
General Surgery

Six Things Physicians and Patients Should Question

by
Canadian Association of General Surgeons
Last updated: April 2014



- 1 Don't perform axillary lymph node dissection for clinical stages I and II breast cancer with clinically negative lymph nodes without attempting sentinel node biopsy.**

Sentinel node biopsy is proven effective at staging the axilla for positive lymph nodes and is proven to have fewer short and long term side effects, and in particular is associated with a markedly lower risk of lymphedema (permanent arm swelling). When the sentinel lymph node(s) are negative for cancer, no axillary dissection should be performed. When one or two sentinel nodes are involved with cancer that is not extensive in the node, the patient received breast conserving surgery and is planning to receive whole breast radiation and stage appropriate systemic therapy, axillary node dissection should not be performed.
- 2 Avoid the routine use of "whole-body" diagnostic computed tomography (CT) scanning in patients with minor or single system trauma.**

Aggressive use of "whole-body" CT scanning improves early diagnosis of injury and may even positively impact survival in polytrauma patients. However, the significance of radiation exposure with these studies must be considered, especially in patients with low energy mechanisms of injury and absent physical examination findings consistent with major trauma.
- 3 Avoid colorectal cancer screening tests on asymptomatic patients with a life expectancy of less than 10 years and no family or personal history of colorectal neoplasia.**

Screening for colorectal cancer has been shown to reduce the mortality associated with this common disease; colonoscopy provides the opportunity to detect and remove adenomatous polyps, the precursor lesion to many cancers, thereby reducing the incidence of the disease later in life. However, screening and surveillance modalities are inappropriate when the risks exceed the benefit. The risk of colonoscopy increases with increasing age and comorbidities. The risk/benefit ratio of colorectal cancer screening or surveillance for any patient should be individualized based on the results of previous screening examinations, family history, predicted risk of the intervention, life expectancy and patient preference.
- 4 Avoid admission or preoperative chest X-rays for ambulatory patients with unremarkable history and physical exam.**

Performing routine admission or preoperative chest X-rays is not recommended for ambulatory patients without specific reasons suggested by the history and/or physical examination findings. Only 2 percent of such images lead to a change in management. Obtaining a chest radiograph is reasonable if acute cardiopulmonary disease is suspected or there is a history of chronic stable cardiopulmonary diseases in patients older than age 70 who have not had chest radiography within six months.
- 5 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 the preferred initial consideration for 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 in experienced hands. Recognizing that expertise may vary, strategies including improving diagnostic expertise in community based ultrasound and the development of evidence-based clinical decision rules are realistic goals in improving diagnosis without the use of CT scan.
- 6 Avoid repair of minimally symptomatic inguinal hernias where appropriate by offering an option of watchful waiting for up to two years.**

Repair of minimally symptomatic inguinal hernias in adults can prevent potentially serious complications due to hernia incarceration. However, such repairs can also lead to complications such as infection, chronic inguinal pain and hernia recurrence which cumulatively approximate the risks of incarceration. Evidence shows that such hernias can also be managed with watchful waiting for up to 2 years after assessment, a choice that should be offered to appropriately selected persons.

How the list was created

The Canadian Association of General Surgeons (CAGS) established its Choosing Wisely Canada Top 5 recommendations by first having its Clinical Practice Committee review the American College of Surgeons (ACS) Choosing Wisely® list. Feeling confident that the American list reflected general surgery issues in Canada (addressing breast cancer diagnostics and treatment, colon cancer screening, trauma diagnostics and screening, admission and preoperative chest X-rays, and appendicitis diagnostics in children), the CAGS Clinical Practice Committee approved the list in principle. The list was then circulated to the CAGS Board and surgeons that specialized in each area were consulted. Ultimately, the first five items were adopted with permission from the Five Things Physicians and Patients Should Question, © 2013 American College of Surgeons. The CAGS Board also felt strongly about adding a sixth item to the list about the treatment of asymptomatic hernia and six items were then submitted for publication.

