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EXPERT **Q&A**

Eat More Meat? Not So Fast!

Marion Nestle—a leading public health advocate, nutrition scholar, and food policy authority—weighs in on the new Dietary Guidelines for Americans

Every five years since 1980, the federal government has issued an updated set of dietary guidelines. Robert F. Kennedy Jr., the secretary of the Department of Health and Human Services (HHS), has vowed to transform Americans' unhealthy eating habits. Given that he has expressed some unorthodox nutritional views, the release of the 2025–2030 version was hotly anticipated.

The new Dietary Guidelines for Americans, which were published in January, have caused quite a stir. They differ in key ways from the 2025 report of the government-appointed Dietary Guidelines Advisory Committee and have received mixed reviews from public health experts. The *Wellness Letter* asked Marion Nestle, PhD, professor emerita of nutrition and food studies at New York University, for her assessment of the new guidelines and how they compare to previous iterations.

Wellness Letter: You've seen a lot of these dietary guidelines over the years. What was your first reaction when you saw the new ones?

Marion Nestle: My first reaction was

Marion Nestle. Photo by Zara Surti

that they were much the same. Then I looked more closely. They still say to balance calories; choose vegetables, fruits, and whole grains; and limit sugar, salt, and saturated fat. They even keep some of the same upper limits: 10 percent of total daily calories from saturated fats and 2,300 milligrams of sodium per day. And they advise reducing highly processed foods, something the Biden-era Dietary Guidelines Advisory Committee decided not to do. So far, so good.

But then things get weird regarding the recommendations for protein, dairy, fat, and when you look closely, alcohol.

WL: We'll get to the "weird" stuff, but first, what are the positives in the guidelines?

MN: I like two things about them. First, the overall message "eat real food," which isn't actually part of the guidelines but refers to the new food guide, the inverted pyramid. Second, the admonition to reduce intake of ultraprocessed foods—even though they call them highly processed—is well supported by research. The rationale for these two recommendations is that if you take them together, you will eat a satisfying, satiating diet and won't want junk food calories. That could work. There is plenty of evidence that ultraprocessed foods induce people to overeat calories and not realize it.

WL: You've focused a lot on the political aspects of dietary

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guidelines. From the perspective of the food industry, what sectors are the winners and the losers here?

MN: Ultraprocessed foods are the clear losers here. The winners are the meat, dairy, and alcohol industries. I've gotten a lot of pushback on the idea that the meat industry influenced these meat-centric guidelines. It appears they didn't have to. Kennedy eats a carnivore diet, along with fermented foods, so the guidelines express his ideology.

And although he complained about conflicts of interest in previous guidelines committees, and said that would not happen on his watch, four of the nine scientists who wrote the reviews that form the basis of the guidelines reported financial ties to meat and dairy trade associations. Three more have financial ties to other trade associations with vested interests in the guidelines. The guidelines appear to be a setup.

WL: As you suggest, the message to "eat real food" and "prioritize diets built on whole, nutrient-dense foods—protein, dairy, vegetables, fruits, healthy fats, and whole grains" sounds good. So what's the catch?

MN: As I said, I like the "eat real food" message. That part is consistent with previous nutrition advice. It sounds like Michael Pollan's "Eat food. Not too much. Mostly plants." The catch is that these guidelines seem more like "Eat food. As much as you like. Mostly meat." The healthy fats advice is quite odd. The guidelines insist on full-fat dairy, which is weird because whole milk and skim milk are pretty much the same nutritionally—except for whole milk having more calories, more fat, and more saturated fat.

The guideline "consume healthy fats" has a blooper. It singles out three sources of essential fatty acids—olive oil, butter, and beef tallow. But none of these three is a good source of the essential fatty acids, called linoleic acid and linolenic acid. Seed oils are the best sources for these, but Kennedy thinks seed oils are poison. Again, we are dealing with ideology, not science.

> "Four of the nine scientists who wrote the reviews that form the basis of the guidelines reported financial ties to meat and dairy trade associations."

WL: What are the problems or concerns with the recommendations on protein?

MN: The protein recommendation—a doubling of current intake to 1.2 to 1.6 grams per kilogram per day—is puzzling. Americans generally already eat that much protein, and protein is not a problem for anyone who eats enough calories. So this seems to be an "eat more meat" recommendation. For many people, protein is a euphemism for meat. The guidelines do mention plant sources of protein, but only as an "as well as" afterthought. Most nutrition scientists would argue that plant sources of protein are healthier.

WL: What about the recommendations for consumption of vegetables, fruits, and whole grains?

MN: They are there, fortunately, but not emphasized strongly enough, in my view. Whole grains appear at the *bottom* of the inverted pyramid, implying that it's best to eat *less* of them. That too is part of the carnivore ideology.

WL: How have the recommendations on alcohol changed?

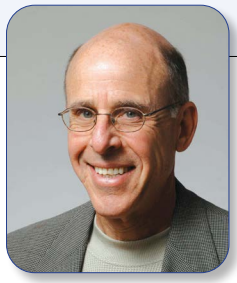
MN: The alcohol guideline is ambiguous. It just says consume less. But less than what? Previous guidelines specified no more than two drinks a day for men and one for women, and there has been a push to reduce the upper limit for men to one also. The alcohol industry lobbied hard on this one and got the upper limits removed.

WL: Why do you think HHS decided to bring back the food pyramid, and what is your assessment of this version of it? Are these graphic representations helpful?

MN: I can only speculate that they did not realize the pyramid was dropped in 2010 and replaced by a plate. Part of the Make America Healthy Again (MAHA) ideology is to dismiss prior guidelines as industry-driven, conflicted, and reflective of left-wing ideology, whereas the claim is that these new ones are based on gold-standard science.

WL: What is the bottom line for consumers? What lessons, if any, should they take from these guidelines?

MN: Eat real food and minimize ultraprocessed foods seems like good advice to me. I'd stick with that. ■



John Swartzberg, MD
Chair, Editorial Board

Our Kids Deserve Better

As I write, the U.S. is seeing measles outbreaks spread across the country. The epicenter is South Carolina, where there has so far been close to 1,000 cases reported in an outbreak that began last fall. At pediatric clinics in the state, parents and children wait in their cars in the parking lot so that staff can check them for fever or other signs of measles before they go inside. It's a necessary protective measure because pediatricians' waiting rooms are full of infants too young to have been fully vaccinated against measles yet.

