

LITOMOVE®



JOINT CARE



LITOMOVE®

Did you know that:

- More and more people experience joint problems due to lifestyle, diet and aging?
- We will all eventually experience discomfort related to cartilage and joints?
- One in four adults is affected by long-standing musculoskeletal concerns?
- Consumers try many different methods to support their joint health?



Brand story

Litomove® is a natural joint health supplement which helps maintaining healthy and flexible joints. It was launched in 2003 in Sweden and now helps thousands of consumers deal with their joint problems. Litomove® is sold in over 20 countries worldwide.

The success of Litomove® lies in constantly developing and searching for the optimal solution for joint health. The key in this search is rose hip. These berries are hand-picked from the pristine surroundings in Chile and processed into powder through a patent pending manufacturing method.

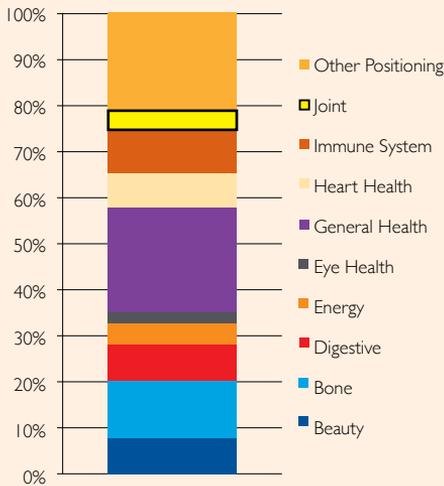
This ensures a high quality product. Rose hip powder (Rosa Canina L) is made of fruit without seeds.

We constantly strive to improve Litomove. Based on new study and very successful results on the Litomove Rosehip complex we are today able to offer an innovated Litomove. The combination of Rosenoids, which is an active complex of compounds in Rose Hip and added Vit C. The product can give results by taking just 3 capsules a day, where many conventional products require the intake of 6 capsules.

Category

Joint problems have become increasingly common. According to Euromonitor, joint health is among the top 10 global health concerns, and is expected to grow in the future.

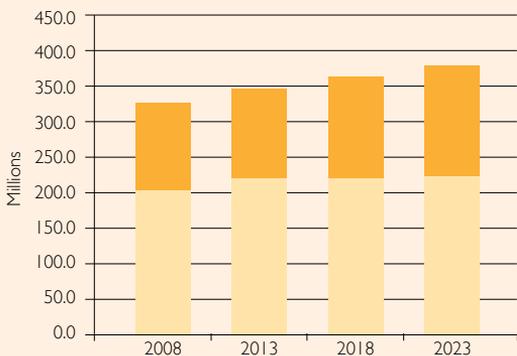
World - Dietary Supplements % Breakdown by Positioning 2013



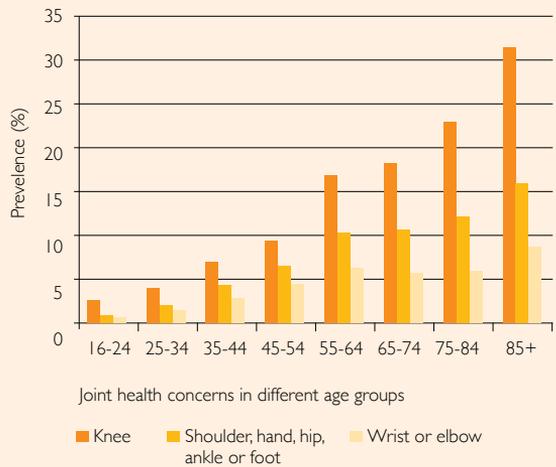
Source: Euromonitor from trade sources/national statistics 2013

One of the main reasons is that the population gets older.

European population age ■ 65+ ■ 45 - 64



As we get older, stiff joints and discomfort in knees, shoulders, wrist or elbows become more and more common. This indicates a significant future growth in people with joint discomfort.



Source: Parker Institute, Henning Bliddal. Calderdale-study, Badley & tennant. Ann Rheum Dis 1992,51 : 366-71

Due to changes in lifestyle, diet, technology and life expectancy, discomfort in the joints can become a massive challenge in the future.

The increase in the number of people who experience joint discomfort requires a new focus on joint health. Many consumers are constantly searching for alternative ways to maintain flexible and healthy joints.

