

Nutrition Action

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EYES RIGHT

How to protect your vision

If you were one of the 1.75 million Americans with advanced age-related macular degeneration (AMD), this is how a scene of a boy and his dog might look.

You'd think that people would do everything in their power to reduce their risk of AMD, cataracts, and glaucoma. Yet many of us could do more.

Eating green leafy vegetables and fish, not smoking cigarettes, staying lean, and getting an eye exam every year or two can help protect your eyes. And for people who already have macular degeneration, taking vitamins C and E, zinc, copper, and lutein plus zeaxanthin can keep the disease from progressing to its most damaging stage.

Continued on p. 3.

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FOOD DAY

OCTOBER 24, 2013

October 24 is Food Day, a nationwide celebration and a grassroots movement for healthy, affordable, sustainable food! Find an event near you, teach a child to cook, or host a Food Day dinner with friends and family.

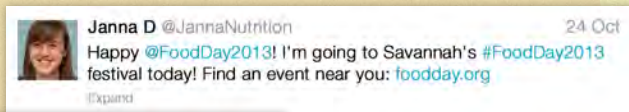
Take the Eat Real Quiz at FoodDay.org.

And be sure to share your plans on Twitter, Facebook, or Pinterest.

Here are some sample posts to get you started!



#FoodDay2013



Mike J
1 hour ago

Raise your hand if you love Food Day! October 24 is a great day to teach a kid to cook.



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Mary B, Scott L, Leslie J and 3,549 others like this.



facebook.com/FoodDayEatReal



Trying a new #recipe from Nutrition Action in honor of Food Day!
7 repins

Repinning by
Clare P

pinterest.com/foodday



www.FoodDay.org

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EYES RIGHT

How to protect your vision



Emily Chew is deputy clinical director of the National Eye Institute in Bethesda, Maryland. An ophthalmologist and retina specialist, she has led or analyzed the Age-Related Eye Disease Study (AREDS), the Action to Control Cardiovascular Risk in Diabetes (ACCORD) Eye Study, and the Early Treatment Diabetic Retinopathy Study. Chew serves on the editorial board of journals including *Retina* and *Investigative Ophthalmology & Visual Science*. She spoke to *Nutrition Action's* Bonnie Liebman by phone from Bethesda.

THE MACULA AT RISK

Q: What is age-related macular degeneration, or AMD?

A: The macula is the center of your retina. It's where your finest vision comes from. And that area is where this degenerative process occurs.

There are two different types of AMD. One is called neovascular, or the so-called wet type. Neovascular means you have abnormal new blood vessels that may lead to bleeding and a very acute loss of vision. [See "Macular Degeneration," p. 4.]

Atrophic, or dry, macular degeneration is a slow withering away of the normal seeing cells and the underlying structures. So you have blind spots in the center of your field of vision.

The wet type is less common, but it accounts for 80 percent of people with severe vision loss.

Q: Can AMD be treated?

A: New treatments have dramatically helped the wet type. The treatments counteract vascular endothelial growth factor, or VEGF, which is important for growing new blood vessels. VEGF also plays a role in the spread of cancer and in other diseases.

We inject into the eye the same drugs that we use for cancer—Avastin, for example. In most cases, vision remains stable, and in 40 percent of patients, the treatment actually reduces vision loss, which is quite remarkable. So these drugs have really revolutionized treatment of wet AMD.

We've been testing treatments for the dry type and exciting research is ongoing, but nothing has worked out yet.

Q: Is AMD a major public health problem?

A: Yes. At least 1.75 million people in the United States have advanced macular de-

generation. The number is going to reach three million people by 2020 because the population is growing older and surviving longer.

And about eight million or more people are now at risk for advanced macular degeneration. They have intermediate AMD, which is characterized by these yellow spots on the retina called drusen.

Q: Does early AMD cause symptoms?

A: In the beginning, you may have very few or no symptoms. Early AMD can only be diagnosed by an eye exam where your eyes are dilated. The ophthalmologist or eye care provider puts drops in your eyes to open up the pupil so he or she can look at the retina and other structures of the eye.

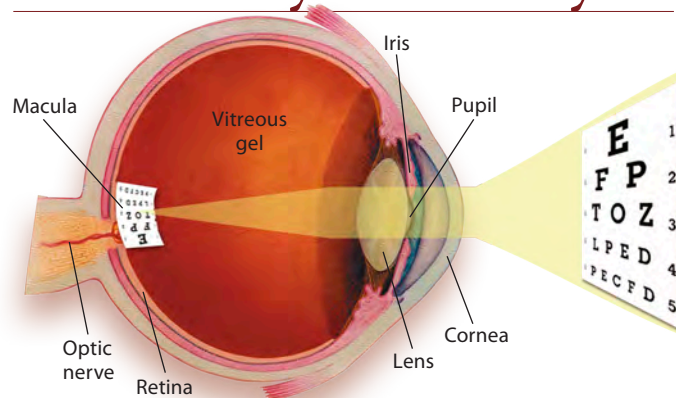
Q: What causes AMD?

A: The cause is unknown, but the main risk factor is age. The second most important risk factor is cigarette smoking, which can double your risk. And a number of studies have reported that people who consume more fish or green leafy vegetables have a lower risk of AMD, though that kind of study can't prove cause and effect.

Q: The National Eye Institute recently released the results of the second Age-Related Eye Disease Study, or AREDS2. What did the first AREDS study find?

A: The first study found that the AREDS formulation—a combination of vitamin C, vitamin E, beta-carotene, zinc, and copper—reduced the risk of progressing to advanced macular degeneration in those who had intermediate AMD. But the AREDS formulation didn't stop people with early AMD from progressing to intermediate AMD.

Anatomy of the Eye



The lens, which focuses light rays onto the retina, is supposed to be clear. Opaque areas, called cataracts, scatter light and blur vision. When the macula—the center of the retina—degenerates, it blurs the sharp, detailed vision that you need to read, drive, sew, etc.



Q: What led to the first AREDS formulation?

A: The vitamins C and E and the beta-carotene were designed to provide antioxidants. And we decided to add zinc because a very small study found that it might improve vision in a very short time.

Based on that small study, zinc had taken off. It was a multi-million-dollar business. We used 80 milligrams of zinc, a dose that was considered very high by our nutritional experts. But we wanted to give the same dose that that small study gave.

five-year clinical trial ended in 2001, all the patients were told to take the AREDS formulation, so it was no longer a clinical trial. The participants were followed for five more years, through 2005.

At that point, we still saw a 27 percent reduction in the risk of progressing to advanced disease in those who were originally assigned to take the AREDS formulation.

Q: What led to AREDS2?

A: When we evaluated the diets of people in the AREDS population, two nutrients

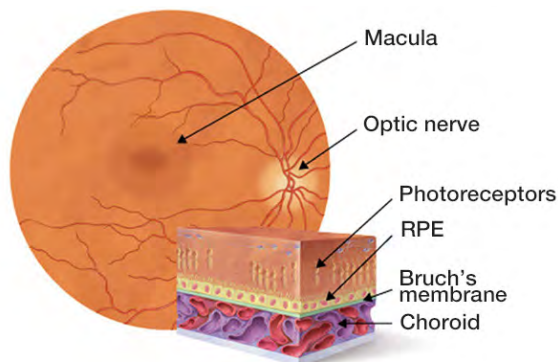
Q: So AREDS2 tested lutein and omega-3s?

A: Yes. We tested to see whether adding lutein and zeaxanthin and/or omega-3 fatty acids to the AREDS formulation would further reduce the risk of advanced AMD. All participants were randomly assigned to lutein and zeaxanthin, omega-3 fatty acids, the combination, or a placebo. [See “The AREDS2 Study,” p. 5.]

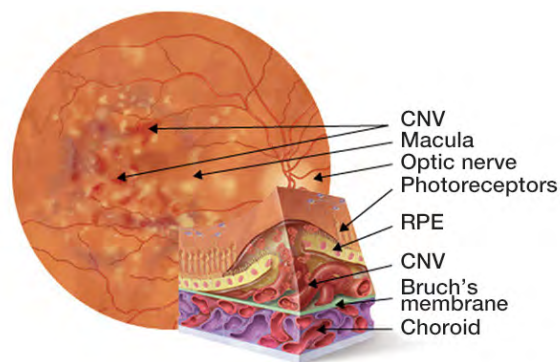
Q: What else did AREDS2 test?

A: We wanted to see if we could eliminate beta-carotene from the AREDS formula-

Macular Degeneration



The normal eye. Photoreceptors (rods and cones) produce waste that's removed by the retinal pigment epithelium (RPE), Bruch's membrane, and the choroid working together like a fireman's bucket brigade. Waste that doesn't get broken down collects in bundles called drusen (not shown).