I wish I could say this year is an anomaly. Unfortunately, we seem to be on an even worse trajectory than last year, when the U.S. recorded its highest number of measles cases (2,281) since the disease was declared eliminated from this country in 2000. If current trends continue, we could have some 8,000 cases in 2026.

Why are we seeing a resurgence in this "old" disease? The reason is simple: Vaccination rates are going down in parts of the country due to disinformation about vaccine safety and a push for so-called "medical freedom" coming from the current administration.

Health secretary Robert F. Kennedy Jr. has a long track record of fueling the discredited claim that the measles-mumps-rubella vaccine can cause autism. And the current head of the CDC's vaccine advisory panel has said that immunizations against diseases like measles and polio should be "optional."

I'm bringing all of this up to highlight a broader, deeply concerning issue: When it comes to children's health and well-being, in general, our country is clearly going in the wrong direction—one where health officials are fear-mongering about safe and effective vaccines, and about pregnant women using Tylenol, while either ignoring many of the real threats or taking steps that will exacerbate them.

We've known for some time that compared with their peers in other wealthy nations, U.S. children and teenagers fare worse in many health metrics. And a study published this past July in the *Journal of the American Medical Association* shows that those disparities have grown in recent years.

Among the findings: Compared to infants in 18 other high-income countries, those born in the U.S. are twice as likely to die due to prematurity, and 69 percent more likely to die of respiratory infections. Older U.S. children and teenagers, meanwhile, are five times more likely to die of substance abuse or homicide, and over twice as likely to die in motor vehicle accidents, than their peers in other countries. The most profound difference, however, is in the risk of death due to firearms: *Our kids are 15 times more likely to die of firearm-related injuries.*

Thankfully, child deaths are still relatively rare. But the point is, the vast majority are preventable, and we're doing a much poorer job of that than our peer nations. And that's not the only way in which we're failing. The *JAMA* study also showed that since 2007, child health—in terms of obesity, lack of physical activity, insomnia, and symptoms of depression and loneliness—has been deteriorating.

Here's the rub. Those issues do not exist because we lack solutions. If we want our children to be healthier and live long and productive lives, we do know what works. What we currently lack is the will.

Take, for example, access to high-quality prenatal care. We know that's critical for healthy pregnancies and healthy infants, yet recent funding cuts to Medicaid and other healthcare programs under the so-called One, Big, Beautiful Bill Act are expected to increase the number of uninsured Americans by 10 million within the next eight years—including many women of childbearing age.

Similarly, nutritious food is vital to child health and development, but that same law is slashing funds for

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SPEAKING OF **WELLNESS** *continued*

the Supplemental Nutrition Assistance Program (SNAP, or what we used to call "food stamps"). This program helps lower-income families afford groceries.

We know that children need to breathe clean air. Chronic exposure to air pollution can trigger asthma, impair children's cognitive development, and even contribute to higher risks of chronic diseases in adulthood. Yet our federal government is now bent on dismantling efforts to reduce fossil fuel emissions—which feed both climate change and dirty air.

We know that state policies intended to protect kids from firearm injuries can work. And of course, we know that childhood vaccinations work. Vaccines against illnesses such as polio and measles are among the biggest public health successes of the past century. But we are now going backward, due to our government sowing public distrust of long-established science.

Raising healthy children takes more than parents' and grandparents' efforts alone. As a society, we must decide that access to healthcare, nutritious food, stable housing, cleaner air, and safe outdoor spaces for physical activity are priorities. I do think most of us want those things—but we can't do it ourselves. We need leaders who share those priorities and have the will to make them happen.

LIVE **WELL**

Posture Matters—in Bed, Too

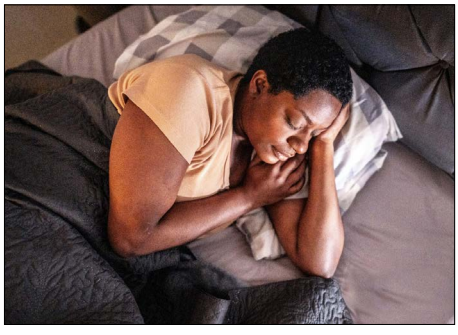
Your sleep position may be affecting your spine and your health

Are you a back, side, or stomach sleeper? Or a little of each, perhaps? The position you favor when sleeping can either support your spine in terms of maintaining its natural curves and alignment or it can stress your spine, from your neck down to your low back.

There's no consensus on what the best sleep position is, or a clear-cut recommendation for everyone—what's best depends on several factors, including whether you are a habitual snorer or have underlying health conditions like gastroesophageal reflux disease (GERD), sleep apnea, or neck, shoulder, or back pain.

The worst position?

If you have neck or back pain, one of the *worst* sleep positions may be on your stomach, referred to as the prone position, because it doesn't support the natural alignment of your spine. Think about it: Your head



is twisted to one side rather than being in line with the rest of your spine. And your low back isn't being supported (the position accentuates the curve of the low back).

In a study in the journal *Cureus* in 2024, of 375 people with low back pain in Finland, a prone position was indeed most often associated with pain, with problems reported in sleeping and getting up in the morning, especially in women. But the authors also found that any sleep position could exacerbate low back pain.

According to a review of three articles that looked at different sleeping postures, in *BMJ Open* in 2019, stomach sleepers were more likely to wake up with pain and stiffness in the neck or back—while side sleeping was generally protective against spinal complaints. But the findings were nuanced, and the authors noted that due to the lack of high-quality studies in the review, there was still no definitive answer; more research is needed to come to any firm conclusion.

If you still really want to sleep on your stomach, place a small pillow under your pelvis to help keep your spine from sagging too much (see illustration, page 5), which may alleviate any low back issues—but keep in mind that it won't address potential neck stress.

But side isn't always better, either ...

While sleeping on your side may generally be better than sleeping on your stomach for neck and back pain, the outcome isn't so straightforward. That's because there are many variations involved in side sleeping, such as how your legs are positioned. If

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your top leg crosses over your bottom leg, that puts strain on your hips, pelvis, and low back. Sleeping in a fetal position, with your legs tucked up to your chest, may also put strain on your back because it doesn't protect the natural curve of the low back.

