



## Choosing Wisely Canada recommendations target overuse of unnecessary medical procedures

***No CT scans needed after minor head injuries AND no psychostimulants as a first treatment in preschool children with ADHD among new recommendations.***

Edmonton, June 2, 2015 – Avoiding CT scans for mild head injury and avoiding psychostimulants for preschool children with ADHD top the list of new recommendations released by [Choosing Wisely Canada](#) (CWC) today.

The CWC recommendation concerning CT scans was developed by the Canadian Association of Emergency Physicians (CAEP) and recognizes that most adults and children with minor head injuries do not suffer from serious brain injuries requiring hospitalization or surgery. Further, performing CT head scans without signs of significant injuries can expose patients to unnecessary radiation that can increase a patients' lifetime risk of cancer.

Avoiding psychostimulants as first treatment for preschool children with ADHD recognizes the need to assess children for environmental stressors such as neglect, abuse or exposure to domestic violence before jumping to drugs as the solution. In some cases, education and support of parents followed by advice on behavioural management and community placement might be the solution. This recommendation was developed through the collaborative effort of the Canadian Psychiatric Association, Canadian Academy of Child and Adolescent Psychiatry and the Canadian Academy of Geriatric Psychiatry.

Today's release of [49 new recommendations](#), unveiled in conjunction with the CAEP 2015 Annual Conference in Edmonton, brings the total of CWC recommendations available to patients and physicians to over 150. Now 29 Canadian medical specialty societies have released Choosing Wisely Canada recommendations. Choosing Wisely Canada has also been very well received by numerous public and patient advocacy groups. Many of these organizations have praised the CWC effort to provide information for patients that allows them to better engage with physicians in the management of their care.

The Canadian Medical Association (CMA) is a lead partner in CWC, which is focusing on linking best available medical evidence to both physicians and their patients. Choosing Wisely Canada uses plain language and patient-friendly materials to complement the lists of “Five Things Physicians and Patients Should Question.” [Patient materials](#) are being disseminated broadly through online, social media and other channels.

## Quotes

“The recommendations released today target overused and unnecessary tests and treatments that physicians and patients should avoid in these circumstances,” said Dr. Wendy Levinson, chair of Choosing Wisely Canada. “Avoiding these tests and treatments when they are not needed will improve care and prevent possible side effects.”

“The physician-patient relationship is based on communication, trust and the sharing of information to ensure the highest quality of care and Choosing Wisely Canada is a critical tool for both sides of the examination table,” said Dr. Chris Simpson, Canadian Medical Association.

## National medical specialty societies releasing new lists of procedures that should be avoided:

- [Canadian Association of Emergency Physicians](#)
- [Canadian Society of Hospital Medicine](#)
- [Canadian Association of Nuclear Medicine](#)
- [Canadian Association of Paediatric Surgeons](#)
- [Canadian Psychiatric Association](#)
- [Canadian Academy of Child and Adolescent Psychiatry](#)
- [Canadian Academy of Geriatric Psychiatry](#)
- [Canadian Spine Society](#)
- [Canadian Society for Transfusion Medicine](#) (releasing 5 additional items)
- [Canadian Society for Vascular Surgery](#)

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For further information, or to arrange an interview contact:

Ciana Van Dusen  
CMA Communications  
Email: [ciana.vandusen@cma.ca](mailto:ciana.vandusen@cma.ca)  
tel: 613.731.8610 x 2229

*Choosing Wisely Canada (CWC) helps physicians and patients engage in healthy conversations about potentially unnecessary tests, treatments and procedures, and to help physicians and patients make smart and effective choices to ensure high-quality care. CWC got underway initially in Ontario and has*

*been endorsed by all provincial and territorial medical associations who have established mechanisms to support the adoption of the Choosing Wisely Canada lists. It is now a truly national campaign.*

*The **Canadian Medical Association (CMA)** is the national voice of Canadian physicians. Founded in 1867, the CMA is a voluntary professional organization representing more than 80,000 of Canada's physicians and comprising 12 provincial and territorial medical associations and 60 national medical organizations. CMA's mission is helping physicians care for patients. The CMA will be the leader in engaging and serving physicians and be the national voice for the highest standards for health and health care.*

## Five Things Physicians and Patients Should Question

### 1 Don't order CT head scans in adults and children who have suffered minor head injuries (unless positive for a head injury clinical decision rule).

Minor head injuries in children and adults are common presentations to the emergency department. Minor head injuries in adults are characterized as: Glasgow Coma Scale (GCS) 13-15, age > 16 years, not consuming oral anticoagulants, no known bleeding disorder, and no obvious open skull fracture. Minor head injuries in children are characterized as: injury within the past 24 hours that is associated with witnessed loss of consciousness, definite amnesia, witnessed disorientation, persistent vomiting (more than one episode), or persistent irritability (<2 years old), in a patient with a GCS of 13-15. Most adults and children with minor head injuries do not suffer from serious brain injuries that require hospitalization or surgery. CT head scans performed on patients without signs of significant injuries can expose patients to unnecessary ionizing radiation that has the potential to increase patients' lifetime risk of cancer. They also increase length of stay and misdiagnosis. There is strong evidence that physicians should not order CT head scans for patients with minor head injury if they do not have a history of loss of consciousness, amnesia, or confusion, or unless validated clinical decision rules suggest otherwise (i.e., Canadian CT head rule for adults, and CATCH or PECARN rules for children).

