Choosing Wisely

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Since September, Lancaster General Health has been using the new tagline "Choose Well. Be Well" to tell patients and the community that LG Health has the resources, services and technology to help people make smart choices to become well and stay well. This theme fits nicely with the initiative on "Choosing Wisely" from The Board of Internal Medicine Foundation that I have been reporting about in this *Journal*.[1] I will continue to cover more of the 45 total items for which the Foundation has thus far formulated recommendations. I also have included other interesting items about foods and health later in this article.

The Choosing Wisely items covered in this article finish up issues from The American College of Physicians; The American Academy of Allergy, Asthma, and Immunology; and The American College of Cardiology, that physicians and patients should question.

RECOMMENDATIONS FROM THE AMERICAN COLLEGE OF PHYSICIANS

1. In the evaluation of patients with simple syncope and a normal neurological examination, don't obtain brain imaging studies (CT or MRI)." In patients with witnessed syncope but no suggestion of seizure *and* no report of other neurologic symptoms or signs, the likelihood of a central nervous system problem being the cause of the event is extremely low and patient outcomes are *not* improved by brain imaging studies.

2. In patients with suspected venous thromboembolism (VTE) and a low pre-test probability of VTE, the initial diagnostic test should be a high-sensitivity D-dimer measurement, *not* imaging studies. In such patients, i.e. those with a low pretest probability of VTE as defined by the Wells prediction rules, a negative high-sensitivity D-dimer measurement effectively *excludes* VTE and the need for further imaging studies. The American College of Radiology also includes pulmonary embolism in this context. They state that we should not be imaging for suspected pulmonary embolism (PE) without moderate or high pre-test probability. While DVT and PE are relatively common clinically, they are rare in the absence of elevated blood D-dimer levels and certain specific risk factors. Imaging, particularly CT pulmonary angiography, is a rapid, accurate, and widely available test, but has limited value in patients who are very unlikely to have a PE based on serum and clinical criteria. Imaging is not helpful to confirm or exclude PE for patients with low pre-test probability of PE.[2] (The remainder of The American College of Physicians items were discussed in the last JLGH.[1])

RECOMMENDATIONS FROM THE AMERICAN ACADEMY OF ALLERGY, ASTHMA AND IMMUNOLOGY

1. In the evaluation of patients with **allergies**, don't perform unproven diagnostic tests, such as immunoglobulin G (IgG) testing or an indiscriminant battery of immunoglobulin E (IgE) tests. Appropriate diagnosis and treatment of allergies requires specific IgE testing (either skin or blood tests) based on the patient's clinical history. The use of other tests or methods to diagnose allergies is unproven and can lead to inappropriate diagnosis and treatment. Appropriate diagnosis and treatment is both cost effective and essential for optimal patient care.

2. For patients with **uncomplicated rhinosinusitis**, don't order sinus CT's or indiscriminately prescribe antibiotics. (This was discussed in the last issue of the *JLGH*.[1])

3. In patients with **chronic urticaria**, *don't routinely do diagnostic testing*. In the overwhelming majority of such patients a definite etiology is not identified. While limited laboratory testing may be warranted to exclude underlying causes, and targeted laboratory testing based on clinical suspicion is appropriate, routine extensive testing is neither cost effective nor associated with improved clinical outcomes. Skin or serum-specific IgE testing for inhalants or foods is not indicated, unless there is a clear history implicating an allergen as a provoking or perpetuating factor for urticaria.[3]

4. In patients with **recurrent infections**, *don't recommend replacement immunoglobulin therapy* unless impaired antibody responses to vaccines are demonstrated. Immunoglobulin (gammaglobulin) replacement is expensive and does not improve outcomes unless

there is impairment of antigen-specific IgG antibody responses to vaccines, immunizations, or natural infections. Low levels of immunoglobulins (isotypes or subclasses), without impaired antigen-specific IgG antibody responses, do not indicate a need for immunoglobulin replacement therapy. Exceptions include IgG levels <150 mg/dl and genetically defined/suspected disorders. Measurement of IgG subclasses is not routinely useful in determining the need for immunoglobulin therapy. Selective IgA deficiency is not an indication for administration of immunoglobulin.

