# Recommendations from the Endocrine Society

**Alan S. Peterson, MD**
*Emeritus Director, Environmental and Community Medicine*
*Walter L. Aument Family Health Center*

This is my 39th article on Choosing Wisely from the American Board of Internal Medicine (ABIM) Foundation. As noted in previous issues of *JLGH*, each specialty group is developing "Five or More Things That Physicians and Patients Should Question."

All items are developed to encourage discussion between physicians and their patients about which tests and procedures are best in each case. Additional resources are available online at ChoosingWisely.org.

## RECOMMENDATIONS FROM THE ENDOCRINE SOCIETY

**1. Adults with stable Type 2 diabetes on agents that do not cause hypoglycemia should avoid routine multiple daily self-glucose monitoring.** Once target control is achieved and the results of self-monitoring become predictable, there is little gain in most individuals from repeated confirming. There are many exceptions, such as for acute illness, when new medications are added, when weight fluctuates significantly, when A1C targets drift off course, and in individuals who need monitoring to maintain targets.

**2. Unless the patient has hypercalcemia or decreased kidney function, don't routinely measure 1,25-dihydroxyvitamin D.** Serum levels of 1,25-dihydroxyvitamin D have little or no relationship to vitamin stores but rather are regulated primarily by parathyroid hormone levels, which in turn are regulated by calcium and/or vitamin D. In vitamin D deficiency, 1,25-dihydroxyvitamin D levels go up, not down. Serum 25-hydroxyvitamin D levels may be overused, but when trying to assess vitamin D stores or diagnose vitamin deficiency (or toxicity), 25-hydroxyvitamin D is the correct test.[1]

**3. If there is no palpable abnormality of the thyroid gland, don't routinely order a thyroid ultrasound in patients with abnormal thyroid function tests.** However, thyroid vascularity assessed by color flow Doppler in patients with overt hyperthyroidism (elevated free T4 and T3 and suppressed thyroid-stimulating hormone) may help distinguish Graves' hyperthyroidism and toxic nodular goiter from a destructive thyroiditis (painless, painful, or drug induced). Thyroid ultrasound is used to identify and characterize thyroid nodules. Thyroid-toxic patients with nodules may benefit from imaging. With these patients, a thyroid scan is used to assess the possibility of focal autonomy in a thyroid nodule and correlate it with the ultrasound findings. Some centers assess thyroid artery blood flow by Doppler, and that may be used to help distinguish Graves' disease from a destructive thyroiditis.

**4. When assessing levothyroxine (T4) dose in hypothyroid patients, don't order a total or free T3 level.** T4 is converted into T3 at the cellular level and in virtually all organs. T3 levels in blood are not reliable indicators of intracellular T3 concentration. Compared to patients with intact thyroid glands, patients taking T4 may have higher blood T4 and lower T3 levels. In most patients a normal TSH indicates a correct dose of T4.[2]

**5. Unless there is biochemical evidence of testosterone deficiency, don't prescribe testosterone therapy.** Many symptoms attributed to male hypogonadism are commonly seen in normal male aging or the presence of comorbid conditions. Testosterone therapy has the potential for serious side effects and represents a significant expense. Current guidelines recommend the use of a total testosterone level obtained in the morning. A low level should be confirmed on a different day, again measuring the total testosterone.

## NEW HYPERGLYCEMIA CLINICAL PRACTICE GUIDELINES

In addition to the Choosing Wisely items above, the Endocrine Society in June 2022 published new recommendations concerning glycemic management in hospitalized, noncritically ill patients who have diabetes or newly recognized hyperglycemia. These include:

- In adult patients with diabetes who are undergoing elective surgical procedures, a preoperative hemoglobin A1C of less than 8% (63.9 mmol/mol) should be targeted, along with a blood glucose concentration of 100-180 mg/dL (5.6-1.0 mmol/L).
- Scheduled insulin therapy rather than noninsulin glycemic management therapies should be used in most hospitalized, noncritically ill adult patients

with hyperglycemia (with or without known type 2 diabetes).

- In maintaining glucose targets of 100-180 mg/dL (5.5-10 mmol/L), initial therapy with correctional insulin should be employed over scheduled insulin therapy (i.e., basal, or basal/bolus insulin) in hospitalized, noncritically ill adults with no prior history of diabetes who, during hospitalization, experience hyperglycemia.
- Scheduled insulin therapy should be added in patients with persistent hyperglycemia — that is, in those who have received correctional insulin alone and have two or more point-of-care glucose measurements of 180 mg/dL or greater in a 24-hour period.[3]

## Top Tips

### FLU SHOT RECOMMENDATIONS FOR ADULTS 65+

Many health experts believe the current flu season may be considerably worse than that of the past two years, due to relaxed COVID masking policies and lowered immunities as a result of social distancing policies. In an effort to better protect adults 65 and older, the CDC's Advisory Committee on Immunization Practices (ACIP) recommends the use of specific flu vaccines for this population, including higher-dose and adjuvanted flu vaccines. The preference applies to Fluzone High-Dose Quadrivalent, Flublok Quadrivalent, and Fluad Quadrivalent flu vaccines.