### 2 Don't prescribe antibiotics in adults with bronchitis/asthma and children with bronchiolitis.

Respiratory distress from bronchospasm/wheezing is a common presentation in both children (i.e., bronchiolitis) and adults (i.e., bronchitis/asthma) seen in the emergency department. Most patients with symptoms do not have bacterial infections that require antibiotic treatment or influence outcomes (i.e., hospitalization). Inappropriate administration of antibiotics can expose patients to unnecessary risks (i.e., allergies, rash and other side-effects) and has the potential to increase patients' risk of antibiotic-induced diarrhea. These prescriptions also increase overall antibiotic resistance in the community. There is strong applied research evidence to recommend that physicians should not prescribe antibiotics in children (i.e., bronchiolitis) and adults (i.e., bronchitis and asthma) with wheezing presentations.

### 3 Don't order lumbosacral (low back) spinal imaging in patients with non-traumatic low back pain who have no red flags/pathologic indicators.

Adults with non-specific lumbosacral (low back) pain, in the absence of significant trauma (i.e., car crash, fall from height, etc.), commonly present to the emergency department. The evaluation of patients presenting with non-traumatic low back pain should include a complete focused history and physical examination to identify "red flags" that may indicate significant pathology. These may include, but are not limited to: features of cauda equina syndrome, weight loss, history of cancer, fever, night sweats, chronic use of systemic corticosteroids, chronic use of illicit intravenous drugs, patients with first episode of low back pain over 50 years of age and especially if over 65, abnormal reflexes, loss of motor strength or loss of sensation in the legs. In the absence of red flags, physicians should not order radiological images for patients presenting with non-specific low back pain. Imaging of the lower spine for symptomatic low back pain does not improve outcomes, exposes the patient to unnecessary ionizing radiation and contributes to flow delays without providing additional value.

### 4 Don't order neck radiographs in patients who have a negative examination using the Canadian C-spine rules.

Neck pain resulting from trauma (such as a fall or car crash) is a common reason for people to present to the emergency department. Very few patients have a cervical spinal injury that can be detected on radiographs ("X-rays"). History, physical examination and the application of clinical decision rules (i.e., the Canadian C-spine rule) can identify alert and stable trauma patients who do not have cervical spinal injuries and therefore do not need radiography. The Canadian C-spine rule has been validated and implemented successfully in Canadian centres, and physicians should not order imaging unless this rule suggests otherwise. Unnecessary radiography delays care, may cause increased pain and adverse outcomes (from prolonged spinal board immobilization), and exposes the patient to ionizing radiation without any possible benefit. This strategy will reduce the proportion of alert patients who require imaging.

### 5 Don't prescribe antibiotics after incision and drainage of uncomplicated skin abscesses unless extensive cellulitis exists.

Abscesses are walled off collections of pus in soft tissue, with *Staphylococcus aureus* (both sensitive and resistant to methicillin) being the microbe most frequently involved. Most uncomplicated abscesses should undergo incision in the emergency department using local analgesia or procedural sedation, complete drainage and appropriate follow-up. Evidence suggests that antibiotics are not routinely required after abscess incision and drainage of an uncomplicated abscess. Physicians should not prescribe antibiotics for these patients, unless the patients are immunocompromised, systemically ill, or exhibit extensive surrounding cellulitis or lymphangitis.

## How the list was created

The Canadian Association of Emergency Physicians (CAEP) established its *Choosing Wisely Canada* Top 5 recommendations by forming an Expert Working Group to generate an initial list of potentially overused tests, procedures, and treatments in emergency medicine that do not add value to care. CAEP subcommittee chairs were invited to provide further input in the initial list. The list of potential items was then sent to more than 100 selected emergency physicians to vote on the items based on: actionability by emergency physicians, effectiveness, safety, economic burden, and frequency of use. The CAEP working group discussed the items with the highest votes, and the five *Choosing Wisely Canada* recommendations were generated by consensus.

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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](http://www.choosingwiselycanada.org). Join the conversation on Twitter @ChooseWiselyCA.

### About The Canadian Association of Emergency Physicians

The Canadian Association of Emergency Physicians (CAEP) is a proud partner of the *Choosing Wisely Canada* campaign. CAEP is the primary advocacy, educational and medical organization representing the interests of Canadian emergency physicians, their work place issues and their patients. CAEP represents more than 2,000 emergency physicians across Canada. The CAEP head office is located in Ottawa, Ontario and CAEP is a founding member of the International Federation for Emergency Medicine (IFEM). The Association contributes to knowledge translation through the production of the Canadian Journal of Emergency Medicine (CJEM), the CAEP Road Shows and other CME activities, and the Annual CAEP Conference.

**EMBARGOED UNTIL JUNE 2, 2015 AT 10:00AM EDT**

## Five Things Physicians and Patients Should Question

### **1 Don't place or leave in place a urinary catheter without reassessment.**

The use of urinary catheters among hospitalized patients is common. Urinary catheter use is associated with preventable harm such as, catheter-associated urinary tract infection, sepsis, and delirium. Guidelines support routine assessment of the indications for urinary catheters and minimizing their duration of use. Appropriate indications include acute urinary obstruction, critical illness and end-of-life care. Strategies that reduce inappropriate use of urinary catheters have been shown to reduce health care associated infections.

### **2 Don't prescribe antibiotics for asymptomatic bacteriuria (ASB) in non-pregnant patients.**

The inappropriate treatment of ASB represents a leading misuse of antimicrobial therapeutics. Clinicians should avoid the use of antibiotics given the lack of treatment benefits, risk of potential harm such as *Clostridium difficile* infections and the emergence of antimicrobial resistant organisms. The majority of hospitalized patients with ASB do not require antibiotics with the exception of pregnant women, and patients undergoing invasive urologic surgical procedures. In all other situations, antimicrobial therapy should be targeted to those who have symptoms of urinary tract infections in the presence of bacteriuria.