To help maintain spinal (and hip/pelvis) alignment when side lying, have your knees slightly bent and then place the top leg atop the bottom leg. Putting a small pillow between your knees helps keep you in alignment and reduces pressure on hip and knee joints. Also, make sure your neck is aligned with and on the same level as the rest of your spine. That means having a pillow that is the right height—not too high, not too low.

Another potential problem with sleeping on your side is that it can aggravate shoulder pain. If you have shoulder pain, you may need to experiment to find what works best to reduce pressure on your shoulder. There are different positions or angles you can take with your torso so that you're not completely on your side and not squashing your shoulder. You could also try positioning a pillow under your arm or under your arm and shoulder for support.

If you need help staying on your side, you can try various products that prevent you from rolling over—a wedge pillow, an inflatable bolster, or some kind of "positional aid" like a side-sleeping backpack, a sleep noodle, a sleep posture belt, or one of several "vibrotactile devices" (wearable devices you strap to your neck, chest, back, or forehead). Simply putting a tennis ball under a tight shirt or secured to the chest may also do the trick of keeping you on your side.

What about back sleepers?

Sleeping on your back (supine position) may not aggravate neck and back pain—but, again, it depends on such variables as the position of your legs and your pillow. (Your pillow shouldn't be so soft that your head sinks down into it, or too thick, causing your neck to be flexed and not in line with your spine.) If you have low back pain and like to sleep on your back, placing a small pillow under your knees may reduce strain on your back (see box above).

Positioning yourself against snoring

If you're a habitual snorer, your sleep position could make it worse. That may be obvious to the bed partner of a snorer, who may find themselves repeatedly pushing their back-sleeping bedmate over to their side.

A 2023 study in *Sleep Medicine* looked at 83 adult snorers (60 percent male) who spent the night in a sleep lab, where their snoring was tracked with sound recordings. The researchers found that sleeping on the back was associated with more snoring episodes, and the snoring was louder and went on longer in that position.

What if your snoring is related to obstructive sleep apnea? In this disorder, the airway becomes partially or completely blocked during sleep, usually due to the relaxation of throat muscles, leading to repeated breathing

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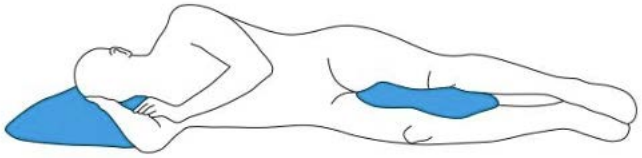
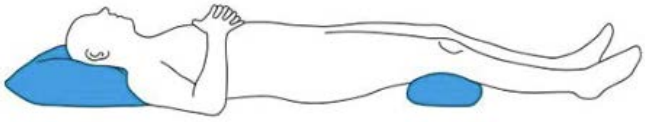
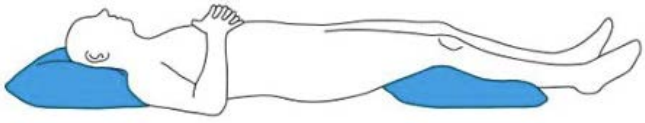
Pillow Positioning for a Good Night's Sleep

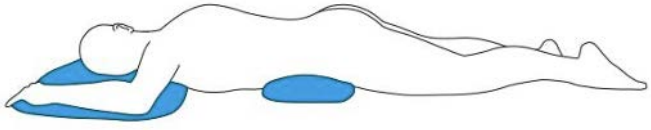


Sleeping on your side





Sleeping on your back



Sleeping on your stomach

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interruptions, gasping, and the telltale sign of loud snoring.

As noted in a 2023 paper in *Sleep Medicine Reviews*, people with obstructive sleep apnea are more likely to experience airway obstruction when they sleep on their back, compared with side sleeping. But the research suggests that sleeping on the side doesn't necessarily help reduce all apnea-related snoring—it may vary based on the individual.

For instance, a study in the journal *Sleep*, of 20 people with obstructive sleep apnea, found that only four of them benefited from sleeping on their side, versus when they slept on their back. The researchers noted that this may be due to anatomical differences, whereby the airway is able to stiffen and dilate more effectively in that position only in some people.

An earlier review paper in the journal *Sleep and Breathing* noted that only about 56 percent of people with sleep apnea are, "position dependent," meaning that they respond positively to changes in sleep position.

If you have sleep apnea, you can try sleeping on your side to see if that helps, but other treatments, including CPAP (continuous positive airway pressure), oral appliances, and hypoglossal nerve stimulation, are considered more effective.

Guarding yourself against GERD

Believe it or not, the side you sleep on can affect gastroesophageal reflux disease (GERD), a number of studies have reported. For instance, in a study in *Clinical Gastroenterology and Hepatology* in 2022, people with GERD who slept on their left side had more nights without reflux, compared to when they slept on their right side.

And a paper in the *American Journal of Gastroenterology* in 2022 found that people with GERD had a decrease in the amount of time the tissues of the esophagus were exposed to stomach acids when they slept on their left side, compared to when sleeping on the back or right side.

A review and meta-analysis in the *World Journal of Clinical Cases* in 2023 similarly found that sleeping on the left side was associated with a reduction in reflux symptoms, compared to sleeping on the back or right side.

BOTTOM LINE: If you often wake up with neck, back, or shoulder pain, you may want to try sleeping in a different position. And if you have chronic musculoskeletal pain issues, it's a good idea to consult with a physical therapist who can discuss how your sleeping position impacts the alignment of your spine. If you have sleep apnea or GERD, speak with your healthcare provider to discuss what may be triggering your symptoms. If you don't have any sleep-related body aches or health issues, it's okay to sleep any way you want that's comfortable for you. ■

The *Wellness Letter* has not reviewed and does not endorse particular products (or any particular online vendors), but we've included links to give you a visual of them. We recommend you do your own research to find ones that best suit you and your budget.

Advice From a Sleep Expert: The Best-Laid Plans …

Jana Cooke, MD, a sleep expert and member of our editorial board, weighed in on sleep positioning, also called positional therapy when it pertains to sleep apnea. Here are some excerpts from her comments:

- In a perfect world, you would be able to sleep in a better aligned position the whole night through. But this is not realistic, and no matter how hard you try, you may still wake up in a position you are trying to avoid. That is, it's really hard to control anything when we are asleep, despite our best intentions.
- Sleep can be hard for people much of the time, due to anxiety and insomnia, for example. And trying to follow the "recommendations" may only add to the anxiety about sleep: "Am I sleeping in the right position? Is the pillow in the right place?" Keep in mind also that sleeping with a pillow under or between your knees (as recommended for back and side sleepers, respectively) may have the unintended effect of disrupting your sleep because you have to adjust the pillow when you turn to another side or position, or if the pillow moves.
- As with everything in the health world, it's complicated. Patients often ask me what the best pillow and mattress are, and I always tell them "the best" is what they are comfortable with. Ultimately, your best bet for alleviating chronic musculoskeletal issues is to strengthen your back and core muscles and overall body rather than focus exclusively on your sleep position.