The macula degenerates. If drusen build up, they can disrupt the RPE, the photoreceptors, and vision (dry macular degeneration). If abnormal blood vessels begin to grow—the process is called choroidal neovascularization, or CNV—they can bleed or leak fluid onto the retina (wet macular degeneration).

And we added copper because high doses of zinc can make it harder to absorb copper, which could result in anemia.

Q: Did you find any adverse effects?

A: Yes. In people who were given zinc, we found an increase in hospitalizations for urinary tract infections, an enlarged prostate in men, and stress incontinence in women. Stress incontinence is the loss of a small amount of urine when you cough, sneeze, laugh, or exercise. The problems occurred in 7.5 percent of people who took zinc and in 5 percent of those who did not take zinc.

Q: Did the benefit from the AREDS1 formulation last?

A: Yes. We recently published the results of a 10-year AREDS1 follow-up. When the

really popped out. First, we found that people eating fish, which is a great source of omega-3 fatty acids, had a lower risk of intermediate and advanced macular degeneration. Eating fish just two times a week was sufficient to see that effect. And other studies had found similar results.

Second, people who ate lots of green leafy vegetables, which are high in lutein and zeaxanthin, had a lower risk of AMD. Lutein and its virtually identical cousin, zeaxanthin, are particularly important because they're actually in the macula. They're pigments that might reduce light damage and might have anti-oxidative capacity.

We wanted to use lutein in AREDS1, but at that point, we didn't have a commercially available source.

Two large trials had demonstrated that smokers given high doses of beta-carotene—33,000 to 50,000 IU a day—had a higher risk of lung cancer. So we tested the AREDS formula with or without beta-carotene.

The second issue was the increase in hospitalizations in people who got zinc in AREDS1. So in AREDS2 we tested either the original dose of 80 milligrams or a lower dose of 25 milligrams. We saw no difference in hospitalizations or other adverse effects. We can't tell if taking no zinc would have led to fewer adverse effects because everyone in AREDS2 took zinc.

Q: Weren't the zinc takers in AREDS1 less likely to die?

A: Yes. We found that zinc reduced the mortality rate by about 20 percent. The

What AREDS2 Tested

AREDS2 tried to improve on the AREDS1 formula (vitamin C, vitamin E, beta-carotene, zinc, and copper).

Everyone in AREDS2 got

Vitamin C (500 mg), vitamin E (400 IU), and copper (2 mg)

In addition, people got

Either	Or
Lutein (10 mg) + Zeaxanthin (2 mg)	No Lutein + Zeaxanthin
DHA (350 mg) + EPA (650 mg)	No DHA + EPA
Beta-carotene (25,000 IU)	No Beta-carotene
Zinc (80 mg)	Zinc (25 mg)

Sources: JAMA 309: 2005, 2013 and JAMA Ophthalmol. 131: 843, 2013.

reduction was mostly due to fewer heart attacks and strokes. Further research is needed to follow up on those results.

Q: So everyone in AREDS2 got a variation of the AREDS1 formula?

A: Yes. These are people who are at high risk for advanced macular degeneration, so they all got the AREDS formulation. They all had intermediate AMD in both eyes or intermediate AMD in one eye and advanced disease in the other eye. So even the placebo group was getting the AREDS formulation.

Q: Did the omega-3s help?

A: They weren't beneficial or harmful for eyes. We're also looking at cardiovascular disease and cognitive function. We're still analyzing those results.

Q: What about lutein and zeaxanthin?

A: When the people who took lutein and zeaxanthin were compared directly to those who took beta-carotene, there was about a 20 percent lower risk of progressing to advanced AMD in those who took lutein and zeaxanthin.

Lutein and zeaxanthin had the greatest benefit for people who were getting the least lutein and zeaxanthin from their food. Those people had a 25 percent lower risk of progressing to advanced AMD than those who took beta-carotene.

Q: Did beta-carotene help?

A: The results suggested that beta-carotene probably wasn't playing much of a role. It's not in the eye, while lutein and zeaxanthin are. Beta-carotene was added because at the time we did AREDS1, it was a popular antioxidant.

Q: Did beta-carotene cause harm?

A: Because previous studies suggested that high doses of beta-carotene increased the risk of lung cancer in smokers, we didn't give beta-carotene to current smokers. However, in AREDS2 we found almost

a two-fold increase in lung cancer in people who were given beta-carotene. The disease was diagnosed in 2 percent of people who were given beta-carotene and in 1 percent of those who were not. Approximately 90 percent of these cancers occurred in former smokers.

Q: How long ago did the former smokers stop smoking?

A: We don't know, but it had to be at least one year before they entered the study.

Fifty percent of the participants in our studies were former smokers. And 7 percent of people in AREDS2 and 13 percent in AREDS1 were current smokers. So about two-thirds of the population with AMD have some smoking history. Beta-carotene should be eliminated from the AREDS formulation because of this adverse effect.

Q: Didn't beta-carotene block lutein from being absorbed?

A: Yes. Beta-carotene suppressed blood lutein levels. People who were given beta-carotene had 33 percent lower blood levels of lutein than those who were

not given beta-carotene. Beta-carotene and lutein are carried into the gut with certain proteins, and there's only so many there. If you flood the system with beta-carotene, less lutein gets in.

Q: Are foods that are rich in beta-carotene safe?

A: Yes. The risks associated with beta-carotene supplements haven't been found with food. People ask me, "Can I eat carrots?" Eat as much as you'd like. Eating foods rich in beta-carotene is not a problem.

Q: Were most people in AREDS2 getting lutein in Centrum Silver?

A: Yes. Some people in AREDS were taking multivitamins on their own before the study started. In order to make sure that they were all taking the same multivitamins, we offered all AREDS2 participants Centrum Silver, and 90 percent accepted it.

Centrum Silver contains 250 micrograms of lutein, which was much lower than the 10 milligrams we were studying. Ten milligrams is 10,000 micrograms. The 250 micrograms of lutein in Centrum probably didn't affect our study results. People with AMD should know that it is safe to take a multivitamin in addition to the AREDS formulation.

Q: Can you get 10,000 micrograms of lutein a day from food?

A: It's hard to get that much from food. People at the highest intakes get

>>>>>



A scene as viewed by someone with a healthy retina.



A scene as viewed by someone with macular degeneration.

6,000 micrograms a day, and that would be eating about a third of a cup of cooked spinach every day. That's a lot of spinach.

People with the lowest intakes eat the equivalent of maybe a third of a cup a week. And the people in AREDS consume more than the general population. They're a well-nourished, well-educated group. These are mostly people who are taking care of themselves. And the extra lutein was still helping them.

Q: Did the AREDS2 nutrients slow both wet and dry AMD?

A: Mostly they helped with neovascular, or wet, AMD. But the interesting thing is that most people don't just get neovascular. They get a mix. Quite often, 30 percent of the people with dry or geographic atrophy type also develop new blood vessels within five years. So we're really talking about everybody with macular degeneration, because you can't sort out who's going to get what. We don't have a crystal ball.

Q: Should people who don't have AMD still take the AREDS nutrients?

A: No. People who have a family history of AMD or who think they might be at risk should have a dilated eye exam. If they are diagnosed with intermediate AMD, then they should consider taking the AREDS formula.

On the other hand, we should all eat a diet replete with fish and green leafy vegetables, not just for the eyes but to lower the risk of cardiovascular disease, cancer, and other conditions. And even though we didn't find a benefit from omega-3 supplements, data from other studies are very compelling that we should eat fish.

Q: Why would omega-3s help?

A: EPA, or eicosapentaenoic acid, and especially DHA, or docosahexaenoic acid, are major building blocks of the retina. They may also play a role in reducing inflammation. We had great hopes that they would be beneficial.

Of course, the data on omega-3s and cardiovascular disease looked promising years ago, and less promising in the last five or 10 years, partly because people are receiving better care for their cholesterol and high blood pressure.

Maybe our patients were so well nourished that they didn't need extra



A scene as viewed by someone with a cataract.

omega-3s. Maybe just a little in the diet goes a long way.

Why didn't omega-3 fatty acids work in AREDS2? Did we use the wrong dose? Did we start too late? Is our ratio of DHA to EPA incorrect? We don't know the answers, but we're conducting further analyses.

Q: What about B vitamins or other nutrients that AREDS didn't test?

A: In a randomized trial of 5,442 women, the combination of vitamin B-6, vitamin B-12, and folate reduced the risk of macular degeneration. These were interesting

results that are worth further investigation.