5. The diagnosis and management of patients with **asthma** *should not be done without spirometry*. Clinicians often rely solely upon symptoms to diagnose and manage asthma, but these symptoms may be misleading or from alternate causes, so spirometry is essential to confirm the diagnosis in patients who can perform this procedure. Recent guidelines highlight spirometry's value in stratifying the severity of the disease and monitoring its control. The history and physical exam alone may over or under estimate asthma control. Beyond the increased cost of care, the repercussions of misdiagnosing asthma include a delay of correct diagnosis and treatment.

RECOMMENDATIONS FROM THE AMERICAN COLLEGE OF CARDIOLOGY

1. For patients scheduled to undergo **low-risk non-cardiac surgery** (e.g. cataract removal), don't perform stress cardiac imaging or advanced non-invasive imaging; it is not useful in such patients. The American Society of Nuclear Cardiology has a corollary statement: "Don't perform cardiac imaging as a pre-operative assessment in patients scheduled to undergo low or intermediate-risk non-cardiac surgery." These types of tests do not change the patient's clinical management or outcomes and will result in increased costs. Therefore, it is not appropriate to perform cardiac imaging procedures for non-cardiac surgery risk assessment in patients with no cardiac symptoms, clinical risk factors or who have moderate to good functional capacity."[4]

2. **Adult patients being followed for mild, asymmetric native valve disease** should not have routine echocardiography if they have no change in signs or symptoms. Patients with native valve disease usually have years without symptoms before the onset of deterioration. An echocardiogram is not recommended yearly unless there is a change in clinical status.

3. During **PCI** (percutaneous coronary intervention) for uncomplicated **STEMI** (ST segment elevation myocardial infarction) in hemodynamically stable patients, *stenting of non-culprit lesions should not be performed*. While potentially beneficial in patients with hemodynamic compromise, intervention beyond the culprit lesion during primary PCI has not demonstrated benefit in clinical trials to date and may lead to increased mortality and complications.[5] (The other items in the list of The American College of Cardiology were discussed in the last issue of *Journal of LGH*.)

For our non-physician readers, it is important to mention that the foregoing items are provided solely for informational purposes and are not intended as a substitute for consultation with a medical professional. Patients with any specific questions about the items on this list or their individual situation should consult their physician.

NEW FOODS/ ITEMS IN THE MEDICAL NEWS

SATURATED FAT

Cardiologist Dariush Mozaffarian, MD is an Associate Professor of Medicine at Harvard Medical School and the author of more than 100 scientific papers on nutrition and health. He and Simon Capewell, DSc, a Professor of Clinical Epidemiology at the University of Liverpool, drew up a list of dietary priorities they claim could reduce heart disease deaths by one-half in the United States and around the world. Interestingly, limiting saturated fat does not make their list because they don't think it offers enough benefit on its own. They estimate that getting Americans to add 2 servings of nuts a week to their diets would reduce cardiovascular mortality by 11%. (See next paragraph for more nuts.) Replacing refined grains and starches with a serving of whole grains every day would decrease heart-related deaths by an additional 10%. Finally, adding an extra serving of fruits and vegetables a day would reduce heart disease mortality by 15% more. Those simple changes would make a far bigger dent in heart disease than anything we could expect from reducing saturated fat.[6]

SEVEN WALNUTS A DAY KEEP THE DOCTOR AWAY

Findings presented at the recent 241st National Meeting and Exposition of the American Chemical Society in Anaheim, CA indicated that walnuts are the king of nuts for health benefits because of a combination of more healthful and higher quality antioxidants. Of course nuts in general are dairy- and gluten-free, and contain a great deal of vitamins, minerals, dietary fiber, and high-quality protein that can substitute for meat. Consumption of small amounts of nuts or peanut butter is linked to a decreased risk of heart disease, certain kinds of cancer, gallstones, type