### **3 Don't use benzodiazepines and other sedative-hypnotics in older adults as first choice for insomnia, agitation or delirium.**

Insomnia, agitation, and delirium commonly occur among elderly inpatients, and hospital providers frequently prescribe pharmacological sleep aids or sedatives. However, studies in older adults have shown that benzodiazepines and other sedative-hypnotics significantly increase the risk of morbidity (such as falls, delirium and hip fractures) and mortality. Use of these drugs should be avoided as first line treatment for the indications of insomnia, agitation, or delirium. Instead, other non-pharmacological alternatives should be considered first.

### **4 Don't routinely obtain neuro-imaging studies (CT, MRI scans, or carotid doppler ultrasonography) in the evaluation of simple syncope in patients with a normal neurological examination.**

Syncope is common and has been defined as transient loss of consciousness, associated with inability to maintain postural tone and with immediate, spontaneous and complete recovery. Patients presenting with transient loss of consciousness due to neurological causes (such as seizures and stroke) are infrequent and must be differentiated from true syncope. While neurological disorders can occasionally result in transient loss of consciousness, the utility of neuro-imaging studies are of limited benefit in the absence of signs or symptoms concerning for neurological pathologies.

### **5 Don't routinely obtain head computed tomography (CT) scans, in hospitalized patients with delirium in the absence of risk factors.**

Delirium is a common problem among hospitalized patients. In the absence of risk factors for intracranial causes of delirium (such as recent head trauma or fall, new focal neurological findings, and sudden or unexplained prolonged decreased level of consciousness), routine head CT scans are of low diagnostic yield. Guidelines suggest a step-wise approach to the management of new delirium in hospitalized patients and consideration of head CT only in patients with select risk factors.

## How the list was created

The Canadian Society for Hospital Medicine (CSHM) established its *Choosing Wisely Canada* (CWC) Top 5 recommendations by creating a CWC subcommittee within its Quality Improvement (QI) Committee. The subcommittee members represent a diverse group of hospitalists from across Canada, practicing in a variety of settings. A draft list of 16 recommendations was solicited from the broader CSHM membership via email and society website. Members were asked to consider relevance to hospital medicine, frequency of occurrence and potential for harm. The QI Committee vetted each recommendation and conducted a literature review to determine the strength of the supporting evidence. Recommendations lacking in evidence were removed from the list. All CSHM members were invited to rank the remaining 12 items using an anonymous electronic web-based survey tool. The top 9 recommendations with the highest scores were selected for a second round of voting in which the scores from the first round of voting were revealed to participants. The top 5 recommendations with the highest degree of agreement were selected and submitted to the Board of Directors for approval as the final list.

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### About Choosing Wisely Canada

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### About The Canadian Society of Hospital Medicine

The Canadian Society of Hospital Medicine (CSHM) is a proud partner of the *Choosing Wisely Canada* campaign. CSHM was founded in 2001 as the Canadian chapter of the US based Society of Hospital Medicine. The CSHM is committed to promoting the highest quality of care for all hospitalized patients. The CSHM supports Canadian hospitalists promoting excellence in the practice of hospital medicine through education, advocacy and research.

**EMBARGOED UNTIL JUNE 2, 2015 AT 10:00AM EDT**

## Five Things Physicians and Patients Should Question

### **1 Don't perform stress cardiac imaging or coronary angiography in patients without cardiac symptoms unless high-risk markers are present.**

Asymptomatic, low-risk patients account for up to 45% of inappropriate stress testing. Testing in these asymptomatic patients should be performed only when the following findings are present: diabetes in patients older than 40 years of age, peripheral arterial disease, and greater than 2% yearly coronary heart disease event rate.

### **2 Don't use nuclear medicine thyroid scans to evaluate thyroid nodules in patients with normal thyroid gland function.**

Nuclear medicine thyroid scanning does not conclusively determine whether thyroid nodules are benign or malignant; cold nodules on thyroid scans will still require biopsy. Nuclear medicine thyroid scans are useful to evaluate the functional status of thyroid nodules in patients who are hyperthyroid.

### **3 Don't use a computed tomography angiogram (CTA) to diagnose pulmonary embolism in young patients, particularly women, with a normal chest radiograph; consider a radionuclide lung study ('V/Q study') instead.**

When the clinical question is whether or not pulmonary emboli are present, a V/Q study can provide the answer with lower overall radiation dose than can CTA. The dose to the breast in women from a nuclear medicine lung scan is much less than the dose from CT performed with a breast shield. Imaging may not be required in patients with a low clinical likelihood of pulmonary emboli and a negative high-sensitivity D-Dimer.

### **4 Don't do routine bone scans in men with low-risk prostate cancer.**

Patients who are at low risk of metastatic disease, defined by criteria based on prostate-specific antigen (PSA) and Gleason score, do not need a bone scan for staging. Bone scans may be useful if there are findings in the patient's history or physical examination, which raise the suspicion of bony involvement.

### **5 Don't repeat DEXA scans more often than every two years in the absence of high risk or new risk factors.**

Various factors limit the utility of repeat DEXA scans more often than every two years, particularly in stable patients. These include the expected rate of bone loss, which is unlikely to be detected at smaller intervals, and measurement error, which may make repeat measures unreliable. This may be compounded if different DEXA machines are used. In stable patients, the interval between scans may be prolonged, or a repeat may not be necessary.

## How the list was created

The Canadian Association of Nuclear Medicine (CANM) established its *Choosing Wisely Canada* Top 5 recommendations by first having its newly created Choosing Wisely Campaign Working Group review the Society of Nuclear Medicine and Molecular Imaging (SNMMI) and the American Society of Nuclear Cardiology (ASNC) Choosing Wisely® lists. As the American lists reflected the same issues encountered in Canada, the CANM Working Group approved the lists in principle, selected the most appropriate procedures to be questioned and added two recommendations of its own. The list created was then circulated to the CANM Board of Directors and to the general membership for feedback. Item 1 was adopted with permission from the Five Things Physicians and Patients Should Question, ©2012 American Society of Nuclear Cardiology. Items 2 and 4 were adopted with permission from the Five Things Physicians and Patients Should Question, ©2013 Society of Nuclear Medicine and Molecular Imaging.

