

Five Things Physicians and Patients Should Question

1 Don't order baseline laboratory studies (complete blood count, coagulation testing, or serum biochemistry) for asymptomatic patients undergoing low-risk non-cardiac surgery.

Conducting baseline laboratory investigations before low-risk non-cardiac surgery contributes little value to perioperative care. A focused clinical history and physical examination may reliably identify relevant abnormalities sought by routine laboratory testing before low-risk surgery. In addition, evidence suggests that abnormal results in this setting only rarely influence management and do not improve clinical outcomes. Preoperative testing may add value in the setting of a symptomatic patient or higher-risk surgery, but should not be performed routinely before low-risk surgery on asymptomatic patients.

2 Don't order a baseline electrocardiogram for asymptomatic patients undergoing low-risk non-cardiac surgery.

Electrocardiograms (ECGs) performed before elective, non-cardiac, surgeries are frequently abnormal. This is especially true when this test is done in older patients. Despite the frequency of these abnormalities, ECGs do little to improve risk prediction beyond simply asking patients about their health. Serious cardiac events like heart attack are rare following low-risk surgeries; there is little that physicians can do to further lower this risk. A preoperative ECG will therefore not improve outcome but may lead to more testing or treatment that is of little benefit. ECGs used to identify the cause of symptoms (palpitations, chest pain, dyspnea, etc.) remain useful diagnostic tools regardless of whether the patient is having surgery.

3 Don't order a baseline chest X-ray in asymptomatic patients, except as part of surgical or oncological evaluation.

While chest X-rays (CXRs) remain an important part of surgeon's evaluation before cancer or thoracic surgeries, it is better if these staging examinations are complete before committing a patient to surgery. CXRs are not indicated in the routine pre-anesthetic assessment. In the absence of symptoms, CXRs yield few diagnoses and many false positives. CXRs do not improve risk prediction or stratification. CXR in the pre-anesthetic evaluation should be reserved for patients with symptoms consistent with acute cardiopulmonary illness (dyspnea, wheeze, productive sputum, etc.).

4 Don't perform resting echocardiography as part of preoperative assessment for asymptomatic patients undergoing low to intermediate-risk non-cardiac surgery.

Resting echocardiography has a clear role for resolving diagnostic questions in surgical patients, such as identifying the basis for suspicious systolic murmurs or new dyspnea on exertion. Outside these indications, resting echocardiography does not contribute significant additional prognostic information to usual clinical evaluation. It is not useful as a screening tool to identify surgical patients at risk for cardiac complications.

5 Don't perform cardiac stress testing for asymptomatic patients undergoing low to intermediate risk non-cardiac surgery.

Stress testing can help resolve diagnostic uncertainty in surgical patients, such as determining whether individuals with chest discomfort and vascular risk factors have undiagnosed coronary artery disease. It can also help identify patients at elevated risk for cardiac complications after major vascular surgery. Nonetheless, asymptomatic individuals with good functional capacity have a very low risk of cardiac complications after low-to-intermediate non-cardiac surgery. Stress testing in such individuals is not useful for delineating expected perioperative risk and guiding clinical care.

How the list was created

The Canadian Anesthesiologists' Society (CAS) established its *Choosing Wisely Canada* (CWC) Top 5 recommendations by engaging a small team of expert Canadian anesthesiologists to develop research methodology and carry out a survey to establish the CAS top five recommendations. The survey was based on similar work done by the American Society of Anesthesiologists who identified an evidence-based list of activities to question within anesthesiology as *Five Things Physicians and Patients Should Question*: American Society of Anesthesiologists. The CAS team defined a short list of twelve tests and procedures in perioperative care and asked members of the CAS to consider each and answer questions about their frequency of use, impact on quality of the care for patients, cost of the investigation, evidence to support the investigation and potential to avoid ordering the investigation. Five recommendations were selected through survey data collection and analysis by the CAS research team in conjunction with a professional survey consultant and expert consensus. The top five were presented at the CAS Annual Meeting in June 2015 and will be published in the *Canadian Journal of Anesthesia*.

Sources

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About Choosing Wisely Canada

Choosing Wisely Canada is a campaign to help physicians and patients engage in conversations about unnecessary tests, treatments and procedures, and to help physicians and patients make smart and effective choices to ensure high-quality care.

For more information on *Choosing Wisely Canada* or to see other lists of Five Things Physicians and Patients Should Question, visit www.choosingwiselycanada.org. Join the conversation on Twitter @ChooseWiselyCA.

About The Canadian Anesthesiologists' Society

The Canadian Anesthesiologists' Society (CAS) is a proud partner of the *Choosing Wisely Canada* campaign. The CAS is the national specialty society for anesthesiology in Canada. The CAS was founded in 1943 as a not-for-profit, voluntary organization and is guided by its vision of innovative leadership and excellence in anesthesiology, perioperative care, and patient safety. The CAS represents 3,000 members (anesthesiologists, GP anesthetists, residents, Anesthesia Assistants, etc.) across Canada and around the world and is dedicated to promoting excellence in patient care through research, education and advocacy.