



TOP TIPS FROM FAMILY PRACTICE: CHOOSING WISELY XVIII

*Topics from American Dental Association, Society of Surgical Oncology,
American Society of Breast Surgeons*

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This is my 18th article on “Choosing Wisely” from the Board of Internal Medicine Foundation. As previously noted, each specialty group is developing “Five or Ten Things Physicians and Patients Should Know.”

I. RECOMMENDATIONS FROM THE AMERICAN DENTAL ASSOCIATION (ADA)

1. Only fluoride toothpaste should be recommended for infants. The benefit of fluoride in toothpaste arises from its topical effect on dental enamel, which enhances remineralization of the enamel surface and interrupts enamel demineralization caused by bacterial acids. The anti-caries benefit starts with eruption of the first primary tooth. Recommended amounts of fluoride toothpaste minimize the risk of fluorosis, a whitish discoloration of the enamel.¹

2. In attempts to avoid restorative treatment in incipient (non-cavitated) occlusal caries, consider sealant use first. Evidence shows that sealants are safe and effective in stopping caries progression in initial stage, non-cavitated, occlusal caries. Restorations may require removal of some healthy tooth structure, weakening the tooth and increasing the risk that the tooth will eventually require more extensive treatment. Sealants offer tooth-preserving treatment that improves outcomes by minimizing the later need for more extensive restorative care.

3. In attempts to avoid protective stabilization, sedation, or general anesthesia in pediatric patients, consider all options with the legal guardian. Some children who require treatment of dental disease do not respond to communicative behavior guidance techniques. Advanced behavior guidance techniques of sedation, protective stabilization, and general anesthesia offer risks and benefits often beyond the health knowledge of parents and other caretakers. Informed consent best practice often requires a thorough, understandable explanation of these techniques and alternatives, including deferral of treatment with its inherent risks.

4. In the management of temporomandibular

joint disorders, attempts should be made to avoid routinely using irreversible surgical procedures such as braces, occlusal equilibration and restorations as the first treatment of choice. Temporomandibular joint disorders (TMD), defined as musculo-skeletal disorders (not the lesion of traumatic occlusion), are not necessarily progressive. Evidence does exist that in many instances patients with TMD have spontaneous remissions without treatment. Management is therefore generally conservative and includes reversible strategies such as patient education, medications, physical therapy and/or the use of occlusal appliances that don't alter the shape or position of the teeth or the alignment of the jaws.

5. Just because restorations are old does not justify replacing them. Dental restorations (fillings) fail due to excessive wear, fracture of material or tooth, loss of retention, or recurrent decay. Restorative materials have different survival rates and fail for different reasons, but age of the filling should not be used as a failure criterion.

II. RECOMMENDATIONS FROM THE SOCIETY OF SURGICAL ONCOLOGY (SSO)

1. Routine use of sentinel node biopsy is not recommended in women ≥ 70 years of age with invasive breast cancer that is hormone receptor positive, if they are clinically node negative. Hormonal therapy is standard for all patients with hormone receptor positive disease, and the omission of sentinel node biopsy in these patients treated with hormonal therapy does not result in increased rates of locoregional recurrence and does not impact breast cancer mortality. In sum, those ≥ 70 years of age with early stage hormone receptor positive breast cancer and no palpable axillary lymph nodes can be safely treated without axillary staging.

2. Breast cancer screening in average risk women should not routinely use breast MRI, which should be reserved for those with increased risk. Those include: known BRCA gene mutation carriers; first

degree relatives of BRCA gene mutation carriers; those with a lifetime risk exceeding 20% as measured by risk-assessment tools based primarily on family history of breast cancer; and those with a clinical history associated with a significant risk for breast cancer, including women who received mantle radiation before the age of 30.²

3. Surveillance blood tests for colorectal cancer, other than a CEA level, should not include routine blood work (e.g., CBC, liver function tests). Although evidence is not unequivocal, surveillance regimens that include serial carcinoembryonic antigen (CEA) testing have been associated with improved survival. But measurement of CBC or liver function tests for surveillance following colorectal cancer treatment is not supported due to their lack of sensitivity and accuracy in detecting early recurrences. Accepted components of colorectal cancer surveillance include a combination of history and physical examination; CEA; CT of the chest, abdomen and pelvis; and colonoscopy at variable intervals depending on the stage and risk of recurrent disease.

