

Prunes Help Preserve Bone Density and Strength in Aging Women

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August 15, 2025

STORY AT-A-GLANCE

- › A Penn State study found that eating just four to six prunes a day helped postmenopausal women maintain bone strength and density over a full year
- › Those who ate no prunes lost strength in their shinbone, while those who included prunes preserved their bone structure, especially in the outer, load-bearing layer
- › Researchers used advanced 3D bone scans to detect improvements in geometry and quality – not just mineral density – giving deeper insight into real fracture resistance
- › The bone-protective effects are linked to natural anti-inflammatory compounds in prunes that influence both bone remodeling and gut health, supporting long-term skeletal health
- › Prunes offer a practical daily strategy with wide-ranging benefits, including heart, brain, and metabolic support, without the risks of high-dose calcium or pharmaceuticals

Historically, prunes were seen as digestive aids or outdated snacks, but their medicinal use traces back thousands of years. In traditional cultures, dried plums weren't just used for constipation – they were consumed to strengthen the body, reduce inflammation, and restore vitality.

Now, modern science is catching up. A recent study has discovered that eating just a few prunes a day helped maintain bone structure and strength, especially among postmenopausal women – a population at high risk for fractures and bone loss. But

that's just the start — you'll be surprised at the many health benefits this humble yet nutrient-packed fruit offers.

What Are Prunes Good For?

Prunes are often considered a remedy for constipation, usually recommended to elderly people who have trouble emptying their bowels. However, there's more to prunes than meets the eye. These are one of the most underrated fruits out there, mainly because many people are unaware of their health benefits.

- **Prunes are plums** — To put it simply, prunes are dried plums, and while not all plums can be turned into prunes, all **prunes used to be plums**. In particular, a variety called "French" or "d'Agen" is used to make prunes, due to their large size and high natural sugar content.¹
- **Majority of prunes come from California** — In the U.S., 99% of the prunes are grown in this state. California prunes also make up 70% of the global production, according to the University of California's Division of Agriculture and Natural Resources. France, Chile, and Argentina are other major producers of this product.²
- **Prunes are versatile** — They are used as a sugar or fat substitute, enjoyed as a snack or dessert, or added to savory dishes, such as in Mediterranean cuisine. They also have a longer shelf life than plums.
- **Their dark color says a lot about their nutrient profile** — Prunes are high in antioxidants called polyphenols, which give fruits and vegetables their vibrant color. The dark color of prunes is a testament to their high polyphenol content. Other nutrients in this fruit include fiber, vitamin K, potassium, copper, and magnesium³ — all of which may contribute to its many benefits, such as for bone health.

Eating Just a Few Prunes a Day Helps Maintain Bone Strength in Postmenopausal Women

A recent paper published in Osteoporosis International examined whether a simple daily habit like eating a few prunes each day could slow down or even stop bone loss. Part of what's called "[The Prune Study](#)," the recent findings presented by Penn State University researchers provided evidence on these fruits' measurable effects on bone strength and density.⁴

- **Postmenopausal women were the main focus of the study** — The researchers followed 235 postmenopausal women around 62 years old, who were split into three randomized groups — one group didn't eat any prunes, another group ate about four to six prunes (around 50 grams) a day, and the last group ate about 10 to 12 prunes (around 100 grams) a day.
- **They used advanced 3D imaging to track bone changes** — For a year, they tracked the women who participated, evaluating their bone health status every six months. "[T]hey were assessed using a peripheral quantitative computed tomography, or pQCT, scan, which allows for cross-sectional imaging to measure 3D bone mass density, bone geometry, and bone strength," SciTechDaily reported.
- **Here's what they found** — The women who didn't eat prunes lost bone strength and bone density in their tibia (shin bone) during the observation period. Meanwhile, those who ate at least four to six prunes per day maintained both, particularly in the cortical bone (the stronger and denser outer shell of the bone).

While both prune-eating groups saw benefits, many of those who were consuming 100 grams per day dropped out of the study, mainly because they became tired of incorporating so many prunes into their daily diet.

"This is the first randomized controlled trial to look at three-dimensional bone outcomes with respect to bone structure, geometry and estimated strength," Mary Jane De Souza, a professor of kinesiology and physiology at Penn State and one of the study authors, said.

"In our study we saw that daily prune consumption impacted factors related to fracture risk. That's clinically invaluable."⁵

- **One of the most important details here is what part of the bone was preserved –** The tibia has two layers – an outer hard layer called cortical bone and an inner spongier layer called trabecular bone. The cortical layer is especially important because it carries the load of your body weight, so when it starts to thin, your bones are more likely to crack or break.

In the prune-eating groups, cortical bone strength and thickness stayed intact. But in the women who skipped prunes, those outer walls started to erode. That puts them at greater risk for fractures.

What Happens to Your Bones When You Eat Prunes Every Day?

In the U.S., more than 10 million people are said to have **osteoporosis**, a condition wherein bone density drops and the skeleton becomes fragile. It occurs more often in women than in men, underscoring the significance of the study's findings.

- **Your bones are constantly changing –** Your bone undergoes remodeling through specialized cells called osteoclasts and osteoblasts. Osteoclasts break old bones while osteoblasts replace them with new material. However, as you grow older, your osteoblasts cells no longer work as fast as they used to; osteoclasts take over, causing an imbalance. As a result, bone breaks faster as the rebuilding process slows down.

This puts you at risk of osteoporosis, increasing your chances of falls, fractures, and other bone injuries.