Dr. Cooke's bottom line? Try to follow the recommendations if you have back or neck or other musculoskeletal issues, but don't be too hard on yourself if you're not always successful. The most important thing is to get a good night's sleep and not add more worry about your sleep position to the mix.

Nitric Oxide: Is It the Answer to Healthy Aging?

Many health claims are being made about the benefits of this key molecule. Are they overblown?

You may have seen the term *nitric oxide* pop up in health headlines or in ads for various anti-aging products. A quick Google search reveals the many roles this small molecule plays in the body, including helping regulate blood flow and supporting muscle function and energy use.

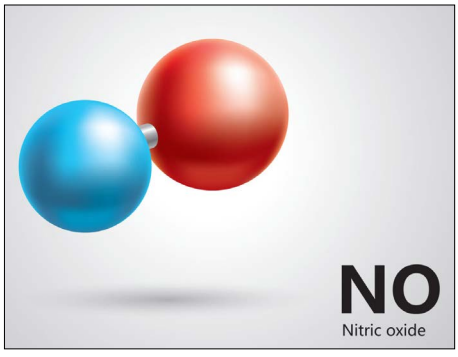
At the same time, nitric oxide (NO) is often marketed with big promises when sold as a supplement—promoted for everything from improving cardiovascular health and boosting athletic performance to treating erectile dysfunction and slowing cognitive decline. Nathan Bryan, PhD, a biochemist and purveyor of NO-based products, has touted NO as the "holy grail of anti-aging."

Though not an essential nutrient in the diet, NO is undoubtedly a vital molecule in the human body. But do the supplements deliver on their promises?

What is nitric oxide?

Before discussing what NO is, it's worth mentioning what it isn't. Nitric oxide is different from nitrous oxide—the "laughing gas" your dentist administers to sedate you before a procedure.

NO is a chemical messenger, made from equal parts nitrogen and oxygen, that transmits information between cells. Until the 1980s, it



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was only thought of as a toxic component of air pollution, car exhaust, and cigarette smoke that damaged the ozone layer. Then three American researchers—Robert F. Furchgott, PhD, Louis J. Ignarro, PhD, and Ferid Murad, MD, PhD—discovered that NO is a critical signaling molecule in the cardiovascular and nervous systems. Their discovery earned the trio the 1998 Nobel Prize for Physiology and Medicine.

Today NO is recognized as one of the body's most important chemical messengers. It transmits signals necessary for cardiovascular health, immune response, learning and memory, digestion, sexual function, and cellular energy use, among other functions.

The human body produces NO when an enzyme called nitric oxide synthase (NOS) converts the amino acid arginine into NO, using oxygen and helper molecules such as NADPH. This process occurs in many tissues, including the cells lining blood vessels (the endothelium), where NO plays a key role in regulating blood flow. Another amino acid, citrulline, is converted into arginine in the kidneys, which also increases NO production. In addition, bacteria in our gut convert nitrates from foods like spinach, kale, and beets into nitrites, which stomach acid can then convert into NO.

As we age, our NO levels drop as both the production and availability of this molecule decline. According to some estimates, endothelium-produced NO is 75 percent lower in 70- to 80-year-olds people compared to healthy 20-year-olds. This reduction is largely due to a decline in endothelial function—in other words, an aging blood vessel lining produces less NO. A decrease in the body's NO production is linked to age-related loss of muscle mass (called sarcopenia) and other changes.

Boosting NO

Increasing NO as you age may help improve your overall health, in part by supporting better cardiovascular function and brain health. One good way to increase this molecule in your body is by eating more of the foods below, which contain NO precursors:

- Beets and leafy greens (such as spinach, kale, and chard) have high amounts of nitrates, which your body converts to NO.
- Garlic and citrus fruits (orange, lemon) increase levels of the enzyme nitric oxide synthase, which converts arginine into NO.
- Nuts (like walnuts and almonds) and seeds (like pumpkin seeds) are rich in arginine.
- Chocolate and tea contain flavonoids, which activate enzymes used to make NO and prevent the breakdown of existing NO.

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Both aerobic and resistance training, which are already recommended for seniors, reduce the rate of NO decline and help boost its production.

Dietary supplements that contain NO precursors may also increase NO levels in the body (though they can be problematic; see below). Two of the most common ingredients in these supplements are arginine and citrulline. Beetroot extract is another widely used ingredient because it contains nitrates. Antioxidants like polyphenols and vitamin C may be added to supplements to increase the availability of NO in the body.

NO, yes, maybe?

NO is not recommended as a standalone treatment for any medical condition. That said, here are some purported benefits of NO, and the available research to support them.

Cardiovascular health. This is one of the most well-studied effects of NO. Nitric oxide helps keep blood vessels flexible and relaxed so that blood can flow easily through them, and helps prevent the formation of blood clots that can cause heart attacks and strokes. Endothelial dysfunction that occurs with age leads to a drop in NO, which contributes to high blood pressure, as well as plaque buildup in blood vessels—otherwise known as cardiovascular disease.

Therapies to boost NO could be promising for cardiovascular disease, but scientists are still investigating the optimal way to deliver this molecule to target tissues. In the meantime, there is some evidence that increasing nitrate consumption from foods may reduce blood pressure and improve blood vessel health.

Sexual health. Low NO levels, from aging or conditions like diabetes, contribute to erectile dysfunction (ED). NO is important for achieving and maintaining erections, in part because it relaxes blood vessels in the penis, which increases blood flow there. It also activates an enzyme to create cyclic GMP (cGMP), which sustains the erection. Drugs like sildenafil (Viagra) and tadalafil (Cialis) similarly improve erections by enhancing cGMP levels.

> Increasing nitric oxide as you age may help improve your overall health, in part by supporting better cardiovascular and brain functions.

