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**Preoperative Testing
Frequently Asked Questions (FAQ)**

*To accompany WRHA Regional Guideline: Routine Preoperative Lab Tests
for Adults Undergoing Elective Surgery*

The Clinical Development Team welcomes the opportunity to answer questions and discuss the behind-the-scenes work in creating the guideline. While all of the questions and answers added to this document may not be "frequently" asked by all interested parties, in an effort to ensure transparency a substantial number of questions have been added to this updated version (March 2011) of the FAQ document. These additions are in response to comments through the website, from the Internal Medicine and Family Medicine Standards Committees, and discussion at the Information Sessions.

GENERAL QUESTIONS

1. Is there any change to the preoperative history and physical?

The change to the preoperative history and physical is that it will be considered valid for up to 6 months, provided there is no interim change in the patient's condition. This updates the information in part D of the WRHA Surgery Program Preop History and Physical Form http://www.wrha.mb.ca/professionals/familyphysicians/files/Surgery_PreOpHistoryForm.pdf. *Work is underway that further explores the preoperative process with the goal of process improvement. This work began with a Forum for stakeholders on March 10, 2011 to discuss current processes. Information on this forum is available on the WRHA website.

**Copy and paste in web browser if "Ctrl & click" if double clicking the link does not work.*

2. Forms at my facility state that preoperative tests and physicals are valid for 3 months, not 6, which is correct?

There may still be some forms in use that identify a 3 month timeline. However, this guideline promotes that preoperative testing as well as the history and physical are valid for 6 months, provided there is no change in the patient's health.

3. How does the Pre-Op guideline relate to other care maps that are currently in place?

Where care maps recommend ordering specific lab tests for defined surgical populations at a given site, users should review with the relevant medical directors whether the site will follow the care map or the guideline's recommendation.

4. When do I start using this guideline?

Immediately. Implementation packages were distributed in January 2011 with the understanding that it be implemented upon receipt

Please see instructive letter

<http://www.wrha.mb.ca/professionals/familyphysicians/files/InstructiveLetterFINAL.pdf>.

5. Is this guideline distributed throughout Manitoba - many of our patients travel to Winnipeg from rural locations and have their pre-op assessment completed rurally?

Yes, regions outside of Winnipeg will be provided with the guideline information in Spring 2011. Each region will be implementing this guideline.

6. Are patient consent forms still valid for one year?

Yes, within one year of the date of being signed.

7. Who is ultimately responsible for ensuring that accurate and timely pre-operative patient information is collected?

This is a joint responsibility between the patient, the family physician, surgeon, anesthesiologist, and any other care providers involved with the individual.

8. Is this new Evidence Informed Practice Tool a standard or a guideline? Do I really have to use it?

It was developed in the form of a guideline because it is a tool to guide practice. Practitioners always have the ability to use their clinical judgment to support deviations from the guideline. However, this guideline is supported by the WRHA Standards Committee and the Executive Sponsors from the Regional Health Authorities and Manitoba Health; thus, it should be adopted as part of practice. It is suggested that adherence to this guideline can be used to measure quality and patient safety.

9. How was this guideline implemented? How was the information disseminated?

A package of information that included an instructive letter, guideline and the pre-operative testing grid was distributed to every surgeon / physician and administrative support person in the Anesthesia Program, Family Medicine-Primary Care Program including all non-affiliated physicians, Surgery Program and Women's Health Program within the Winnipeg region. The package was also distributed to Directors of other WRHA programs, Private Surgery/Labs, DSM, nursing, Allied Health care providers and administrative staff of these programs, Directors for the following WRHA programs – Diagnostic Imaging, Breast Health, Cardiac Sciences, Medicine, Renal, Oncology, PCH, Rehab / Geriatrics, Emergency, Mental Health, private surgery / labs, CPSM, WRHA surgery sites, WRHA operated / teaching clinics, WRHA funded agencies, Diagnostic Services of Manitoba, WRHA Research & Evaluation, WRHA Communications, Health Links, Manitoba College of Family Physicians. The guideline was presented at Anesthesia Grand Rounds and Surgery Council, Standards Committees, FPAC, Professional Advisory Committee, Surgery Site Directors meeting, RHA Chiefs of Staff/VP Medical meeting. In addition, Information Sessions were held (Feb. 9 & 11, 2011). Finally, all documents are posted on the WRHA website.

QUESTIONS REGARDING DEFINITIONS

1. How is elective surgery defined for this guideline?

Elective Surgery is any planned surgery (Inpatient/Same Day Admission/Day Surgery). Emergency Surgery is unplanned and therefore excluded.

