

Twenty Things Physicians and Patients Should Question

1

Don't do imaging for low back pain within the first six weeks, unless red flags are present.

Red flags include, but are not limited to, severe or progressive neurological deficits or when serious underlying conditions such as osteomyelitis are suspected. Imaging of the lower spine before six weeks does not improve outcomes, but does increase costs. Low back pain is the fifth most common reason for all physician visits.

2

Don't routinely prescribe antibiotics for acute mild-to-moderate sinusitis unless symptoms last for ten or more days, or symptoms worsen after initial clinical improvement.

Symptoms must include discolored nasal secretions and facial or dental tenderness when touched. Most sinusitis in the ambulatory setting is due to a viral infection that will resolve on its own. Despite consistent recommendations to the contrary, antibiotics are prescribed in more than 80 percent of outpatient visits for acute sinusitis. Sinusitis accounts for 16 million office visits and \$5.8 billion in annual health care costs.

3

Don't use dual-energy x-ray absorptiometry (DEXA) screening for osteoporosis in women younger than 65 or men younger than 70 with no risk factors.

DEXA is not cost effective in younger, low-risk patients, but is cost effective in older patients.

4

Don't order annual electrocardiograms (EKGs) or any other cardiac screening for low-risk patients without symptoms.

There is little evidence that detection of coronary artery stenosis in asymptomatic patients at low risk for coronary heart disease improves health outcomes. False-positive tests are likely to lead to harm through unnecessary invasive procedures, over-treatment and misdiagnosis. Potential harms of this routine annual screening exceed the potential benefit.

5

Don't perform Pap smears on women younger than 21 or who have had a hysterectomy for non-cancer disease.

Most observed abnormalities in adolescents regress spontaneously, therefore Pap smears for this age group can lead to unnecessary anxiety, additional testing and cost. Pap smears are not helpful in women after hysterectomy (for non-cancer disease) and there is little evidence for improved outcomes.

Twenty Things Physicians and Patients Should Question

6

Don't schedule elective, non-medically indicated inductions of labor or Cesarean deliveries before 39 weeks, 0 days gestational age.

Delivery prior to 39 weeks, 0 days has been shown to be associated with an increased risk of learning disabilities and a potential increase in morbidity and mortality. There are clear medical indications for delivery prior to 39 weeks and 0 days based on maternal and/or fetal conditions. A mature fetal lung test, in the absence of appropriate clinical criteria, is not an indication for delivery.

7

Avoid elective, non-medically indicated inductions of labor between 39 weeks, 0 days and 41 weeks, 0 days unless the cervix is deemed favorable.*

Ideally, labor should start on its own initiative whenever possible. Higher Cesarean delivery rates result from inductions of labor when the cervix is unfavorable. Health care clinicians should discuss the risks and benefits with their patients before considering inductions of labor without medical indications.

** Recommendation currently under review*

8

Don't screen for carotid artery stenosis (CAS) in asymptomatic adult patients.

There is good evidence that for adult patients with no symptoms of carotid artery stenosis, the harms of screening outweigh the benefits. Screening could lead to non-indicated surgeries that result in serious harms, including death, stroke and myocardial infarction.

9

Don't screen women older than 65 years of age for cervical cancer who have had adequate prior screening and are not otherwise at high risk for cervical cancer.

There is adequate evidence that screening women older than 65 years of age for cervical cancer who have had adequate prior screening and are not otherwise at high risk provides little to no benefit.

10

Don't screen women younger than 30 years of age for cervical cancer with HPV testing, alone or in combination with cytology.*

There is adequate evidence that the harms of HPV testing, alone or in combination with cytology, in women younger than 30 years of age are moderate. The harms include more frequent testing and invasive diagnostic procedures such as colposcopy and cervical biopsy. Abnormal screening test results are also associated with psychological harms, anxiety and distress.

