

Lifestyle Health & wellness [Women's health](#)

Not just for bodybuilders: Creatine as a women's health supplement?



Sarah Berry

May 18, 2023 – 5.00am

A supplement once only used by elite athletes and bodybuilders, creatine may be as useful to all of us as it is to those competing on the world's stage. In fact, at certain stages of life, women might benefit the most.

Creatine, which comes from the Greek word for flesh and was first extracted from the skeletal muscle of meat in the 1830s, became popular after the 1992 Olympics when British gold medallists, Sally Gunnell and Linford Christie, attributed their success to it.



Once considered a supplement for athletes and bodybuilders, creatine may hold the most benefits for women. GETTY

By the 1996 Atlanta Olympics, an [estimated 80 per cent](#) of athletes were taking the supplement, which supplies energy to cells: supporting recovery, muscle growth and performance by reducing fatigue.

The substance, which is formed naturally in our bodies, is found in milk, fish, red and white meat or can be taken as a synthetic supplement, also provides energy to the cells that build new bone and prevent bone break-down.

Phil Chilibeck, a professor of kinesiology at the University of Saskatchewan in Canada, initially began studying creatine supplementation in older men and found some benefits for markers of bone health.

But osteoporosis, a condition that weakens bones and increases their risk of breaking, is much more common in women – [it affects about](#) 15 per cent of women and 3 per cent of men over the age of 50 in Australia.

So, he wondered whether creatine might also benefit bone health in women.

“I’ve been interested in ways to make older adults stronger to preserve ability to carry out everyday functions, so creatine seemed like the ideal nutritional supplement,” says Chilibeck, who adds that creatine doesn’t work on its own. Rather, it enhances the effects of exercise.

In a preliminary [study in 2015](#), Chilibeck and his team found 12 months of supplementation improved bone mineral density in post-menopausal women.

They wondered if longer-term supplementation might lead to even greater effects so, [for a new study](#), they took 237 women with an average age of 59 and randomly put them in a group where they took a placebo or a group that took creatine daily for two years. Both groups did resistance training classes three days a week.

Although Chilibeck was disappointed that, in this cohort, there was no effect on bone mineral density, there were improvements in bone geometry, a predictor of fracture risk and bone strength.

They also found that despite a high dose (10 grams a day) there were no more adverse effects in the creatine group than there were in the placebo group. This [aligns with separate research](#) that has found creatine does not cause issues including weight gain, hair loss, liver or kidney problems.

Dr Stacey Ellery, a research scientist at the Hudson Institute of Medical Research, says it is the largest randomised clinical trial of its kind and the findings are “the kind to hang our hat on”.

She adds: “Beyond it showing some benefit for these older women in terms of their muscle integrity, it adds data to debunk any safety concerns around the use of creatine.”

Ellery’s own work examines [creatine and its effect on women](#), who metabolise it differently mainly because of differing sex hormones.

In [one review](#), she and her co-authors found that creatine supplementation may be more beneficial to women suffering from depression than men.

“We’re learning more about how many different tissues in the body are using this creatine pathway for energy production and how it then ties in with lots of other different diseases and other situations where tissues not producing enough energy is at the heart of any complications that arise,” says Ellery.

For instance, her preliminary research suggests it may be useful as a supplement during pregnancy to supply the fetus with an “energy reserve” if it is starved of oxygen because of a cord accident or a long, protracted labour.

At the other end of the spectrum, she has been looking at the way the uterus might use creatine through the menstrual cycle and its potential to benefit women during the preconception period.

“During our monthly cycle, we build a whole new layer of tissue and then shed it away and then rebuild it again which is obviously a very highly energetic process from a cellular perspective,” explains Ellery, who took a creatine monohydrate supplement during her own pregnancy.

“So, we’ve been interested in whether the cells of the lining of the uterus, the endometrium, are actually utilising creatine to help with those processes, and we’ve got some evidence which we’re about to publish to suggest that it does.”

Chilibeck believes that anyone who wants to build muscle mass (or improve bone strength) could benefit from creatine. But perhaps women have the most to gain.

“There are so many supplements on the market now, and I think 99 per cent of them are rubbish,” says Ellery. “But, creatine actually stands out. There’s some good consistent long-term studies

now showing the benefits and understanding the mechanisms behind the benefits.

“It’s becoming apparent that conditions which are more prominent in women might be served well from creatine supplementation.”

Make the most of your health, relationships, fitness and nutrition with our Live Well newsletter. [Get it in your inbox](#) every Monday.



Sarah Berry is a lifestyle and health writer at The Sydney Morning Herald and The Age. Connect via [Twitter](#) or [email](#).