Q: And neither vitamin C nor vitamin E helped in those women or in the men in the Physicians' Health Study?

A: That's correct. Those vitamins slow down the progression of disease in people who already have it, but it looks like they don't prevent it.

BEYOND MACULAR DEGENERATION

Q: What are cataracts?

A: A cataract means that the eye's lens becomes opaque. Aging is the main risk factor. The most common surgery in the U.S. is for cataracts. If we can reduce cataracts by even 10 to 20 percent, we'd make a remarkable dent in rates of surgery.

Diabetes is known to increase the risk of cataract. Smoking and light exposure probably increase the risk. Women tend to have a slightly higher risk than men, and people who are overweight or obese have a higher risk than those who are normal weight.

Q: Did the AREDS nutrients prevent cataracts?

A: The AREDS1 formula didn't have a beneficial or harmful effect on cataracts. In AREDS2, participants with the lowest intakes of lutein and zeaxanthin who were given lutein and zeaxanthin had about a 30 percent lower risk of cataract surgery than those who got no lutein or zeaxanthin. We need to explore those findings further.

Q: Does anything else help prevent cataracts?

A: In AREDS1 we found that people who were taking Centrum had a lower risk of nuclear cataracts, which occur when the lens gets thicker and thicker.

And a few years later, an Italian trial sponsored by the National Eye Institute found that Centrum reduced the risk of nuclear cataracts but increased the risk of posterior subcapsular cataracts, which are in the back of the visible lens. So that was a mixed message.

Q: Which type is most common?

A: Nuclear. But posterior subcapsular cataracts cause the most vision problems earlier and most noticeably if they're

Digging for Lutein

If you're looking for lutein-rich vegetables and fruits, here's where to start.

Vegetables & Fruits <i>(½ cup, vegetables cooked, unless noted)</i>	Lutein + Zeaxanthin <i>(milligrams)</i>
Kale	15.5
Spinach (2 cups raw)	10.4
Spinach	9.6
Swiss chard	9.4
Collard greens	5.3
Peas, frozen	2.0
Romaine lettuce (2 cups raw)	2.0
Brussels sprouts	1.1
Zucchini	1.0
Broccoli (2 spears)	0.9
Yellow corn	0.8
Asparagus	0.7
Green beans	0.6
Iceberg lettuce (2 cups raw)	0.2
Nectarine (1)	0.2
Orange (1)	0.2

Source: U.S.D.A. National Nutrient Database.

right in the center of the back of the lens.

In AREDS2, 90 percent of our patients were taking Centrum, so we don't know whether it had an effect on

cataracts, but results from the Physicians' Health Study and other randomized trials should give us some idea of what's going on with that.

We didn't look at omega-3 fatty acids, because there's no biological reason omega-3s would have any effect on cataracts.

Q: How does diabetes harm eyes?

A: Diabetes can lead to small-blood-vessel disease. And the eyes have small blood vessels. The longer you've had diabetes and the higher your blood sugar is, the more likely you are to get diabetic eye disease, or diabetic retinopathy.

The small vessels can actually close up, and the body reacts by developing abnormal new

vessels, which can cause hemorrhaging and scarring. A bleed in the eye could block vision. It can actually detach the whole retina and cause blindness.

Q: Can lower blood sugar protect against diabetic retinopathy?

A: Yes. If you have diabetes, you're doing very well if you keep your hemoglobin A1c—that's a long-term measure of blood sugar levels—around or below 7 percent. We've proven in studies that people with type 1 or type 2 diabetes who have tight control on their blood sugar have less progression of diabetic eye disease. It could be as much as a 70 percent reduction.

That's tremendous. No drug can give you that. It's also crucial for people with type 1 or type 2 diabetes to manage their



A scene as viewed by someone with diabetic retinopathy.

or older should have an exam with their eyes dilated every one or two years. Many don't. And among people with diabetes, who should have their eyes examined on a yearly basis, less than half get a yearly eye exam.

Having an eye exam is crucial. The leading causes of blindness—macular degeneration, cataracts, and especially glaucoma—can sneak up on you without your ever knowing you have them. And if you have diabetes, your risk of eye disease

blood pressure and cholesterol.

Q: Do most people get their eyes checked often enough?

A: No. It's a problem. Everyone aged 65

and losing vision is much higher. There's so much more we can do for diabetics now.

and losing vision is much higher. There's so much more we can do for diabetics now.

and losing vision is much higher. There's so much more we can do for diabetics now.

Q: That test with a puff of air isn't enough to detect glaucoma?

A: Simply measuring the eye pressure is not

sufficient. Glaucoma can cause damage to the optic nerve. A dilated eye exam allows the ophthalmologist to see if the nerve is damaged.

Testing the field of vision is also important to look for defects of glaucoma. The visual field test picks up which part of the field you're missing.

If you have glaucoma, you may not realize that you're missing the peripheral field, because if you've got two eyes, you're always scanning. But if you look straight ahead and you can't see your hands when they're held out to your sides, then it's because you don't have peripheral vision.

Q: So you need both the visual field test and the dilated eye exam to

diagnose glaucoma?

A: Yes. And both are especially important in people who are suspected of having glaucoma or have a family history of it. Glaucoma is more common and is diagnosed at a younger age in African Americans.

Q: How does a dilated eye exam find macular degeneration?

A: We look for drusen in the early stages. If you have AMD, one thing you can do to monitor yourself is to close one eye and see if you can read newsprint. Or look at straight lines on graph paper with one eye covered to see if they look crooked.

Covering one eye helps because sometimes when you have an eye disease in one eye, the other eye compensates so well that you don't notice it. People say, "I accidentally covered my eye because I was brushing my hair and I realized that I can't see out of my other eye."

Even to find cataracts, you want to have your eyes dilated. When you look into the pupil, you only see a small part of the lens. But when you dilate, you see probably 80 percent of the lens.

Q: What would you tell someone without AMD who wants to take the AREDS formulation?

A: We don't have evidence that the AREDS formulation makes any difference if you don't have intermediate AMD. In AREDS1, the supplement didn't help prevent cataracts or keep the early stages of AMD from progressing. The AREDS2 supplement is for people who have intermediate disease—that is, who are at risk for advanced disease. We don't know the side effects of taking these supplements in the long term. 🍌



A scene as viewed by someone with glaucoma.

The Bottom Line

- To protect your eyes, eat lutein-rich foods (like green leafy vegetables) and fish.
- Get an exam with your eyes dilated every year or two.
- If you have intermediate macular degeneration, take lutein (10 mg), zeaxanthin (2 mg), zinc (25 mg), vitamin C (500 mg), and vitamin E (400 IU) every day.

Blood Sugar & Dementia



To keep a lid on blood sugar, lose excess weight and exercise.

Diabetes increases the risk of Alzheimer's disease and other dementias. But what about blood sugar levels that are elevated, but not high enough to be diabetes?

Researchers tracked 2,067 people aged 65 and older (most were in their 70s) in the Adult Changes in Thought (ACT) study for seven years.

Among participants who didn't have diabetes, the higher their average fasting blood sugar over the previous five years, the higher their risk of dementia. For example, those who had an average fasting blood sugar of 115 mg/dL were 18 percent more likely to be diagnosed with dementia than those with a fasting blood sugar of 100 mg/dL.

Among participants *with* diabetes, those with an average fasting blood sugar of 190 mg/dL had a 40 percent higher risk of dementia than those with a fasting blood sugar of 160 mg/dL.

(A fasting blood sugar level is normal if it's below 100 mg/dL. You have prediabetes if it's 100 to 125 mg/dL and diabetes if it's over 125 mg/dL.)

What to do: This study can't prove that high blood sugar causes dementia, but it's one more reason to keep blood sugar levels normal. The best strategy: lose excess weight and exercise. Even short bouts of brisk walking several times throughout the day can help. It's also worth limiting foods that raise blood sugar levels rapidly, especially sugar-sweetened beverages.

N. Engl. J. Med. 369: 540, 2013.

Resveratrol Blunts Exercise Benefits

Resveratrol, an antioxidant found naturally in red wine, red grapes, and other fruits, may counter the benefits of exercise training.

Scandinavian researchers randomly assigned 27 healthy sedentary men aged 60 to 72 to take either resveratrol (250 milligrams) or a placebo every day for eight weeks. During that time, all the men participated in high-intensity interval training (alternating high- and low-intensity periods on a stationary bicycle) twice a week and full-body circuit training (a series of resistance and aerobic exercises) once a week.