Because arginine and citrulline raise NO levels, they are ingredients in some sexual enhancement supplements. A review of 10 randomized controlled trials, published in the *Journal of Sexual Medicine* in 2019, found that arginine supplements significantly improved symptoms compared to a placebo or no treatment in men with mild to moderate ED. Citrulline's effects on ED are also promising, but less well studied.

Brain and nervous system function. A healthy brain relies on a constant supply of NO to ensure adequate blood flow. The molecule also plays key roles in memory, learning, and sleep. Yet NO can be a double-edged sword. Too much of it could cause cellular damage that may contribute to neurodegenerative diseases such as Alzheimer's and Parkinson's.

Whether supplementation offers any benefits to brain health is still uncertain, as research in humans is limited. A 2022 study of frail people over age 65 with high blood pressure, published in *Frontiers in Cardiovascular Medicine*, found improvements in cognitive assessment scores among the group treated with arginine supplements. However, the study was small (35 people in the arginine group and 37 in the placebo group), and participants only took the supplement for four weeks.

Diabetes. NO's role in diabetes is complicated. On the one hand, it helps insulin bind to its receptors and move glucose (sugar) out of the bloodstream and into cells. But NO production is often impaired in people with diabetes, which can make insulin resistance worse. Although one review and meta-analysis found that arginine supplementation could significantly alter blood sugar markers in clinical trial participants, the importance of this effect in the real world may not be meaningful.

Athletic performance. Exercise increases NO production, which, in turn, improves blood flow to muscles. Whether nitric oxide supplementation enhances athletic performance is so far unproven, but promising. In a small study (only 15 people) of young Taekwondo athletes, the combination of nitrate supplements (derived from spinach) and arginine supplements improved performance, power, and agility.

YES tips for more NO

The safest way to increase NO is to eat more foods like beets, leafy greens, and citrus fruits that your body uses

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as the raw materials to make it. The evidence on supplements is less clear—and because the dosages and ingredients used in studies have varied, it's difficult to know exactly how much or which type to take.

Plus, supplements can have risks. Arginine may cause gastrointestinal side effects such as nausea and diarrhea. It also can interact with blood pressure medications, potentially causing low blood pressure. And any benefits it might have tend to disappear when people take it over the long term. Another concern with NO is that, while the way it sends signals in the body sometimes kills cancer cells or makes them more sensitive to treatments like chemotherapy or radiation, it may also have the potential to promote the growth and spread of tumors.

BOTTOM LINE: The best evidence for nitric oxide's benefits is for cardiovascular health. And the best way to increase levels of NO is through diet and by staying physically active to preserve your lean body mass. If you do want to try a supplement containing an NO precursor like arginine or citrulline, it's a good idea to first consult a doctor or pharmacist, to flag any possible risks or interactions with medicines you're on. Take only the dosage listed on the bottle to avoid getting too much, as that could increase the side effects. ■

MOVE **WELL**

The Power of a Trekking Pole

A little extra support goes a long way on the hiking trail—or even on a walk around the block

If you're a regular walker or hiker—or aim to become one—grabbing a pair of trekking poles before you set out can make your excursion easier, safer, and maybe even more enjoyable. They are a good accessory to have whether you are ambling uphill, downhill, or on the flats, and whether you'll be out for a short time or on a multi-day trip.

Also called hiking poles or walking sticks, these specially designed poles are a more common sight in other parts of the world, like Switzerland, Germany, Austria, and Italy, where, for example, you'll see hikers of all ages using them on trails in the Alps and Pyrenees.

Pole paybacks

Studies have found that trekking poles provide many benefits, from increasing balance and speed to reducing knee strain.

A small study in the *European Journal of Applied Physiology* in 2023

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analyzed 15 young male athletes (trail runners) over several days while they walked uphill (both on a treadmill and outdoors) to exhaustion with or without poles. Not only were the participants able to go at a faster clip while using the poles, but they also experienced less stress on their feet. The researchers concluded that this would translate to less stress on the rest of the leg as well (since stress on the feet from impacting the ground is transferred to the rest of the leg). In their words, the use of poles when going uphill "saves legs."

A 2023 review paper in *Bioengineering*, which looked at 31 studies, similarly found that pole users experienced less pressure on their feet—and, additionally, had an increase in oxygen consumption. This boost in energy expenditure (calorie burning) could be because more muscles are activated when using poles—of the trunk (abs) and arms (triceps and biceps)—compared to when not using poles.

There's some evidence that the poles can also reduce delayed onset muscle soreness (DOMS), especially after a downhill trek. DOMS is that pain and stiffness that sometimes occurs a day or so after a new or strenuous workout. That makes sense since the poles help you break your forward downhill momentum, thereby reducing the eccentric muscle contractions in the thigh that are associated with DOMS.

Other advantages: Using poles (in one or both hands) can improve your balance by distributing your weight more evenly, and this may help prevent you from tripping over exposed roots, rocks, or other irregularities and obstacles you may encounter on a trail. Having better balance is especially important if

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you are wearing a backpack on your hike, since the added weight and instability of the bag can throw off your center of gravity and increase the load on your legs even more.

In addition, using trekking poles gives your upper body more of a workout than walking unaided and, as alluded to earlier, can increase the number of calories you burn.

Pole tips

There are many options for buying trekking poles. Depending on the material (carbon fiber or aluminum) and design (folding or telescopic), they can weigh anywhere from about 12 ounces to 1.5 pounds per pair and cost about $80 to well over $120, with higher-priced ones generally being of better overall quality (lighter, more comfortable grip, greater durability, for instance). Leki is one of the better-known brands—but bear in mind that adjusting the poles to suit your needs, along with using proper technique, matters more than the brand. Here are some points to keep in mind:

- Poles that are collapsible allow you to adjust their height (and make them easier to pack and transport). You'll want to be able to adjust the poles easily when hiking downhill versus uphill—lengthening them on the downhill and shortening them on the uphill.
- All poles have adjustable wrist straps, so they won't get away from you. To grip the poles, slide each hand up through the strap from below and then reach down for the pole's grip. The strap should rest comfortably on the back of your wrist and not feel tight—that way, you can easily let go of the pole when needed (say, if you have to tie your shoe or want to snap a picture) and then just as easily grasp the pole again when you're ready to move on.
- For proper form, when the pole is extended in front of you, your forearms should be parallel to the ground, and your elbows bent at 90 degrees. When you step, with the pole angled behind you, use your upper arm (triceps) muscle to press the pole downwards and then push off. This propels you forward—and is helpful when walking on flat terrain and uphill (but not so much on downhills, where, rather, the poles are helping to stabilize you).
- Keep your posture upright. It's best to practice using poles on the flats before going on any rolling terrain. When hiking with poles, you'll be alternating planting your right foot on the ground with the left pole and then planting your left foot with the right pole. The more you do it, the more natural it will feel.
- Trekking poles are sold as a pair, but you may decide to use just one if that feels more comfortable. A single pole may be better if there are obstacles to negotiate because you'll have a free hand to help if you

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Our Poll on Trekking Poles

When reviewing this article for publication, some members of our editorial board, as well as our executive editor, managing editor, and researcher, shared their own positive experiences with trekking poles. Here are a few of their comments:

John Swartzberg, MD, Chairperson: "I use them for both backpacking and day hiking trips. They make a big difference!"

Dale Ogar, Managing Editor: "I took a pair to British Columbia to visit the rainforest. They were very helpful because the ground was so uneven and I am very clumsy."

Marlon Maus, MD, Associate Chair: "I still have an old wooden walking stick I bought in Germany years ago—what everyone used before trekking poles were invented! It's a simple reminder that even old ideas can still keep you steady."

Steve Jacobsohn, MD, Editorial Board Member: "Trekking poles have kept me upright for many years. They are helpful to maintain balance and to preserve knees, particularly on uneven terrain and steep downhills."

Andrea Klausner, MS, RDN, Editor: "Besides saving my knees, trekking poles keep me from tripping on the trail and help me move with a steady rhythm."

Jeanine Barone, MS, Researcher: "I always hike with one trekking pole no matter how short the trail. And, in those off times when I was stuck without one, I felt like I had lost a supportive friend."

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need to scramble up or, should you fall on a downhill, you can extend your free hand to brace yourself.

BOTTOM LINE: Trekking poles are not a necessity, but if you're open to new experiences, you could give them a try and see if they make for a more comfortable and pleasant walk or hike. Many people find that the poles help reduce strain on their knees and other joints and improve stability on uneven ground. They can be especially helpful—along with balance exercises—if you find yourself having increasing balance problems when you walk. To learn more about using trekking poles, you can check out online videos. ■

ASK **THE EXPERTS**

Q ***I tend to have to urinate a lot, including several times overnight, which is interfering with my life! Might the foods I eat be contributing to my "overactive bladder"?***

A While the amount of liquid we consume clearly has an effect on urination, the foods we eat can play a role as well.

Overactive bladder refers to a group of urinary symptoms, most commonly the sudden and uncontrolled need to urinate. Some foods and ingredients can irritate the bladder and are best avoided if you have an overactive bladder, says Joel A. Piser, MD, FACS, a diplomate of the American Board of Urology and a member of our editorial board.

These include citrus fruits, tomatoes, chocolate (white chocolate is okay), spicy foods, tea, alcohol, caffeine, carbonated beverages, and artificial sweeteners, specifically sodium saccharine, acesulfame K, and aspartame (there is mixed data on non-nutritive sweeteners like stevia and sucralose).

Why can they worsen bladder symptoms? Some components of the foods and beverages we consume and metabolize end up in urine, which is then stored in the bladder. Those that are more acidic and spicy tend to irritate the bladder's inner lining (mucosa) and can cause urinary urgency (a sudden and strong need to urinate) with bladder spasms, and for some people, urgency incontinence (a loss of bladder control). Caffeinated beverages and alcohol have some diuretic properties, causing the kidneys to produce more urine, which the bladder must then manage.

Certain foods can also trigger bladder irritation in people with sensitivities. For example, people with gluten sensitivity may experience overactive bladder symptoms if they eat foods containing gluten—namely wheat, rye, and barley. So, eliminating those foods may help alleviate the symptoms.

But overactive bladder is just one of the conditions that can be affected by the foods noted above, according to Dr. Piser. People who suffer from frequent urinary tract infections, chronic bladder pain syndrome/interstitial cystitis, and several neurological conditions (including Parkinson's disease, multiple sclerosis, spinal cord injuries, and post-stroke complications) may benefit from avoiding these foods as well.

On the other hand, there are foods that can help mange overactive bladder symptoms. These include pears, apples, bananas, leafy green vegetables (such as spinach), green beans, winter squash, potatoes, corn, whole grains, lean proteins, nuts, and eggs.

Why could they be helpful? Less acidic foods like squash, corn, potatoes, and spinach are generally less irritating to the bladder. Consuming more fiber-rich foods (like nuts, whole grains, bananas, apples, and leafy greens) can help prevent constipation, which itself can put extra pressure on the bladder and contribute to overactive bladder symptoms. (The rectum sits right behind the bladder and when full of stool can affect bladder function.)

You may recognize many of these foods as being part of the Mediterranean diet, which is often recommended for a variety of health benefits. Recent research suggests that bladder health may be among them. For instance, a study in the *International Neurourology Journal* used a

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questionnaire to assess the diets of 326 adults without chronic diseases or frequent urinary tract infections. Those who mostly followed a Mediterranean diet were significantly less likely to have overactive bladder symptoms. In fact, the researchers concluded that "the Mediterranean diet should be recommended for the first-line treatment of patients with overactive bladder symptoms."

The amount of water and other fluids you consume also plays a role in how much you urinate—but not in the way you may assume. If you tend to urinate a lot, you may think it's best to limit fluids. But that can concentrate metabolites in the bladder, which in turn can increase bladder irritation. Trying to find the right balance of what is an adequate amount of fluid and what is a manageable amount of urinating can be a challenge.

Although there is no universal recommendation for how much water or other fluids most people should drink, a general goal, says Dr. Piser, is 60 ounces (just under 2 liters) a day. Some people may benefit from more; others may need less. If your urine is very concentrated (a deep yellow color), you're probably not drinking enough. Urine that is light yellow to clear is usually indicative of good fluid balance and an adequate level of hydration. It's never a good idea to dehydrate yourself so that you don't need to use the bathroom as often.