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### About Choosing Wisely Canada

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### About The Canadian Association of Nuclear Medicine

The Canadian Association of Nuclear Medicine (CANM) is a proud partner of the *Choosing Wisely Canada* campaign. The CANM strives for excellence in the practice of diagnostic and therapeutic nuclear medicine by promoting the continued professional competence of nuclear medicine specialists, establishing guidelines of clinical practice, and encouraging biomedical research. We work with all professionals in nuclear medicine to ensure that Canadians have access to the highest quality nuclear medicine services.

**EMBARGOED UNTIL JUNE 2, 2015 AT 10:00AM EDT**

## Six Things Physicians and Patients Should Question

### **1 Don't order a routine ultrasound for umbilical and/or inguinal hernia.**

Umbilical and inguinal hernias are one of the most common reasons a primary care patient may need referral for surgical intervention. The history and physical examination are usually sufficient to make the diagnosis. The routine use of ultrasound for these two conditions is not necessary and will not help the pediatric surgeon to reach a diagnosis.

### **2 Don't order C-reactive protein (CRP) levels in children with suspected appendicitis.**

Appendectomy is one of the most common surgical conditions in children. The diagnosis of appendicitis should be based on clinical findings coupled, where necessary, with imaging. Evidence shows that the routine measurement of CRP levels in patients with suspected appendicitis is not necessary and will not affect the physician's diagnosis.

### **3 Don't do computed tomography (CT) for the evaluation of suspected appendicitis in children until after ultrasound has been considered as an option.**

Although CT is accurate in the evaluation of suspected appendicitis in the pediatric population, ultrasound is nearly as good in experienced hands. Appendicitis may be diagnosed based on physical examination. If imaging is needed, ultrasound (including serial ultrasounds) are the preferred initial modality in children. If the results of the ultrasound exams are equivocal, it may be followed by CT. This approach reduces potential radiation risks and has excellent accuracy, with reported sensitivity and specificity of 94 percent.

### **4 Don't order a routine ultrasound for children with undescended testes.**

Undescended testes is the most common congenital genitourinary anomaly in boys. Diagnosis is made on physical examination and if necessary, imaging. The evidence shows that it is not necessary to order a routine ultrasound in children with suspected undescended testes before referring to a pediatric surgeon.

### **5 Don't delay referral for undescended testes beyond 6 months of age.**

The ideal timing for surgical correction of undescended testes is 6 months – 1 year of age. Orchiopexy should not be performed before 6 months of age, as testes may descend spontaneously during the first few months of life. The highest quality evidence recommends orchiopexy between 6 and 12 months of age. Surgery during this time frame may optimize spermatogenic functions.

### **6 Don't delay testing for total and conjugated (direct) bilirubin in any newborn with persistent jaundice beyond 2 weeks of age.**

Biliary atresia clinically manifests by 2 weeks of age with jaundice due to a conjugated hyperbilirubinemia and pale acholic stools. All babies with jaundice persisting beyond 2 weeks should have a blood test for total and conjugated (direct) bilirubin. If the conjugated (direct) bilirubin fraction is >20% of the total bilirubin, prompt referral to assess for biliary atresia is necessary. Timely diagnosis and early surgical intervention before 30 days of age offers the best outcomes for patient survival with their own liver without the need for liver transplantation. For more information please see [www.cbar.ca](http://www.cbar.ca).

## How the list was created

The Canadian Association of Pediatric Surgeons (CAPS) established its Choosing Wisely Canada Top 6 recommendations by consensus among CAPS members during the winter CAPS meeting in Calgary (March 2015).

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### About The Canadian Association of Paediatric Surgery

The Canadian Association of Paediatric Surgery (CAPS) is a proud partner of the *Choosing Wisely Canada* campaign. The CAPS is dedicated to improving the health of children and committed to making a difference in the lives of children, youth and families by improving quality of health care through education and research. The three main areas of diagnosis, treatment and research which are of special concern to Pediatric Surgeons include Infants Born With Congenital Anomalies, Malignancy In Childhood and Trauma.

**EMBARGOED UNTIL JUNE 2, 2015 AT 10:00AM EDT**

## Thirteen Things Physicians and Patients Should Question

### **1 Do not use atypical antipsychotics as a first-line intervention for insomnia in children and youth.**

Recent research confirms a dramatic increase in the use of atypical antipsychotics with subsequent side-effects including obesity, which is already a major health issue. It is prudent to pursue nonpharmacological measures first, such as behavioural modifications and ensuring good sleep hygiene (such as eliminating daytime napping and shutting off electronics an hour before bedtime). If these interventions are not successful, then consider short-term use of melatonin.

### **2 Do not use SSRIs as the first-line intervention for mild to moderately depressed teens.**

Evidence clearly indicates that antidepressant medication is less effective in children and adolescents up to the age of 17 years and first-line treatment for this group should include cognitive behavioural therapy or interpersonal psychotherapy. Attention should always be focused on children's and teens' environmental safety and adequate parental support to avoid missing cases of neglect or abuse. Following this, a first-line intervention should be psychoeducation on the importance of regular sleep, diet and exercise to ensure healthy, age-appropriate developmental support.

### **3 Do not use atypical antipsychotics as a first-line intervention for Attention Deficit Hyperactivity Disorder (ADHD) with disruptive behaviour disorders.**

Treatment of ADHD should include adequate education of patients and their families, behavioural interventions, psychological treatments and educational accommodations first. If this approach is not sufficient, stimulant medication and a behavioural analysis to ensure appropriate support from the parent and classroom is indicated. The use of alpha 2 agonists (such as guanfacine) and atomoxetine should be considered before using atypical antipsychotics (such as risperidone) in children with disruptive behaviour disorders (oppositional defiant disorder, conduct disorder).

