

## **Tests and Procedures Identified in the Choosing Wisely Campaign**

### American Academy of Allergy, Asthma & Immunology

1. Don't perform unproven diagnostic tests, such as immunoglobulin G (IgG) testing or an indiscriminate battery of immunoglobulin E (IgE) tests, in the evaluation of allergy.
2. Don't order sinus computed tomography (CT) or indiscriminately prescribe antibiotics for uncomplicated acute rhinosinusitis
3. Don't routinely do diagnostic testing in patients with chronic urticaria.
4. Don't recommend replacement immunoglobulin therapy for recurrent infections unless impaired antibody responses to vaccines are demonstrated.
5. Don't diagnose or manage asthma without spirometry.

### American Academy of Family Physicians

6. Don't do imaging for low back pain within the first six weeks, unless red flags are present.
7. Don't routinely prescribe antibiotics for acute mild-to-moderate sinusitis unless symptoms last for seven or more days, or symptoms worsen after initial clinical improvement.
8. 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.
9. Don't order annual electrocardiograms (EKGs) or any other cardiac screening for low-risk patients without symptoms.
10. Don't perform Pap smears on women younger than 21 or who have had a hysterectomy for non-cancer disease.
11. Don't schedule elective, non-medically indicated inductions of labor or Cesarean deliveries before 39 weeks, 0 days gestational age.
12. Avoid elective, non-medically indicated inductions of labor between 39 weeks, 0 days and 41 weeks, 0 days unless the cervix is deemed favorable.
13. Don't screen for carotid artery stenosis (CAS) in asymptomatic adult patients.

14. 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.
15. Don't screen women younger than 30 years of age for cervical cancer with HPV testing, alone or in combination with cytology.

#### American Academy of Hospice and Palliative Medicine

16. Don't recommend percutaneous feeding tubes in patients with advanced dementia; instead, offer oral assisted feeding.
17. Don't delay palliative care for a patient with serious illness who has physical, psychological, social or spiritual distress because they are pursuing disease-directed treatment.
18. Don't leave an implantable cardioverter-defibrillator (ICD) activated when it is inconsistent with the patient/family goals of care.
19. Don't recommend more than a single fraction of palliative radiation for an uncomplicated painful bone metastasis.
20. Don't use topical lorazepam (Ativan), diphenhydramine (Benadryl), haloperidol (Haldol) ("ABH") gel for nausea.

#### American Academy of Neurology

21. Don't perform electroencephalography (EEG) for headaches.
22. Don't perform imaging of the carotid arteries for simple syncope without other neurologic symptoms.
23. Don't use opioid or butalbital treatment for migraine except as a last resort.
24. Don't prescribe interferon-beta or glatiramer acetate to patients with disability from progressive, non-relapsing forms of multiple sclerosis.
25. Don't recommend CEA for asymptomatic carotid stenosis unless the complication rate is low (<3%).

#### American Academy of Ophthalmology

26. Don't perform preoperative medical tests for eye surgery unless there are specific medical indications.

27. Don't routinely order imaging tests for patients without symptoms or signs of significant eye disease.
28. Don't order antibiotics for adenoviral conjunctivitis (pink eye).
29. Don't routinely provide antibiotics before or after intravitreal injections.
30. Don't place punctal plugs for mild dry eye before trying other medical treatments.

#### American Academy of Otolaryngology — Head and Neck Surgery Foundation

31. Don't order computed tomography (CT) scan of the head/brain for sudden hearing loss.
32. Don't prescribe oral antibiotics for uncomplicated acute tympanostomy tube otorrhea.
33. Don't prescribe oral antibiotics for uncomplicated acute external otitis.
34. Don't routinely obtain radiographic imaging for patients who meet diagnostic criteria for uncomplicated acute rhinosinusitis.
35. Don't obtain computed tomography (CT) or magnetic resonance imaging (MRI) in patients with a primary complaint of hoarseness prior to examining the larynx.