By the end of the study, the men taking the placebo had better oxygen capacity (a sign of aerobic fitness) than those who took the resveratrol. Blood pressure, triglycerides, and LDL ("bad") and HDL ("good") cholesterol improved only in the placebo group.

And the placebo takers performed better on the "Up & Go" test, which measures the ability to get out of a chair quickly.

What to do: There's no reason to take resveratrol supplements. Earlier studies on animals had suggested that resveratrol might quench damaging "reactive oxygen species" that are generated by exercise and that increase with aging. However, this study suggests that using resveratrol to remove the reactive oxygen species may blunt the benefits of exercise. Stay tuned.

And don't worry about the resveratrol in wine. You'd have to drink 113 bottles of California merlot to get the 250 mg that were used in this study.

J. Physiol. 2013. doi:10.1113/jphysiol.2013.258061.

Cutting Calorie Density

Eating foods with fewer calories per bite can help people eat less and stay trim. But what's the best way to cut calorie density?

One day a week for four weeks, scientists provided all the food (breakfast, lunch, dinner, and evening snack) eaten by 59 adults aged 20 to 45. On those days, the researchers lowered the calorie density of the entrées by 20 percent in one of three ways: adding less fat (butter or oil), increasing fruits and vegetables, or adding water. (For example, the researchers added water to a Tex-Mex pasta casserole and a chicken rice casserole by turning them into soups.)

The participants weren't told what the study was testing or how the entrées varied. For instance, the fruits and vegetables were either chopped into small pieces or puréed so participants wouldn't notice them.

The results: the volunteers ate roughly 400 fewer calories on days when the entrées had less fat, roughly 300 fewer calories on days when the entrées had more fruits and vegetables, and about 230 fewer calories on days when the entrées had extra water.

What to do: If you're trying to cut calories, try eating dishes with more water, more fruits and vegetables, and (especially) less fat.

Appetite 66: 75, 2013.

Bad Belly

People with more visceral (deep belly) fat have a higher risk of both cardiovascular disease and cancer.

Scientists monitored 3,086 men and women (the average age was 50) in the Framingham Heart Study for five years. Those with larger visceral fat depots (measured by CAT scan) had a 44 percent higher risk of cardiovascular disease (largely heart attacks and strokes) and a 43 percent higher risk of cancer than those with smaller fat stores.

(The study didn't specify *which* cancers, but earlier studies suggest that breast and colorectal cancers are most clearly linked to being overweight.)

What to do: Beware of a big belly. Boost your brisk walking or other aerobic exercise and cut back on sugary foods (especially drinks) to shrink your waist.

J. Am. Coll. Cardiol. 2013. doi:10.1016/j.jacc.2013.06.027.

OSTEOARTHRITIS

Keeping the joints rockin'

BY STEPHANIE SCARMO



“Twenty or 30 years ago, osteoarthritis was considered a nuisance disease,” says arthritis expert Roland Moskowitz. “You have some aches and pains that go along with growing old that you just have to live with.”

No more. “We now recognize the impact that osteoarthritis has on daily living and the ability of people to work,” says Moskowitz. Here’s what we’re learning about one of the most common causes of disability in America.

Weight

“The heavier you are, the more likely you are to get osteoarthritis,” explains David Felson, professor of medicine and epidemiology at the Boston University School of Medicine.

Osteoarthritis is caused by the breakdown of cartilage, which can lead to pain and stiffness in the knees, hips, and other joints. (It is a different disease than *rheumatoid* arthritis, an autoimmune condition in which the body attacks the lining of the joints.)

When researchers in Norway tracked more than 1,600 people with healthy knees for 10 years, those who were overweight or obese were two to three times more likely to be diagnosed with osteoarthritis of the knee than those who were normal weight.¹

Among the ways that weight can damage your joints:

■ **Load.** “Every extra pound increases the stress across the knee joint three to five times,” says Roland Moskowitz. “So you’re increasing your risk of osteoarthritis many times by being overweight.” Moskowitz is clinical professor of medicine at University Hospitals Case Medical Center in Cleveland.

■ **Injury.** “In addition to the extra stress on the joints, being overweight may increase the risk of injuring the joints, which can lead to osteoarthritis,” notes Carrie Karvonen-Gutierrez, an assistant research professor at the University of Michigan School of Public Health.

In one study, 500 people who were having surgery to repair a torn meniscus were about three times more likely to

be overweight than to be normal weight.² (The meniscus is the cartilage that helps your knees absorb and distribute weight across the joint. See “Rolling Joints.”)

“People with small meniscal tears tend to be at very high risk for getting osteoarthritis later,” notes Felson.

■ **Inflammation.** “We now know that fat cells release inflammatory chemicals that can break down cartilage,” says Karvonen-Gutierrez. Increased inflammation throughout the body might explain why some people get arthritis in the hands, which aren’t weight bearing.

“Obesity is the number-one risk factor for osteoarthritis, one that’s preventable and modifiable,” says Karvonen-Gutierrez. “So weight loss is really important.”

Shedding pounds is also important if

you *have* arthritis. In four trials involving a total of more than 450 overweight or obese adults with osteoarthritis of the knee, those who lost at least 5 percent of their body weight reported less physical disability.³

In the largest of the four studies, 76 overweight or obese adults aged 60 and older who lost an average of 11 pounds over 18 months reported 24 percent better knee function than 78 similar people who were told that a healthy lifestyle is important, but who didn’t lose any weight.⁴ (Better function means, among other things, greater range of motion, better ability to bear weight, and an easier time climbing stairs.) The weight-losers also reported feeling 30 percent less pain.

Beyond Weight

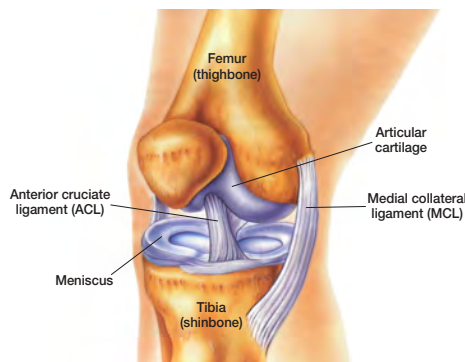
Weight aside, your risk of osteoarthritis depends on some things you can control and some you can’t.

■ **Strength.** “The weaker you are, the more likely you are to develop osteoarthritis,” explains Felson. Weak thigh, calf, and hip muscles can lead to joint injuries like a torn ACL or meniscus. That increases the risk of cartilage loss. If you continue to stress the injured joint, “it could bring on osteoarthritis symptoms and maybe structural damage even earlier,” says Felson.

■ **Strenuous use.** Overuse from occupations that repetitively stress the joints—landscaping, climbing ladders, or scrubbing floors on your knees, for example—can increase the risk of osteoarthritis.

■ **Age & genes.** The longer you’ve been using your joints, the more likely they are to wear out. Whether your parents had arthritis matters, too. About half the risk for arthritis of the hip or hand

Rolling Joints



■ **Shock absorber.** Ligaments connect bones, and cartilage acts like a cushion between bones. If the cartilage starts to break down, bone rubs against bone. The result: the pain and stiffness of osteoarthritis.



may be determined by your genes.⁵

Being female. Women are more likely to get arthritis than men after middle age. One possible reason, according to the Arthritis Foundation: women's wider hips put more long-term stress on their knees.

Help for Joints

"If you have osteoarthritis, exercise is one of the most effective treatments we know," says David Felson.

It's not that exercise can cure or slow the progression of osteoarthritis. "Its benefit is to alleviate pain and increase range of motion, not necessarily to make the structure of the joint better," notes Felson.

How can exercise curb pain? "It can lower overall inflammation," says Allison Bailey, a physician specializing in physical medicine in Cambridge, Massachusetts.

Inactivity leads to more trouble. "If you don't keep using an arthritic knee or hip, you can lose flexibility," says Felson. "Doing weight-bearing exercises keeps muscles strong and flexible, which reduces further injury to the joints."

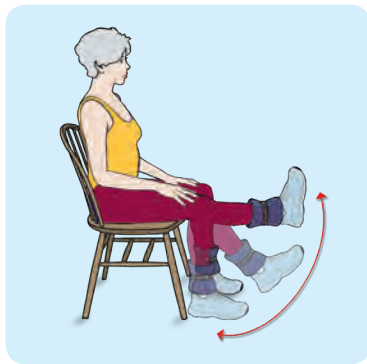
On the other hand, adds Felson, "doing aggressive physical activity when you've injured a joint may not be wise," because you risk damaging the joint even further.