### **4 Do not use psychostimulants as a first-line intervention in preschool children with ADHD.**

Preschool children with ADHD need to be assessed for other neurodevelopmental disorders and consideration given to environmental stressors such as neglect, abuse or exposure to domestic violence. Treatment also includes adequate education and support of parents followed by advice on behavioural management and community placement.

### **5 Do not routinely use antipsychotics to treat primary insomnia in any age group.**

Second-generation antipsychotics (SGAPs), such as olanzapine and quetiapine, have sedative properties, and are often prescribed off-label for complaints of insomnia. These drugs carry significant risk of potential side-effects including weight gain and metabolic complications, even at low doses used to treat insomnia. In patients with dementia, they can also potentially cause serious side-effects of increased risk of cerebrovascular event and increased risk of death.

### **6 Do not routinely order qualitative toxicology (urine drug screen) testing on all psychiatric patients presenting to emergency rooms.**

Qualitative urine toxicology testing has not been shown to improve the routine management of psychiatric patients in emergency rooms because of the potential for false positives, false negatives, true positives which are unrelated or minimally relevant to the clinical presentation, and finally the delay in psychiatric assessment and management as a result of testing.

### **7 Do not routinely use antidepressants as first-line treatment for mild or subsyndromal depressive symptoms in adults.**

Antidepressant response rates are higher for depression of a moderate to severe nature. For mild or subsyndromal depressive symptoms a complete assessment, ongoing support and monitoring, psychosocial interventions and lifestyle modifications should be the first lines of treatment. This may avoid the side-effects of medication and establish etiological factors important to future assessment and management. Antidepressants are appropriate in cases of persistent mild depression, where there is a past history of more severe depression, or where other interventions have failed.

## **8 Do not routinely order brain neuroimaging (CT or MRI) in first episode psychoses in the absence of signs or symptoms suggestive of intracranial pathology.**

Signs and symptoms suggestive of intracranial pathology include headaches, nausea and vomiting, seizure-like activity, and later-age of onset of symptoms. Multiple studies have found that routine neuroimaging in first episode psychoses does not yield findings which alter clinical management in a meaningful way. The risks of radiation exposure and delay in treatment also argue against routine neuroimaging.

## **9 Do not routinely continue benzodiazepines initiated during an acute care hospital admission without a careful review and plan of tapering and discontinuing, ideally prior to hospital discharge.**

Benzodiazepines, while helpful for short-term relief of anxiety and insomnia, are associated with a variety of side-effects and long-term problems including cognitive and psychomotor impairment as well as abuse and dependence. Benzodiazepines are commonly used in hospital to treat anxiety or insomnia in association with either the presenting condition or the hospital environment. Once the presenting condition is treated, benzodiazepines should be tapered and discontinued. For patients who are still on benzodiazepines at the time of discharge, a plan for tapering and discontinuing them after discharge should be completed and specified in the discharge summary and prescription.

## **10 Do not routinely prescribe antidepressants as first-line treatment for depression comorbid with an active alcohol use disorder without first considering the possibility of a period of sobriety and subsequent reassessment for the persistence of depressive symptoms.**

The concurrent management of psychiatric illness and alcohol use disorders requires evaluation of the role alcohol plays as a causative factor for depressive symptoms. Studies have found that response rates to antidepressants are higher when antidepressants are reserved for persistence of symptoms after a period of sobriety lasting from two to four weeks. Additionally, studies have demonstrated remission from depressive symptoms with sobriety in the absence of antidepressant treatment in a significant percentage of cases. Management of comorbid psychiatric illness and substance use disorders including alcohol dependence involves assessment and treatment delivered in a concurrent manner.

## **11 Do not routinely prescribe high-dose or combination antipsychotic treatment strategies in the treatment of schizophrenia.**

High-dose and combination strategies involving atypical antipsychotics (AAPs) are used in clinical practice for patients with schizophrenia who are inadequately controlled with one or more AAPs used at standard doses. A recent meta-analysis found no clinically significant improvements in patients with schizophrenia who were inadequately controlled on standard-dose antipsychotics when treated with combination or high-dose AAPs. In terms of safety, no clinically significant differences were evident between combination or high-dose therapy in comparison with standard-dose monotherapy.

## **12 Do not use antipsychotics as first choice to treat behavioural and psychological symptoms of dementia.**

People with dementia often exhibit challenging behavioural symptoms such as aggression and psychosis. In such instances, antipsychotic medicines may be necessary, but should be prescribed cautiously as they provide limited benefit and can cause serious harm, including premature death. Use of these drugs should be limited in dementia to cases where nonpharmacologic measures have failed, and where the symptoms either cause significant suffering, distress, and/or pose an imminent threat to the patient or others. A thorough assessment that includes identifying and addressing causes of behaviour change can make use of these medications unnecessary. Epidemiological studies suggest that typical (i.e., first generation) antipsychotics (i.e., haloperidol) are associated with at least the same risk of adverse events. This recommendation does not apply to the treatment of delirium or major mental illnesses such as mood disorders or schizophrenia.

## **13 Do not use benzodiazepines or other sedative-hypnotics in older adults as first choice for insomnia.**

Nonpharmacological interventions such as cognitive behavioural therapy and brief behavioural interventions have proven benefit in the management of insomnia in older adults. Epidemiological studies have shown that the risk of motor vehicle accidents, falls and hip fractures leading to hospitalization and death can more than double in older adults taking benzodiazepines and other sedative-hypnotics. Prescribing or discontinuing sedative-hypnotics in hospital can have substantial impact on long-term use. These potential harms and others such as impaired cognition need to be recognized when considering treatment strategies for insomnia. Use of benzodiazepines should be limited to as short a period as possible, in cases where nonpharmacological therapies have failed, and the symptoms of sleep disturbance cause significant suffering or distress.

