

100 Plus

LIVING SMART

A GUIDE TO LONGEVITY

STRATEGIES FOR MAINTAINING A HEALTHY BODY
FOR TODAY AND TOMORROW

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Mediterranean

EAT FOR HEALTH AND LIFE

Based on plants and other whole foods, the Mediterranean diet has taken the world by storm—and for good reason. Risks for cancer, heart disease, Alzheimer’s disease, and Parkinson’s disease are reduced when following this healthy eating plan.

The focus is on the consumption of plenty of fruit, vegetables, whole grains, and legumes. Those who live in Greece eat on average six or more servings of fruits and vegetables every day. Nuts are enjoyed in moderation, and olive oil takes the place of butter or margarine.

If you wish to incorporate the traditions of this diet into your life, start by eating mostly plant-based foods—preferably those grown organically. Better for you and the Earth, organic items are grown without the use of toxic pesticides and fertilizers.

Flavor foods with more herbs (fresh or dried) and less salt. Consume olive oil, avocados, and nuts to boost your

intake of healthy fats. If you eat meat as a source of protein, aim for occasional servings of fish and poultry over red meat.

More Than Just Food

The Mediterranean diet is not only about what you eat. It’s also a recipe for how to live. It’s about sitting down with friends and family and taking time to appreciate a meal and one another’s company.

It’s also about exercising every day. Residents of the Mediterranean region historically gardened and farmed as well as walked five miles a day on average. With our modern lives, this is no longer feasible for most of us, but it’s



CARROT TABOULEH

From *Smashing Plates: Greek Flavors Redefined* by Maria Elia (\$27.95, Kyle Books, 2014)

25 MINUTES PREP TIME ■ SERVES 6

D G N V

- 2 medium carrots, peeled and roughly chopped
- 3 c fresh flat-leaf parsley, with stems
- 2 tomatoes, finely diced
- 1½ c fresh mint leaves, picked from stems
- 1 small red onion, finely diced
- 1 tsp ground cinnamon
- 1 tsp ground allspice
- Juice of 1 lemon
- ½ c olive oil
- Sea salt

Per serving: 201 Calories, 2 g Protein, 9 g Carbohydrates, 3 g Fiber, 18 g Total fat (3 g sat, 13 g mono, 2 g poly), 44 mg Sodium, ★★★★★ Vitamin A, C, ★ Vitamin E, Folate, Iron, Manganese, Potassium

1. Working in batches, put chopped carrots in a food processor or chopper and pulse-blend until texture resembles that of bulgur wheat. Pour carrots into a large bowl while you prepare herbs.

2. Using a very sharp knife, slice parsley as thinly as possible, starting at the leafy top and working all the way to the stems. Repeat with mint leaves. Add both herbs to carrots.

3. Combine with tomatoes, onion, and spices. Dress with lemon juice and oil. Season with salt before serving.

Kitchen Note: The secret to preparing this beautiful dish lies in the way you chop your herbs. They should be lovingly sliced very finely to produce thin slivers with minimal bruising.

still crucial that we find ways to move our bodies. The fourth leading risk factor for early mortality throughout the world is physical inactivity.

And while it may be difficult to avoid stress, certain tools can help lessen its impact. Practicing meditation and mindfulness and getting plenty of exercise help to keep the harmful effects of stress to a minimum.

To incorporate the flavors of this healthy and popular eating plan into your life, give these seasonal recipes a try.

SELECTED SOURCES "Nutrition and Healthy Eating," www.MayoClinic.org, 6/14/13 ■ *The Vegeterranean Diet* by Julieanna Hever, MS, RD (\$17.99, Da Capo Press, 2014)

- D** Dairy Free
- G** Gluten Free
- N** Nut Free
- V** Vegan
- V** Vegetarian

For a guide to nutrition breakdowns, see page 6

FAVA BEAN AND MINT HUMMUS

From *Smashing Plates: Greek Flavors Redefined* by Maria Elia (\$27.95, Kyle Books, 2014)

20 MINUTES PREP TIME ■ SERVES 6

D G N V

- 1 lb, 2 oz fresh fava beans (shelled weight), or frozen if not in season
- Sea salt
- ½ c olive oil
- ¼ c finely chopped fresh mint
- ¼ c finely chopped fresh dill
- Juice of 1 lemon, divided

1. Cook fresh beans in lightly salted boiling water until tender (about 5 minutes, but check as time will vary depending on size and age of beans). Drain and plunge into ice-cold water.