In short, there are better ways to spend your time than having to run to the bathroom all the time. But take heart—avoiding potentially irritating foods and incorporating beneficial ones, along with getting enough (but not too much) water and other fluids, may help settle an overactive bladder. Keeping a bladder diary to chart both your food and fluid intake and the number of bathroom trips you make can help you better understand what sets off your active bladder so you can better manage your symptoms. The National Association for Continence provides this sample bladder diary.

Q ***Can oysters and other bivalves really be part of a vegan diet? I've heard they can be since they don't feel pain.***

A Not according to the definition of veganism, since vegans avoid all things of animal origin, typically for animal-welfare reasons and the belief that it is wrong to consume any sentient beings, as well as for health, environmental, religious, or plain "disgust" reasons.

But some people—controversially referred to as ostrovegans ("ostro" is derived from the Latin word for oyster) or bivalvegans—are adding bivalve mollusks (oysters, mussels, clams, and scallops) to their otherwise vegan diets. Whether you want to do so yourself largely depends on where you fall in the ongoing debate about what makes life forms sentient and how pure a vegan diet you want to follow.

The argument in favor of eating bivalves is that they have no central nervous system, so they can't be sentient or feel pain. That is, their very simple nervous systems do not have a brain capable of being mindfully aware of sensory inputs or processing nerve signals as pain. When they close their hinged shells, it might simply be an involuntary reflex to noxious or threatening stimuli, not that they are perceiving the stimuli as pain, as do humans and other animals with more complex nervous systems.

Proponents also argue that although bivalves are alive, so are plants. And they note that some plants similarly move in response to stimuli—notably the Venus flytrap, whose sensory hairs cause its petals to snap closed around insects.

Not surprisingly, many vegans and vegan groups vehemently object to the concept of ostroveganism. According to the animal rights organization PETA, it's far from conclusive that bivalves feel no pain—the ability of scallops to swim away from threats, for instance, suggests otherwise, the group says—and they should be given the benefit of the doubt and thus avoided.

As a paper in the *ILAR Journal* (a publication of the

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Institute for Laboratory Animal Research) puts it, "Because the definition of pain includes a subjective component that may be impossible to gauge in animals quite different from humans, firm conclusions about the possible existence of pain in molluscs may be unattainable."

If you do decide to go ostrovegan, there are some advantages. Bivalves are good sources of protein and micronutrients (such as vitamin B12, which can be challenging to get in a vegan diet), and they provide small to moderate amounts of omega-3 fatty acids.

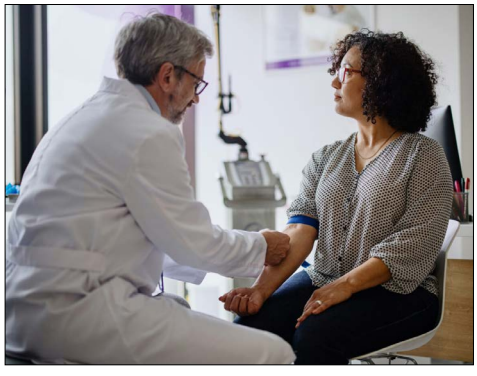
In addition, most oysters, clams, and mussels are farmed and get thumbs-up ratings from Monterey Bay Aquarium's Seafood Watch program. They don't, for instance, involve bycatch, whereby other marine animals are harmed or killed (in contrast, vast numbers of small mammals, including mice, and countless insects are inevitably killed in the farming of fruits and vegetables). Most scallops are still wild caught, sometimes dredged from the sea bed, which adversely impacts other marine life—although some pass muster with environmental groups, especially when farmed.

If you have a question you would like to see answered in the Wellness Letter, email us at editors@wellnessletteronline.com. We regret that we are unable to publish answers to all questions or respond to letters personally.

Lp(a): More Reason to Be Tested

It doesn't get the attention that LDL "bad" cholesterol does, but another cholesterol-related particle called lipoprotein(a) can be an important signal of cardiovascular trouble down the road.

That's the conclusion of a large study recently published in *JAMA Cardiology*. Researchers found that among nearly 28,000 initially healthy women, those with elevated levels of lipoprotein(a) were at increased risk of developing heart disease over the next 30 years. Meanwhile, women at the extreme end of the lipoprotein(a) spectrum—in the top 1 percent—were at heightened risk of not only developing heart disease but also suffering a stroke or dying of cardiovascular causes.



Those excess risks were seen regardless of whether the women had any of the better-known risk factors for cardiovascular disease, including high levels of LDL cholesterol. The findings, the researchers say, bolster the argument that most everyone should have their lipoprotein(a) level measured.

The lesser-known risk factor

Lipoproteins are tiny particles composed of different kinds of proteins and fat, and their main job is to transport cholesterol through the bloodstream to body cells. LDL (low-density lipoprotein) and HDL (high-density lipoprotein) are the two lipoproteins most people have heard of, since doctors routinely test for them. Most blood cholesterol is of the LDL variety.

LDL cholesterol is the "bad" form, because when you have too many LDL particles traveling through your blood, cholesterol can start to build up in the walls of the arteries, contributing to plaques that narrow and harden the vessels. HDL particles, in contrast, carry cholesterol to the liver to be removed from the body, which is why higher HDL is heart-healthy.

Lipoprotein(a), or Lp(a)—pronounced L-p-little a—looks very similar to an LDL particle, except that it contains a protein called apolipoprotein(a). But researchers have found that the effects of high Lp(a) may be even worse than those of high LDL: Too much Lp(a) can not only contribute to artery-clogging plaques, but also make blood more prone to clotting and increase inflammation in the blood vessels.

Considering all of that, it might seem like a no-brainer that doctors should test everyone's Lp(a) levels. The main

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reason they don't? There's not much you can do if it's elevated. A person's Lp(a) blood level is almost entirely dictated by genetics, specifically the LPA gene that determines the precise makeup of apolipoprotein(a). So the Lp(a) level you had as a young child is probably the level you have now, and it's unlikely to change much no matter how conscientious you are about diet and exercise.

That thinking around Lp(a) is changing, however. Recent studies have been clarifying the importance of Lp(a) as a unique cardiovascular risk factor, and several clinical trials are underway to test new Lp(a)-lowering treatments.

What the new study adds

The findings are based on data from the Women's Health Study, an ongoing research project that has tracked the health of a large group of U.S. women since 1993. All were age 45 or older and free of cardiovascular disease when they entered the study, at which point they had blood samples taken. Lp(a) was among the health metrics the researchers measured.