- **Half of all women over 50 will experience a bone fracture –** According to the National Institutes of Health, 50% of postmenopausal women will have a fracture, whether in their hip, wrist, or spine, during their lifetime. And among those who get a hip fracture, only one-third will be able to resume their normal life.⁶

- **Low estrogen during your postmenopausal years speeds up osteoporosis —** Estrogen is crucial for bone health, but after menopause, your estrogen production declines. This causes you to lose more bone density, which is why postmenopausal women have a higher osteoporosis risk.
- **The compounds in prunes interfere with this destructive cycle —** The researchers believe that the polyphenols in prunes help lower levels of inflammation, which accelerates bone breakdown, in the body. Chronic low-grade inflammation is a quiet but steady driver of many aging-related diseases, including osteoporosis. By calming this inflammation, prunes help tip the balance back in favor of bone-building cells.
- **Studies also point to prunes' effects on the gut microbiome —** The researchers have published a follow-up study looking at how prunes influence the gut microbiome, which in turn impacts bone metabolism. They found that participants with certain gut microbiome reap the bone health benefits of prunes.

"We identified several microbiome and human health variables associated with responders to prune supplementation. These factors may be involved in the mechanisms underlying the bone-protective effects of prune supplementation in postmenopausal women," the researchers reported.

Overall, the researchers conclude that prunes offer a simple, natural strategy for women trying to preserve their bone strength in the years after menopause. And unlike drugs or high-dose calcium, prunes come with an assortment of nutrients that help other systems in your body as well.

What Else Can Prunes Do for Your Health?

If you've only ever eaten prunes to bring your potty schedule back on track, you're surely missing out on the many advantages of these fruits. The [benefits of prunes](#) stretch beyond your digestive system, as they are found to support your heart, brain, and blood sugar health.

- **Prunes help protect you from cardiovascular diseases** — A study published in the Journal of Medicinal Food found that consuming 50 to 100 grams of prunes daily helped lower heart disease risk factors among postmenopausal women.⁷ These include cholesterol, oxidative stress, and inflammation. The potassium in prunes also helps maintain healthy blood pressure levels.⁸
- **They also help give your brain a boost** — Prunes promote good circulation, meaning that they also support brain health. Registered dietitian Serena Ball comments, "Good circulation to the heart means good circulation to the brain, which can decrease the risk of brain degeneration." In turn, this can protect against neurodegenerative diseases like Alzheimer's.

And because your gut and brain are closely intertwined, anything that helps promote optimal gut health helps support brain health, too, affecting your mood, behavior, and even your immune function.

- **Prunes promote healthy weight management** — The sweetness of prunes comes from sorbitol, a complex carbohydrate that is metabolized slowly in your body. But just because they are sweet doesn't mean they add inches to your waist. In fact, a study conducted by De Souza and her team found that women who consumed moderate amounts of prunes for a year did not develop any negative metabolic effects, like increased waist circumference.
- **Dried fruits like prunes may help reduce your risk of Type 2 diabetes** — Diabetics are often advised to avoid prunes, dried apricots, and raisins because of their sugar content; however, a 2024 study provided surprising insights. The researchers found that a higher consumption of dried fruits was associated with a lower risk of Type 2 diabetes.⁹

Other Strategies to Protect Your Bone Health

While eating prunes is an ideal way to support your skeletal health and ward off osteoporosis, there are other effective strategies to make sure your bones stay strong and healthy as you age. Here are some examples:

- **Address your nutrient deficiencies** – You need to get enough calcium, since almost 98% of this mineral present in your body is found in your bones. However, along with boosting your calcium, you also need to have optimal levels of vitamin D, magnesium, and vitamin K2 (MK-7).

This combination of nutrients allows calcium to be better absorbed and distributed throughout your body, so it reaches your bones and teeth instead of being deposited in your arteries, where it increases your risk of heart disease.

- **Get enough protein, particularly collagen** – About 30% of your bone is collagen, making it an essential dietary component to prevent bone loss. As a general guideline, you want approximately 15% of your daily calories to be protein, with collagen making up one-third of it (5%).

The best way to get more collagen into your diet is by making bone broth from organic grass fed animal bones. Slow-cooking or pressure cooking more gelatinous cuts of meat is another option, as are collagen and gelatin supplements.

- **Get enough exercise** – Weight bearing exercises and strength training will improve both muscle and bone strength. One study also notes that resistance training, as well as aerobic training, positively benefits bone density.¹⁰
- **Make healthy lifestyle choices** – Choices that negatively affect bone health include smoking, drinking alcohol, and consuming soft drinks (as well as other ultraprocessed foods and beverages). Being constantly sedentary also harms your bone health.

Frequently Asked Questions (FAQs) About Prunes and Bone Health

Q: How many prunes should I eat each day to support bone health?

A: Research suggests that eating four to six prunes a day – about 50 grams – is enough to help preserve bone strength and density, especially in postmenopausal women. This amount was effective without being difficult to maintain long-term.

Q: What part of the bone do prunes help protect?

A: Prunes help preserve the outer layer of bone called cortical bone, which carries body weight and is most likely to fracture during a fall. In the study, women who ate prunes maintained this layer, while those who didn't lost strength in their tibia (shinbone).

Q: Why are prunes better than calcium supplements alone?

A: Unlike calcium pills, prunes offer more than just minerals. They contain anti-inflammatory polyphenols, fiber, magnesium, potassium, and copper – all of which contribute to stronger bones without the added risk of kidney stones or calcium buildup in arteries.

Q: Can prunes help if I already have osteoporosis?

A: While prunes aren't a cure, the study shows they slow bone breakdown and support bone quality. They may be especially helpful when combined with a healthy diet, strength training, and other lifestyle changes that protect bone health.

Q: Are there other health benefits to eating prunes daily?

A: Yes. Prunes have been linked to lower cholesterol, better blood pressure, improved gut health, and even cognitive support. Their fiber and slow-digesting sugars also help with appetite control and metabolic balance.

Sources and References

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