

Flex your joints

Health benefit solutions

Healthy joints = a healthy quality of life

- Healthy, flexible joints are essential for healthy living
- DSM offers a broad portfolio of innovative, high-quality nutrients for joint health, backed by sound science:
 - Omega-3 PUFAs (DHA and EPA) are associated with joint health
 - Vitamin C is an important nutrient for building cartilage, maintaining healthy joints and reducing the build-up of uric acid that can accumulate in the joints
 - Vitamins such as vitamin E, vitamin B6 and vitamin D have a role in reducing risk factors for joint-related diseases

Joint health facts

Globally, 40% of people over the age of 70 suffer from osteoarthritis of the knee

80% of patients with osteoarthritis have to limit their movements, and 25% cannot perform their major daily activities

Rheumatoid arthritis leads to work disability for 51% – 59% of patients within ten years

Gout prevalence is around 1% in adult populations, and is increasing due to the aging population and obesity

The cost of arthritis in developed countries is around 1 – 2.5% of GDP

Essential to flex your joints

Vitamins

Quali®-B: (B6)
Quali®-C
Quali®-D
Quali®-E

Nutritional lipids

ROPUFA®/life'sDHA™ omega-3



How can we Health you?

Healthy joints are incredibly important to maintain a healthy quality of life as we age. Strong joints help us remain independent and continue to do the things we love throughout life.

DSM's broad portfolio of innovative, high-quality and safe nutrients, combined with our consumer insights, market knowledge and application expertise, can help your joint health positioned products attract more consumers.

We are the only integrated premix, vitamin and nutraceutical manufacturer capable of creating and delivering tailor-made formulations to you anywhere. Blend in our extensive scientific expertise, technical know-how, global presence and total quality assurance for your peace-of-mind.



® Via our global network of blend facilities we create value-adding nutrient combinations custom-made for you. Our Quali®-Blends can offer the right balance of ingredients to support flexible joints.

DSM can help you get to market faster with appealing joint health solutions that work.

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The joint health market is our business... and yours

World populations are aging and the number of people over age 65 is continually increasing. With age comes an increase in the number of joint problems. This is why global joint health markets are set to grow 7 – 8% annually in Europe and around 6% in the US from 2009, driving demand for products that provide effective joint relief.

The target consumers for new joint solutions are women and men aged 50+, and increasingly sports people. Current market offerings are predominantly glucosamine/chondroitin (GC) based, but new research reveals they may not be as effective as once thought.

More than ever, consumers are looking for alternatives because a large percentage of the population is not getting relief from the current products on the market.

In terms of applications, dietary supplements comprise the majority of the market. Joint beverage applications are not too far behind, as an increasing number of joint beverages and beverage powders are launched each year.

Omega-3 LC PUFA

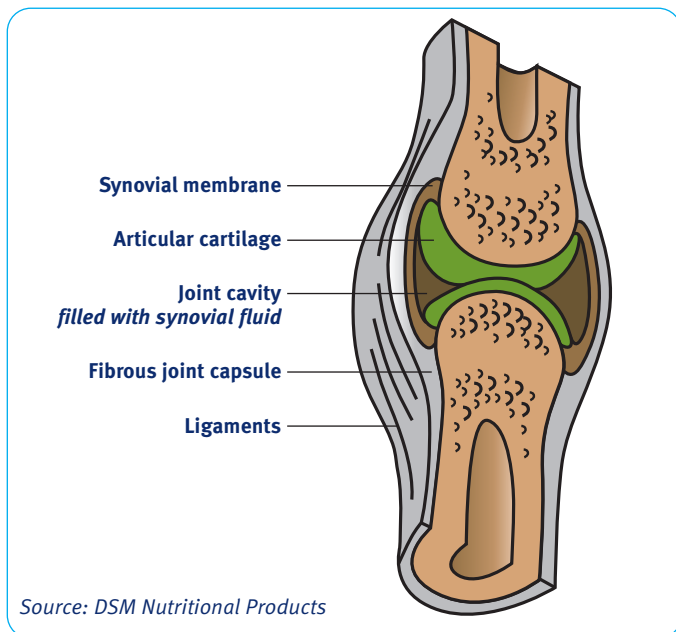
The omega-3 long chain polyunsaturated fatty acids, primarily DHA and EPA, exhibit anti-inflammatory properties. Supplementation with Omega-3 showed a significant decrease in joint pain intensity, duration of morning stiffness, number of painful and tender joints and the use of pain relief medication.

Joint Health Vitamins

Vitamin C is a necessary nutrient for building cartilage and it's supported by epidemiological studies. A high consumption of vitamin C in supplements is associated with reduced risk of gout. Vitamin C supplementation has been demonstrated to substantially reduce blood uric acid concentrations.

Vitamin E is an important antioxidant and is found in the synovial fluid in joints, where it may play a role in their health. Some studies even suggest that vitamin E may be useful reducing joint discomfort.

Low vitamin B6 blood levels are associated with joint conditions, possibly due to the pro-inflammatory conditions caused by vitamin B6 deficiency. Deficiency of the well-known bone and joint health vitamin D is associated with osteoarthritis and rheumatoid arthritis.



The above information is based on scientific studies, and a list of the latest references is available on request.



For DSM, quality is a way of life. This is the core of Quality for Life™: a seal of excellence for our products.

Quality for Life™ is the mark of quality, reliability and traceability. It means that DSM customers are getting the best nutrition & health ingredients, knowing the source on which they depend. Quality for Life™ means sustainability. It symbolizes our commitment to our environment, consumers, our business partners, our people and the regulatory framework that governs our operations.

With the Quality for Life™ seal, we guarantee peace of mind for you and for your customers. www.qualityforlife.com

For more information on this Health Benefit Solution by DSM, visit www.dsmnutritionalproducts.com, www.quali-blends.com or e-mail info.dnp@dsm.com

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