Here's what Bailey and other experts recommend:

STRENGTH TRAINING. Strong muscles absorb weight, provide stability, and help the joints move the way they're designed to. Among 95 older adults with mild to moderate arthritis of the knee, those who were told to do strengthening exercises for 12 weeks reported less knee pain and climbed stairs faster than those who weren't told to exercise.⁶

Bailey gives patients with mild to moderate knee and hip osteoarthritis some simple at-home exercises (see illustration).

"I usually have patients do strengthening every other day," she says. "The overall goal is to strengthen the quadriceps—the muscles in the front of the thigh—and the gluteal muscles in the buttocks."



To ease into a strength-training program, try www.cdc.gov/physicalactivity/growingstronger/exercises.

Bailey has her patients start with gentle stretching. "Then they do two sets of each exercise, with 10 to 12 repetitions each."

"You can also strengthen the muscles without doing weight-bearing activities," notes Moskowitz. For example, if lifting weights hurts, try Bailey's leg extension exercise without ankle weights.

If an exercise hurts, don't do it, says Felson. "Ask your doctor about exercises that don't cause you pain."

AEROBIC EXERCISE. Exercises like walking briskly, jogging, biking, and swimming increase blood flow to cartilage, which gives it the nutrients it needs to stay healthy.

What's more, "cardiovascular exercises help reduce the body's sensitivity to pain signals," explains Bailey. For instance, people who cycled for 25 minutes felt less pain when researchers applied uncomfortable pressure to one of their fingers after they exercised than before they exercised.⁷

"Ideally, cardio should be done daily, or at least six days a week," says Bailey.

In 2012, a group of Canadian arthritis experts concluded that walking for 30 to 50 minutes at least three days a week relieved osteoarthritis knee pain. The longest trial they reviewed lasted only three months, though.⁸

Some people with arthritis prefer swimming because it puts less pressure on the joints. "If you're afraid to start moving," says Bailey, "you may want to consider using aquatic therapies as a bridge to land-based activities."

While water exercise relieved pain from knee and hip osteoarthritis in four trials, it didn't improve walking ability or stiffness.⁹

TAI CHI. The classic Chinese martial art involves a series of slow and gentle movements that combine balance with weight-shifting poses.

"I recommend tai chi to a lot of my patients, especially because you can do it indoors in the winter months," says Bailey.

In a recent meta-analysis of seven small trials, people with arthritis of the knee or hip who practiced tai chi for 40 to 60

Glucosamine

Most arthritis supplements contain glucosamine, a compound made by our bodies that helps form cartilage. Yet 25 randomized controlled trials over the last 33 years haven't produced a consensus about whether glucosamine pills are more effective than a placebo.

"Glucosamine doesn't work, period," says David Felson of the Boston University School of Medicine. Not so certain is Roland Moskowitz of the University Hospitals Case Medical Center in Cleveland.

"There are reasons to think that it may help, and some studies that suggest it does," he counters. Yet Moskowitz helped run the National Institutes of Health's GAIT trial, which found that glucosamine *doesn't* work.²

One reason for the uncertainty: there are two forms of glucosamine. Glucosamine hydrochloride—the kind in most supplements



and the one used in the GAIT trial—was no better than a placebo in three studies.

Glucosamine sulfate, on the other hand, seems to relieve pain and improve function, according to the Cochrane Collaboration, a network of scientists who review the evidence for medical therapies.³

But all nine trials that found a benefit were funded and run by the supplement industry, usually by the Italian manufacturer of one glucosamine sulfate formulation. In the three trials that were conducted by independent investigators, glucosamine sulfate was no better than a placebo.⁴

Despite the lack of evidence, Felson doesn't talk his patients out of trying glucosamine. "If they think something is working and it's not dangerous, I don't discourage its use."

Chondroitin

Our bodies make chondroitin, which provides some of cartilage's resistance to pres-

Photos: CSPI.

minutes a day for at least 12 weeks reported less pain and stiffness and improved function in their joints than similar people who engaged in a non-physical activity like playing bingo.¹⁰

But only two of the studies included

PILLS FOR PAIN?

BY DAVID SCHARDT

Got osteoarthritis? Odds are, you take ibuprofen, aspirin, or another non-steroidal anti-inflammatory drug (NSAID) to deal with the pain and stiffness. You may also take—or have been tempted to try—one of the dozens of arthritis supplements sold at your local drugstore or supermarket. Do they do a better job at relieving arthritis pain? Can they build cartilage? Don't count on it.

Take Osteo Bi-Flex, which advertises that its exclusive ingredient, 5-Loxin, provides relief in as little as seven days. Yet in two company-funded studies, people with arthritis of the knee who took Osteo Bi-Flex for seven days reported no less pain on three of four pain scales than similar people who took a placebo.¹

Here's the evidence behind some popular ingredients in arthritis supplements.

sure. In the more rigorous trials, chondroitin alone didn't relieve arthritis pain better than a placebo.⁵

Glucosamine & Chondroitin

In the GAIT trial, taking glucosamine hydrochloride plus chondroitin every day for six months didn't relieve pain or improve joint function any more than a placebo for 317 people with osteoarthritis of the knee.² At first, researchers thought that the combination may have helped just the 57 participants who started the trial with moderate-to-severe pain. But when they monitored participants for two more years, they saw no benefit.⁶

MSM

Companies often replace some of the chondroitin in their supplements with MSM (methylsulfonylmethane), which is less than a tenth the cost. In three trials that used much more MSM than most supplements contain, researchers saw either no benefit or such slight improvements in pain or function that they questioned whether MSM would make much of a difference for arthritis sufferers.⁷

Avocado & Soybean Unsaponifiables (ASU)

The extract of avocado and soybean oils slows inflammation of cells in test tubes. But in the

only good study in people published during the last 11 years, 166 men and women with arthritis of the hip who took 300 milligrams of ASU every day for three years reported

no less pain or stiffness and no better joint function than 179 similar men and women who took a placebo.⁸

Joint space width, an X-ray measure of the severity of the disease, worsened in 50 percent of the placebo takers and 40 percent of the ASU takers. Does that small difference matter? "The clinical relevance of this requires further assessment," said the researchers.

Fish Oil & Krill Oil

No good studies have looked at whether fish oil helps relieve osteoarthritis pain. Krill oil, which is manufactured from zooplankton that are harvested in the Antarctic Ocean, also contains the omega-3 fats DHA and EPA.

In one company-funded trial on 69 people with either osteoarthritis or rheumatoid arthritis, those who took 300 mg a day of krill oil reported less pain after 14 days and less stiffness after seven days than those who took a placebo.⁹

Since rheumatoid arthritis is a different disease than osteo-

arthritis, and since rheumatoid arthritis may be helped by omega-3s, it's not clear that krill oil did anything for the people with osteoarthritis.

Vitamin D

When researchers gave 2,000 IU of vitamin D every day for two years to 73 men and women with osteoarthritis of the knee, "it had no impact on their level of knee pain," says Timothy McAlindon of the Tufts Medical Center in Boston, who led the NIH-funded study.¹⁰

In other words, vitamin D provided no more relief than a placebo. It didn't slow down cartilage loss any better, either.

SAM-e

In a half-dozen trials, people with osteoarthritis who took 1,200 mg of SAM-e (S-adenosylmethionine) every day for one to four months reported as much pain relief as those who took non-steroidal anti-inflammatory drugs like Celebrex or ibuprofen.¹¹

"There does seem to be a small pain relieving effect, similar to NSAIDs," says David Hunter, professor of rheumatology at the University of Sydney Medical School in Australia. "But in general, the trials are small, and the optimum dose and treatment period remains unclear."

Then there's SAM-e's price. A month's supply of 1,200 mg a day can cost \$80 to \$110. That may be why supplement companies often recommend taking less than that, though there's no good evidence that less helps relieve arthritis pain.



people with arthritis of the hip, so it's not clear whether tai chi only helps the knee.

"An alternative is gentle daily stretching," says Bailey. (No good studies have looked at whether stretching or yoga can help relieve arthritis pain.) 🍌

¹ *BMC Musculoskelet. Disord.* 2008. doi:10.1186/1471-2474-9-132.

² *Am. J. Prev. Med.* 28: 364, 2005.

³ *Ann. Rheum. Dis.* 66: 433, 2007.

⁴ *Arthritis Rheum.* 50: 1501, 2004.

⁵ *Arthritis Res. Ther.* 2009. doi:10.1186/ar2531.

⁶ *Osteoarthritis Cartilage* 18: 621, 2010.

⁷ *J. Rehabil. Res. Dev.* 42: 183, 2005.

⁸ *Arch. Phys. Med. Rehabil.* 93: 1269, 2012.

