Choosing Wisely Canada™
In partnership with the Canadian Medical Association

Canadian Association of Radiologists
L'Association canadienne des radiologistes

Five Things Physicians and Patients Should Question

1 Don't do imaging for lower-back pain unless red flags are present.

Red flags include suspected epidural abscess or hematoma presenting with acute pain, but no neurological symptoms (urgent imaging is required); suspected cancer; suspected infection; cauda equina syndrome; severe or progressive neurologic deficit; and suspected compression fracture. In patients with suspected uncomplicated herniated disc or spinal stenosis, imaging is only indicated after at least a six-week trial of conservative management and if symptoms are severe enough that surgery is being considered.

2 Don't do imaging for minor head trauma unless red flags are present.

Red flags include Glasgow Coma Scale (GCS) less than 13; GCS less than 15 at 2 hours post-injury; a patient aged 65 years or older; obvious open skull fracture; suspected open or depressed skull fracture; any sign of basilar skull fracture (e.g., hemotympanum, raccoon eyes, Battle's Sign, CSF otorhinorrhea); retrograde amnesia to the event lasting 30 minutes or longer after the event; "dangerous" mechanism (e.g., pedestrian struck by motor vehicle, occupant ejected from motor vehicle, or fall from higher than 3 feet or down more than 5 stairs); and coumadin-use or bleeding disorder.

3 Don't do imaging for uncomplicated headache unless red flags are present.

Red flags include recent onset, rapidly increasing frequency and severity of headache; headache causing the patient to wake from sleep; associated dizziness, lack of coordination, tingling or numbness, new neurologic deficit; and new onset of a headache in a patient with a history of cancer or immunodeficiency.

4 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. Since ultrasound will reduce radiation exposure, ultrasound is the preferred initial imaging examination in children. If the results of the ultrasound exam are equivocal, it may be followed by CT. This approach is cost-effective, reduces potential radiation risks and has excellent accuracy, with reported sensitivity and specificity of 94 percent.

5 Don't do an ankle X-ray series in adults for minor injuries.

X-rays are only indicated if there is pain in the malleolar zone, bone tenderness at the posterior edge or tip of either malleolus, or inability to bear weight for four steps immediately after the trauma and in the emergency department.

How the list was created

The Canadian Association of Radiologists (CAR) established its *Choosing Wisely Canada* Top 5 recommendations by initially soliciting expert opinion from physician leaders within its Board of Directors. A working group was then formed to further identify common clinical scenarios in which imaging may be misused and should be reconsidered. The working group included CAR leaders in the areas of medical imaging appropriateness and access. The list was narrowed down based on the highest potential for improvement, representing a broad range of tests and the availability of strong guidelines. The first three recommendations had previously been researched, submitted and adopted for another appropriateness initiative underway in Canada in 2013. That process included obtaining stakeholder support from a range of colleagues including technologists, sonographers, nuclear medicine physicians, family physicians and physicists. Two additional recommendations were added using similar criteria, including a comprehensive literature search undertaken through the Canadian Agency for Drugs and Technologies in Health. The full list of proposed recommendations was then vetted by stakeholder organizations, such as provincial radiology organizations and the full CAR membership. Item 4 was adapted with permission from the *Five Things Physicians and Patients Should Question*.

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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 Association of Radiologists

The Canadian Association of Radiologists (CAR) is a proud partner of the *Choosing Wisely Canada* campaign. The CAR is the national specialty society for radiologists in Canada, committed to promoting the highest standards in patient-centered imaging, lifelong learning and research. As the national voice of radiology, the CAR works on behalf of the more than 2,500 radiologists and radiologists in training in Canada.