** Recommendation currently under review*

Twenty Things Physicians and Patients Should Question

11

Don't routinely prescribe antibiotics for otitis media in children aged 2–12 years with non-severe symptoms where the observation option is reasonable.

The “observation option” refers to deferring antibacterial treatment of selected children for 48 to 72 hours and limiting management to symptomatic relief. The decision to observe or treat is based on the child's age, diagnostic certainty and illness severity. To observe a child without initial antibacterial therapy, it is important that the parent or caregiver has a ready means of communicating with the clinician. There also must be a system in place that permits reevaluation of the child.

12

Don't perform voiding cystourethrogram (VCUG) routinely in first febrile urinary tract infection (UTI) in children aged 2–24 months.

The risks associated with radiation (plus the discomfort and expense of the procedure) outweigh the risk of delaying the detection of the few children with correctable genitourinary abnormalities until their second UTI.

13

Do not routinely screen for prostate cancer using a prostate-specific antigen (PSA) test or digital rectal exam. For men who desire PSA screening, it should only be performed after engaging in shared decision making.

Screening for prostate cancer using PSA may prevent mortality from prostate cancer for a small number of men, while putting many men at risk for long term harms, such as urinary incontinence and erectile dysfunction. Whether this potentially small benefit in mortality outweighs the potential harms is dependent on the values and preferences of individual men. Therefore, for men who express a desire for prostate cancer screening, it should only be performed following a discussion of the potential benefits and harms. Routine screening for prostate cancer should not be done. PSA-based prostate cancer screening should not be performed in men over 70 years of age.

14

Due to [recently published evidence](#) related to screening adolescents for scoliosis, the AAFP has withdrawn this recommendation.

15

Don't require a pelvic exam or other physical exam to prescribe oral contraceptive medications.

Hormonal contraceptives are safe, effective and well-tolerated for most women. Data do not support the necessity of performing a pelvic or breast examination to prescribe oral contraceptive medications. Hormonal contraception can be safely provided on the basis of medical history and blood pressure measurement.

Twenty Things Physicians and Patients Should Question

16

Don't perform pelvic exams on asymptomatic nonpregnant women, unless necessary for guideline-appropriate screening for cervical cancer.

Screening pelvic examinations, except for the purpose of performing cervical cancer screening at recommended intervals, have not led to reduction in mortality or morbidity, and expose asymptomatic women to unnecessary invasive testing. Noninvasive options to screen for sexually-transmitted infections are now available as alternatives to endocervical cultures. Screening pelvic examinations also add unnecessary costs to the health care system, included expenses from evaluations of false-positive findings. These pelvic exams can even lead to unnecessary surgery.

17

Don't routinely recommend daily home glucose monitoring for patients who have Type 2 diabetes mellitus and are not using insulin.

Self-monitoring of blood glucose (SMBG) is an integral part of patient self-management in maintaining safe and target-driven glucose control in type 1 diabetes mellitus. However, daily finger glucose testing has no benefit in patients with type 2 diabetes mellitus who are not on insulin or medications associated with hypoglycemia, and small, but significant, patient harms are associated with daily glucose testing. SMBG should be reserved for patients during the titration of their medication doses or during periods of changes in patients' diet and exercise routines.

18

Don't screen for genital herpes simplex virus infection (HSV) in asymptomatic adults, including pregnant women.

Serologic testing for HSV infection has low specificity and a high false-positive rate, and no confirmatory test is currently available. The serologic tests cannot determine site of infection. Given the prevalence of the infection in the United States, positive predictive value of the test is estimated at about 50%. A positive test can cause considerable anxiety and disruption of personal relationships.

19

Don't screen for testicular cancer in asymptomatic adolescent and adult males.

There is no benefit to screening for testicular cancer due to the low incidence of disease and high cure rates of treatment, even in patients who have advanced disease. There are potential harms associated with screening, which include false-positive results, anxiety, and harms from diagnostic tests or procedures.