#### American Academy of Pediatrics

36. Antibiotics should not be used for apparent viral respiratory illnesses (sinusitis, pharyngitis, bronchitis).
37. Cough and cold medicines should not be prescribed or recommended for respiratory illnesses in children under four years of age.
38. Computed tomography (CT) scans are not necessary in the immediate evaluation of minor head injuries; clinical observation/Pediatric Emergency Care Applied Research Network (PECARN) criteria should be used to determine whether imaging is indicated.
39. Neuroimaging (CT, MRI) is not necessary in a child with simple febrile seizure.
40. Computed tomography (CT) scans are not necessary in the routine evaluation of abdominal pain.

### American College of Cardiology

41. Don't perform stress cardiac imaging or advanced non-invasive imaging in the initial evaluation of patients without cardiac symptoms unless high-risk markers are present.
42. Don't perform annual stress cardiac imaging or advanced non-invasive imaging as part of routine follow-up in asymptomatic patients.
43. Don't perform stress cardiac imaging or advanced non-invasive imaging as a pre-operative assessment in patients scheduled to undergo low-risk non-cardiac surgery.
44. Don't perform echocardiography as routine follow-up for mild, asymptomatic native valve disease in adult patients with no change in signs or symptoms.
45. Don't perform stenting of non-culprit lesions during percutaneous coronary intervention (PCI) for uncomplicated hemodynamically stable ST-segment elevation myocardial infarction (STEMI).

### The American College of Obstetricians and Gynecologists

46. Don't schedule elective, non-medically indicated inductions of labor or Cesarean deliveries before 39 weeks 0 days gestational age.
47. 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.
48. Don't perform routine annual cervical cytology screening (Pap tests) in women 30–65 years of age.
49. Don't treat patients who have mild dysplasia of less than two years in duration.
50. Don't screen for ovarian cancer in asymptomatic women at average risk.

### American College of Physicians

51. Don't obtain screening exercise electrocardiogram testing in individuals who are asymptomatic and at low risk for coronary heart disease.
52. Don't obtain imaging studies in patients with non-specific low back pain.
53. In the evaluation of simple syncope and a normal neurological examination, don't obtain brain imaging studies (CT or MRI).

54. In patients with low pretest probability of venous thromboembolism (VTE), obtain a high-sensitive D-dimer measurement as the initial diagnostic test; don't obtain imaging studies as the initial diagnostic test.
55. Don't obtain preoperative chest radiography in the absence of a clinical suspicion for intrathoracic pathology.

#### American College of Radiology

56. Don't do imaging for uncomplicated headache.
57. Don't image for suspected pulmonary embolism (PE) without moderate or high pre-test probability of PE.
58. Avoid admission or preoperative chest x-rays for ambulatory patients with unremarkable history and physical exam.
59. Don't do computed tomography (CT) for the evaluation of suspected appendicitis in children until after ultrasound has been considered as an option.
60. Don't recommend follow-up imaging for clinically inconsequential adnexal cysts.

#### American College of Rheumatology

61. Don't test ANA sub-serologies without a positive ANA and clinical suspicion of immune-mediated disease.
62. Don't test for Lyme disease as a cause of musculoskeletal symptoms without an exposure history and appropriate exam findings.
63. Don't perform MRI of the peripheral joints to routinely monitor inflammatory arthritis.
64. Don't prescribe biologics for rheumatoid arthritis before a trial of methotrexate (or other conventional non-biologic DMARDs).
65. Don't routinely repeat DXA scans more often than once every two years.

#### American Gastroenterological Association

66. For pharmacological treatment of patients with gastroesophageal reflux disease (GERD), long-term acid suppression therapy (proton pump inhibitors or histamine<sub>2</sub> receptor antagonists) should be titrated to the lowest effective dose needed to achieve therapeutic goals.

67. Do not repeat colorectal cancer screening (by any method) for 10 years after a high-quality colonoscopy is negative in average-risk individuals.
68. Do not repeat colonoscopy for at least five years for patients who have one or two small (< 1 cm) adenomatous polyps, without high-grade dysplasia, completely removed via a high-quality colonoscopy.
69. For a patient who is diagnosed with Barrett's esophagus, who has undergone a second endoscopy that confirms the absence of dysplasia on biopsy, a follow-up surveillance examination should not be performed in less than three years as per published guidelines.
70. For a patient with functional abdominal pain syndrome (as per ROME III criteria) computed tomography (CT) scans should not be repeated unless there is a major change in clinical findings or symptoms.

