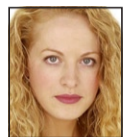


Britons spent £2billion last year on glucosamine supplements, but ...



By  
**Jill Foster**

**C**apsules filled with the powdered shells of crabs, lobsters and prawns: a miraculous aid for joints, and perhaps even an effective treatment for the painful symptoms of arthritis. Relatively cheap, all natural, and with no side effects. Sounds too good to be true – and also rather improbable?

Not to the millions of Britons who bought glucosamine supplements last year, spending £2billion in the hope that the fishy contents would protect their knees, hips, wrists and knuckles from deterioration. The £30million we spend annually on Vitamin C pales by comparison.

Arthritis is an umbrella term for a group of diseases that affect the joints, all of which result in pain and disability. Around 1.2million sufferers of osteoarthritis – characterised by loss of cartilage within the joints – visit their GP each year about the problem. And, according to Arthritis Research UK, as many as one in ten may suffer from joint degeneration.

There is no cure and few effective treatments besides painkillers and, eventually, surgery. So it's no surprise that sales of glucosamine have increased by more than 60 per cent since 2003.

While official medical guidance does not recognise it as an effective arthritis treatment, Arthritis Research UK does endorse it. So what is this super-supplement and does it deserve such acclaim?

#### WHAT IS GLUCOSAMINE?

'Glucosamine is needed to produce a molecule called hyaluronic acid, which is found naturally in cartilage, tendons, ligaments, and synovial fluid around the joints and helps with elasticity,' says Dr Pieris Nicola, a nutritional therapist and pharmacology expert.

'You can't obtain glucosamine directly from your diet. Instead, our body produces it from the glucose and glutamine building blocks in all foods. As production of glucosamine slows with age, some people decide to take it as a supplement. Glucosamine supplements are prepared using chitin, present in the shells of crabs, lobsters, prawns and shrimps. Vegetarian glucosamine is produced by a process of corn fermentation.'

#### NOT ALL GLUCOSAMINES ARE ALIKE

There are dozens of brands of glucosamine supplements. The most popular are branded as glucosamine sulphate and glucosamine hydro-

# Do pills made from these



# really help creaky joints?

chloride. 'Glucosamine sulphate is the form most commonly used by the nutritional supplement industry. It contains sodium or potassium salts, so may not be suitable for people on a salt-restricted diet,' says Dr Nicola.

'Glucosamine hydrochloride is a purer form as it contains more glucosamine than glucosamine sulphate. However, it is likely that most forms of the supplement are converted to glucosamine hydrochloride as soon as they mix with the hydrochloric acid in the stomach.'

#### SO DOES IT TREAT ARTHRITIS?

At least 21 trials focusing mainly on glucosamine sulphate have taken

place. Evidence is scarce about the effectiveness of glucosamine hydrochloride and vegetarian glucosamine. Although some trials have reported positive health benefits, other larger trials have reported no effect.

The NHS has prescribed Alateris, a form of glucosamine, for mild osteoarthritis in the hips and knees, since October 2007. But as of 2008, the National Institute for Health and Clinical Excellence, which provides guidelines for medicines, does not recommend glucosamine on the NHS due to a lack of evidence that it works. Controversially, the NHS still spends £25.6million on glucosamine prescriptions each year.

Arthritis Research UK suggests that those who want to try it should take glucosamine mixed with chondroitin (shark cartilage) supplements for three months and if the pain eases, carry on.

'Most of the trials involve patients taking between 1,500mg and 2,000mg of glucosamine per day, which is what many of the over-the-counter supplements contain,' says Professor Alan Silman, medical director of Arthritis Research UK.

'In our own review we found that glucosamine sulphate supplements scored three out of five for effectiveness while glucosamine hydrochloride scored one out of five. All

the trials have found that there are very few side effects to taking glucosamine, so even if a patient is improving only thanks to the placebo effect, it's not doing them any harm. The majority of the trials have evaluated that taking glucosamine demonstrated significant clinical benefit when compared with placebo of non-steroid anti-inflammatory drugs.'

#### WATCH OUT FOR FAKES

In one analysis of a number of glucosamine preparations in the US, it was shown that many products are not labelled accurately, and in some the amount of glucosamine varied from none to more than double the amount stated on the label.

Prof Silman warns: 'Because the supplements industry is not regulated, there's no real way of telling whether one brand of glucosamine is better than another so it's best to choose a product made by a well-established company.'

'Anyone with an allergy to shellfish, however, should take the vegetarian alternative. Glucosamine can sometimes increase the level of sugar in the blood so people with diabetes need to check their blood sugar. Also, anyone taking Warfarin should be wary as this can affect blood-thinning control.'

There are three brands of glucosamine – Alateris, Glusartel and Dolenio – licensed for prescription-only use in the UK for patients with osteoarthritis in their knees. All three have passed quality and safety tests. There is no evidence that rub-on glucosamine gels or creams work.

For those choosing an over-the-counter version, Dr Nicola advises: 'Although manufacturers don't need to put this on the label, the following information should be known by any good company that sells glucosamine products and it should provide it to the consumer should they ask for it.'

'A glucosamine product should be manufactured by a facility that has Generally Recognised As Safe Status, a mark of approval from the US Food and Drug Administration. This is internationally recognised and found on many British products.'

'It should be produced in a Hazard Analysis and Critical Control Point facility, and made according to Good Manufacturing Practices.'

'It should also be analysed and tested for the levels of glucosamine. Glucosamine hydrochloride is 83 per cent glucosamine while the sulphate version is only 59 per cent. Be wary of less specific descriptions of the glucosamine content on the label, such as blend. Many supplements that contain glucosamine often include ingredients such as chondroitin sulphate but there is no proof that combining these adds any benefit.'



## Why a brisk walk can help beat the blues

Daily exercise alone could, according to new research, be as effective in treating severe depression as antidepressants, writes Roger Dobson.

Results from a Portuguese study of 150 depressed patients showed that moderate exercise improved symptoms in those who had not responded well to drug treatments. Participants kept taking their present medication, but half were

also given aerobic exercises – 30 to 45-minute walks, five days a week, for 12 weeks. Results showed a 26 per cent remission rate among patients in the exercise group compared with a zero remission rate in the others.

Another study of 400 volunteers in Brazil found that men who had the highest levels of physical activity were 68 per cent less likely to have symptoms of depression. Women

who exercised had a 24 per cent lower risk.

In a third study, at the University of Rochester in New York, more than 1,000 people were equipped with monitors that measured physical movements, and researchers found that the more active individuals were, the lower the levels of depressive symptoms.

It has been estimated that about one in ten Britons will experience

depression at some time in their lives. It is not clear how exercise could have such profound effects. One theory is that those diagnosed with depression have higher levels of inflammation in their body tissues. Studies have shown that when depression is successfully treated, inflammation levels drop.

Dr Glenn Wilson, of Gresham College, London, says: 'Exercise can make a difference for some people.'