4. Patients who have been curatively treated for colon or rectal cancer should not have routine PET-CT in the initial staging of localized colon or rectal cancer or as part of routine surveillance. A CT of the chest, abdomen and pelvis with IV and PO contrast provides excellent staging, and standard PET imaging does not significantly improve diagnostic accuracy or outcomes as part of the initial workup or surveillance testing.

5. In patients with a newly diagnosed, localized primary cutaneous melanoma, don't routinely order imaging studies for staging purposes unless metastatic disease is suspected based on the history or physical exam. Routine imaging studies for localized melanoma including chest radiographs, brain MRI, cross-sectional imaging, and PET/CT are insensitive at the lower limits of resolution and do not significantly improve staging of these patients. Imaging should be performed if there are concerning findings on history and physical exam, and such tests should be driven by symptoms.

III. RECOMMENDATIONS FROM THE AMERICAN SOCIETY OF BREAST SURGEONS (ASBRS)

1. New breast cancer patients should not have a routine breast MRI. It can be useful in selected

patients to aid treatment decisions, but there is lack of evidence that routine use of MRI lessens cancer recurrence, death from cancer, or the need for re-operation after lumpectomy surgery. Routine MRI use is associated with an increased need for subsequent breast biopsy procedures, delays in time to treatment, and higher cost of care. Furthermore, patient anxiety that results from indeterminate findings can spur increased rates of mastectomy.

2. All new breast cancer patients don't routinely require specialized tumor gene testing. These studies are only helpful in selected patients, including those with early stage cancers that are hormone receptor positive and have low scores on 21 gene recurrence testing; they can safely omit chemotherapy. These tests should not be done in patients who indicate that the test results would not change their choice of treatment.

3. Patients having lumpectomy for breast cancer don't routinely need excision of all the axillary lymph nodes. After a new diagnosis of invasive breast cancer, most patients undergoing partial breast removal (lumpectomy) benefit from a sentinel node (SN) biopsy that removes a small number of lymph nodes beneath the arm.* In the past, patients found to have cancer in any of these sentinel nodes underwent additional surgery to remove more nodes. Recent evidence has shown that this is not necessary if cancer is found in fewer than 3 SN, if the patient receives other recommended cancer treatments.

4. If the cancer is found close to the edge of the excised lumpectomy tissue, routinely re-operating on these patients is not mandatory but can be considered on a case-by-case basis. However, if microscopic review of the lumpectomy specimen indicates cancer cells at the tissue edge, re-operation to excise more breast tissue is beneficial.

5. Patients who have a new cancer in one breast don't routinely require a double mastectomy. Nonetheless, many such patients desire removal of both breasts, believing their cancer risk in the other breast is high and their cancer cure rate will be improved by double mastectomy. This procedure should not be routinely performed in these patients until they have been provided with adequate understandable information about the generally low risk that they will develop cancer in the other breast, as well as the minimal, if any, improvement in their life expectancy provided by double mastectomy.³

*The Society of Surgical Oncology recommendations differ. See previous page – Section II (1.).

Top Tips

UPDATES ON VITAMIN D

There are literally dozens of new articles concerning vitamin D. Because of the large number, I will only briefly discuss a few that came across my screen, but you can certainly go to the original articles to look for more in-depth discussions.

- Dr. Michael Allan published a review in *The Journal of General Internal Medicine* earlier this year that says: “the one that we probably have the most evidence for is fractures. If you were to take a group of people who were at high risk of breaking a bone – so had about a 15% chance of breaking bone over the next 10 years – and treated them all with a reasonable dose of vitamin D for a decade, you’d prevent a fracture in around 1 in 50 of them in that time.” Also in 2016, an observational study of women age 75 and older in *The Journal of the American Geriatrics Society* showed that 25 (OH)D levels of less than 50 nmol/L (20 ng/mL) were associated with greater all-cause mortality for up to 10 years. This difference was at least partially independent of comorbidities and fracture, indicating that low 25 (OH)D not only is an indicator of impaired health, but also plays a role in disease outcome.