⁹ *Cochrane Database Syst. Rev.* 2007. CD005523.

¹⁰ *PLoS One* 2013. doi:10.1371/journal.pone.0061672.

¹¹ *Rheumatology* 50: 911, 2011.



The Grain Event

BY KATE SHERWOOD

Whole grains cook much faster if you boil them in plenty of water, as you would pasta. Our recommended half-cup serving for grains can seem skimpy, so we've piled on the vegetables and upped the serving size to 1 cup. 🍌

Got a question or suggestion? Write to Kate at healthycook@cspinet.org.

Mixed Rice with Roasted Peppers & Red Onion

Serves: 6 | Total Time: 40 minutes



- ¾ cup mixed rice (wild, brown, black, etc.)
- 2 bell peppers, diced
- 2 Tbs. extra-virgin olive oil, divided
- 1 red onion, diced
- 2 Tbs. balsamic vinegar
- ¼ cup pine nuts
- ¼ cup golden raisins
- ½ tsp. kosher salt

We used Lundberg's Wild Blend rice. You can use any whole grain for this recipe, adjusting the cooking time as needed.

In a large pot, boil the rice in plenty of water until tender, about 30 minutes. • While the rice is cooking, preheat the oven to 450°F. • Line two rimmed baking sheets with foil. On one, toss the peppers with 1 Tbs. of the oil. On the other, toss the onion with the remaining 1 Tbs. of oil and the vinegar. Roast for 15 minutes. • Add the pine nuts to the peppers and the raisins to the onions and continue to roast until the nuts are browned, 4-5 minutes. • Drain the rice well and toss with the peppers and onions. • Season with up to ½ tsp. of salt.

Per serving (1 cup): calories 180 | total fat 8 g | sat fat 1 g
sodium 170 mg | carbs 28 g | fiber 3 g | protein 3 g

Creamed Cauliflower & Brown Rice

Serves: 6 | Total Time: 40 minutes



- 1 lb. cauliflower, chopped into small pieces
- 3 Tbs. extra-virgin olive oil
- 3 cloves garlic, minced
- ¾ cup short-grain brown rice
- ⅓ cup grated parmesan cheese
- 1 Tbs. lemon juice
- ½ tsp. kosher salt
- freshly ground black pepper

This simple, scrumptious dish tastes remarkably creamy but uses no cream. Remove a few pieces of browned cauliflower for garnish and serve with lemon wedges.

In a large, heavy pot over medium heat, sauté the cauliflower in the oil until browned, about 3 minutes. • Stir in the garlic and cook for 1 minute. • Stir in the rice with 3 cups of water and bring to a boil. Cover and adjust the heat to simmer for 25 minutes. • Uncover and stir until the cauliflower starts to fall apart. Continue simmering until the rice is tender, about 5 minutes. • Remove from the heat and stir in the parmesan and lemon juice. • Season with up to ½ tsp. of salt and plenty of black pepper.

Per serving (1 cup): calories 190 | total fat 9 g | sat fat 2 g
sodium 260 mg | carbs 23 g | fiber 2 g | protein 5 g

Wild Rice Sauté

Serves: 4 | Total Time: 45 minutes



- ¾ cup wild rice
- 1 large carrot, finely diced
- 1 stalk celery, thinly sliced
- 1 Tbs. canola oil
- 1 apple, finely diced
- 6 scallions, sliced
- 1 Tbs. dijon mustard
- ⅛ tsp. kosher salt
- freshly ground black pepper

Crunch. Flavor. Color. This dish has it all. It's best when made with a tart-sweet apple like a Granny Smith.

In a large pot, boil the rice in plenty of water until tender, about 40 minutes. • While the rice is cooking, in a large skillet, sauté the carrot and celery in the oil over medium heat until tender, 3-5 minutes. • Stir in the apple and scallions and cook until just hot, 1-2 minutes. • In a small bowl, mix the mustard with 2 Tbs. water. • Drain the rice and add to the skillet. Remove from the heat and stir in the diluted mustard. • Season with up to ⅛ tsp. of salt and freshly ground black pepper.

Per serving (1 cup): calories 170 | total fat 4 g | sat fat 0 g
sodium 170 mg | carbs 31 g | fiber 3 g | protein 5 g

PB & BEYOND

Nut (and not-nut) butters

BY JAYNE HURLEY & BONNIE LIEBMAN



Peanut butter is a staple in 90 percent of U.S. households. It's a lunchbox classic.

But the familiar comfort food has gone gourmet. Move over creamy and chunky. Here come Mocha Cappuccino, Dark Chocolate, Vanilla Espresso, Honey Pretzel, and Cookie Nookie. And there's a new breed of butters made of almonds, cashews, hazelnuts, sunflower seeds, and soybeans. These days, you can even find cookie butters.

Here's what to try...and what to leave on the shelf.

The information for this article was compiled by Paige Einstein.

Peanut Butter Basics

"Omega-3 ALA." "0g Trans Fat." "All Natural." Do those claims matter? Not so much.

■ **ALA.** You don't need ALA (alpha-linolenic acid) added to your peanut butter. The evidence that the omega-3 fat in flaxseed and other vegetable oils protects the heart is weaker than the evidence for the omega-3s EPA and DHA in seafood.

■ **Trans fat.** No peanut butters have trans these days, since companies no longer add partially hydrogenated oils. Some add *fully* hydrogenated oils, which have no trans fat.

■ **Natural.** On some labels, "natural" means no hydrogenated oils. But many brands add palm oil instead, which bumps up the saturated fat slightly (by 1 gram or less per two-tablespoon serving). "Natural" may also mean no added oil or emulsifier to keep the peanut butter's oil from separating from the peanut sludge. That's fine if you don't mind stirring your peanut butter each time you use it or keeping it in the refrigerator (though that makes it harder to spread).

If those claims don't matter, what does?



Try Laura, Smucker's, Adams, or others with no added salt or sugar.

■ **Salt.** Two tablespoons of most peanut butters have 70 to 200 milligrams of sodium. That's not high, but to many people peanut butter tastes fine without it. That's why our Best Bites have no added salt (or sugar).

If the label says "low sodium," "½ less sodium," "pinch of salt," or "hint of sea salt," expect around 60 to 100 mg. But always check the Nutrition Facts. Some brands have that much (or less) and make no sodium claim.

■ **Sugar.** Big brands like Jif, Skippy, and Peter Pan add a trivial 1 or 2 grams to the 1 or 2 grams that occur naturally in the peanuts. It's no big deal. But these days, "artisan" varieties like Peanut Butter & Co. Cinnamon Raisin Swirl and Sunland Natural Peanut Butter Creamy Chocolate Spread can hit 9 grams of sugar per serving—7 of them added. That's ½ of the six-teaspoon daily added sugar limit for women or the nine-teaspoon max for men. Some brands have enough sugar to displace a gram or two of protein.

Planters NUT•rition Banana Granola Nut and Cherry Chocolate Energy Mix Peanut Butters sound healthier. But they've got more sugar than fruit. And PB Crave Coco Bananas and Sunland Natural Peanut Butter Creamy Banana Spread have no fruit at all (unless you count banana extract or "natural flavor"). If you want fruit, put slices of apple, pear, or banana on your sandwich.

PB Light

Peanut butter is rich in unsaturated fat, vitamin E, and magnesium, and it supplies some copper, fiber, and zinc.

But PB has an Achilles' heel: two *flat* tablespoons pack about 200 calories. (Jif To Go single-serve cups contain about 2½ tablespoons and 250 calories, which may be closer to what most people probably eat.)

That's more than the 50 to 80 calories in two ounces of turkey or ham or a quarter cup of tuna. (And those sandwich fillings have 10 to 12 grams of protein. Two tablespoons of peanut butter have just 7 or 8 grams.)

Here's how some brands trim the calories:

■ **Powdered.** Powdered peanut butter, like PB2 and Just Great Stuff Organic, is made by slow-roasting and pressing peanuts to remove 85 percent of the oil. You mix two tablespoons of powder with one tablespoon of water and stir.

The result: a creamy texture and rich peanut taste for just 50 calories (and roughly the same amount of protein as regular peanut butter) per serving, which shrinks to 1½ tablespoons.

■ **Better'n Peanut Butter.** It cuts the calories to 100 by mixing defatted peanut flour with peanut butter and sugars. But that cuts the protein to 4 grams—too low for a Best Bite or Honorable Mention.

■ **Whipped.** Jif Whips and Peter Pan Whipped knock the calories down to about 150 by adding air. But that also drops the protein to 5 grams (Jif) or 6 grams (Peter Pan).