Our consumers



Adult



50+

Litomove® Capsules

Litomove® powder

Litomove® Collagen

Litomove® Sport

Litomove® Bones



Litomove® Capsules



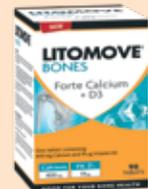
Litomove® powder



Litomove® Collagen



Litomove® Sport

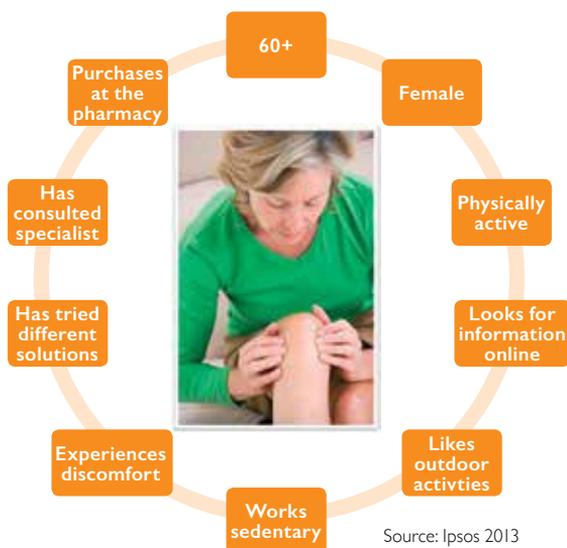


Litomove® Bones

Typical Litomove® consumer:

The typical users of joint health food supplements do, not have a background of physical work, but are often employed with mental or sedentary work. This development is expected to grow along with the life expectancy. Many are concerned with healthy living and have an active lifestyle. As they start getting older, they want to maintain their active lifestyle but are held back by joint discomfort. Discomfort that keeps them from doing what they love, whether it is hiking in the forest or playing with their grandchildren. In the search of solutions, consumers have tried different methods to help them with the discomfort. Search engines on the Internet are often used to gather information, and many share their concern with family and friends. They look for a product that can provide them with long term joint health support, and they often go to the pharmacy to find that solution. They want a joint care product

that it is safe to use over a longer period of time. Joint health consumers are looking for an effective and credible product that is based on documented and safe joint health ingredients. They trust recommendation by pharmacy or health food store personnel. They are especially willing to try a new product if they have heard about it from others with similar problems.

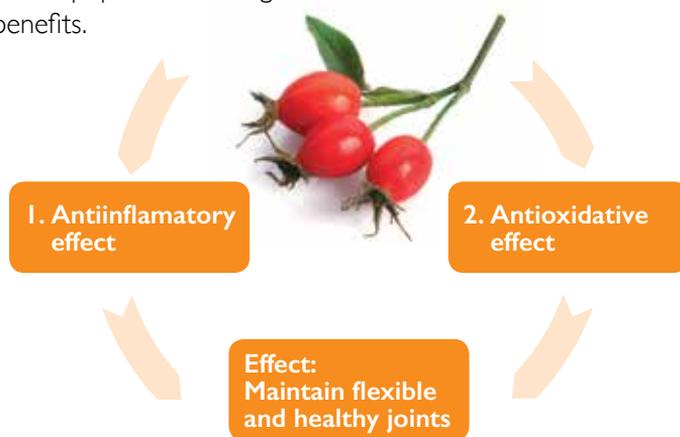


Why LITOMOVE®

Rose hip has helped thousands of consumers deal with their joint discomfort in over a decade. The heart of Litomove® is rose hip berries which are a key ingredient in improving joint health. These berries are handpicked and gently processed into the seedless rose hip powder that gives Litomove® its benefits.

Double action of Rose hip:

Rose hip has well documented both anti-inflammatory and anti-oxidative effects, and the effects on joint health are backed up by several scientific studies.



From 6 to 3 capsules

The enhanced rose hip powder with active Rosenoid® complex has a higher concentration of active components and the required dose can therefore be halved to three capsules per day. This makes it easier for consumers to reach the recommended daily dosage than with other conventional solutions.

This Innovative joint care product is being examined by researchers, health care professionals and scientists around the world. A study on discomfort in knees shows an average reduction of 29% in the level of discomfort amongst the participants. The study shows that new Litomove® with Rosenoids® is at least as good, even in 3 capsules, as the older rose hip product in reducing discomfort in the knee when walking, during sports and recreation.