#### American Geriatrics Society

71. Don't recommend percutaneous feeding tubes in patients with advanced dementia; instead offer oral assisted feeding.
72. Don't use antipsychotics as first choice to treat behavioral and psychological symptoms of dementia.
73. Avoid using medications to achieve hemoglobin A1c <7.5% in most adults age 65 and older; moderate control is generally better.
74. Don't use benzodiazepines or other sedative-hypnotics in older adults as first choice for insomnia, agitation or delirium.
75. Don't use antimicrobials to treat bacteriuria in older adults unless specific urinary tract symptoms are present.

#### American Society of Clinical Oncology

76. Don't use cancer-directed therapy for solid tumor patients with the following characteristics: low performance status (3 or 4), no benefit from prior evidence-based interventions, not eligible for a clinical trial, and no strong evidence supporting the clinical value of further anti-cancer treatment.
77. Don't perform PET, CT, and radionuclide bone scans in the staging of early prostate cancer at low risk for metastasis.

78. Don't perform PET, CT, and radionuclide bone scans in the staging of early breast cancer at low risk for metastasis.
79. Don't perform surveillance testing (biomarkers) or imaging (PET, CT, and radionuclide bone scans) for asymptomatic individuals who have been treated for breast cancer with curative intent.
80. Don't use white cell stimulating factors for primary prevention of febrile neutropenia for patients with less than 20 percent risk for this complication.

#### American Society for Clinical Pathology

81. Don't perform population based screening for 25-OH-Vitamin D deficiency.
82. Don't perform low risk HPV testing.
83. Avoid routine preoperative testing for low risk surgeries without a clinical indication.
84. Only order Methylated Septin 9 (SEPT9) to screen for colon cancer on patients for whom conventional diagnostics are not possible.
85. Don't use bleeding time test to guide patient care.

#### American Society of Echocardiography

86. Don't order follow up or serial echocardiograms for surveillance after a finding of trace valvular regurgitation on an initial echocardiogram.
87. Don't repeat echocardiograms in stable, asymptomatic patients with a murmur/click, where a previous exam revealed no significant pathology.
88. Avoid echocardiograms for preoperative/perioperative assessment of patients with no history or symptoms of heart disease.
89. Avoid using stress echocardiograms on asymptomatic patients who meet "low risk" scoring criteria for coronary disease.
90. Avoid transesophageal echocardiography (TEE) to detect cardiac sources of embolization if a source has been identified and patient management will not change.

### American Society of Nephrology

91. Don't perform routine cancer screening for dialysis patients with limited life expectancies without signs or symptoms.
92. Don't administer erythropoiesis-stimulating agents (ESAs) to chronic kidney disease (CKD) patients with hemoglobin levels greater than or equal to 10 g/dL without symptoms of anemia.
93. Avoid nonsteroidal anti-inflammatory drugs (NSAIDs) in individuals with hypertension or heart failure or CKD of all causes, including diabetes.
94. Don't place peripherally inserted central catheters (PICC) in stage III–V CKD patients without consulting nephrology.
95. Don't initiate chronic dialysis without ensuring a shared decision-making process between patients, their families, and their physicians.

### American Society of Nuclear Cardiology

96. Don't perform stress cardiac imaging or coronary angiography in patients without cardiac symptoms unless high-risk markers are present.
97. Don't perform cardiac imaging for patients who are at low risk.
98. Don't perform radionuclide imaging as part of routine follow-up in asymptomatic patients.
99. Don't perform cardiac imaging as a pre-operative assessment in patients scheduled to undergo low- or intermediate-risk non-cardiac surgery.
100. Use methods to reduce radiation exposure in cardiac imaging, whenever possible, including not performing such tests when limited benefits are likely.