Prior to this year, the CDC has not recommended any one flu vaccine over another for any age group, and there is still no preferential recommendation for people younger than 65. People 65 and older should be given one of the three preferentially recommended vaccines; however, if one of these vaccines is not available at the time of administration, people in this age group should receive a standard-dose flu vaccine instead.

**Why were these updates made to flu vaccine recommendations?** While flu seasons vary in severity, during most seasons people 65 years or older bear the greatest burden of severe flu disease, accounting for the majority of flu-related hospitalizations and deaths. In recent years, it's estimated that between 70% and 85% of seasonal flu-related deaths have occurred in people 65 years or older, and between 50% and 70% of seasonal flu-related hospitalizations have occurred among people in this age group. Additionally, changes in the immune system with age mean that older adults often do not have as strong an immune response to vaccination as younger, healthy people. Given the higher risk for severe flu illness and lower protective immune response after vaccination among older adults, substantial research and development have led to the production of flu vaccines intended to provide better immunity for people in this age group.

**What evidence is there to back up this preferential recommendation?** The CDC's preferential recommendation is based on a review of available studies which suggests that, for this age group, higher-dose and adjuvanted flu vaccines are potentially more effective than standard-dose, unadjuvanted flu vaccines.

**How do the side effects from higher-dose and adjuvanted flu vaccines compare with those of standard-dose flu vaccines?** The common types of side effects from higher-dose or adjuvanted flu vaccines are similar to those from other flu vaccines and include soreness, redness, and swelling where the shot was given; fever; muscle aches; and nausea. Some of these side effects might be more common with high-dose and adjuvanted vaccines, but in studies of these vaccines, when these side effects occurred, they were usually mild. Recombinant influenza vaccine side effects were like those from other injectable flu vaccines.

### BIVALENT COVID-19 BOOSTERS UPDATE[4]

The Food and Drug Administration (FDA) has authorized emergency use of bivalent COVID-19 booster vaccines produced by Moderna and Pfizer-BioNTech. Previous monovalent vaccines contained mRNA for the original Wuhan strain spike protein; the new bivalent vaccines contain the spike protein mRNA for both the original *and* omicron strains.

The booster recommendations are, in a way, simplifying things. Rather than having different numbers of boosters for different risk groups, the underlying recommendation is to ensure a primary series, followed by an "updated booster." The primary series is still defined as the original series of vaccines, depending on patient age and immune status.

Updated booster language reveals the direction that these recommendations are taking. Depending on the course of the pandemic, the medical community can expect updates to the boosters, along with recommendations to use them once available, and can stop counting *numbers* of boosters.

The Moderna and Pfizer boosters were studied in the same way that updated influenza vaccines are studied each year — with immunogenicity studies, but not clinical studies. In the immunogenicity studies, examining adults >18 years for Moderna and >55 years for Pfizer,

the boosters raised the geometric mean titers of neutralizing antibody as much or better than the original strain vaccines (for both original strain antibody and omicron antibody), regardless of prior infection status. No serious adverse events related to the vaccines occurred at 29 days follow-up, and most adverse events were "reactogenicity" events — fever, fatigue, myalgias, arm soreness, and lymphadenopathy (with Pfizer vaccine). Overall, the adverse event rates were similar to the primary series doses and original boosters.

Concerns about myocarditis from booster vaccines were reviewed. Data from the monovalent boosters indicate that it is less common with booster doses and generally has a very good prognosis, whereas the risk of cardiovascular complications from COVID-19 disease are more frequent (1.8-5.6 times) in young men than vaccine-related myocarditis. There are no data about the bivalent vaccines and myocarditis incidence.

Specific recommendations from the CDC's Advisory Committee on Immunization Practices include:

- The CDC in mid-October released new COVID-19 booster recommendations for people ages 5 and older to receive one bivalent mRNA booster after completion of a monovalent primary series or previously received monovalent booster dose(s). These recommendations, which replace all prior booster recommendations for this age group, are for use of a bivalent Moderna booster dose in people ages 6-17 or for use of a bivalent Pfizer-BioNTech booster dose in people ages 5-11. They can receive this covalent booster at least two months after their last COVID vaccine.[5]
- The Pfizer bivalent booster is approved for ages 5 and older; the Moderna bivalent booster is approved for ages 6 and older.
- Under the terms of the Emergency Use Authorization, providers *may NOT give the original vaccine boosters* to anyone due for an updated (bivalent) booster.
- It is acceptable to give a different brand of booster than the primary series if the age requirement is met.

Current guidance for the administration of COVID-19 vaccines further indicates that these vaccines can be administered at the same time as influenza vaccines. Updates are occurring to COVID-19 immunizations frequently. It's best to check the CDC website for the latest recommendations.