Lead investigator of the study Dr. Med, Henning Bliddal explains:

"The effect of rose hip is well documented and in many ways, is an attractive choice for people with joint discomfort. The possibility to achieve the same effect with significantly less capsules offers relevant extra value. It is widely known that many supplements require a large intake and it can therefore be a difficult regimen to follow. The new rose hip formula with a much lower intake makes it a more convenient product to use".

These results confirm the potency of Litomove® and further studies on the efficacy of Litomove® with Rosenoids® are underway to additionally support the effects.

Products

Litomove® Capsules

New and improved formula from seedless wild rose hip berry powder with Rose-noids®. Feel the difference after three weeks usage – only three capsules daily.

- Rose hip for maintenance of healthy and flexible joints.
- Vitamin C contributes to normal collagen formation for the function of cartilage and bones
- Documented effect
- Patent pending manufacturing method

Recommended daily dosage for adults:

- 3 capsules
- Swallow with water, or split the capsule and sprinkle over the food.

Should be taken in connection to a meal.

Ingredients: Wild rose hip berry powder incl. 4% Rosenoids® complex (vitamin C (sodium-L-ascorbate), flavonoids, carotens, triterpenoic acids, galactolipids), gelatine.



DECLARATION

Powder	3 capsules
Wild rose hip powder	2250 mg
Vitamin C	80 mg

Litomove® Powder

100% natural rose hip powder from hand-picked wild growing rose hips. For your convenience an exact dose measurement spoon is included in the container. Feel the difference – one spoon daily.

- Rose hip for maintenance of healthy and flexible joints
- Documented effect
- Patent pending manufacturing method

Recommended daily dosage for adults:

- 1 spoon daily (dosage spoon is delivered together with product)

Ingredients:

- Wild rose hip powder



DECLARATION

Powder	1 spoon
Wild rose hip powder	2250 mg

Litomove® Collagen

– WITH COPPER, VITAMIN C & ROSEHIP EXTRACT

Collagen is found in bones, cartilage and connective tissue. Vitamin C contributes to normal functions of bones and cartilage and the protection of cell constituents from oxidative damage, together with regeneration of the reduced from vitamin E. Rose hip helps maintain healthy and flexible joints. Copper contributes to the normal formation of connective tissues.

DECLARATION

	1 capsule
ChondrActiv Collagen	500 mg
Rose hip extract	140 mg
Vitamin C	12 mg
Copper	150 µg

Recommended daily dosage for adults:

- 1 capsule
- Swallow with water, or split the capsule and sprinkle over the food.



Litomove® Sport

- Rose hip helps to maintain healthy and flexible joints.
- Magnesium contributes to normal muscle function.
- Vitamin C contributes to normal collagen formation for the normal function of bones and cartilage.
- Thiamine contributes to normal energy-yielding metabolism
- Vitamin B6 contributes to normal protein and glycogen metabolism

Recommended daily dosage for adults:

1 tablets per day.



DECLARATION

	1 tablet	RDA
Wild rosehip extract (Rosa canina L.) approx. 2.25g rosehip fruit without seeds	280 mg	
Vitamin C	80 mg	100 %
Thiamine (B1)	1.1 mg	100 %
Vitamin B6	1.4 mg	100 %
Magnesium	200 mg	53 %
Copper	150 µg	15 %

Litomove® Bones

Your body needs calcium for:

- Maintenance of normal bones and teeth
- Normal muscle function
- It contributes to normal blood clotting

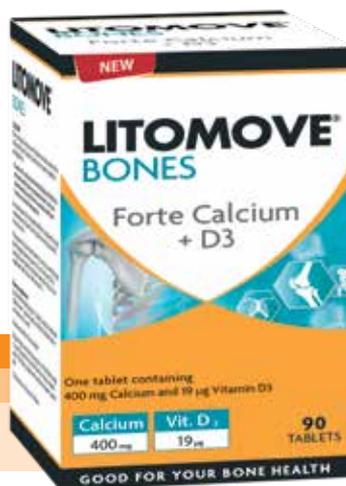
Your body needs vitamin D for:

- It contributes to the maintenance of normal bones and teeth
- It contributes to normal absorption and utilisation of calcium and phosphorus
- Normal functioning of the immune system and normal muscle function

DECLARATION

	Amount	RDA
Vitamin D	19 µg	380 %
Calcium	400 mg	50 %

Recommended daily dosage: 1-2 tablets a day for adults and children over 11 years of age. The tablet should be taken in connection with a meal.