2. Slide beans out of their skins, transfer to a food processor, and pulse to form a rough purée. (If using frozen fava beans, put them in cold water to defrost and then slide them from their skins. No cooking is required and color will be a lot more vibrant.)

3. With motor still running, gradually pour in oil, herbs, half of the lemon juice, and a pinch of salt. Pulse-blend until desired texture is achieved (chunky or smooth). Taste. Add more lemon juice or salt as needed.

4. Mix and transfer mixture to a container. Refrigerate until serving.

Kitchen Note: For a twist, replace the fava beans with cooked asparagus or fresh peas.

Per serving: 216 Calories, 4 g Protein, 10 g Carbohydrates, 3 g Fiber, 18 g Total fat (3 g sat, 13 g mono, 2 g poly), 38 mg Sodium, ★★★★★ Vitamin C, ★ Vitamin E, Folate, Manganese



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STAY STRONG

PROTEIN OPTIONS WITH REAL RESULTS

FOR DECADES, THE STANDARD MUSCLE-BUILDING MANTRA WAS SIMPLE: LIFT WEIGHTS, THEN EAT A STEAK. THE RESISTANCE EXERCISE BROKE DOWN YOUR MUSCLE FIBERS, AND THE PROTEIN HELPED BUILD IT BACK EVEN BETTER.

That idea is basically accurate, but there's much more to it than that. Nutrients such as amino acids, vitamins, and minerals play crucial roles in muscle growth and maintenance. And other protein sources—including plant-based formulas—may be more effective (and preferable) than red meat.

Whey-ing In

Whey protein has been the go-to protein source of late, with good reason. Derived from milk, whey protein contains all nine essential amino acids and is considered a complete protein. It can increase lean muscle growth, boost muscle recovery, and



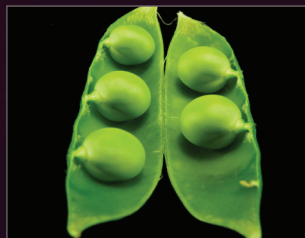
help reduce body weight and fat, especially when used in combination with resistance training.

New research found whey to be a useful supplement for retaining muscle mass during

weight loss. Overweight participants took about 27 grams (g) of whey or soy while maintaining a restricted-calorie diet for two weeks. The whey group had a greater increase in muscle protein synthesis, which helped them retain more muscle.

Veggie Power

A new study highlights a vegetarian option that may be just as effective as whey protein for muscle growth. Pea protein matched whey for gains in muscle thickness and strength in a group of males ages 18 to 35. The men took 25 g of whey or pea protein twice per day for 12 weeks while undergoing bicep-muscle training. Pea protein is



an excellent source of several amino acids—including lysine and arginine—which are vital for muscle development.

Another amino acid getting recent attention is leucine. A 2015

study found that the supplement increased the synthesis of muscle protein in older adults. The authors wrote that the new findings “suggest that leucine supplementation is useful to address the age-related decline in muscle mass in elderly individuals.”

Another study from this year found an increase in muscle mass in older adults who combined physical exercise with a supplement rich in leucine. The researchers noted that “fast proteins” such as leucine-rich whey “proved superior with regard to muscle protein synthesis.”

Covering the Bases

Also consider these supplements for muscle building and recovery.