Warning: don't confuse "fewer calories" with "less fat." Jif, Skippy, and Peter Pan Reduced Fat varieties replace fat (and peanuts) with corn syrup solids, so the calories still hover around 200 in every two tablespoons.

Sugar instead of nuts? That's no bargain.



A third the calories, and all the protein, of regular PB.



Nut, Seed, & Soy



Less sat fat, and higher in nutrients, than peanut butter.

Is peanut butter passé? Not quite, but it's sure got company.

■ **Almond butter.** It has less saturated fat and more vitamin E, magnesium, iron, and copper than peanut butter. And most brands have about 10 percent of a day's calcium in a two-tablespoon serving. Every (unflavored) almond butter we found was a Best Bite or Honorable Mention. Just be prepared to pay at least twice as much as you would for peanut butter.

■ **Cashew butter.** Cashews are rich in magnesium and copper, and they have more iron and zinc (but less vitamin E) than peanuts. On the downside, they have about half the cholesterol-lowering polyunsaturated fat of almonds, peanuts, or sunflower seeds. That means there's less good fat to balance out the saturated fat (3 grams in a two-tablespoon serving). And cashew butter is slightly lower in protein (4 to 5 grams per serving) than other nut butters. That's why no cashew butters earned a Best Bite or Honorable Mention.

■ **Soy butter.** "Jelly has a Great New Partner," says the I.M. Healthy Creamy SoyNut Butter label. It may not taste exactly like peanut butter, but it might satisfy people who can't eat nuts. Soy butter is made of roasted or toasted soybeans that have been blended with soy and palm oil, sugar, and salt. Calorie-wise, it's in the same ballpark as peanut butter.



If you can't eat nuts, give it a try.

■ **Sunflower seed butter.** "Peanut Free!" says Sunbutter Natural Sunflower Seed Spread. That's a plus for people who can't eat nuts. Like Sunbutter, Trader Joe's Sunflower Seed Butter is made in a nut-free plant. Sunflower seed butters by Once Again and MaraNatha are made in facilities that also process nuts.

Sunflower seed butter is lower in saturated fat (and higher in fiber) than peanut butter. And it has more vitamin E, magnesium, zinc, and copper.

Butter vs. Butter

Here's how much of a day's worth (% of the Daily Value) of five nutrients you'd get in two tablespoons of a typical butter, according to the USDA.

	Vitamin E	Iron	Magnesium	Zinc	Copper
Almond	39	6	22	7	15
Cashew	2	9	21	11	35
Hazelnut	25	8	14	5	28
Peanut	14	3	12	6	8
Sunflower	37	7	25	10	26

SpecuLoser

"A delicious European alternative to peanut butter," says the Lotus Creamy Biscoff Spread jar.

"This rich, deeply flavorful Belgium Speculoos spread is a delicious way to enhance toast, bagels, waffles, crepes, croissants, cakes & fruit," says Natural Nectar's Speculoos.

Trader Joe's Speculoos Cookie Butter was its top-selling product of 2012. Some stores had to ration their supplies.

Really? Speculoos is mostly white flour, sugar, and oil. (Talk about cheap ingredients. *Someone's* cashing in.) Its calories (about 200 in two tablespoons) and saturated fat (2 to 3 grams) resemble peanut butter's, but Speculoos has virtually none of peanut butter's protein, fiber, vitamin E, magnesium, copper, zinc, or other nutrients.

Why not just spread puréed cookies on your toast?



Puréed cookies. None of the nutrients, but all the calories, of peanut butter.

Choco Spreads



Less sugar than most chocolate-nut spreads.

"Turn a balanced breakfast into a tasty one," says the Nutella jar. The "Hazelnut Spread with Skim Milk & Cocoa" sounds healthy. It's not.

Nutella has more added sugar (five teaspoons) and palm oil than nuts. And it couldn't have much skim milk powder because two tablespoons have only 2 grams of protein and 4 percent of a day's calcium. What's more, peanut butter's sat fat (2 to 3 grams in two tablespoons) is balanced by its cholesterol-lowering unsaturated fat (12 to 14 grams). Nutella's sat fat (4 grams) isn't.

Jif's new Chocolate Hazelnut Spread is a Nutella wannabe. Trader Joe's Cocoa Almond Spread and Natural Nectar's Almond Choco Dream swap almonds for hazelnuts, but they're still mostly sugar and (palm and/or canola) oil, not nuts.

In contrast, you get more nuts than sugar and oil in Justin's Chocolate Hazelnut Butter Blend, Skippy Natural Peanut Butter Spread with Dark Chocolate, Peanut Butter & Co. Dark Chocolate Dreams, MaraNatha All Natural Dark Chocolate Peanut Spread, and Sunland Natural Peanut Butter Creamy Chocolate Spread. Nuts up the protein (to 4 to 6 grams in two tablespoons), but you still get about 1½ teaspoons of added sugar—too much for an Honorable Mention.

PB Crave Choco Choco's teaspoon of sugar (half of it added) and 3½ grams of sat fat also were a bit too much for an Honorable Mention. The only HM: NuttZo Chocolate Seven Nut & Seed Butter. It's mostly nuts and dark chocolate chips, with 7 grams of protein and about a quarter teaspoon of added sugar. But it's \$13 a jar, and taste-wise it wasn't a crowd pleaser.

Or pick up a powdered chocolate peanut butter like PB2 with Premium Chocolate (if you can't find it, try Amazon) or Just Great Stuff Organic Chocolate. They're short on protein (4 grams), but 1½ tablespoons prepared have just 40 to 50 calories and half a teaspoon of added sugar. 🍪

The Spreadsheet

Best Bites (✓✓) have no added salt or sugar. Honorable Mentions (✓) can have up to 150 milligrams of sodium and 3 grams of sugar. Both must have at least 6 grams of protein and no more than 3 grams of saturated fat in a two-tablespoon serving. *Unflavored butters* are ranked from least to most sodium, then most to least protein and least to most sugar. *Flavored butters and cookie spreads* are ranked from least to most sugar, then most to least protein and least to most sodium. *Single-serving packages* are ranked from least to most calories, then least to most sodium.

Reduced-Calorie Peanut Butter (2 Tbs. unless noted)

	Calories	Protein (g)	Sodium (mg)	Total Sugars (g)
✓ PB2 (1½ Tbs.)	50	5	90	1
Just Great Stuff Organic (1½ Tbs.)	50	4	90	2
Jif Whips Creamy	140	5	100	2
Better'n Peanut Butter Low Sodium	100	4	100	2
✓ Peter Pan Whipped Creamy	150	6	110	2
Better'n Peanut Butter Original	100	4	190	2

Peanut Butter (2 Tbs.)

✓✓ Any brand, unsalted and unsweetened ¹	200	8	0	1
✓ Once Again Organic—Creamy or Crunchy ¹	210	9	40	2
✓ Peanut Butter & Co. Old Fashioned ¹	190	8	40	1
✓ Once Again Natural—Creamy or Crunchy ¹	180	7	40	1
✓ Adams Organic, Laura Scudder's Organic, Santa Cruz Organic, or Smucker's Organic ¹	210	7	50	1
✓ Once Again Organic American Classic ¹	210	9	60	2
✓ MaraNatha Organic Hint of Sea Salt Crunchy	180	8	60	1
✓ Trader Joe's Organic Salted ¹	190	8	60	1
✓ MaraNatha Organic No Stir Creamy	180	8	70	3
✓ Jif Natural or Simply Jif ¹	190	7	70	3
✓ Sunland Natural—No Stir or Valencia with Sea Salt and Roasted Flaxseed ¹	200	8	80	3
✓ Skippy Natural ½ Less Sodium & Sugar*	210	7	80	2
✓ Whole Foods 365—Creamy or Crunchy ¹	200	8	90	2
✓ Adams, Laura Scudder's, or Smucker's—Natural creamy or Natural crunchy ¹	210	7	100	1
✓ Peanut Butter & Co.—Crunch Time or Smooth Operator ¹	180	7	100	3
✓ Earth Balance Natural and Flaxseed ¹	190	7	110	2
✓ Whole Foods 365 Organic—Creamy, Crunchy, or Unsweetened Creamy ¹	200	7	110	3
✓ Laura Scudder's Natural Style Reduced Fat	190	8	120	2
✓ Smucker's Natural Style Reduced Fat	190	8	120	2
✓ Trader Joe's Salted ¹	190	8	130	1
✓ Peter Pan—100% Natural, Plus, or regular ¹	210	8	130	3
✓ Jif—Creamy, Extra Crunchy or Omega-3 ¹	190	7	130	3
✓ Adams No-Stir Crunchy	210	7	140	1
✓ Skippy Natural—Creamy or Super Chunk* ¹	190	7	140	3
✓ Planters—Natural or regular ¹	180	7	150	3
✓ Skippy regular or Smart Balance Rich Roast ¹	190	7	150	3
✓ Reduced Fat—Jif, Peter Pan, or Skippy ¹	190	7	170	4

Almond, Cashew, & Other Nut Butters (2 Tbs.)

