

## CHOOSING WISELY XX

*Recommendations from American Academy of Physical Medicine, American Academy of Sleep Medicine, American Association for Pediatric Ophthalmology*

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This is my 20th 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 ACADEMY OF PHYSICAL MEDICINE AND REHABILITATION (AAPM&R)

1. **Before ordering repeat epidural steroid injections, evaluate the individual’s response to previous epidural steroids.** If previous injections have not decreased the symptoms and have not shown improved patient outcomes, additional epidural steroids most likely will not be helpful.

2. **Don’t order an EMG for low back pain unless there is leg pain or sciatica.** EMG studies have good specificity for the detection of lumbosacral radiculopathy from sciatica when appropriate electrodiagnostic criteria are used.<sup>1</sup>

3. **Don’t prescribe bed rest for acute localized back pain without completing an evaluation.** Prolonged bed rest (more than two days) in acute localized low back pain has not been shown to improve long-term function or pain. In the absence of traditional red flag signs, including, but not limited to, tumors, neurological issues, and weakness, bed rest prescriptions should be limited to less than 48 hours in non-traumatic acute localized low back pain.

4. **Perform a thorough physical examination before ordering an imaging study for back pain.** Ordering spine imaging without obtaining a history and physical examination has not been shown to improve patient outcomes, and it increases costs.<sup>2</sup>

5. **Don’t prescribe opiates in acute disabling low back pain before an evaluation and a trial of other alternatives.** Utilization of early opiate prescriptions for this problem is associated with longer disability, increased rates of surgery, and greater risk of later opioid use.

### II. RECOMMENDATIONS FROM THE AMERICAN ACADEMY OF SLEEP MEDICINE (AASM)

1. **Avoid polysomnography (PSG) in chronic**

**insomnia patients unless symptoms suggest a comorbid sleep disorder.** Chronic insomnia is diagnosed by a clinical evaluation that includes a thorough sleep history along with a medical, substance use, and psychiatric history. Instruments utilized can include: self-administered questionnaires, sleep logs completed at home, and symptom check lists. PSG is indicated in some specific circumstances: when sleep apnea or sleep-related movement disorders are suspected, if the initial diagnosis is uncertain, when behavioral or pharmacological treatment fails, or if sudden arousals occur with violent or injurious behavior.<sup>3</sup>

2. **For primary therapy of chronic insomnia in adults, avoid the use of hypnotics; instead offer cognitive-behavioral therapy (CBT), and reserve medication for adjunctive treatment if necessary.** In trials, CBT is generally as effective or more effective than hypnotics at improving sleep, and can be effective over an extended period without the side effects associated with hypnotics. CBT for chronic insomnia involves a combination of behavioral modification, such as stimulus control and sleep restriction, and cognitive strategies, such as replacement of unrealistic fears about sleep with more positive expectations.

3. **Treat childhood insomnia without prescribing medication; it usually arises from parent-child interactions and responds to behavioral intervention.** Basic environmental, scheduling, sleep practice, and physiological features should be optimized before hypnotic use is considered for children. Only when necessary, hypnotics should be cautiously used short-term, with close monitoring for efficacy and side effects.<sup>4</sup>

4. **For diagnosis of restless legs syndrome (RLS), don’t use polysomnography, except rarely when the clinical history is ambiguous and documentation of periodic leg movements is necessary.** RLS is a neurological disorder that can be diagnosed based on a patient’s description of symptoms and additional clinical history. PSG generally does not provide additional information that is necessary to make the diagnosis.

5. **In sleep apnea patients who are asymptomatic,**

adherent, and have stable weight, don't perform positive airway pressure (PAP) re-titration studies. Follow-up PSG or re-titration is indicated for adult patients who are again symptomatic despite the continued, proper use of PAP, especially if they have gained substantial weight (e.g. 10% of original weight) since the last titration study. A new diagnostic PSG or re-titration may be indicated for patients who have lost substantial weight, to determine whether PAP treatment is still necessary.

### III. RECOMMENDATIONS FROM AMERICAN ASSOCIATION FOR PEDIATRIC OPHTHALMOLOGY AND STRABISMUS

1. **Asymptomatic children should not be prescribed weak reading glasses.** Low "far sightedness" is a normal finding in children. They can easily focus to see at near, with their large accommodative reserve. If the eyes are not crossed, prescription of weak glasses is generally not necessary.

2. **Annual comprehensive eye exams are unnecessary for children who pass routine vision screening assessments.** They increase financial costs, time away from school, and parental time away from work. There is no evidence that the comprehensive exam detects asymptomatic vision problems better than timely, methodical, and recurrent screening efforts.<sup>5</sup>

3. **Patients with dyslexia should not have vision therapy recommended.** Dyslexia is a language-based learning disorder in which a person has trouble understanding written words. Children with dyslexia do not have any more visual problems than children without dyslexia. In dyslexia the brain has a problem distinguishing and separating the sounds in spoken words, called a phonological deficit.