- An April article published in *Maturitas* showed that adults with the lowest concentrations of circulating 25 (OH)D had the highest risk for age-related macular degeneration.

- Regular doses of vitamin D₃ may improve cardiac function in heart failure patients, according to a study published in April in *The Journal of the American College of Cardiology*. They found significant improvement in cardiac function on echocardiography and a reversal of left ventricular remodeling.

- An article in *PLOS ONE* reported that higher levels of vitamin D (above 40 ng/mL) are associated with a reduction in risk of more than 65% for breast, colon, and lung cancers. Other studies have shown similar reductions in risk for individual cancers as published in *The European Journal of Cancer*, as well as *Cancer Preventive Research*.

- A study in *JAMA* of vitamin D₃ supplementation during pregnancy found that although the primary outcome did not show an effect on the risk of persistent wheeze in the offspring, post hoc analysis demonstrated that with increasing levels of maternal vitamin D₃ the risk for persistent wheeze in the offspring declined, and this difference did reach statistical significance.

- On the negative side, the VDAART randomized clinical trial of Vitamin D in pregnancy showed the frequency of asthma in offspring was essentially the same in the treatment and placebo groups. Also, the frequency of lower respiratory tract infections and IgE concentrations, and the frequency of any allergic sensitization did not differ between the two groups. In another study (published in *Allergy* in the Spring), Vitamin D supplementation in pregnancy and infancy was linked to reduced sensitization to mites at 18 months of age.

- The Cochrane Library in September published a summary of seven trials involving 435 children and two trials involving 658 adults with asthma. Vitamin D appeared to reduce the risk of severe asthma exacerbations and health care use.

- Vitamin D provided no benefit on low extremity function and raised the risk of falling for patients 70 or older, according to a clinical trial published in *JAMA Internal Medicine*.

- Concerning gastrointestinal disease, *The American Journal of Gastroenterology* reported that vitamin D deficiency is prevalent among U.S. adult non-alcoholic fatty liver disease (NAFLD) patients and is independently associated with a definitive diagnosis of non-alcoholic steatohepatitis (NASH) and increased histological severity. Novel associations in proinflammatory pathways were identified, which suggest the mechanism for vitamin D deficiency in the pathogenesis of NASH, and support dietary and/or lifestyle modifications to increase vitamin D levels in these patients. Also, *The Journal of Clinical Oncology* reported that in pancreatic cancer patients, sufficient levels of 25 (OH)D before diagnosis were associated with better survival.

NEW GUIDELINES FOR PREVENTION AND MANAGEMENT OF ACUTE DIARRHEA

In May 2016 the American College of Gastroenterology put forth recommendations including those for preventing traveler’s diarrhea. The key recommendations include:

- In acute diarrhea (duration 1-14 days), if a patient is at high risk of spreading disease or during outbreaks, perform stool cultures and new culture-independent molecular assays (if available).

- In the presence of dysentery, moderate-to-severe disease, or symptom duration of greater than seven days, consider stool diagnostic tests.

- If FDA-approved, culture-independent, molecular test methods are available, use them to supplement traditional diagnostic stool tests (culture, microscopy

with or without special stains, immunofluorescence, antigen testing), which are usually negative in acute diarrhea.

- Do not conduct antibiotic sensitivity testing in acute diarrhea.

- The use of a fecal leukocyte test or fecal lactoferrin to guide more appropriate use of cultures is “imprecise and probably unnecessary.”

- With a few exceptions, most patients can adequately rehydrate with water, juice, sports drinks, soups, and salty crackers.*

- Do not treat acute diarrhea with probiotics and prebiotics except for post-antibiotic diarrhea.