Science behind

Rose hip has traditionally been used for its content of vitamin C. Rose hip powder such as Litozin® does however also contain numerous amounts of other constituents, which include carotens, flavonoids, triterpenoic acids, omega-3 fatty acids and galactolipids. Supplementation of rose hip powder has been evaluated in clinical studies, and has demonstrated benefits for people with joint issues²⁻³.

Clinical studies on rose hip

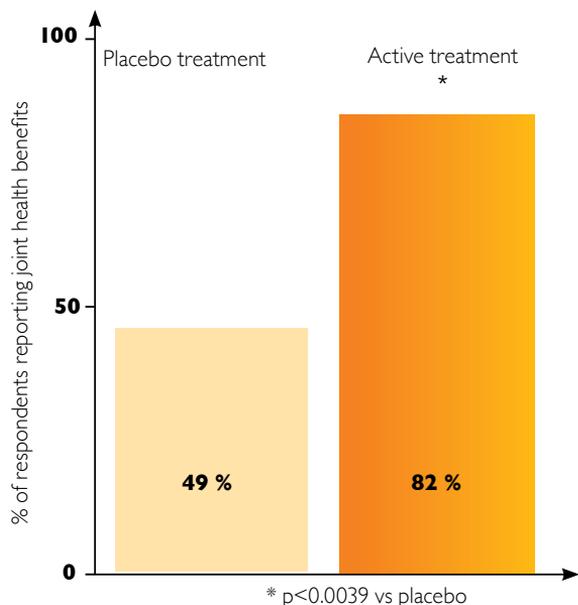
The benefits of the characteristic red rose hip berries and their effects on joint health have been little known to many. Until now most people have known rose hip to be useful when having a cold or cough due to

its high content of vitamin C. However, this is changing and more are discovering what the berries have to offer to people with joint discomfort. The increasing scientific evidence might have brought this change about. In recent years dedicated researchers have started to unlock the secrets of rose hip. Today, rose hip enjoys increased recognition in the scientific community as an attractive supplement to support joint health and joint mobility. Independent of the knowledge about the active components in rose hip, several clinical trials have been conducted to determine the effect of this fruit as a whole in subjects. The participants in these studies have mainly been persons with different forms of joint issues (mainly with osteoarthritis). This is mainly

due to the fact that one more likely will see an effect of rose hip supplementation in persons that daily experience joint problems. The European Food Safety Authority (EFSA) does however base their documentation of food supplements on clinical studies on healthy subjects. The studies performed on rose hip are hence scientifically in line with the demanded documentation, though not performed on healthy subjects. In one study however, supplementation with rose hip had a beneficial effect on inflammatory parameters in persons without joint issues, despite not noticing any clinical effects⁵. Four men, who had never experienced any form of joint discomfort, and four men with joint problems, all received rose hip supplementation. The study revealed that all men decreased the level of inflammatory parameters, such as CRP and chemotaxis. Although having reduced inflammatory parameters, clinically effects

were not seen in the group of healthy men; however men with joint problems reported a decline in their joint discomfort after 14 days of supplementation. In four other double-blind, randomized, placebo-controlled clinical trials, supplementation with rose hip capsules had a positive effect on the participants²⁻³⁻⁵⁻⁶⁻⁷. A study with 100 participants lasting for four months noticed an improvement in mobility and discomfort. Totally, 64.6 % of the participants said that they experienced an improvement in their joint discomfort⁶. In two studies, lasting for 3 months, a significant improvement of joint health was reported during the study period²⁻⁷. The researchers even noticed that the effect of rose hip supplementation apparently lasted for some time². In one of these studies, they even found an improvement in WOMAC score of joint discomfort after three weeks in the active treatment group (see fig. 1 below)⁷.