4. **All patients with double vision should not routinely have imaging ordered.** Many people with double vision, or diplopia, want an imaging study to see if it is caused by brain tumor or other serious problem. Following a comprehensive eye evaluation, an imaging study is usually not necessary. The most common causes of double vision are refractive error, dry eyes, cataract, and non-neurologic eye misalignment, all readily diagnosed by a complete exam.

5. **Children without symptoms or signs of eye disease should not have routine retinal imaging tests.** Retinal imaging, such as taking a photograph or obtaining an Ocular Coherence Tomography (OCT) image of the back of a child's eye, can be useful for documenting or following known retinal or optic pathology. They should not be obtained routinely for documentation of normal ocular anatomy in asymptomatic children.

## Top Tips

### INSECT REPELLENTS IN A WARMING WORLD

Publicity about the Zika virus has heightened concern about the *Aedes aegypti* mosquito, which also spreads yellow fever, dengue, and chikungunya. This mosquito is moving further north each year with increased moisture and heat in our atmosphere from the burning of fossil fuels. A new study used human volunteers to test the effectiveness of 11 spray-on repellents as well as five wearable devices and one citronella candle in keeping mosquitoes away.<sup>6</sup> (The researchers cautioned that additional studies are needed since they only used female *Aedes aegypti* mosquitoes.)

Four out of five wearable devices tested did not repel mosquitoes. The fifth device decreased the attraction rate of the mosquitoes by about 27% when people were one meter from the cage of the mosquitoes, but I would not recommend using it either. None of the bracelets had any effect in reducing attraction, nor did the candle. Sprays were the most effective by far, though not completely so. The most successful contained diethyltoluamide (DEET) or oil of lemon eucalyptus (OLE). (OLE contains the active ingredient para-menthane-diol, or PMD).

The CDC website (which has not been updated since this report) suggests using at least 20% DEET products. These include such brand names as Cutter Backwoods and Off! Deep Woods (for protection against mosquitoes, ticks, and other bugs). Although the CDC states that higher percentages of the active ingredient provide longer-lasting protection, this increase in protection time maximizes at about 50% DEET. An article in the New England Journal of Medicine many years ago suggested that there was no need for DEET percentages greater than 30% as they just increase skin sensitivity and are not more protective in warding off mosquitoes.

The CDC does state that there are other repellents that protect against mosquitoes but they may not be effective against ticks and other bugs. These include Picaridin, OLE, IR 3535, and 2-Undecanone (methyl nonyl ketone). The CDC also states that if you are using a sunscreen, apply it first, let it dry, then apply the repellent. Don't use products that contain both sunscreen and repellent together in the same product.

Don't spray repellent on the skin *under* clothing. Consider using clothing and gear (such as boots, pants, socks and tents) that are treated with Permethrin, an insecticide. *Do not use Permethrin directly on the skin*; follow instructions for treating items yourself very carefully. Long-sleeved shirts, long pants, socks, and a hat are suggested.

Light color is suggested to see the vectors more easily. Tuck your shirt into your pants and tuck your pants into your socks for maximum protection. Ticks can be killed by placing clothes in the dryer on high heat for 10 minutes.

If insects can enter where you sleep, do so under a Permethrin-treated bed net that can be tucked under the mattress. Feel *and* look for small ticks, as some can be the size of poppy seeds.

Children should not have insect repellents sprayed on them if they are younger than 2 months of age. The CDC states that products containing OLE and PMD should not be used on children younger than 3 years. Children should not be allowed to touch the repellent, so obviously it should also be stored out of their reach. Adults should apply it to their hands and then gently spread it over the child's exposed skin rather than spraying it directly on the child. Repellent should not be applied to children's hands because they tend to put their hands in their mouths. Under 2 months of age, babies can be protected by draping mosquito netting over their carrier, bed or car seat, and assuring a tight fit with something like an elastic edge.

The concern is mounting, of course, for pregnant women, due to the effect of Zika virus on the fetus. Women who are pregnant or could soon become pregnant should strictly follow steps to prevent mosquito bites. Updated CDC recommendations on traveling should be observed carefully. When used as directed, EPA-registered insect repellents are safe and effective for pregnant and breast-feeding women.

#### OVER-DIAGNOSIS OF BREAST CANCER FROM SCREENING

Breast cancer is the leading killer of women in the United States. Every year, it is diagnosed in 200,000 women and a few men, and kills around 40,000 people. Last October, the Dartmouth Institute for Health Policy and Clinical Practice said overdiagnosis was causing women to worry that treatment may be more harmful than some of the tumors being removed.

An article in the *Annals of Internal Medicine* (online 1/9/17) assessed the association between screening and the size of detected tumors to estimate the extent of overdiagnosis (detection of tumors that would not become clinically relevant). The data were obtained in a Danish screening program that offered biennial mammography to women aged 50-69 years. Screening began in different regions at different times between 1980 and 2010, allowing comparisons of the results before and after screening began. Trends in the incidence of advanced (> 20 mm) and nonadvanced ( $\leq$  20 mm) breast cancers in screened

and non-screened women were measured.

