Don't order serum folate testing in the absence of the following: anemia with red blood cell macrocytes or hypersegmented polynuclear neutrophils and a reasonable clinical suspicion of a nutritional deficiency such as an unsupplemented restrictive diet, severe Alcohol Use Disorder, or malabsorption.

Since 1998, all wheat white flours for food use sold in Canada and United States are enriched with folic acid as a mandatory legal requirement. The main reason for this supplementation is to prevent neural tube defects in newborns. Folates are found in processed food that contains white flour and in green leafy vegetables, legumes, some fruits and beans. Folate deficiency is therefore now encountered very rarely in Canada. For most patients at risk for folate deficiency, like those with malabsorption, it is more practical and economical to treat with multivitamin supplements including folic acid, than to test for deficiency.

The Society of Obstetricians and Gynecologists of Canada recommends universal supplementation for women in the reproductive age group. Investigations are not required prior to initiating folic acid in women considering pregnancy.

Don't order an erythrocyte sedimentation rate (ESR) to screen asymptomatic patients or as a general test to look for inflammation in patients with undiagnosed conditions.

ESR is a non-specific inflammation marker influenced by various factors including anemia, pregnancy, and smoking. C-reactive protein (CRP) is a less expensive and more sensitive and specific reflection of the acute phase of inflammation, hence should be used for this purpose. In the first 24 hours of a disease process, the CRP will be elevated, while the ESR may be normal. If the source of inflammation is removed, CRP will normalize within a day or so, while ESR will remain elevated for days. Only CRP should be used as a measure of systemic inflammation.

Don't order amylase in addition to lipase to detect pancreatitis.

In pancreatitis, levels of amylase and lipase have been found to correlate very well. However, multiple studies have shown that lipase is a more sensitive and specific marker of acute pancreatitis than amylase. Moreover, lipase stays elevated longer than amylase, which is useful in cases of delayed presentation. However, false negative results may still be observed after many days, but amylase is not helpful in those cases. For children, pediatric specific reference ranges should be adapted.

Don't request a serum protein electrophoresis in asymptomatic patients in the absence of otherwise unexplained hypercalcemia, renal insufficiency, anemia or lytic bone lesions.

Serum protein electrophoresis (SPE) is mainly indicated to detect monoclonal gammopathy in patients who have clinical symptoms and signs related to multiple myeloma, amyloidosis, or Waldenstrom macroglobulinemia. It may also be performed in certain uncommon diseases associated with a monoclonal protein like POEMS syndrome and some forms of polyneuropathy.

About 3% of the population above the age of 50, have a monoclonal gammopathy of undetermined significance (MGUS). Current practice guidelines do not recommend routine screening for MGUS in the general population because of the lack of proven benefit, absence of actionable preventive therapy and creation of unnecessary anxiety for some patients. SPE is not a sensitive test to detect inflammation, C-reactive protein is a better and less costly alternative that is more responsive to changes in the patient status.
**Don’t request uric acid as part of the routine evaluation of cardiovascular risk, obesity or diabetes.**

Although evidence of a causative link between hyperuricemia and cardiometabolic risk is mounting, it still does not support the use of pharmacotherapy and its concentration is not used in equations for estimating vascular risk. Asymptomatic hyperuricemia is a frequent, coincidental, biochemical finding that does not require any treatment.

Uric acid should not be measured routinely, but its measurement may be considered mainly in the following situations:

- Investigation of acute joint pain
- Follow-up of hypouricemic treatment
- Follow-up of patients with kidney disease and kidney stone disease
- Preeclampsia
- Tumor lysis syndrome
How the list was created
The list was developed under the guidance of a committee formed with the specific intent of producing a list of 5 recommendations. All CAMB members were invited to participate and members were nominated by the CAMB board executive. The committee members reviewed the CWC guidance on producing recommendations and put forward a number of topics that were refined in discussion during committee meetings. A preliminary list of 22 topics was produced by the committee. A survey of all the membership was conducted by an electronic survey with options to add more suggestions. The ranked result of the survey was discussed with the committee and duplicate results were not considered. Weighting of each topic was reviewed and a list of 5 topics was agreed upon.

Sources
5. James W Lohr et al. Hyperuricemia treatment and management. August 2018. [Internet].

The ranked result of the survey was discussed with the committee and duplicate results were not considered. Weighting of each topic was reviewed and a list of 5 topics was agreed upon.
About the Canadian Association of Medical Biochemists
The CAMB is the national association that represents physicians specialized in medical biochemistry, a specialty recognized by the Royal College of Physicians and Surgeons of Canada. Medical Biochemists direct clinical laboratories, consults, diagnoses and treat patients with a variety of metabolic disorders and biochemical abnormalities. The CAMB promotes quality and security in laboratory medicine and in the clinical use of laboratory information through education, research, and clinical practice. The CAMB aims to serve and educate the public and also to enhance career opportunities of its members through continuous professional development and advocacy initiatives.

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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