20

Don't transfuse more than the minimum of red blood cell (RBC) units necessary to relieve symptoms of anemia or to return a patient to a safe hemoglobin range (7 to 8 g/dL in stable patients).

Unnecessary transfusion exposes patients to potential adverse effects without any likelihood of benefit and generates additional costs. Transfusion decisions should be influenced by a person's symptoms and hemoglobin concentration.

How This List Was Created (1–5)

The American Academy of Family Physicians (AAFP) list is an endorsement of the five recommendations for Family Medicine previously proposed by the National Physicians Alliance (NPA) and published in the Archives of Internal Medicine, as part of its “Less is More” series. The goal was to identify items common in primary care practice, strongly supported by the evidence and literature, that would lead to significant health benefits, reduce risks and harm, and reduce costs. A working group was assembled for each of the three primary care specialties; family medicine, pediatrics and internal medicine. The original list was developed using a modification of the nominal group process, with online voting. The literature was then searched to provide supporting evidence or refute the activities. The list was modified and a second round of field testing was conducted. The field testing with family physicians showed support for the final recommendations, the potential positive impact on quality and cost, and the ease with which the recommendations could be implemented.

More detail on the study and methodology can be found in the Archives of Internal Medicine article: [The “Top 5” Lists in Primary Care.](#)

How This List Was Created (6–10)

The American Academy of Family Physicians (AAFP) has identified this list of clinical recommendations for the second phase of the Choosing Wisely campaign. The goal was to identify items common in the practice of family medicine supported by a review of the evidence that would lead to significant health benefits, reduce risks, harms and costs. For each item, evidence was reviewed from appropriate sources such as evidence reviews from the Cochrane Collaboration, and the Agency for Healthcare Research and Quality. The AAFP’s Commission on Health of the Public and Science and Chair of the Board of Directors reviewed and approved the recommendations.

In the case of the first two items on our list – “Don’t schedule elective, non-medically indicated inductions of labor or Cesarean deliveries before 39 weeks, 0 days gestational age” and “Don’t schedule elective, non-medically indicated inductions of labor between 39 weeks, 0 days and 41 weeks, 0 days unless the cervix is deemed favorable” – we collaborated with the American College of Obstetricians and Gynecologists in developing the final language.

How This List Was Created (11–15)

The American Academy of Family Physicians (AAFP) has identified this list of clinical recommendations for the third phase of the Choosing Wisely® campaign. The goal was to identify items common in the practice of family medicine supported by a review of the evidence that would lead to significant health benefits, reduce risks, harms and costs. For each item, evidence was reviewed from appropriate sources such as the Cochrane Collaboration, the Agency for Healthcare Research and Quality and other sources. The AAFP’s Commission on Health of the Public and Science and Board of Directors reviewed and approved the recommendations.

How This List Was Created (16–20)

The American Academy of Family Physicians (AAFP) has identified this list of clinical recommendations for the fourth phase of the Choosing Wisely® campaign. Three recommendations were derived from AAFP Preventive Services Recommendations and two were based on other medical societies’ Choosing Wisely recommendations.

The goal was to identify items common in the practice of family medicine supported by a review of the evidence that would lead to significant health benefits, reduce risks, harms and costs. For each item, evidence was reviewed from appropriate sources such as the Cochrane Collaboration, the Agency for Healthcare Research and Quality and other sources. The AAFP’s Commission on Health of the Public and Science and Board of Directors reviewed and approved the recommendations.