II diabetes, and other health problems. But Joe Vinson of the University of Scranton said that walnuts rank above peanuts, almonds, pecans, pistachios, and other nuts because they contain almost twice as much antioxidants as any other commonly consumed nut. Vinson claims that it takes only about 7 walnuts a day to get the potential health benefits. Antioxidants in walnuts were 2-15 times as potent as vitamin E. (Vitamin E as a supplement is not suggested anyway as it can cause a small increase in strokes and prostate cancer as well as more severe symptoms in patients with respiratory infections.)

ARSENIC IN RICE AND RICE PRODUCTS

Recently there have been studies showing that we are getting arsenic (As) in our diet from rice and organic brown rice syrup (OBRS).[7,8] The latter is used as a sweetener in organic food products as an alternative to high-fructose corn syrup. Arsenic is an established carcinogen based on studies of populations that consumed contaminated drinking water. No federal limit exists for arsenic in most foods, but the standard for drinking water is 10 parts per billion (ppb). Keep in mind that such a level is twice the 5 ppb that the Environmental Protection Agency (EPA) originally proposed and the 5 ppb established in the state of New Jersey.

Currently, only China has a limit for arsenic in food—a limit for rice of 150 ng/g of inorganic arsenic (Asi). The Consumer Reports article found significant levels of inorganic Asi,, which is a carcinogen, in almost every produce category that was tested, along with organic arsenic, which is less toxic but still of concern. In January 2012, Asi was also found in apple and grape juices. The EPA assumes there is actually no "safe" level of exposure to Asi.

Studies of As in public water help show that it causes lung and bladder cancer and other diseases. Skin, liver, kidney, and prostate cancer are now considered to be potentially caused by As. Studies have shown that consuming slightly more than ½ a cup of cooked rice per day results in a significant increase in urinary As levels.

Residues from decades of use of lead-arsenate insecticides linger in agricultural soil today, even though their use was banned in the 1980's. Other arsenical ingredients are still permitted in animal feed, where they are added to prevent disease and promote growth. Moreover, fertilizer made from poultry waste can contaminate crops with inorganic Asi.

Many orchards in and around Lancaster County were recipients of lead arsenate in the past. Anyone who lives in an area around a present or past orchard may want to check their on-lot water for lead and As. It has also been used for years in areas of our country that produce cotton, a crop that was heavily treated with arsenical pesticides for decades in part to combat the boll weevil beetle.

Arsenic has been detected in infant cereals, rice cakes, breakfast cereal, and other rice products. This is a particular issue for those who eat gluten free diets supplemented by rice. Brown rice is usually higher than white rice in total arsenic as well as Asi, because much of the Asi is located in the aleurone layer, which is removed when rice is polished. Of interest is that Kellogg's Rice Krispies at 2.3-2.7 mcg per serving had the lowest levels of Asi for the category of ready-to-eat cereals.

Obviously we should have a standard for As in food and in apple and grape juice and minimize intake especially in pregnant women and infants. Meanwhile, those who want to continue to eat rice and yet cut exposure to Asi in rice should do so by rinsing raw rice thoroughly before cooking, using a ratio of 6 cups water to 1 cup rice for cooking, and draining the excess water afterward. This removes about 30% of the rice's Asi content.