### American Urological Association

101. A routine bone scan is unnecessary in men with low-risk prostate cancer.
102. Don't prescribe testosterone to men with erectile dysfunction who have normal testosterone levels.
103. Don't order creatinine or upper-tract imaging for patients with benign prostatic hyperplasia (BPH).
104. Don't treat an elevated PSA with antibiotics for patients not experiencing other symptoms.



105. Don't perform ultrasound on boys with cryptorchidism.

#### Society of Cardiovascular Computed Tomography

106. Don't use coronary artery calcium scoring for patients with known coronary artery disease (including stents and bypass grafts).
107. Don't order coronary artery calcium scoring for preoperative evaluation for any surgery, irrespective of patient risk.
108. Don't order coronary artery calcium scoring for screening purposes on low risk asymptomatic individuals except for those with a family history of premature coronary artery disease.
109. Don't routinely order coronary computed tomography angiography for screening asymptomatic individuals.
110. Don't use coronary computed tomography angiography in high risk emergency department patients presenting with acute chest pain. Risk defined by the Thrombolysis In Myocardial Infarction (TIMI) risk score for unstable angina/acute coronary syndromes.

#### Society of Hospital Medicine – Adult Hospital Medicine

111. Don't place, or leave in place, urinary catheters for incontinence or convenience or monitoring of output for non-critically ill patients (acceptable indications: critical illness, obstruction, hospice, perioperatively for <2 days for urologic procedures; use weights instead to monitor diuresis).
112. Don't prescribe medications for stress ulcer prophylaxis to medical inpatients unless at high risk for GI complications.
113. Avoid transfusions of red blood cells for arbitrary hemoglobin or hematocrit thresholds and in the absence of symptoms of active coronary disease, heart failure or stroke.
114. Don't order continuous telemetry monitoring outside of the ICU without using a protocol that governs continuation.
115. Don't perform repetitive CBC and chemistry testing in the face of clinical and lab stability.

### Society of Hospital Medicine – Pediatric Hospital Medicine

116. Don't order chest radiographs in children with uncomplicated asthma or bronchiolitis.
117. Don't routinely use bronchodilators in children with bronchiolitis.
118. Don't use systemic corticosteroids in children under 2 years of age with an uncomplicated lower respiratory tract infection.
119. Don't treat gastroesophageal reflux in infants routinely with acid suppression therapy.
120. Don't use continuous pulse oximetry routinely in children with acute respiratory illness unless they are on supplemental oxygen.

### Society of Nuclear Medicine and Molecular Imaging

121. Don't use PET/CT for cancer screening in healthy individuals.
122. Don't perform routine annual stress testing after coronary artery revascularization.
123. Don't use nuclear medicine thyroid scans to evaluate thyroid nodules in patients with normal thyroid gland function.
124. Avoid using a computed tomography angiogram to diagnose pulmonary embolism in young women with a normal chest radiograph; consider a radionuclide lung study ("V/Q study") instead.
125. Don't use PET imaging in the evaluation of patients with dementia unless the patient has been assessed by a specialist in this field.

### The Society of Thoracic Surgeons

126. Patients who have no cardiac history and good functional status do not require preoperative stress testing prior to non-cardiac thoracic surgery.
127. Don't initiate routine evaluation of carotid artery disease prior to cardiac surgery in the absence of symptoms or other high-risk criteria.
128. Don't perform a routine pre-discharge echocardiogram after cardiac valve replacement surgery.
129. Patients with suspected or biopsy proven Stage I NSCLC do not require brain imaging prior to definitive care in the absence of neurologic symptoms.

130. Prior to cardiac surgery, there is no need for pulmonary function testing in the absence of respiratory symptoms.

#### Society for Vascular Medicine

131. Don't do work up for clotting disorder (order hypercoagulable testing) for patients who develop first episode of deep vein thrombosis (DVT) in the setting of a known cause.
132. Don't reimaging DVT in the absence of a clinical change.
133. Avoid cardiovascular testing for patients undergoing low-risk surgery.
134. Refrain from percutaneous or surgical revascularization of peripheral artery stenosis in patients without claudication or critical limb ischemia.
135. Don't screen for renal artery stenosis in patients without resistant hypertension and with normal renal function, even if known atherosclerosis is present.