decision tools and workflows are available to all staff, updated regularly and communicated frequently.
 - c. Embed clinical decision support tools within your electronic medical record that will support appropriate ordering.
 - d. Create an automated, standard preoperative history and physical template that guides evidence-based testing.
 - i. If possible, the H&P and any test results should be completed and communicated electronically.
 - ii. The template should allow the clinician performing the evaluation to indicate surgical risk, not surgical “clearance”.
 - e. Remove order sets from the electronic medical record that support routine preoperative testing.
- 3. Assess internal preoperative test ordering to determine opportunities for improvement.**
 - a. Set goals for reducing unnecessary pre-op testing and develop an action plan for meeting goals.
 - b. Provide feedback to individual providers as needed.
- 4. Provide patients with education about when pre-operative tests are needed. The following handouts are available from Choosing Wisely:**
 - a. Lab tests: <https://www.choosingwisely.org/patient-resources/lab-tests-before-surgery/>
 - b. Chest x-rays: <https://www.choosingwisely.org/patient-resources/chest-x-rays-before-surgery/>
 - c. Before eye surgery: <https://www.choosingwisely.org/patient-resources/medical-tests-before-eye-surgery/>
 - d. Echocardiogram: <https://www.choosingwisely.org/patient-resources/echocardiogram-before-surgery/>
 - e. Stress tests: <https://www.choosingwisely.org/patient-resources/stress-tests-before-surgery/>
 - f. Heart imaging: <https://www.choosingwisely.org/patient-resources/heart-imaging-tests-before-surgery/>

Note

All recommendations in this document pertain to non-pregnant, adult patients undergoing low-risk procedures. They do not replace clinical judgement and are intended as guidance only, to be used in addition to consultation with the patient, family, and other health care providers. Additional pre-op testing may be indicated for patients with complex or uncommon medical conditions.

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These recommendations were developed in collaboration with payer and health system leaders from the OHLC Best Practice Committee and are based on available clinical evidence and consensus of expert opinion.