✓✓ Any brand, unsalted and unsweetened ¹	190	7	0	2
Whole Foods 365 Cashew Butter ¹	190	5	0	2
✓ Trader Joe's Almond with Sea Salt Creamy	190	8	60	2
✓ MaraNatha All Natural Almond No Stir Creamy	190	6	60	3
✓ NuttZo Seven Nut & Seed ¹	180	7	70	1
✓ Sunland Natural Almond with Sea Salt and Roasted Flaxseed	200	7	80	1

	Calories	Protein (g)	Sodium (mg)	Total Sugars (g)
✓ Barney Butter Almond—Crunchy or Smooth ¹	180	6	90	3
Jif Cashew* ¹	200	4	90	3
✓ Jif Almond ¹	190	7	100	3

Soy & Sunflower Seed Butter (2 Tbs.)

✓✓ Once Again Organic Sugar & Salt Free Sunflower Seed	180	6	0	1
✓✓ Sunbutter Organic Sunflower Seed	220	6	30	1
✓ MaraNatha All Natural Sunflower Seed	180	9	70	1
✓ I.M. Healthy SoyNut ¹	190	8	100	2
✓ Sunbutter Sunflower Seed—Creamy, Natural, Natural Crunch, or Natural No-Stir Creamy ¹	200	7	120	3
✓ Trader Joe's Sunflower Seed	200	7	120	3
Wowbutter Toasted Soy ¹	200	7	120	4

Flavored Peanut Butter (2 Tbs. unless noted)

✓ Peanut Butter & Co. The Heat Is On	190	8	40	1
✓ Skippy Roasted Honey Nut ¹	190	7	130	3
✓ Justin's Honey Blend	190	6	70	3
Just Great Stuff Organic Chocolate (1½ Tbs.)	40	4	60	3
PB2 with Premium Chocolate (1½ Tbs.)	50	4	70	3
Smucker's Natural With Honey	210	6	30	4
PB Crave* or Planters NUT•rition Energy Mix ¹	180	6	130	5
Jif Natural Honey	190	7	90	6
Peter Pan Honey Roast—100% Natural or regular ¹	210	8	120	8
Peanut Butter & Co., except The Heat Is On ¹	170	6	50	8
Sunland Natural Banana Creamy	180	6	90	8
Skippy Natural with Dark Chocolate*	200	6	120	8
MaraNatha All Natural Dark Chocolate	180	5	30	8
Jif Whips Peanut Butter & Chocolate	150	3	60	8
Sunland Natural Chocolate Creamy*	210	6	40	9

Flavored Almond, Hazelnut, & Other Nut Butters (2 Tbs.)

✓ NuttZo Seven Nut & Seed Chocolate	180	7	90	2
✓ Barney Butter Almond flavored ¹	190	6	0	2
✓ Wild Friends Vanilla Espresso Almond	180	6	40	2
✓ Wild Friends Chocolate Sunflower Seed Almond	190	6	40	3
✓ Justin's Almond—Honey or Maple ¹	190	6	70	3
Justin's Chocolate Hazelnut Blend	180	4	70	7
Trader Joe's Cocoa Almond	210	2	20	19
Natural Nectar Choco Dream ¹	210	2	0	20
Jif Hazelnut* or Nutella* ¹	220	2	30	21

Cookie Spreads (2 Tbs.)

Trader Joe's Speculoos Cookie Butter ¹	180	2	30	10
Lotus Biscoff Spread ¹	180	1	70	11
Natural Nectar Speculoos*	240	2	0	20

Single Serves

✓ Justin's 80 Calories Honey Peanut (1 Tbs.)	80	3	30	1
✓ Justin's 90 Calories Maple Almond (1 Tbs.)	90	3	30	1
✓ Barney Butter Almond 90 Calorie (1 Tbs.)	90	3	50	2
✓ Peanut Butter & Co. Smooth Operator (2 Tbs.)	180	7	100	3
✓✓ Justin's Classic Almond or Peanut (2 Tbs.) ¹	200	7	0	2
✓ Jif To Go—Creamy or Natural Creamy (2½ Tbs.) ¹	250	9	150	4
✓ Sunbutter Creamy Sunflower Seed (2½ Tbs.)	270	9	160	4

✓✓ Best Bite. ✓ Honorable Mention. ¹ Average. *Contains more than 3 grams of saturated fat.

Daily Limits (for a 2,000 calorie diet): **Sodium:** 1,500 milligrams. **Added Sugar:** 25 grams (6 tsp.) for women, 38 grams (9 tsp.) for men. (Note: To convert grams of sugar to teaspoons, divide by 4.2.) **Protein Daily Target:** 50 grams.

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RIGHT STUFF

AHOY, SAVOY!



Coleslaw, stuffed cabbage, sauerkraut. Everyone knows dishes made with ordinary green cabbage. But **savoy cabbage**? Which one is that?

First of all, savoy is a bit funny looking. Its crinkly, veined leaves make it look like

green cabbage's elderly cousin. But age has its advantages.

Savoy has a milder, sweeter taste, and it has no strong sulfury smell when cooked. It's also less dense than green cabbage, so it's easier to cut, and its thinner leaves cook more quickly. In fact, savoy's leaves are tender enough to eat raw in salads even if you don't shred them finely (as in coleslaw). Savoy is in season during late fall and winter, but you should be able to find it in grocery stores year-round.

And savoy can hold its own in any vitamin competition. Just a half cup of cooked shredded leaves has 21 percent of a day's vitamin C, 13 percent of a day's vitamin A, and 8 percent of a day's folate...all for less than 20 calories. And who can stop at half a cup?

Ready for delish?

Stir-fry sliced savoy in canola oil with garlic, ginger, and scalions, then drizzle with toasted (Asian) sesame oil and reduced-sodium soy sauce. Or sauté chopped savoy in olive oil with onions, apples, and a sprinkle of caraway seeds, then season with a pinch of salt and a splash of red wine vinegar. Or cut savoy into thin wedges, brush with olive oil, roast in a 450°F oven until browned on the edges, then sprinkle with balsamic vinegar.

The same recipes work with napa cabbage, an even milder and easier-to-cut cousin.

Welcome to the cabbage patch.

FOOD PORN

LUNCH LOAD

Looking for a light lunch? Don't look at **Maggiano's**.

Every one of the chain's sandwiches has at least 1,000 calories.

But the **Italian Sausage Sandwich** is, well, special. Between the

thick slices of focaccia, the

sausage, the provolone, the "Italian Vegetables" (sliced bell peppers), and the marinara sauce, you're already carrying an extra 1,590 calories back out to the car. Were you *hoping* to ingest two days' worth of saturated fat (43 grams) and sodium (3,300 milligrams) in one quick lunch?

And that doesn't count the "Parmesan Frites"—menu-speak for fries sprinkled with cheese. Now you're up to 1,940 calories plus 47 grams of sat fat and 4,010 milligrams of sodium. That's more than *any* dish at Maggiano's except the Veal Porterhouse, the Surf & Turf, or the dinner-sized Veal Parmesan. You might as well order three Pizza Hut Supreme Personal Pan Pizzas (pepperoni, pork sausage, beef, and veggies) for lunch. Unless you're a lumberjack, the odds of working off 1,940 calories before dinner—or breakfast tomorrow—are somewhere between minuscule and nonexistent.

Your best bet: the Grilled Salmon Salad, which clocks in at (a still-not-that-low) 640 calories. (It would be lower without the "Linguine Crisps"—fried pasta—and the hefty pour of balsamic honey mustard dressing.)

Maggiano's has a delightful Old World feel. But we're not working in the fields anymore. The calories we burn come from going from the car to the couch.

Hello, headquarters? Anyone home?

Maggiano's: (800) 983-4637

dish OF THE MONTH

Spinach & White Bean Stew

Sauté 3 minced garlic cloves in 2 Tbs. of olive oil for 1-2 minutes. Stir in a 15 oz. can of no-salt-added white beans with their liquid and a bag of baby spinach.

Season with up to 1/8 tsp. of salt and plenty of freshly ground pepper. Serve with

1/4 cup of grated parmesan cheese.