2. What is meant by the term "gross proteinuria"?

The intended meaning of "gross proteinuria" was proteinuria that is not microalbuminuria. A less ambiguous way of expressing this will be incorporated into the next revision of the form.

CLINICAL QUESTIONS

1. Why is an assessment of the patient's exercise tolerance in metabolic equivalents (METs) required?

The assessment of the patient's exercise tolerance in METs is an effort to reduce unnecessary laboratory tests in patients undergoing minor surgery who are healthy older adults or have minor respiratory or cardiac comorbidities. This assessment of exercise tolerance is copied from the *American College of Cardiology/ American Heart Association Guidelines on Perioperative Cardiovascular Evaluation and Care for Noncardiac Surgery* http://americanheart.org/downloadable/heart/1013454973885perio_update.pdf where it is used to stratify the risk of postoperative cardiac complications. These guidelines are widely used by clinicians in anesthesiology, internal medicine and surgical specialties.

2. Why are there reduced indications for Chest X-Rays?

Routine indications for chest x-rays have been eliminated except for patients with malignancy. Thus, chest x-rays are not routinely required for patients with CHF, COPD or other respiratory disease. The literature (see "Source/References within the "Clinical Practice Guideline"" document) did not support the use of chest x-rays to screen for exacerbations of these conditions in patients who are asymptomatic or whose symptoms are at baseline.

3. Why is PTT rarely required?

Hematologists consulted during the guideline development advised that partial thromboplastin time (PTT) is not a useful screening test in asymptomatic patients. The only indication for obtaining a PTT in the guideline is prior to vascular surgery. As systemic heparinization occurs during these procedures, a baseline PTT is useful to compare to subsequent measurements to ensure normalization of the PTT.

4. If blood work is done within 6 months prior to the procedure, an INR done then would be far removed from the procedure – wouldn't an INR done within 24 hours be more appropriate?

The guideline development team distinguished 3 patient populations in whom a preoperative INR is recommended routinely:

- (1) patients having vascular surgery,
- (2) patients at risk for elevated INR secondary to liver disease or malnutrition and
- (3) patients anticoagulated with warfarin due to a medical comorbidity.

For (1), the requirement appears in most preoperative lab test guidelines to provide a baseline prior to intraoperative and postoperative heparinization. If the INR is performed within 6 months of surgery and the patient's health status hasn't changed, the INR would be expected to be stable and would be considered valid. For (2), identification of an elevated INR more than 24 hours prior to surgery allows more time for possible correction with vitamin K, optimization of the underlying comorbidity and for planning the surgical and anesthetic care.

The question really only applies to (3), where it is well taken. For subsequent revisions of the Guideline the guideline team will have to consider how important an INR remote from surgery is in the patient on warfarin. At this point the following rationalization is offered. As patients on warfarin would be expected to have their INR measured more often than every 6 months, the guideline is not really asking for an extra blood test but only communication of results that have already been obtained, thereby ensuring that someone is monitoring the INR in these patients and that it is within the therapeutic range so that when it is stopped 5 days before the procedure as per routine, it can be expected that it will be normalized on the day of the operation.

Finally, it is worth noting that the INR within 24 hours of surgery suggested above is already a routine part of preanesthetic care for patients on warfarin. It is ordered by the preanesthetic clinics within the region to ensure normalization of the INR prior to major surgery. As the guideline is aimed at primary care providers and surgeons ordering tests remote from surgery, this INR immediately before surgery does not appear on the guideline.

5. Why does the grid specify *Fasting Plasma Glucose*?

The goals of preoperative glucose testing are to optimize glucose control in patients with established diabetes and diagnose new diabetes in patients at high risk (high BMI or taking corticosteroids). The Canadian Diabetes Association recommends the use of fasting glucose over random plasma glucose to screen patients for diabetes or pre-diabetes. For patients with diabetes, a Fasting Plasma Glucose of between 4.0 and 7.0mmol/L is one of three glycemic control targets recommended by the Canadian Diabetes Association 2008 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada (page S30).

Safer Health Care Now released new guidelines concurrently with this pre-operative testing grid. Their current recommendation is that "postoperative blood glucose levels be checked on all surgical patients who are diabetic or have risk factors for diabetes." This is a post-operative recommendation; therefore, no changes will be made to the pre-operative testing grid.

6. Why does the grid not recommend an HgbA1c for diabetic patients?

An HgbA1c < 7.0% is a glycemic control target recommended by the Canadian Diabetes Association 2008 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada (page S30). HgbA1c correlates with mean plasma glucose for the previous three months, providing a broader picture of overall glycemic control. However, it will not reflect recent changes in glycemic control due to improved management or new comorbidity.