Sources

- 1 Ashikaga T, et al. Morbidity results from the NSABP B-32 trial comparing sentinel lymph node dissection versus axillary dissection. *J Surg Oncol*. 2010 Aug 1;102(2):111-8. [PMID: 20648579](#).
Giuliano AE, et al. Association of occult metastases in sentinel lymph nodes and bone marrow with survival among women with early-stage invasive breast cancer. *JAMA*. 2011 Jul 27;306(4):385-93. [PMID: 21791687](#).
Giuliano AE, et al. Axillary dissection vs no axillary dissection in women with invasive breast cancer and sentinel node metastasis: A randomized clinical trial. *JAMA*. 2011 Feb 9;305(6):569-75. [PMID: 21304082](#).
Krag DN, et al. Sentinel-lymph-node resection compared with conventional axillary-lymph-node dissection in clinically node-negative patients with breast cancer: Overall survival findings from the NSABP B-32 randomised phase 3 trial. *Lancet Oncol*. 2010 Oct;11(10):927-33. [PMID: 20863759](#).
Weaver DL, et al. Effect of occult metastases on survival in node-negative breast cancer. *N Engl J Med*. 2011 Feb 3;364(5):412-21. [PMID: 21247310](#).
- 2 Ahmadinia K, et al. Radiation exposure has increased in trauma patients over time. *J Trauma Acute Care Surg*. 2012 Feb;72(2):410-5. [PMID: 22327983](#).
Huber-Wagner S, et al. Effect of whole-body CT during trauma resuscitation on survival: A retrospective, multicentre study. *Lancet*. 2009 Apr 25;373(9673):1455-61. [PMID: 19321199](#).
Stengel D, et al. Accuracy of single-pass whole-body computed tomography for detection of injuries in patients with major blunt trauma. *CMAJ*. 2012 May 15;184(8):869-76. [PMID: 22392949](#).
Winslow JE, et al. Quantitative assessment of diagnostic radiation doses in adult blunt trauma patients. *Ann Emerg Med*. 2008 Aug;52(2):93-7. [PMID: 18328598](#).
- 3 Lieberman DA, et al. Guidelines for colonoscopy surveillance after screening and polypectomy: A consensus update by the US multi-society task force on colorectal cancer. *Gastroenterology*. 2012 Sep;143(3):844-57. [PMID: 22763141](#).
Qaseem A, et al. Screening for colorectal cancer: A guidance statement from the American College of Physicians. *Ann Intern Med*. 2012 Mar 6;156(5):378-86. [PMID: 22393133](#).
U.S. Preventive Services Task Force. Screening for colorectal cancer: U.S. preventive services task force recommendation statement. *Ann Intern Med*. 2008 Nov 4;149(9):627-37. [PMID: 18838716](#).
Warren JL, et al. Adverse events after outpatient colonoscopy in the medicare population. *Ann Intern Med*. 2009 Jun 16;150(12):849-57, W152. [PMID: 19528563](#).
- 4 Amorosa JK, et al. [ACR appropriateness criteria@ routine chest radiographs in ICU patients](#) [Internet]. 2011 [cited 2014 Feb 22].
Archer C, et al. Value of routine preoperative chest x-rays: A meta-analysis. *Can J Anaesth*. 1993 Nov;40(11):1022-7. [PMID: 8269561](#).
Gomez-Gil E, et al. Lack of clinical relevance of routine chest radiography in acute psychiatric admissions. *Gen Hosp Psychiatry*. 2002 Mar-Apr;24(2):110-3. [PMID: 11869746](#).
Grier DJ, et al. Are routine chest radiographs prior to angiography of any value? *Clin Radiol*. 1993 Aug;48(2):131-3. [PMID: 8004892](#).
Gupta SD, et al. Routine chest radiography in the elderly. *Age Ageing*. 1985 Jan;14(1):11-4. [PMID: 4003172](#).
Mohammed TL, et al. [ACR appropriateness criteria@ routine admission and preoperative chest radiography](#) [Internet]. 2011 [cited 2014 Feb 22].
Munro J, et al. Routine preoperative testing: A systematic review of the evidence. *Health Technol Assess*. 1997;1(12):i,iv; 1-62. [PMID: 9483155](#).
- 5 Doria AS, et al. US or CT for diagnosis of appendicitis in children and adults? A meta-analysis. *Radiology*. 2006 Oct;241(1):83-94. [PMID: 16928974](#).
Frush DP, et al. Imaging of acute appendicitis in children: EU versus U.S. ... or US versus CT? A North American perspective. *Pediatr Radiol*. 2009 May;39(5):500-5. [PMID: 19221730](#).
Garcia K, et al. Suspected appendicitis in children: Diagnostic importance of normal abdominopelvic CT findings with nonvisualized appendix. *Radiology*. 2009 Feb;250(2):531-7. [PMID: 19188320](#).
Kharbanda AB, et al. Interrater reliability of clinical findings in children with possible appendicitis. *Pediatrics*. 2012 Apr;129(4):695-700. [PMID: 22392173](#).
Krishnamoorthi R, et al. Effectiveness of a staged US and CT protocol for the diagnosis of pediatric appendicitis: Reducing radiation exposure in the age of ALARA. *Radiology*. 2011 Apr;259(1):231-9. [PMID: 21324843](#).
Rosen MP, et al. ACR appropriateness criteria@ right lower quadrant pain--suspected appendicitis. *J Am Coll Radiol*. 2011 Nov;8(11):749-55. [PMID: 22051456](#).
Saito JM, et al. Use and accuracy of diagnostic imaging by hospital type in pediatric appendicitis. *Pediatrics*. 2013 Jan;131(1):e37-44. [PMID: 23266930](#).
Wan MJ, et al. Acute appendicitis in young children: Cost-effectiveness of US versus CT in diagnosis--a markov decision analytic model. *Radiology*. 2009 Feb;250(2):378-86. [PMID: 19098225](#).
- 6 Fitzgibbons RJ Jr, et al. Watchful waiting vs repair of inguinal hernia in minimally symptomatic men: A randomized clinical trial. *JAMA*. 2006 Jan 18;295(3):285-92. [PMID: 16418463](#).

About the Canadian Association of General Surgeons

With 2500 members, CAGS is the voice of the specialty of general surgery across Canada. CAGS supports the quality education, evidence-based research, and steadfast advocacy of general surgery so that its members can provide the best surgical care possible to Canadians.



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.