■ **Magnesium.** Deficiency of this mineral is known to negatively affect physical performance. A

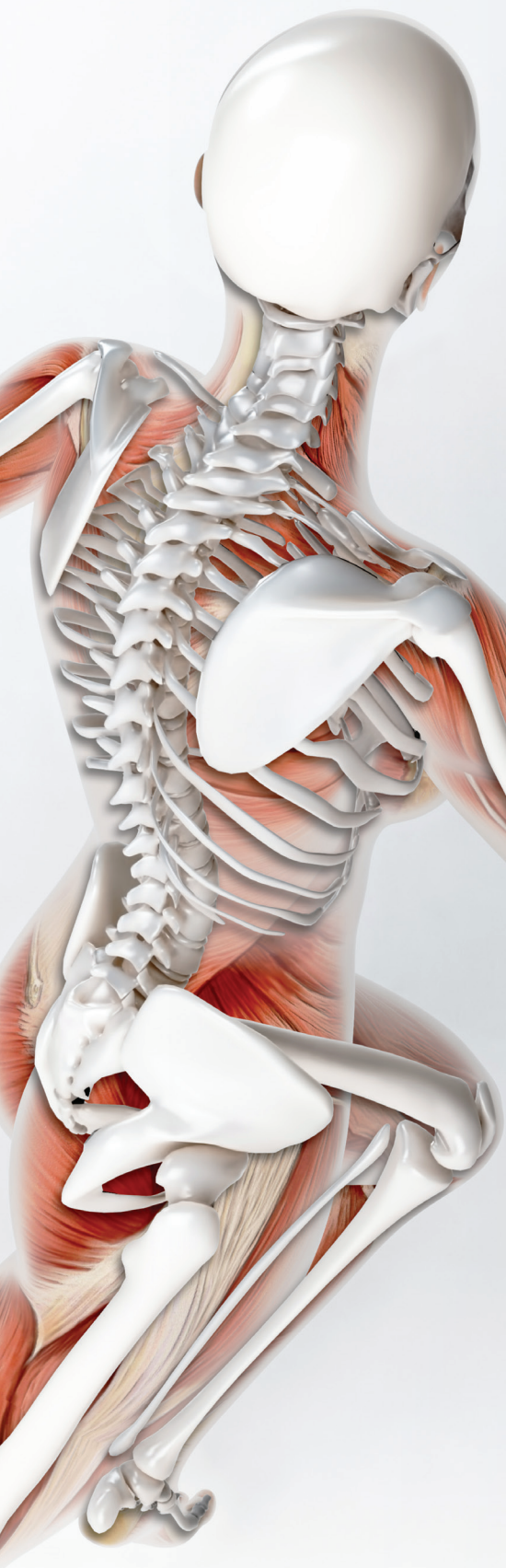


recent study showed strength gains in women who took 300 milligrams of magnesium oxide a day for 12 weeks while taking part in a fitness program.

■ **Vitamin D** works hand-in-hand with protein to improve muscle strength. In fact, recent research demonstrated the synergistic effects of D, protein, calcium, and inorganic phosphate on bone and skeletal muscle integrity. The authors wrote that combining the four nutrients with exercise “decreases the likelihood of bone and muscle degeneration-related injury in older adults.”

■ **Fiber.** Muscle breakdown and growth produces waste material. Dietary fiber is crucial for removing those waste products from the body. 🍌🍌🍌