AAFP’s disclosure and conflict of interest policy can be found at www.aafp.org

Sources

- 1 Agency for Health Care Research and Policy (AHCPR), Cochrane Reviews.
- 2 Center for Disease Control and Prevention (CDC), Cochrane, and Annals of Internal Medicine. AAO-HNS Guideline, “Adult Sinusitis” (affirmation of value by AAFP).
- 3 U.S. Preventive Services Task Force (USPSTF), American Association of Clinical Endocrinology (AACE), American College of Preventive Medicine (ACPM), National Osteoporosis Foundation (NOF).
- 4 U.S. Preventive Services Task Force (USPSTF).
- 5 U.S. Preventive Services Task Force (USPSTF) (for hysterectomy), American College of Obstetrics and Gynecology (ACOG) (for age).
- 6 Main E, Oshiro B, Chagolla B, Bingham D, Dang-Kilduff L, Kowalewski L (California Maternal Quality Care Collaborative). Elimination of non-medically indicated (elective) deliveries before 39 weeks gestational age. California: March of Dimes; First edition July 2010. California Department of Public Health; Maternal, Child and Adolescent Health Division; Contract No: 08-85012.
- 7 American Academy of Pediatrics, American College of Obstetricians and Gynecologists. Guidelines for perinatal care 6th ed. Elk Grove Village (IL): AAP; Washington, DC: ACOG; 2007. 450 p. Induction of labor. ACOG Practice Bulletin No. 107. American College of Obstetricians and Gynecologists. Obstet Gynecol 2009;114:386–97. Gulmezoglu AM, Crowther CA, Middleton P, Heatley E. Induction of labour for improving birth outcomes for women at or beyond term (review). The Cochrane Collaboration. Cochrane Database of Systematic Reviews 2012, Issue 6. Art. No.: CD004945. DOI: 10.1002/14651858.CD004945.pub3. Available from: <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD004945.pub3/abstract?sessionid=242792D050CDB79D0D80C0F6FDE85031.d02t03>
- 8 American Academy of Family Physicians. Carotid Artery Stenosis [Internet]. 2007[cited 2012 Oct 10]. Available from: <http://www.aafp.org/online/en/home/clinical/exam/carotidartery.html> U.S. Preventive Services Task Force. Screening for Carotid Artery Stenosis [Internet]. 2007 Dec. [Cited 2012 Oct 10]. Available from: <http://www.uspreventiveservicestaskforce.org/uspstf/uspstf.htm> Wolff T, Guirguis-Blake J, Miller T, et al. Screening For Asymptomatic Carotid Artery Stenosis [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2007 Dec. (Evidence Syntheses, No. 50). Available from: <http://www.ncbi.nlm.nih.gov/books/NBK33504/>

9

American Academy of Family Physicians. Cervical Cancer [Internet]. 2012 [cited 2012 Oct 10]. <http://www.aafp.org/online/en/home/clinical/exam/cervicalcancer.html>

U.S. Preventive Services Task Force. Screening for Cervical Cancer. 2012 Mar. [cited 2012 Oct 10]. Available from: <http://www.uspreventiveservicestaskforce.org/uspstf/uspsscerv.htm>

Vesco KK, Whitlock EP, Eder M, et al. Screening for Cervical Cancer: A Systematic Evidence Review for the U.S. Preventive Services Task Force [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2011 May. (Evidence Syntheses, No. 86.) Available from: <http://preview.ncbi.nlm.nih.gov/bookshelf/booktest/br.fcgi?book=es86>

10

American Academy of Family Physicians. Cervical Cancer [Internet]. 2012 [cited 2012 Oct 10]. <http://www.aafp.org/online/en/home/clinical/exam/cervicalcancer.html>

U.S. Preventive Services Task Force. Screening for Cervical Cancer. 2012 Mar. [cited 2012 Oct 10]. Available from: <http://www.uspreventiveservicestaskforce.org/uspstf/uspsscerv.htm>

Vesco KK, Whitlock EP, Eder M, et al. Screening for Cervical Cancer: A Systematic Evidence Review for the U.S. Preventive Services Task Force [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2011 May. (Evidence Syntheses, No. 86.) Available from: <http://preview.ncbi.nlm.nih.gov/bookshelf/booktest/>

11

Lieberthal AS, Carroll AE, Chonmaitree T, Ganiats TG, Hoberman A, Jackson MA, Joffe MD, Miller DT, Rosenfeld RM, Sevilia XD, Schwartz RH, Thomas PA, Tunkel DE, American Academy of Pediatrics, American Academy of Family Physicians. The diagnosis and management of acute otitis media. *Pediatrics*. 2013 Mar;131(3):e964–99.