- Treat mild-to-moderate traveler’s diarrhea (TD) with bismuth subsalicylate except where contraindicated (e.g., use of other salicylates). *Warn patients about the harmless black tongue and black stools that result.*

- Loperamide remains an excellent treatment for TD.

- Titrate the dose to avoid posttreatment constipation, and *do not give for greater than 48 hours*. Loperamide may even be safe in a dysentery presentation that would increase the risk for an invasive pathogen, *provided it is combined with antibiotic therapy*.

- Do not conduct empiric antibiotic therapy in acute diarrheal infection, except in cases of TD in which a bacterial cause is deemed highly likely. Most community-acquired acute diarrhea is viral in origin.

- Treat TD with a single-dose or three-dose course of quinolones or *single-dose azithromycin (1,000 mg)*, except for suspected or cultured *Shigella*, which requires a five-day course.

- Endoscopic evaluation is not recommended in individuals with persisting symptoms (between 14 and 30 days) and a negative stool work-up.

- Specific hand washing measures and alcohol-based hand sanitizers have limited value for most TD, but could be useful for preventing cruise ship outbreaks of norovirus and institutional outbreaks, or in areas of endemic diarrhea.

- For prophylaxis of TD, consider bismuth subsalicylate two tablets (2.1 g) four times daily at meals and bedtime to provide 60% risk reduction for trips up to two weeks, but usually not for longer trips; lower doses are associated with reduced protection.

- Do not use prebiotics, probiotics, and synbiotics (combinations of prebiotics and probiotics) for TD prophylaxis.

- Antibiotic prophylaxis for TD is recommended, but only in high-risk groups and for short-term use. This limited role for chemoprophylaxis is being reevaluated with increasing awareness of the high frequency and impact of postinfectious irritable bowel syndrome and the availability of rifaximin, which has desirable features and increased safety profile compared with quinolones for prophylaxis.

FLUOROQUINOLONES

Use only as a drug of last resort for some infections. Since the quinolones were mentioned in the previous item, I felt that I had to mention the July 26th FDA Drug Safety Communication (<http://www.fda.gov/Drugs/DrugSafety/ucm511530.htm>), which points out that these medications have been associated with disabling and potentially permanent side effects involving tendons, peripheral nerves, muscles and/or joints, and the central nervous system (psychosis, anxiety, depression, and suicidal thoughts).

The FDA says fluoroquinolones should only be used to treat acute bacterial sinusitis, acute bacterial exacerbation of chronic bronchitis, or uncomplicated urinary tract infections *if no other treatment options are available*. They feel the risk of these serious side effects generally outweighs the benefits in these patients.

The agency has revised the boxed warning for all drugs in this class of antibiotics to reflect these serious concerns. Those drugs are:

- moxifloxacin (Avelox)
- ciprofloxacin (Cipro)
- ciprofloxacin extended-release (Cipro extended-release)
- gemifloxacin (Factive)
- levofloxacin (Levaquin) and
- ofloxacin (Ofloxacin generic brand)

Mean duration of the reactions and complications from the quinolones was 14 months, with the longest duration reported at nine years. Three out of four cases occurred in patients ages 30-59 years.

Effects can begin within hours of starting the medications, but they may not be seen until after weeks of treatment. Patients should obviously be

* Editor’s Note: Low-sodium tomato juice and V-8 juice are very high in potassium (V-8: 900mg/8oz.), and should be considered as a supplement for this vital electrolyte, which is hard to replace palatably in diarrhea. Gatorade, for example, has only 27mg of potassium in 8 oz.

advised to discontinue the drugs immediately if they experience any potentially serious adverse effects.

UPDATED RECOMMENDATIONS FOR ROUTINE PREVENTIVE PEDIATRIC HEALTH CARE FROM AAP⁴

The American Academy of Pediatrics updated recommendations for preventive pediatric health care services, including evidence-based screenings and assessments that should be addressed at well-child visits. They are organized by age: infancy, early childhood, middle childhood, and adolescence. A complete schedule is available at <http://www.aap.org/periodicityschedule>.