SELECTED SOURCES “Effect of Oral Magnesium Supplementation on Physical Performance in Healthy Elderly Women . . .” by N. Veronese et al., 9/14; “Leucine-Enriched Essential Amino Acid Supplementation During Moderate Steady State Exercise . . .” by S.M. Paslakos, *Am J Clin Nutr*, 9/11 ■ “The Effectiveness of Leucine on Muscle Protein, Lean Body Mass, and Leg Mean Mass in Older People . . .” by Z. Xu et al., *British Journal of Nutrition*, 1/14/15 ■ “Effects of Whey Protein and Resistance Exercise on Body Composition . . .” by P.E. Miller, *Journal of the American College of Nutrition*, 4/14/14 ■ “Increased Protein Intake Could Boost Metabolism and Lean Muscle Mass” by Nathan Gray, 11/10/14; “Pea Protein Supplements Match Whey for Muscle Thickness Gains . . .” by Stephen Daniells, 1/26/15, www.NutraIngredients-USA.com ■ “Pea Proteins Oral Supplementation Promotes Muscle Thickness Gains During Resistance Training . . .” by N. Babault et al., *Journal of the International Society of Sports Nutrition*, 2015 ■ “Protein Supplementation with Aging” by J.M. Bauer and R. Diekmann, *Curr Opin Clin Nutr Metab Care*, 1/15 ■ “The Role of Dairy in Maintaining Adult Bone and Skeletal Muscle Health,” www.AlphaGalileo.org, 7/28/14 ■ “Whey Protein Supplementation Preserves Postprandial Myofibrillar Protein Synthesis During Short-term Energy Restriction . . .” by A.J. Hector et al., *J Nutr*, 2/1/15



BONE UP!

HOW TO KEEP BONES HEALTHY AND STRONG

They hold us up, they help us move around, they keep our organs safe, and they store important minerals. Bones: The human adult has 206 of them, from the penny-sized ossicles of the inner ear, without which we could not hear, to the femur, also known as the thighbone, the longest and strongest. They're the basis of the body's infrastructure, and keeping them healthy will help keep us healthy as we age.

Start Now

Bones change and grow throughout life—our bodies break down the old bone and manufacture new bone. But we do a better job of it when we're young. Up to about age 30, when we reach optimum bone mass, the body is faster at producing new bone than at dismantling old bone. After that, the process reverses, meaning bones are still renewed and regenerated, but we lose more bone mass than we gain.

This means the best time to shore up the bones is in childhood, adolescence, and young adulthood. The stronger they are when we hit peak bone mass, the more bone our bodies will have to draw on as we get older—and the less likely we are to develop a bone disease like osteoporosis, which weakens the bones and makes them more susceptible to breaking. That said, it's never too late to take action to keep bones healthy and strong.

It's All About the Calcium

Most of us know that the mineral calcium is needed for strong bones and teeth. But it plays other important roles in the body as well. It helps with blood clotting, transmitting nerve signals, squeezing and

relaxing muscles, releasing hormones, and regulating the heart-beat, and is found in nerve cells, body tissue, blood, and other bodily fluids in addition to bones and teeth.

The body can't manufacture calcium. If it needs more to help with nerve, muscle, or circulatory system function, it leaches it from the bones, which is why it's important to get your daily requirement of calcium through diet—and supplements, if necessary.

How much do you need per day? Here's a quick run-down. Children: ages 1 to 3, 700 milligrams (mg); 4 to 8, 1,000 mg; 9 to 18, 1,300 mg. Adults: ages 19 to 50, 1,000 mg; men ages 50 to 70, 1,000 mg; women 50 to 70, 1,200 mg; adults over 71, 1,200 mg.

Just eating calcium-rich foods or taking calcium supplements won't guarantee that your bones are protected. The body needs vitamin D to absorb and use calcium, so be sure you're getting enough through exposure to sun, foods such as oily fish and egg yolks, fortified foods, and supplements. Phosphorus and magnesium also help with calcium absorption.

Bone-Healthy Living

Getting enough calcium is the lynchpin to bone health, but it's not the only factor that affects skeletal strength. To ensure strong bones:

- **Get moving!** Strength-building and weight-bearing exercises—walking, weightlifting, climbing stairs—will increase bone mass. Aim for 30 minutes a day.
- **Minimize falling hazards.** Falling puts you at risk for breaking a bone, especially if you have osteoporosis. So do what you can to prevent falls. Start by making your home “fall-free” by removing loose rugs, moving furniture that impedes walking, and installing good lighting. Then consider incorporating balance-building activities like yoga, t'ai chi, and dancing into your routine.
- **Be good to your body.** Don't smoke, and limit alcohol intake.
- **Sleep well.** A recent study published in the *Journal of Bone and Mineral Research* suggests that the sleep disruption caused by sleep apnea can negatively affect bone metabolism.
- **Talk to your healthcare practitioner** about your risk factors for bone disease.