Venekamp RP, Sanders S, Glasziou PP, Del Mar CB, Rovers MM. Antibiotics for acute otitis media in children. *Cochrane Database Syst Rev*. 2013 Jan 31;1:CD000219.

12

Subcommittee on Urinary Tract Infection, Steering Committee on Quality Improvement and Management, Roberts KB. Urinary tract infection: clinical practice guideline for the diagnosis and management of the initial UTI in febrile infants and children 2 to 24 months. *Pediatrics*. 2011 Sep;128(3):595–610.

American College of Radiology (ACR), Society for Pediatric Radiology (SPR), Society of Nuclear Medicine (SNM). ACR-SPR-SNM practice guideline for the performance of adult and pediatric radionuclide cystography [Internet]. Reston (VA): American College of Radiology (ACR); 2010. 5 p.

National Institute for Health and Clinical Excellence, National Collaborating Centre for Women's and Children's Health (UK). Urinary tract infection in children: diagnosis, treatment and long-term management. London: RCOG Press; August 2007. 429 p.

Westwood ME, Whiting PF, Cooper J, Watt IS, Kleijnen J. Further investigation of confirmed urinary tract infection (UTI) in children under five years: a systematic review. *BMC Pediatrics*. 2005 Mar 15;5:2.

13

American Academy of Family Physicians. Prostate cancer screening. Leawood (KS): American Academy of Family Physicians; 2018. Available from: <http://www.aafp.org/patient-care/clinical-recommendations/all/prostate-cancer.html>.

U.S. Preventive Services Task Force. Prostate Cancer Screening. Rockville (MD): U.S. Preventive Services Task Force. 2018 May.

14

U.S. Preventive Services Task Force. Final Update Summary: Adolescent Idiopathic Scoliosis: Screening. Rockville (MD) 2016. <https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/adolescent-idiopathic-scoliosis-screening1>

15

Stewart FH, Harper CC, Ellertson CE, Grimes DA, Sawaya GF, Trussell J. Clinical breast and pelvic examination requirements for hormonal contraception: current practice vs evidence. *JAMA*. 2001 May 2;285(17):2232–9.

Henderson JT, Sawaya GF, Blum M, Stratton L, Harper CC. Pelvic examinations and access to oral hormonal contraception. *Obstet Gynecol*. 2010 Dec;116(6):1257–64.

Committee on Gynecologic Practice. Committee opinion no. 534: well-woman visit. *Obstet Gynecol*. 2012 Aug;120(2 Pt 1):421–4.

16

AAFP Clinical Preventive Service Recommendation: The AAFP *recommends against* screening pelvic exams in asymptomatic women. (2017) <http://www.aafp.org/patient-care/clinical-recommendations/all/screening-pelvic-exam.html>

Annals of Internal Medicine: *Screening Pelvic Examination in Adult Women: A Clinical Practice Guideline from the American College of Physicians (Endorsed by the AAFP)* <http://annals.org/aim/article/1884537/screening-pelvic-examination-adult-women-clinical-practice-guideline-from-american>

17

JAMA: More Evidence That Glucose Self-Monitoring May Not Improve Outcomes in Non- Insulin Dependent Type 2 Diabetes <http://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2630691>

Society for Internal Medicine Choosing Wisely Recommendation: Don't recommend daily home finger glucose testing in patients with Type 2 diabetes mellitus not using insulin. <http://www.choosingwisely.org/clinician-lists/society-general-internal-medicine-daily-home-finger-glucose-testing-type-2-diabetes-mellitus/>

American Diabetes Association. Standards of medical care in diabetes. *Diabetes Care*. 2013;36 Suppl1:S11-66.