Over the next 30 years, just over 3,700 study participants developed heart disease, suffered a stroke, or died of a cardiovascular cause. And on average, those risks began to climb—in a stepwise manner—among women whose blood Lp(a) levels were 30 mg/dL or higher, or above the 75th percentile for the study group. Note: Lp(a) can be quantified in two different ways; see box at right.

Among women with Lp(a) levels in the 30 to 60 range, the likelihood of developing cardiovascular disease was 16 percent higher compared to women with the lowest Lp(a) levels (less than 10). And when the researchers broke the data down further, women with Lp(a) in the 30 to 60 range were at somewhat higher risk of developing heart disease, but not of *dying* from it. Nor did they have an increased stroke risk.

The picture was different for women with very high Lp(a) levels (above 120), who showed a marked elevation in their likelihood of cardiovascular trouble. Compared to women with Lp(a) levels below 10, their risk of heart disease was 80 percent higher and their risk of stroke 41 percent higher. Meanwhile, their risk of dying from cardiovascular disease was nearly doubled.

Of course, many factors affect a person's risk of cardiovascular disease. But the researchers took as many of those variables into account as they could, including the women's LDL levels, blood pressure, smoking and alcohol habits, and whether they had a history of diabetes or ever used menopausal hormone therapy.

Even then, elevated Lp(a), itself, appeared to raise the long-term risk of cardiovascular disease.

The study did have limitations. It included only women, most of whom were white, so it's unclear how well the findings might apply to men and people of other races. However, the overall pattern—high Lp(a) correlates with higher risks of cardiovascular disease—has been shown before in more diverse studies.

Lp(a): What's Your Number?

Lipoprotein(a) is measured either in milligrams per deciliter (mg/dL) or in nanomoles per liter (nmol/L). The *JAMA Cardiology* study reported values in mg/dL, which is also used by many labs. If you have had your Lp(a) tested, you may have received the results in nmol/L, however, and may wonder how your number compares to those in the study.

Because Lp(a) particle size varies among individuals, there is no exact universal conversion. But a commonly used approximation is that **1 mg/dL is about 2.5 nmol/L**, so to convert from mg/dL to nmol/L, you multiply by 2.5 (conversely, to convert from nmol/L to mg/dL, divide by 2.5).

For example, **50 mg/dL**—the level above which is considered "high" by the ACC/AHA—is approximately **125 nmol/L,** while **120 mg/dL**—the level at which risk started to markedly increase in the study—is approximately **300 nmol/L**.

Who should be tested?

At the moment, there's no universal definition for a concerning Lp(a) level. But the American College of Cardiology/American Heart Association (ACC/AHA) guidelines consider a level above 50 mg/dL (or ≥125 nmol/L) to be high. An estimated 20 percent of adults fall in that range.

While that's a significant number of people, Lp(a) testing is often recommended only for certain groups, including people with a personal or family history of premature heart disease or stroke (before age 55 for men and before age 65 for women); those with a known family history of high Lp(a); those who have an inherited condition called familial

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hypercholesterolemia; and anyone who has high LDL cholesterol that does not respond to standard medication.

However, some guidelines call for broad Lp(a) testing. As of 2024, the National Lipid Association has been recommending a one-time Lp(a) blood test for all adults. (Because levels are generally stable throughout life, one-and-done would be enough.) The NLA considers Lp(a) levels above 50 to be "high risk," and levels between 30 and 50 to be "intermediate risk."

The takeaway. If you've never had an Lp(a) test, talk to your doctor about whether you should. Even though there are no specific medications for high Lp(a) just yet, knowing your number is still important. If it's high, that might give you extra motivation to maintain heart-healthy habits like eating a largely plant-based diet and getting regular exercise.

In addition, your doctor might suggest more aggressive management of any other cardiovascular risk factors you have, like high blood pressure or diabetes. They might also recommend a statin, if you're not already on one, to get your LDL cholesterol below 70. Although statins do not put a dent in Lp(a) levels, these drugs do lower the overall risk of heart disease and stroke.

At the very least, knowing your Lp(a) level arms you with information.

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Joyce Lashof, MD, 1926–2022

Sheldon Margen, MD, 1919–2004

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This newsletter is not intended to provide medical advice on personal health matters, which should be obtained directly from a physician.

Time for Tabbouleh

Tabbouleh is a Lebanese salad made with bulgur (a partially cooked cracked wheat that consists of whole-wheat kernels), lemon juice, tomatoes, and a considerable amount of fresh parsley and mint. This recipe is a good source of fiber, magnesium, niacin, potassium, and vitamin C.

- 1 cup fine or coarse bulgur
- 2½ cups boiling water
- ⅓ cup fresh lemon juice
- 1¼ cups chopped fresh parsley
- 3 scallions, thinly sliced
- ¼ cup chopped fresh mint
- 2 tablespoons olive oil
- ½ teaspoon salt
- ¼ teaspoon allspice
- 2 cups grape or cherry tomatoes, halved

1. In a large heatproof bowl, combine the bulgur and boiling water. Let stand for 1 hour at room temperature. Drain and squeeze the bulgur dry.

2. Transfer the bulgur to a large salad bowl. Add the lemon juice and toss to combine. Let stand for 30 minutes.

3. Stir in the parsley, scallions, mint, oil, salt, and allspice. Add the tomatoes and toss to combine. Serve at room temperature or chilled.

Makes 4 servings; per serving: 210 calories, 7.5g total fat (1g saturated), 8g dietary fiber, 34g carbohydrate, 6g protein, 315mg sodium.

From *The Wellness Kitchen*

Different Spins: For Main Course Salads

- **Tofu Tabbouleh:** Press an 8-ounce block of extra-firm tofu to remove excess water: Wrap it in paper towels or a clean kitchen towel and place a weight on it for 15–20 minutes. Dice the tofu and squeeze 1–2 tablespoons of fresh lemon juice on it and let sit for 10–15 minutes at room temperature. Pan sear in a little olive or canola oil (just enough to coat the pan) until golden. Add to the salad.
- **Chickpea Tabbouleh:** Stir 1 cup of canned low-sodium chickpeas, rinsed and drained, into the salad. For extra flavor and texture, you can toss the chickpeas with a little olive oil and a pinch of cumin or paprika and roast them briefly before adding.
- **Optional add-ins:** Toasted pine nuts, almonds, avocado cubes

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