## How the list was created

The Canadian Psychiatric Association (CPA) determined its *Choosing Wisely Canada* recommendations by establishing a working group that included representatives from the CPA's Professional Standards and Practice Committee, Research Committee, and Member-in-Training Section, as well as the Canadian Academy of Geriatric Psychiatry (CAGP) and the Canadian Academy of Child and Adolescent Psychiatry (CACAP). A person with lived experience from the Canadian Mental Health Association was also a member of the working group. CPA members were invited to provide suggestions for potential list items, as were the provincial psychiatric associations, the Canadian Academy of Psychiatry and the Law (CAPL) and the Canadian Academy of Psychosomatic Medicine (CAPM). The working group considered suggestions received, and assistance was obtained from the Addiction and Mental Health Strategic Clinical Network for Alberta Health Services in conducting rapid literature reviews on a number of potential CPA list items. List items were further refined in subsequent working group teleconferences, and a next-to-final draft was recirculated to the provincial psychiatric associations, CAPL and CAPM for final comments, which were considered by the working group in preparing its final list.

A small subcommittee of the CAGP was organized, with input from representatives from the CAPM and the Canadian Geriatrics Society (CGS). The group reviewed the recommendations made by members of a CPA membership survey, as well as the CGS, AGS and the American Psychiatric Association's (APA) recommendations for *Choosing Wisely*. Two recommendations were selected and discussed, and minor revisions were made to the paragraphs underneath the recommendations. The CAGP also focused the recommendation about benzodiazepines and other hypnotics on insomnia, rather than on a variety of conditions.

The Executive Committee of the Canadian Academy of Child and Adolescent Psychiatry (CACAP) developed a draft list of items after reviewing recommendations made by members of a CPA membership survey, as well as the American Psychiatric Association's (APA) recommendations for *Choosing Wisely*. The list was further discussed and refined and additional feedback was obtained from the CACAP Board of Directors, as well as the Section of Child and Adolescent Psychiatry of the Alberta Psychiatric Association and colleagues elsewhere in the country.

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### About Choosing Wisely Canada

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### About The Canadian Psychiatric Association

The Canadian Psychiatric Association (CPA) is a proud partner of the *Choosing Wisely Canada* campaign. CPA is the national voluntary professional association for Canada's 4,700 psychiatrists and 900 residents. As the national voice of Canada's psychiatrists, the CPA advocates for the professional needs of its members in meeting the mental health needs of Canadians, and promotes excellence in education, research and clinical practice. Its mission is to provide a strong, collective voice for psychiatrists across the country and to foster a community dedicated to ensuring the highest possible standards of professional practice in providing psychiatric services to Canadians.

### About The Canadian Academy of Child Psychiatry

The Canadian Academy of Child Psychiatry (CACAP) is a proud partner of the *Choosing Wisely Canada* campaign. CACAP promotes quality care and service to the children, youth and families of Canadians within an approach that includes the biological, the psychological and the social; that works with other professional disciplines; and across many sectors of health and other related service organizations.

### About The Canadian Academy of Geriatric Psychiatry

The Canadian Academy of Geriatric Psychiatry (CAGP) is a proud partner of the *Choosing Wisely Canada* campaign. CAGP is a national organization of psychiatrists dedicated to promoting mental health in the Canadian elderly population through the clinical, educational, research and advocacy activities of its membership. It was founded in 1991, and is recognized as the voice of Geriatric Psychiatry in Canada. The CAGP is a member of the Council of Academies of the Canadian Psychiatric Association. There are over 300 current members.

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## Five Things Physicians and Patients Should Question

### **1 Don't perform fusion surgery to treat patients with mechanical axial low back pain from multilevel spine degeneration in the absence of:**

- leg pain with or without neurologic symptoms and/or signs of concordant neurologic compression
- structural pathology such as spondylolisthesis or deformity.

For over half a century back pain has been the most common reason for spinal fusion. Yet there is no unequivocal evidence that fusion is superior to comprehensive conservative treatment for treating back pain without focal structural pathology and concordant mechanical or neurological symptoms. It is often impossible to locate the precise source of the pain; in many cases the symptoms are multifactorial and can encompass elements such as centralized pain that exist outside the spine. The extreme heterogeneity of the low back pain population leads to unpredictable surgical results and consistently poor outcomes in those with pain from multilevel spine degeneration.

### **2 Don't routinely image patients with low back pain regardless of the duration of symptoms unless:**

- there are clinical reasons to suspect serious underlying pathology (i.e., red flags)
- imaging is necessary for the planning and/or execution of a particular evidenced-based therapeutic intervention on a specific spinal condition.

Unless the image has a direct bearing on the treatment decision it is not required. Spinal "abnormalities" in asymptomatic individuals are common and increase with age. For those with back dominant symptoms (i.e., axial back pain) there is an extremely high false positive rate; most of the findings have no correlation with the clinical picture. For the majority of low back complaints obtaining spinal imaging does not improve patient care but can lead to inappropriate interventions and does have a detrimental impact on patient outcomes. Red flags include cauda equina syndrome; severe or progressive neurologic deficits; suspected cancer; suspected infection; suspected fracture and suspected epidural abscess or hematoma.

### **3 Don't use epidural steroid injections (ESI) for patients with axial low back pain who do not have leg dominant symptoms originating in the nerve roots.**

Steroids are potent anti-inflammatory agents, but axial low back pain is not primarily an inflammatory condition and any inflammation that does exist generally cannot be accessed via the spinal canal. The outcomes of ESI for axial low back pain are poor compared to its use in radiculopathy due to disc herniation. Although serious adverse events are rare, catastrophic events can occur and any symptom relief from the injection typically lasts only for a matter of weeks. The inconsequential benefits of ESI for axial low back pain do not outweigh its risks, no matter how small they may be.