Screening was not associated with a lower incidence of advanced tumors. In the screening versus prescreening periods, the incidence of nonadvanced tumors increased (incidence rate ratio, 1.49 [95% CI, 1.43 to 1.54]). The first estimation approach found that 271 invasive breast cancer tumors and 179 ductal carcinoma in situ (DCIS) lesions were overdiagnosed in 2010 (overdiagnosis rate of 24.4% [including DCIS] and 14.7% [excluding DCIS]). The second approach, which accounted for regional differences in women younger than the screening age, found 711 invasive tumors, and 180 cases of DCIS that were overdiagnosed in 2010 (overdiagnosis rate of 48.3% [including DCIS] and 38.6% [excluding DCIS]).

They concluded that in their population breast cancer screening was not associated with a reduction in the incidence of advanced cancer, and it is likely that overdiagnosis occurs in 1 of every 3 invasive tumors and cases of DCIS diagnosed in women offered screening. This is the latest of several studies using various methods and data sets to show that the phenomenon of overdiagnosis exists in breast cancer. A 2012 study published in the *New England Journal of Medicine* found that as many as a third of cancers detected through routine mammography may not be life-threatening.

Dr. Otis Brawley, Medical Officer at The American Cancer Society, stated, "It is only by learning the limitations of mammography screening that we can learn how to apply it and save lives. That is not an argument against mammography screening. What's needed are better genetic tests that differentiate between dangerous tumors and growth that won't hurt the patient."

In the future, targeting higher-risk women for screening may result in a better benefit-to-risk ratio. I continue to recommend screening based on the US Preventive Services Task Force guidance; start biennial screens at age 50 for those of average risk.

#### PREVENTING PEANUT ALLERGY

Perhaps I chose this article because I had to intervene in an emergency involving a 2-year-old with a peanut allergy on an airplane over the Atlantic Ocean. (I'm happy to say it was successful.)

Based on recent oral food challenge studies, the National Institute of Allergy and Infectious Diseases (NIAID) has issued an addendum to their 2010 guidelines that recommend introducing peanut-containing foods in infancy, which results in a much higher rate of tolerance in later years.<sup>7</sup>

The Learning Early About Peanut Allergy (LEAP)

study showed clearly that the introduction of peanut early in life lowered the risk of developing a peanut allergy by age 5 by about 80%.

The new NIAID guidelines specified the steps for infants by age, as well as eczema and egg allergy status (both of which are associated with a higher risk for peanut allergies):

**1. For infants with severe eczema, egg allergy, or both:**

Introduce peanut-containing foods between 4 and 6 months of age. They should preferably be seen by a board-certified allergist for peanut allergy testing (which might include IgE, skin prick tests, or oral feeding challenges), which will determine if peanut containing foods can be safely introduced. This may first need to be done in a specialist's office.

**2. For infants with mild or moderate eczema:**

Peanut-containing foods should be introduced into their diets at 6 months of age. They do not need to be seen by a specialist first, and they can have peanut-containing foods introduced at home. (This recommendation is based on one study.)

**3. For infants without any eczema or egg allergy:**

Peanut-containing foods can be freely introduced in the diet with other solid foods at an appropriate age, according to family preferences. There is no need to see a specialist first, and peanuts can be introduced at home.

The guidelines also state that peanut-containing foods should not be the first solid food introduced to a child, and should not be given when a child is ill. Whole peanuts, of course, should not be given to infants and small children as they present a choking hazard. *If a peanut allergy is already present in an infant, strict peanut avoidance should continue.* One should also review risks and benefits for high-risk children from families with peanut allergies. The majority of those with peanut allergies may have lifelong persistence of the allergy.

**ARE YOU PREPARED FOR A HEALTH EMERGENCY?**

1. How will your family get emergency alerts and warnings?
2. How will your family get to safe locations?
3. How will your family get in touch with each other if cell phone, internet, or landline does not work?
4. How will loved ones know if you are safe?
5. How will family/household get to a meeting place after an emergency?
6. What about pets and animals?
7. Do you have an emergency "bag" or kit ready to go?

Obviously, it is critical to have a plan and answers to these questions. An annual report from the Trust for America's Health suggests that if a significant health emergency occurred in the United States without warning, much of the country would be ill-equipped to deal with it. Physicians can play a vital role in helping their communities be prepared. The nation as a whole has an inconsistent approach to preparing for health emergencies such as Zika or Ebola, or even a bioterrorist threat.

Massachusetts was the only state in the report that scored a 10 out of 10. Washington, D.C., and 26 other states, scored 6 or lower on the indicators.

Every physician should be prepared and should offer recommendations to their patients. Websites such as Ready.gov, HHS.gov, and CDC.gov are obvious resources that one can use to prepare themselves, their staff, and their patients in the event of an emergency.

Get involved with the preparedness activities of your state medical society. I am presently a member of the Medical Reserve Corp. in Lancaster County, and we are always looking for added members. Let me know if you are interested.

Preparedness is an ongoing process to keep improving and finding ways to do better. Please prepare your own family and your staff by being able to answer the questions posed at the beginning of this section.

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