Karter AJ, Parker MM, Moffet HH, Spence MM, Chan J, Ettner SL, Selby JV. Longitudinal study of new and prevalent use of self-monitoring of blood glucose. *Diabetes Care*. 2006;29:1757-63.

Harris MI. Frequency of blood glucose monitoring in relation to glycemic control in patients with type 2 diabetes. *Diabetes Care*. 2001;24:979-82.

Malanda UL, Welschen LMC, Riphagen II, Dekker JM, Nijpels G, Bot SDM. Self-monitoring of blood glucose in patients with type 2 diabetes mellitus who are not using insulin. *Cochrane Database of Systematic Reviews* 2012;1:1-88.

O'Kane MJ, Bunting B, Copeland M, Coates VE; ESMON study group. Efficacy of self-monitoring of blood glucose in patients with newly diagnosed type 2 diabetes (ESMON study): randomized controlled trial. *BMJ*. 2008;336:1174-7.

Peel E, Douglas M, Lawton J. Self-monitoring of blood glucose in type2 diabetes: longitudinal qualitative study of patients' perspectives. *BMJ*. 2007;335:493-8.

Cameron C, Coyle D, Ur E, Klarenback S. Cost-effectiveness of self-monitoring of blood glucose in patients with type 2 diabetes mellitus managed without insulin. *CMAJ*. 2010;182(1):28-34.

Canada's Choosing Wisely Recommendation: Don't recommend routine or multiple daily self-glucose monitoring in adults with stable type 2 diabetes on agents that do not cause hypoglycemia. <https://choosingwiselycanada.org/endocrinology-and-metabolism>

Canadian Diabetes Association Clinical Practice Guidelines Expert Committee, et al. Monitoring glycemic control. *Can J Diabetes*. 2013 Apr;37 Suppl 1:S35-9. PMID: 24070960.

Davidson MB, et al. The effect of self monitoring of blood glucose concentrations on glycated hemoglobin levels in diabetic patients not taking insulin: a blinded, randomized trial. *Am J Med*. 2005 Apr;118(4):422-5. PMID: 15808142.

Farmer A, et al. Impact of self monitoring of blood glucose in the management of patients with non-insulin treated diabetes: open parallel group randomised trial. *BMJ*. 2007 Jul 21;335(7611):132. PMID: 17591623.

O'Kane MJ, et al. Efficacy of self monitoring of blood glucose in patients with newly diagnosed type 2 diabetes (ESMON study): randomised controlled trial. *BMJ*. 2008 May 24;336(7654):1174-7. PMID: 18420662.

18

American Academy of Family Physicians Clinical Preventive Services Recommendation: The AAFP recommends against routine serological screening for genital herpes simplex virus (HSV) infection in asymptomatic adolescents and adults, including those who are pregnant. (2016)
<http://www.aafp.org/patient-care/clinical-recommendations/all/genital-herpes.html>

Serologic Screening for Genital Herpes: An Updated Evidence Report and Systematic Review for the US Preventive Services Task Force. Feltner C, Grodensky C, Ebel C, Middleton JC, Harris RP, Ashok M, Jonas DE JAMA. 2016;316(23):2531.

19

American Academy of Family Physicians Clinical Preventive Services Recommendation: The AAFP recommends against screening for testicular cancer in asymptomatic adolescent or adult males (2011)
<http://www.aafp.org/patient-care/clinical-recommendations/all/testicular-cancer.html>

U.S. Preventive Services Task Force. Final Recommendation Statement: Testicular Cancer: Screening. Rockville (MD): U.S. Preventive Services Task Force. 2011.