Make no bones about it—the stronger our skeletons, the more active we can be as we age. Take steps (both literal and figurative) now to keep your bones as strong and healthy as possible. 🦴🦴🦴

SELECTED SOURCES “Bone Health for Life: Health Information Basics for You and Your Family,” National Institute of Arthritis and Musculoskeletal and Skin Diseases, www.niams.nih.gov ■ “Bone Health: Tips to Keep Your Bones Healthy,” www.MayoClinic.org, 2/9/13 ■ “Calcium in Diet,” University of Maryland Medical Center, <http://umm.edu>, 2/3/15 ■ “Sleep Problems May Impact Bone Health,” *Science Daily*, 2/3/15



dairy-free calcium

Dairy products are practically synonymous with calcium, but how can you be sure to get enough calcium in your diet if you don't eat dairy? No worries; there are plenty of alternatives. Here are a few:

- Fortified tofu
- Fortified soy milk (calcium fortified)
- Dark green, leafy vegetables (broccoli, Brussels sprouts, mustard greens, kale)
- Chinese cabbage or bok choy
- Beans/legumes
- Sardines/salmon with edible bones
- Shrimp
- Almonds and Brazil nuts
- Sunflower seeds
- Tahini
- Blackstrap molasses



your anti-cancer arsenal

HARNESS THE POWER OF MEDICINAL MUSHROOMS & CURCUMIN

Humans across diverse cultures have used mushrooms for centuries to bolster health. Modern medicine is working hard to better understand these fungi's bioactive compounds that can help prevent and treat different forms of cancer at various stages.

Meet some of the most helpful medicinal mushrooms known to humankind. Always consult your healthcare practitioner before adding supplements to your health regimen.

Agaricus blazei, like other medicinal mushrooms, contains beta glucans, a group of polysaccharides (complex sugars) that stimulate the immune system. Agaricus also prevents the development of blood vessels needed for the growth of tumors.

Chaga (*Inonotus obliquus*) is found on birch trees and resembles charcoal. It's been used in Russia for decades to treat various cancers. In scientific studies, this mushroom shows a range of immune-supporting action, including activation of macrophages and B cells, which can produce antibodies.

Cordyceps sinensis has been used historically in China for its anti-tumor and immune-boosting properties.

Lion's mane (*Hericium erinaceus*) possesses anti-tumor and immunomodulatory effects.

Maitake (*Grifola frondosa*)

is a giant mushroom indigenous to Japan. Maitake D-fraction, a polysaccharide compound extracted from the mushroom, is the form most often used in research. In animal studies, maitake D-fraction has slowed the growth of tumors and activated cells that attack cancer, including natural killer (NK) cells and T-cells, which can attack tumor cells.

Researchers who incubated human breast cancer cells with Maitake D-Fraction from Maitake Products showed the substance caused significant death of cancerous cells. Another study, conducted in 2013, showed that treating human breast cancer cells with Mushroom Wisdom Maitake D-Fraction changed the expression of hundreds of genes, helping to block the growth of tumor cells. Do not take if you are on blood thinners.

Reishi (*Ganoderma lucidum*)—known as “the mushroom of immortality”—inhibits the growth of some tumors. Do not take if you are on blood thinners or immuno-suppressants.

Shiitake (*Lentinula edodes*) contains lentinan, a compound that bolsters immunity by activating anti-cancer cell activity.

Several clinical trials show that lentinan may extend the lives of those with stomach, colorectal, liver, and pancreatic cancers when used with chemotherapy. Those prone to kidney stones or gout may want to limit or avoid shiitake.

Turkey Tail (*Trametes versicolor*) looks like wild turkey tail feathers. This traditional East Asian medicine has demonstrated anti-cancer effects in leukemia and prostate and colorectal cancers. It can boost the immune systems of women with breast cancer undergoing radiation or chemotherapy.