### **4 Don't miss the opportunity to brace the skeletally immature patient with adolescent idiopathic scoliosis (AIS) who has more than one year of growth remaining and a curve magnitude greater than 20 degrees.**

Significant controversy still exists regarding the use of bracing in AIS patients at risk for curve progression and eventual surgery. A recent high-level study has convincingly shown that bracing impacts the natural history of AIS and, in those properly braced, significantly reduces the need for a subsequent operation. In light of the resulting decrease in the indications for surgical intervention, the bias against bracing should be reevaluated.

### **5 Don't order peri-operative antibiotics beyond a 24-hour post-operative period for non-complicated instrumented cases in patients who are not at high risk for infection or wound contamination. Administration of a single pre-operative dose for spine cases without instrumentation is adequate.**

Although a deep surgical site infection associated with spinal implants can be a devastating adverse event, the prolonged use of peri-operative antibiotics has not been shown to reduce the incidence. Their extended use in routine low risk cases has no proven evidence of benefit but increases the chance of creating resistant bacterial strains. A rational, evidence-based approach is required.

## How the list was created

The Canadian Spine Society (CSS) established its *Choosing Wisely Canada* Top 5 recommendations by compiling a committee of experts who took suggestions from the general membership and created a seven item preliminary statement. This was circulated to all the CSS members by email and they were asked to vote their order of preference and suggestions for wording as well as to add any topic they believed should be included. The amended list was recirculated, revised and sent to the membership for a third time. This list is the final agreed result.

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### About The Canadian Spine Society

The Canadian Spine Society (CSS) is a proud partner of the *Choosing Wisely Canada* campaign. The CSS is a collaborative body of Canadian Neurosurgical and orthopaedic spine surgeons and other spine care professionals with a primary interest in advancing excellence in spine patient care, research and education. The CSS serves as the umbrella group for the leading spine-related organizations across Canada and maintains strong partnerships with The Rick Hansen Institute and major Canadian universities.

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## Ten Things Physicians and Patients Should Question

### **1 Don't transfuse blood if other non-transfusion therapies or observation would be just as effective.**

Blood transfusion should not be given if other safer non-transfusion alternatives are available. For example, patients with iron deficiency without hemodynamic instability should be given iron therapy.

### **2 Don't transfuse more than one Red cell unit at a time when transfusion is required in stable, non-bleeding patients.**

Indications for red blood transfusion depend on clinical assessment and the cause of the anemia. In a stable, non-bleeding patient, often a single unit of blood is adequate to relieve patient symptoms or to raise the hemoglobin to an acceptable level. Transfusions are associated with increased morbidity and mortality in high-risk hospitalized inpatients. Transfusion decisions should be influenced by symptoms and hemoglobin concentration. Single unit red cell transfusions should be the standard for non-bleeding, hospitalized patients. Additional units should only be prescribed after re-assessment of the patient and their hemoglobin value.

### **3 Don't transfuse plasma to correct a mildly elevated (<1.8) international normalized ratio (INR) or activated partial thromboplastin time (aPTT) before a procedure.**

A mildly elevated INR is not predictive of an increased risk of bleeding. Furthermore, transfusion of plasma has not been demonstrated to significantly change the INR value when the INR was only minimally elevated (<1.8).

### **4 Don't routinely transfuse platelets for patients with chemotherapy-induced thrombocytopenia if the platelet count is greater than 10 X 10<sup>9</sup>/L in the absence of bleeding.**

A platelet count of 10 X 10<sup>9</sup>/L or greater usually provides adequate hemostasis. Platelet transfusions are associated with adverse events and risks. Considerations in the decision to transfuse platelets include the cause of the thrombocytopenia, comorbid conditions, symptoms of bleeding, risk factors for bleeding, and the need to perform an invasive procedure.

### **5 Don't routinely use plasma or prothrombin complex concentrates for non-emergent reversal of vitamin K antagonists.**

Patients requiring non-emergent reversal of warfarin can often be treated with vitamin K or by discontinuing the warfarin therapy. Prothrombin complex concentrates should only be used for patients with serious bleeding or for those who need urgent surgery. Plasma should only be used in this setting if prothrombin complex concentrates are not available or are contraindicated.

### **6 Don't use immunoglobulin therapy for recurrent infections unless impaired antibody responses to vaccines are demonstrated.**

Immunoglobulin (gammaglobulin) replacement does not improve outcomes unless there is impairment of antigen-specific IgG antibody responses to vaccine immunizations or natural infections. Isolated decreases in immunoglobulins (isotypes or subclasses), alone, do not indicate a need for immunoglobulin replacement therapy. Exceptions include genetically defined/suspected disorders. Measurement of IgG subclasses is not routinely useful in determining the need for immunoglobulin therapy. Selective IgA deficiency is not an indication for administration of immunoglobulin.

### **7 Don't order unnecessary pre-transfusion testing (type and screen) for all pre-operative patients.**

Pre-operative transfusion testing is not necessary for the vast majority of surgical patients (e.g., appendectomy, cholecystectomy, hysterectomy and hernia repair) as those patients usually do not require transfusion. Ordering pre-transfusion testing for patients who will likely not require transfusion will lead to unnecessary blood drawn from a patient and unnecessary testing performed. It may also lead to unnecessary delay in the surgical procedure waiting for the results. To guide you whether pre-transfusion testing is required for a certain surgical procedure, your hospital may have a maximum surgical blood ordering schedule or specific testing guidelines based on current surgical practices.