## EFFECT OF NASAL IRRIGATION ON COVID-RELATED ILLNESS, DEATH[6,7]

Starting twice-daily flushing of the mucus-lined nasal cavity with a mild saline solution soon after testing positive for SARS-CoV-2 can significantly reduce hospitalization and death, according to a recent study published in *Ear, Nose & Throat Journal.*

Investigators report that the technique — which can be used at home by mixing a half teaspoon each of salt and baking soda in a cup of boiled or distilled water, then putting it into a sinus rinse bottle — is a safe, effective, and inexpensive way to reduce the risk of severe illness and death from coronavirus infection. Key findings include an 8.5-fold reduction in hospitalizations and no fatalities compared to controls, both "pretty significant endpoints," according to the authors.

The study appears to be the largest, prospective clinical trial of its kind. The older, high-risk population studied — many of whom had preexisting conditions like obesity and hypertension — may benefit most from the easy, inexpensive practice, the researchers say.

They found that less than 1.3% of the 79 study subjects ages 55 and older who enrolled within 24 hours of testing positive for SARS-CoV-2 over a two-month period in late 2020 experienced hospitalization, and no one died. By comparison, 9.5% of patients were hospitalized and 1.5% died in a group with similar demographics reported by the CDC during the same timeframe.

"The reduction from 11% to 1.3% as of November 2021 would have corresponded in absolute terms to over one million fewer older Americans requiring admission," the authors write. "If confirmed in other studies, the potential reduction in morbidity and mortality worldwide could be profound." The researchers also found that nasal irrigation can be effective in reducing symptom severity in both corona and influenza viruses.

## CLINICALLY MEANINGFUL IMPROVEMENT FOR CHRONIC NEUROPATHIC PAIN

Anticonvulsants and serotonin-norepinephrine reuptake inhibitors (SNRIs) are among the best initial choices to improve chronic neuropathic pain, according to recent trials reported in *American Family Physician.* These include the anticonvulsants gabapentin (Neurontin) and pregabalin (Lyrica), along with the SNRIs duloxetine (Cymbalta) and venlafaxine.[8]

Moderate-quality evidence exists for both types of drugs, which were similarly effective and well tolerated. Rubefacients (usually salicylates) appear to be effective but are not as well studied and have low-quality evidence. Acupuncture, opioids, and tricyclic antidepressants cannot be recommended for chronic neuropathic pain based on current evidence.[9]

### EVALUATION AND MANAGEMENT AFTER ACUTE LEFT-SIDED COLONIC DIVERTICULITIS[10]

Management of uncomplicated diverticulitis is usually conservative and includes bowel rest and fluids. Uncertainty remains, however, about the role of hospitalization and antibiotics. A review of 51 studies presented to the American College of Physicians (ACP) earlier this year included the following:

- It was unclear if patients with recent acute diverticulitis are at increased risk for colorectal cancer, although those with complicated diverticulitis do appear at a higher risk of the disease.
- Treatment with mesalamine was shown to be ineffective in preventing recurrence, and other nonsurgical treatments lacked adequate evidence.
- Elective surgical procedures reduce recurrence in patients with prior complicated, smoldering, or frequently recurrent diverticulitis, but it is unclear which of these patients may benefit most.

As a result, the ACP recommends initial management of uncomplicated diverticulitis without antibiotics, but acknowledges other questions still need to be addressed, such as inpatient versus outpatient management and elective surgery after an acute episode.

### MAXIMIZING TREATMENT OF HYPERTENSION IN OLDER ADULTS[11]

Roughly one in three adults with hypertension has inadequate blood pressure control, and clinicians have two options for intensifying treatment: the dose of the current drug regimen can be maximized, or a new drug can be added. Data from randomized controlled trials suggest treatment with lower doses of combination therapy may be more effective with fewer side effects — although the best strategy in older patients remains unclear.

Researchers conducted a large-scale, population-based, retrospective cohort study, and observational data were used to emulate a target trial with two groups: new medication and maximizing dose. The cohort included people ages 65 years or older with hypertension and was limited to those with a systolic blood pressure of 130 mm Hg or higher. Two intensification approaches were used: (1) adding a new medication, defined as a total dose increase with a new medication; and (2) maximizing dose, defined as a total dose increase without new medication.

Both approaches produced systolic blood pressure reduction, with a slight advantage in the "add a new medication" group. That group reduced their systolic blood pressure by over 4.5 points as compared to 3.8 points in the maximized (dose) group.

At 12 months the results were similar, but only 50% of patients in the new medication group were able to sustain that strategy compared with two-thirds of patients who had their dose increased. This suggests that in older adults, adding a new antihypertensive medication versus maximizing dosing of existing regimen is only minimally effective, and less suitable. Maximizing dose of antihypertensive medication is a reasonable approach and may be easier to sustain.

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Alan S. Peterson, MD
Emeritus Director
Environmental and Community Medicine
Walter L. Aument Family Health Center
317 Chestnut St., Quarryville, PA 17566
717-786-7383
Alan.Peterson@pennmedicine.upenn.edu