CHERRIES MAY PREVENT GOUT FLARES

There are more than 8 million people with gout in the United States, or 3.9% of adults. Previously, physicians' recommendations for controlling gout included moderating alcohol consumption, reducing weight, and decreasing intake of high-purine foods. Now there are new data that support a beneficial role for eating cherries or drinking cherry extract to reduce one's risk of recurrent gout attacks. In a study reported in Arthritis and Rheumatism (on line 9/28/12), Dr. Yuqing Zhang, DSci and colleagues from Boston University reported that cherry intake during a 2-day period was associated with a 35% lower risk for gout attacks and that cherry extract intake was associated with a 45% lower risk. The attacks were reduced by 75% when the cherry extract was combined with use of allopurinol. A cherry serving was defined as ½ cup or 10-12 cherries. The risk of a gout flare continued to decrease with increasing consumption of cherries, up to 3 servings over 2 days. Further increases of cherry intake were not associated with additional benefit. The study took into account patients' sex, body mass, purine intake, use of alcohol, diuretics, and anti-gout medications. It is speculated that cherries may decrease serum uric acid levels by reducing tubular reabsorption or increasing glomerular filtration. Cherries and cherry extract contain high levels of anthocyanins which are anti-inflammatory. Randomized clinical trials are needed to confirm that consumption of cherry and cherry products could decrease gout attacks.

ORAL IMMUNOTHERAPY FOR KIDS ALLERGIC TO EGGS

This randomized controlled double-blinded study (level of evidence [LOE] 1b) showed that a carefully supervised program of oral immunotherapy can cure egg allergy in approximately one in four children.[9] Approximately 1 in 25 children in the United States has some degree of allergy to eggs and to date there has been no successful treatment. Patients received gradually increasing doses of egg white powder or placebo for 10 months. If they remained asymptomatic at 2 years, they were fed a whole cooked egg and were free to add eggs to their diet if they remained symptom free. If they were still allergy free at 3 years then they were considered free of egg allergy. This was only a small study of 40 patients with egg allergy and 15 controls, but the evidence thus far looks very promising.

NONNUTRITIVE SWEETENERS AND GLUCOSE CONTROL

The American Heart Association as well as The American Diabetes Association have now issued a joint statement giving a cautious recommendation to the use of nonnutritive sweeteners to help all people maintain a healthy body weight, and for diabetics to aid in control of blood glucose.[10] There was a caveat, however: people cannot eat additional calories as compensation for using the nonnutritive sweetener. Nonnutritive is defined as having 0 calories. The 6 sweeteners that were included were aspartame, acesulfame K, neotame, saccharin, sucralose, and stevia. They did not pass any judgment on the safety of these sweeteners, but the FDA has accepted them. A real issue, of course, is whether people completely compensate or over-compensate so that these sweeteners may not be that effective. This compensation seems to be less of a problem when the sweeteners are consumed in beverages as opposed to food. People apparently don't notice the lack of calories in a diet soda and so they don't tend to eat more. (I don't advocate diet soda or regular soda!) If they consume a low-calorie yogurt or other food, they do tend to eat more as compensation.

Dr. Walter Willett of Harvard School of Public Health feels that artificial sweeteners on the market are almost certainly safer than consuming large amounts of sugar, but cannot be completely sure about the safety of these nonnutritive sweeteners. He goes on to share a concern about just replacing sugar with artificial sweeteners, because people, especially children, become conditioned to high levels of sweetness which may influence their food choices adversely. He looks at these products like a nicotine patch—they are better than the real product, but not part of an optimal diet.

DARK CHOCOLATE – THE SWEET NEWS

I must end with some "good" news. In a recent article consumption of dark chocolate was shown to decrease cardiovascular events especially in high risk patients.[11] 2,013 Australian patients with hypertension who met the criteria for metabolic syndrome, with no history of cardiovascular disease and not receiving antihypertensive therapy, were entered into a Markov model which assessed the effects of daily dark chocolate consumption. Researchers estimated that daily dark chocolate consumption would prevent 70 nonfatal and 15 fatal cardiovascular events per 10,000 persons over 10 years if there was 100% adherence. (Does one believe compliance might be an issue?) In fact, patients who ate dark chocolate daily averaged 85 fewer cardiovascular events per 10,000 people over a 10 year period. To be effective, dark chocolate needs to contain at least 60% – 70% cocoa. Added calories, of course, are always an issue with the chocolate we eat. I doubt the American general public would adequately decrease other calories sufficiently to compensate.

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