SELECTED SOURCES “Antitumor and Hypoglycemic Activities of Polysaccharides from . . . *Inonotus obliquus*” by T. Mizuno et al., *Internat J of Medicinal Mushrooms*, 1999 ■ “Extract from Turkey Tail Mushroom Can Stop Prostate Cancer . . .” www.LifeExtension.com, 5/27/11 ■ “Genes Related to Suppression of Malignant Phenotype Induced by Maitake D-Fraction in Breast Cancer Cells” by E.N. Alonso et al., 2013; “Maitake (D Fraction) Mushroom Extract Induces Apoptosis in Breast Cancer Cells by BAK-1 Gene Activation” by R. Soares et al., 2011, *J Med Food* ■ “Lentinan from Shiitake Mushroom . . .” by T. Okamoto et al., *Biofactors*, 2004 ■ *Medicinal Mushrooms for Cellular Defense, Immunity & Longevity* by Christopher Hobbs (\$3.99, Rainbow Light, 2014)



Chaga (*Inonotus obliquus*)



Cordyceps sinensis



Lion's mane
(*Hericium erinaceus*)



Maitake
(*Grifola frondosa*)



Reishi
(*Ganoderma lucidum*)



Shiitake
(*Lentinula edodes*)



Turkey Tail
(*Trametes versicolor*)



Is Curcumin a Cure-All?

Taste for Life talked with Ajay Goel, PhD, director of Epigenetics, Cancer Prevention, and Cancer Genomics at Baylor Research Institute, Baylor University Medical Center, in Dallas, Texas. Dr. Goel's specialty is the prevention of gastrointestinal cancers through integrative approaches. He is encouraged by the promise of the medical applications of curcumin.



Q: What type of curcumin do you use in your research?

A: BCM-95 Curcumin, which is found in the Terry Naturally brand by Europharma. BCM-95 Curcumin is an enhanced absorption curcumin that absorbs up to 10 times better than plain curcumin.

Q: Tell us about your research.

A: My research focuses on how curcumin could prevent cancer by the way it influences epigenetic activity. Epigenetics examines the relationship between our genes and dietary and environmental influences, and looks at which factors turn certain genes on, and which factors turn them off. When cancer cells flourish, it is partly due to a process called methylation. Methylation suppresses natural anti-cancer activity in the body by silencing certain genes that suppress tumors, circumventing our body's own defense mechanisms. But curcumin is able to reawaken the sleeping genes.

Q: What evidence supports curcumin as a cancer treatment?

A: Cellular, animal, and human clinical trials have expanded the idea of how we can use curcumin alongside conventional chemotherapies and/or radiation therapies. My research shows that curcumin specifically targets cancer stem cells, which are not always fully eliminated by chemotherapy. Breast cancer research has shown that curcumin inhibits the activity of certain enzymes involved with building tissue, which in most cases is a good thing, but not when you're talking about tumors.

Q: Can people with cancer take curcumin if they are receiving treatment?

A: This should be discussed with their doctor. In many instances it might be very useful. Tumor cells become resistant to chemotherapy over time, and that's one of the biggest challenges with conventional treatment. When cancer stem cells are treated with a low dose of BCM-95 Curcumin, they become resensitized to the toxic effects of chemotherapy.

READ MORE "Curcumin in Chemoprevention of Breast Cancer" by K. Terlikowska et al., *Postepy Hig Med Dosw*, 1/2/14 ■ "Curcumin Chemosensitizes 5-Fluorouracil Resistant MMR-Deficient Human Colon Cancer Cells . . ." by M. Shakibaei et al., 1/3/14; "Curcumin Modulates DNA Methylation in Colorectal Cancer Cells" by A. Link et al., 2/27/13, *PLOS ONE* ■ "Curcumin . . . Is a Chemosensitizer and Radio Sensitizer for Tumors and Chemoprotector and Radioprotector for Normal Organs" by A. Goel and B.B. Aggarwal, *Nutr Cancer*, 2010

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