Changes include the following:

Critical Congenital Heart Disease. Screening for critical congenital heart disease with pulse oximetry is now recommended and should be performed on newborns in the hospital before discharge.

Cervical Dysplasia. Screening is no longer recommended annually from 11-21 years of age, but instead should begin at 21 years of age.

Sexually Transmitted Infection/Human Immunodeficiency Virus (HIV) screening. This is recommended in adolescents 16 to 18 years of age. One in four new HIV infections occurs in patients 13 to 24 years of age; approximately 60% of younger persons with HIV infection are not aware they are infected.

Hematocrit or Hemoglobin. In addition to universal screening at 12 months of age to detect iron deficiency anemia, one should conduct a risk assessment to determine if hematocrit or hemoglobin screening is needed in children at 15 and 30 months of age.

Dyslipidemia Screening. With the growing epidemic of obesity in this population, screening for elevated blood cholesterol levels is now recommended in children 9 to 11 years of age.

Depression. Screening is recommended annually for children and adolescents 11 through 21 years of age. *Suicide is the leading cause of death in this age group.*

Alcohol and Drug Use Assessment. Physicians are advised to use the CRAFFT (Car, Relax, Alone, Forget, Friends, Trouble) screening questionnaire.

Oral Health. Fluoride varnish application should begin at six months of age and continue through five years of age. Chronic dental caries is the most common chronic disease in young children.

Vision Screening. In addition to routine visual acuity screening at four and five years of age and in cooperative three-year olds, instrument-based screening can be offered to assess risk at other ages (i.e., at 12 and 24 months of age, and at well visits from 3 to 5 years of age). The recommendation for vision screening is now a risk-based assessment instead of routine screening beginning at 18 years of age. Evidence shows that fewer new vision problems develop in young adults at low risk.

SINGLE-DOSE DEXAMETHASONE EQUALS THREE DAYS OF STEROIDS IN CHILDREN WITH ACUTE ASTHMA⁵

This Irish study enrolled 226 children between ages 2 and 16 years with an acute exacerbation of asthma. They were randomized to receive usual therapy plus either a single dose of oral dexamethasone (0.3 mg per kg) or 3 days of oral prednisolone (1 mg per kg per day), in addition to usual therapy. No one was masked to treatment assignment, but the outcome assessor was unaware of treatment at the time of evaluation, which was four days after presentation. The Pediatric Respiratory Assessment Measure (PRAM) was used to measure symptoms. After four days, PRAM scores were similar between the two groups (0.91 vs. 0.91). There were no differences in hospital admission rates or lost days from school or parental workdays missed. Return visits were similar in both groups, although more children receiving the single dose required further steroid treatment within the following two weeks (13% vs. 4%). Vomiting occurred more often with prednisolone.

The bottom line is that in addition to the usual beta-agonist treatment, a single dose of oral dexamethasone is as effective as three days of prednisolone (with less vomiting) in decreasing respiratory symptoms without increasing hospitalizations, follow-up visits, and days lost from school (Level of Evidence = 1b).

REFERENCES

1. American Academy of Pediatric Dentistry. Guideline on Fluoride Therapy. *Pediatr Dent* 2014;36(6):171-74.
2. Mulder RL, et al. International Late Effects of Childhood Cancer Guideline Harmonization Group. Recommendations for breast cancer surveillance for female survivors of childhood, adolescent, and young adult cancer given chest radiation: A Report from International Late Effects of Childhood Cancer Guideline Harmonization Group. *Lancet Oncol*. 2013 Dec;14(13):e621-9.
3. Portschy PR, et al. Perception of Contralateral Breast Cancer Risk: A perspective, longitudinal study. *Ann Surg Oncol*. 2015 Nov; 22(12):3846-52.
4. *Pediatrics* Jan 2016;137(1):25-27.
5. Cronin JJ, et al. A randomized trial of single-dose oral dexamethasone versus multidose prednisolone for acute exacerbations of asthma in children who attend the emergency department. *Ann Emerg Med*. 2016;67(5):593-601.e3.