
Medical Laboratory Science

Seven Things Clinicians and Patients Should Question

by

Canadian Society for Medical Laboratory Science

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1 Don't collect more blood than what is needed. Use short draw tubes, consider add-on testing, and reduce or combine duplicate orders.

Phlebotomy is not a risk-free event for the patient or the healthcare worker. While rare, injury from needlestick and/or pathogen exposure can occur. Cumulative blood loss due to multiple phlebotomy episodes can result in iatrogenic anemia, particularly in the elderly, children, or those with medical conditions. This anemia can lead to worsened patient outcomes. Employing mechanisms that limit the amount of blood taken has been shown to lessen the severity of iatrogenic anemia. This can range from using smaller-volume collection tubes, consulting about the possibility of add-on testing to previously drawn samples, or adopting a maximum blood volume policy. Addressing duplicate requisitions can limit a patient from being phlebotomized twice.

2 Don't proceed with testing or reporting when sample quality or identification is suspect.

The quality of specimens received in the laboratory is paramount to obtaining accurate results. Proceeding with testing in the presence of poor sample quality may give misleading results. This contributes to delays and unnecessary repeat examinations. Any level of error should be avoided to decrease negative impact on clinical decisions and patient care. Laboratory professionals should be proactive in ensuring that all types of specimens are collected in a high quality manner with correct identification, regardless of which health professional group is performing the act.

3 Don't collect extra blood tubes in anticipation of test orders.

Frequently called 'just-in-case', 'rainbow draws' or simply 'extra tubes', blood collected before tests are ordered is frequently unused and ultimately discarded. This represents a waste of laboratory resources and a challenge for specimen management. Excessive phlebotomy is a recognized contributor to iatrogenic anemia, which is linked to worsened patient outcomes.

4 Don't support repeat test ordering (re-testing) at a frequency that is not backed by evidence.

Many analytes have known stability profiles or minimum retesting intervals. In most cases, values will not change during this time. These intervals may be longer than traditional or historical test repeat ordering frequency. Ordering tests more frequently is unlikely to provide clinically meaningful results, and may contribute to iatrogenic anemia. Iatrogenic anemia can worsen patient outcomes. Laboratorians can play an active role in drawing awareness to and/or acting to reduce these types of orders.

5 Don't routinely repeat critical results for most common analytes before reporting.

With modern instrumentation, analytical precision is very high when the result is within the reportable range and no delta checks have failed. Providing that sample integrity and performance validity has been confirmed, repeating critical values rarely changes the result. However, turnaround time is significantly increased. This can delay clinical action, negatively impact patient care, and increase the likelihood of unnecessary investigations.

6**Don't support ordering system mechanisms that contribute to over-testing. Encourage the development of an evidence-based utilization management program that may include interventions such as unbundling order sets, reflex testing algorithms, and decision-support technology.**

Over-testing is a recognized problem, and evidence supports multi-faceted interventions that capitalize on advances in computer-based ordering technology. Bundling of tests may provide results that are not necessary for the ordering professional and may lead to duplication of testing or unnecessary follow-up. Order sets should be regularly reviewed. Research supports increased collaboration of all healthcare providers, including laboratory personnel, in combating over-testing. Laboratory professionals can be involved at all stages of interventions from problem recognition, feedback provision, to participation in the creation of supportive education materials and ordering guidelines.

7**Don't allow standing orders for repeat testing without a stop or review date.**

Standing orders without an expiry or review date allow testing to be performed repetitively for extended periods of time. This type of testing is rarely clinically necessary without regularly reviewing the validity of the order. This contributes to overutilization of laboratory tests, and may exacerbate the development of iatrogenic anemia.

How the list was created

Project leadership was established as a team of individuals from the Canadian Society of Medical Laboratory Science (CSMLS) and the Medical Laboratory Science program at the University of Alberta. A working group (herein referred to as the "Expert Panel") of experienced medical laboratory professionals (MLPs) from across Canada were recruited through advertisement by the CSMLS. Expert Panel members were selected based on maximal representation of geography, years and variety of working experience, and professional designation. All traditional disciplines of medical laboratory science (chemistry, hematology, blood bank, microbiology, and histology) were represented by at least 2 members. There were five virtual synchronous meetings as well as asynchronous technology-enabled discussions over approximately one year. Potential CWC list items were generated through Expert Panel members, a national CSMLS survey, and a meeting at the 2019 CSMLS annual convention. A modified Delphi process was used to reduce a long list to a short list of items. We used scoping reviews to generate evidence for items on the short list. Items with the strongest evidence were sent to the CSMLS Board of Directors for approval.

Sources

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About the Canadian Society for Medical Laboratory Science

The Canadian Society for Medical Laboratory Science (CSMLS) is the national certifying body for medical laboratory technologists and medical laboratory assistants, and the national professional society for Canada's medical laboratory professionals. Our purpose is to: 1) promote and maintain a nationally accepted standard of medical laboratory technology by which other health professionals and the public are assured of effective and economical laboratory services, and 2) promote, maintain and protect the professional identity and interests of the medical laboratory professional and of the profession.

Our members practice in hospital laboratories, private medical laboratories, public health laboratories, government laboratories, research and educational institutions. Incorporated in 1937 as the Canadian Society of Laboratory Technologists, the society has over 14,500 members in Canada and in countries around the world.



About Choosing Wisely Canada

Choosing Wisely Canada is the national voice for reducing unnecessary tests and treatments in health care. One of its important functions is to help clinicians and patients engage in conversations that lead to smart and effective care choices.

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