20

American Society of Hematology Choosing Wisely Recommendation: Don't transfuse more than the minimum number of red blood cell (RBC) units necessary to relieve symptoms of anemia or to return a patient to a safe hemoglobin range (7 to 8 g/dL in stable, non-cardiac in-patients).
<http://www.choosingwisely.org/societies/american-society-of-hematology>

Carson JL, Grossman BJ, Kleinman S, Tinmouth AT, Marques MB, Fung MK, Holcomb JB, Illoh O, Kaplan LJ, Katz LM, Rao SV, Roback JD, Shander A, Tobian AA, Weinstein R, Swinton McLaughlin LG, Djulbegovic B; Clinical Transfusion Medicine Committee of the AABB. Red blood cell transfusion: a clinical practice guideline from the AABB. Ann Intern Med. 2012 Jul 3;157(1):49–58.

Retter A, Wyncoll D, Pearse R, Carson D, McKechnie S, Stanworth S, Allard S, Thomas D, Walsh T; British Committee for Standards in Hematology. Guidelines on the management of anaemia and red cell transfusion in adult critically ill patients. Br J Haematol. 2013 Feb;160(4):445–64.

American Association of Blood Banks Choosing Wisely recommendation: Don't transfuse more units of blood than absolutely necessary

<http://www.choosingwisely.org/societies/american-association-of-blood-banks>

Carson JL, Grossman BJ, Kleinman S, Tinmouth AT, Marques MB, Fung MK, Holcomb JB, Illoh O, Kaplan LJ, Katz LM, Rao SV, Roback JD, Shander A, Tobian AA, Weinstein R, Swinton McLaughlin LG, Djulbegovic B; Clinical Transfusion Medicine Committee of the AABB. Red blood cell transfusion: a clinical practice guideline from the AABB. Ann Intern Med. 2012 Jul 3;157(1):49–58

Canada's Choosing Wisely Recommendation: Don't transfuse patients based solely on an arbitrary hemoglobin threshold.

<https://choosingwiselycanada.org/hematology/>

Callum J, et al. Bloody easy 3, blood transfusions, blood alternatives and transfusion reactions, a guide to transfusion medicine. 3rd ed. Toronto (ON): Sunnybrook and Women's College Health Sciences Centre; 2011. PMID: 22751760.

Choosing Wisely Canada. [Canadian Society of Internal Medicine: Five Things Physicians and Patients Should Question](#) [Internet]. 2014 [cited 2014 Aug 26].

Carson JL, et al. Red blood cell transfusion: a clinical practice guideline from the AABB*. Ann. Intern. Med. Jul 3 2012;157(1):49-58. PMID: 22751760.

Hebert PC, et al. A multicenter, randomized, controlled clinical trial of transfusion requirements in critical care. Transfusion Requirements in Critical Care Investigators, Canadian Critical Care Trials Group. N. Engl. J. Med. Feb 11 1999;340(6):409-417. PMID: 9971864.

Hicks LK, et al. The ASH Choosing Wisely(R) campaign: five hematologic tests and treatments to question. Blood. Dec 5 2013;122(24):3879-3883. PMID: 24307720.

About the ABIM Foundation

The mission of the ABIM Foundation is to advance medical professionalism to improve the health care system. We achieve this by collaborating with physicians and physician leaders, medical trainees, health care delivery systems, payers, policymakers, consumer organizations and patients to foster a shared understanding of professionalism and how they can adopt the tenets of professionalism in practice.

To learn more about the ABIM Foundation, visit www.abimfoundation.org.



About the American Academy of Family Physicians

Founded in 1947, the American Academy of Family Physicians (AAFP) represents 131,400 physicians and medical students nationwide. It is the only medical society devoted solely to primary care. Approximately one in four of all doctor's office visits are made to family physicians. Family medicine's cornerstone is an ongoing, personal patient-physician relationship focused on integrated care.

For information about health care, health conditions and wellness, please visit the AAFP's award-winning consumer website, www.familydoctor.org.



For more information or to see other lists of Five Things Physicians and Patients Should Question, visit www.choosingwisely.org.