In any case, a main goal in the preoperative management of diabetic patients is to optimize glycemic control to prevent perioperative fluid and electrolyte imbalance and reduce postoperative complications, including wound infection. Lab tests, whether FPG or HgbA1c or both, are a necessary part of this process. We have chosen FPG for the Guideline because it appears consistently in other preoperative lab test guidelines while HgbA1c does not. Future revisions of the Guideline will consider whether HgbA1c could replace or complement the Fasting Plasma Glucose currently requested.

7. Why are iron indices included? And why must we order ferritin, TIBC and serum iron?

Iron indices for patients at high risk of iron deficiency anemia are included to encourage early identification of this reversible condition that leads to perioperative blood transfusions that would be otherwise preventable with preoperative iron therapy.

A ferritin, TIBC and serum iron are all recommended based on the WRHA Transfusion practice committee's preoperative anemia algorithm. The algorithm can be found at <http://www.bloodconservation.mb.ca/>, under the health care professionals tab. The rationale for ordering all three tests at once is that ferritin is often elevated when there is a comorbid inflammatory state and TIBC distinguishes between absolute and functional iron deficiency. Also, there is limited time in the preoperative period to await the results of a second round of confirmatory tests before treating the deficiency.

8. What should be ordered for patients with Renal Function concerns?

In patients where renal function is of interest, urea will not be required and creatinine should be measured. Manitoba labs will automatically calculate the eGFR (estimated Glomerular Filtration Rate) from the creatinine measurement when it is available and appropriate to do so.

9. Why isn't Obstructive Sleep Apnea (OSA) included?

There are no routine preoperative laboratory tests for patients with known or suspect OSA so there is no need for inclusion in the grid. Specifically, preoperative pulmonary function tests and spirometry would not be helpful in screening for or managing OSA. Further, preoperative arterial blood gases (ABGs) would not be required routinely in OSA patients and as such, the use of ABGs to evaluate OSA in preoperative patients is left to the discretion of anaesthesiologists in PAC clinics. However, if the referring clinician already has ABG results on file for a given OSA patient, these should be forwarded with other patient information to assist in further management. OSA assessment remains part of the WRHA Surgery Program Preoperative Assessment Patient Questionnaire http://www.wrha.mb.ca/professionals/familyphysicians/files/Surgery_PatientQuestionnaire.pdf as well as the WRHA Surgery Program Preop History and Physical Form http://www.wrha.mb.ca/professionals/familyphysicians/files/Surgery_PreOpHistoryForm.pdf.

10. Is a c-section considered a major or minor surgery?

Although there is no resection of organs (except the placenta), C-sections are an intrabdominal surgery associated with >500mL blood loss. We would consider them a major surgery.

11. HSC requires women undergoing therapeutic abortion over 12 weeks gestation to have a hemoglobin done. Is this still required?

For some specific populations, the region or specific hospitals have defined routine tests through care maps or other means. In this situation, clinicians should order the tests for the specific population in addition to the tests recommended in the preop guideline.

12. Does the preop guideline apply to patients undergoing endoscopy?

The Guideline does not consider endoscopy of the GI or respiratory tract in its scope. Clinicians should use their own judgment in ordering lab tests prior to these procedures, or follow other relevant WRHA guidelines where they exist. For those with access please visit the Bridging General & Specialists Care (BGSC) site under Gastroenterology for guidance on lab tests for patients referred for GI endoscopy, or contact bridging@gov.mb.ca.

13. Should discectomy be considered major surgery?

Whether discectomy is done by an open technique or a minimally invasive technique it is considered a minor surgery. Although discectomy is surgery on the spine, there is not large blood loss or significant physiologic trespass.

14. Under "High risk for malnutrition" - should that read as "unintentional weight loss > 10% body weight"

Yes, the current wording is awkward and will be revised in the next version of the guideline.

15. Is a BMI > 40 (morbid obesity) not considered a higher risk for cardiovascular disease (and subsequent risk for surgery)? And, if so, should an ECG be recommended?

Morbid obesity is a risk factor for cardiovascular disease but a significant number of the morbidly obese are younger adult patients. It is not expected for these patients to have significant occult ischemic heart disease and thus an ECG for all morbidly obese patients would be a low yield test. Regardless of BMI, routine ECG's are recommended in patients with hypertension, diabetes mellitus or renal disease and in patients over age 50 with a poor exercise tolerance. Those morbidly obese patients with these risk factors are more likely to have occult ischemic heart disease and an ECG will be of higher yield. These recommendations for preoperative ECG's are the result of our review of numerous other preoperative guidelines.

FURTHER QUESTIONS?

Please submit questions to Pre-optesting@wrha.mb.ca. Other frequently asked questions will be posted as they arise. Thank you for your interest!

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