## **8 Don't routinely order perioperative autologous and directed blood collection.**

There is no role for routine perioperative autologous donation or directed donation except for selected patients (for example, patients with rare red blood cell antigen types). Medical evidence does not support the concept that autologous (blood donated by one's self) or directed blood (blood donated by a friend/family member) is safer than allogeneic blood. In fact, there is concern that the risks of directed donation may be greater (higher rates of positive test results for infectious diseases). Autologous transfusion has risks of bacterial contamination and clerical errors (wrong unit/patient transfused). As well, autologous blood donation before surgery can contribute to perioperative anemia and a greater need for transfusion.

## **9 Don't transfuse O negative blood except to O negative patients and in emergencies for female patients of child-bearing potential of unknown blood group.**

Males and females without childbearing potential can receive O Rh-positive red cells. O-negative red cell units are in chronic short supply, in some part due to over utilization for patients who are not O-negative. To ensure O-negative red cells are available for patients who truly need them, their use should be restricted to: (1) patients who are O-Rh-negative; (2) patients with unknown blood group requiring emergent transfusion who are female and of child-bearing age. Type specific red cells should be administered as soon as possible in all emergency situations.

## **10 Don't transfuse group AB plasma to non-group AB patients unless in emergency situations where the ABO group is unknown.**

The demand for AB plasma has increased. Group AB individuals comprise only 3% of Canadian blood donors. Those donors who are group AB are universal donors for plasma, thus are the most in-demand type for plasma transfusion. Type-specific plasma should be issued as soon as possible in emergency situations to preserve the AB plasma inventory for those patients where the blood group is unknown.

### **How the list was created**

The Canadian Society for Transfusion Medicine (CSTM) compiled its *Choosing Wisely Canada* list of recommendations by putting out a call to its membership for suggested list items. Members were asked to provide suggestions, rationale and references. Once all suggestions for list items had been received and the deadline for submissions had passed, the CSTM board voted on the accumulated list and ranked the items according to our assessment of what was most important. We met by conference call to discuss the outcome of the voting and worked together to refine the wording and the order of the list items and to find additional references as required.

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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](http://www.choosingwiselycanada.org). Join the conversation on Twitter @ChooseWiselyCA.

### About The Canadian Society for Transfusion Medicine

The Canadian Society for Transfusion Medicine (CSTM) is a proud partner of the *Choosing Wisely Canada* campaign. The CSTM is a multidisciplinary society which promotes and supports best practice in Transfusion Medicine in Canada through education, communication and partnerships.

**EMBARGOED UNTIL JUNE 2, 2015 AT 10:00AM EDT**

## Five Things Physicians and Patients Should Question

### **1 Don't perform percutaneous interventions or bypass surgery as first line therapy in patients with asymptomatic peripheral arterial disease (PAD) and in most patients with claudication.**

PAD is a marker of a systemic disease and patients with PAD may have atherosclerotic disease in other vascular beds, including the carotid and coronary circulation. Patients with mild to moderate PAD have a higher 5 year risk of stroke, myocardial infarction or cardiovascular death than amputation. Initial therapy should include smoking cessation and risk factor modification, medical therapy and a walking program. Lower extremity bypass surgery and endovascular therapy should be reserved for patients with limb threatening ischemia or truly disabling claudication.

### **2 Don't perform carotid endarterectomies or stenting in most asymptomatic high risk patients with limited life expectancy.**

The purpose of carotid artery surgery and stenting is to prevent stroke and, when combined with appropriate medical therapy, is a successful strategy in selected, mainly symptomatic, patients. Medical therapy alone is an effective alternative in many asymptomatic patients and safer in those who are elderly or at high risk for surgery and stenting and don't have the life expectancy to benefit from such a prophylactic procedure.

### **3 Don't perform open or endovascular repair in most asymptomatic patients with small abdominal aortic aneurysms (<5cm in women, <5.5cm in men).**

Repair of asymptomatic abdominal aortic aneurysms is recommended when the risk of rupture exceeds the risk of repair. Randomized controlled trials have failed to show a survival benefit for open or endovascular repair of most small aneurysms. Repair may be considered with specific growth patterns and aneurysm morphology.

### **4 Don't perform endovascular repair of abdominal aortic aneurysms in most asymptomatic high-risk patients with limited life expectancy.**

Repair of asymptomatic abdominal aortic aneurysms is recommended when the risk of rupture exceeds the risk of repair and is performed in patients with sufficient life expectancy to allow them to benefit from such a prophylactic procedure. Most elderly, or medically high risk patients, have insufficient life expectancy and are at higher risk of complications following endovascular repair to warrant intervention.

### **5 Don't perform unnecessarily frequent ultrasound examinations in asymptomatic patients with small abdominal aortic aneurysms. Aneurysms smaller than 4.5cm in diameter should undergo ultrasound surveillance every 12 months.**

Regular ultrasound examination of asymptomatic patients with small abdominal aortic aneurysms is essential to document aneurysm growth and decide when intervention is warranted. The interval between examinations is dictated by the size of the aneurysm and its expected growth rate. Too frequent examinations can cause undue patient anxiety and are not cost effective.

## How the list was created

The Canadian Society for Vascular Surgery (CSVS) established its *Choosing Wisely Canada* Top 5 recommendations by canvassing its members for suggestions for investigations or procedures that should not be performed, should be performed rarely or should only be performed under certain circumstances. A subgroup of the CSVS Executive Committee reviewed the membership's suggestions and made a list of five draft recommendations. The CSVS Executive Committee provided feedback and the evidence and literature were reviewed to make sure these recommendations were evidence based. The final list was approved by the CSVS Executive Committee.

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### About The Canadian Society for Vascular Surgery

The Canadian Society for Vascular Surgery (CSVS) is a proud partner of the *Choosing Wisely Canada* campaign. The Canadian Society for Vascular Surgery is dedicated to excellence in the promotion of vascular health for Canadians through education, research, collaboration and advocacy.

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