Figure 1: Percentage of persons experiencing improvement in their joint issues after three months of active versus placebo supplementation. Published by Winther et al.⁷



Another study, by Willich et al.³, found that supplementation of rose hip over six months significantly improved joint health parameters, such as HAQ DI (Health Assessment Questionnaire Disability Index), DAS28 (disease activity score), Physicians Global Scale (ranging from 0-11) and RAQoL (specific instrument for Health-related Quality of Life) compared to placebo. The placebo group significantly worsened the score for HAQ DI compared to the time of randomization.

In the study by Rein et al.² the participants were asked which one of the supplements they favored (rose hip versus placebo), and a significant proportion of the participants preferred rose hip, despite not knowing which supplement they were receiving.

Based on the findings in these studies, a meta-analysis and review article have been published, showing that the total number of participants responding positively on the study treatment indeed is significantly higher among participants receiving rose hip than in those receiving placebo⁸⁻⁹. A later published systematic review also summarizes beneficial effects of rose hip in cell and

animal studies, suggesting that further research is needed to learn more about the effect of rose hip supplementation.

The anti-inflammatory effect

The entire biological mechanisms behind the positive effect of rose hip seen in clinical studies are not fully elucidated. Still, cell studies have shown that rose hip is able to deal with two important biological mechanisms related to joint issues, by having anti-inflammatory and anti-oxidative effects.

The specially processed rose hip powder has demonstrated a marked inhibition of neutrophil chemotaxis in cell studies⁵⁻¹⁰. The galactolipids in rose hip powder demonstrated in one of these cell studies an inhibitory effect on the migration of human peripheral blood polymorphonuclear leukocytes (PMN) of 60 % with an in vitro concentration of only 1 µg/ml¹⁰. Cell viability tests showed that the PMNs were viable even at galactolipid concentrations between 50 and 100 µg/ml, indicating that the inhibition of cell migration is reversible and not related to any toxic effects on the part of this active ingredient.

Figure 2: The anti-inflammatory effects of rose hip.



The normal inflammatory process
White Blood Cells leave the Blood Vessel and travel to the inflamed joint

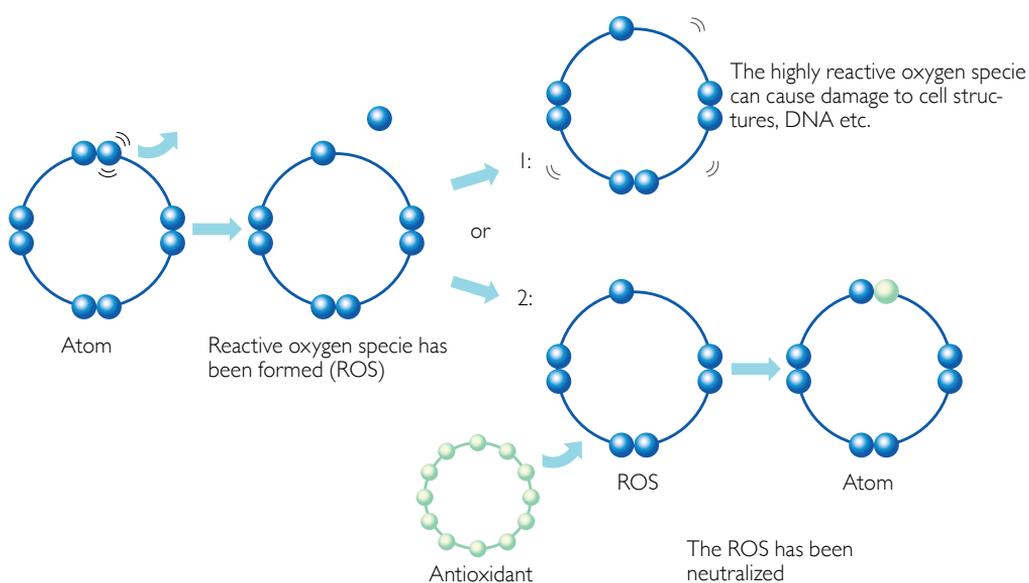
Inflammatory process with Rose hip
Rose hip prevents excessive inflammatory cells from entering the joint

The anti-oxidative effect

Oxidative stress is a well-known factor in the development and progression of several health problems. Oxidative stress is related to the production of reactive oxygen and nitrogen species, including free radicals by all aerobic organisms¹¹⁻¹². Free radicals are however essential for defense, so the body needs to be able to produce

them and control them. As such, the body has a number of mechanisms to minimize free-radical induced damage and to repair any damage which does occur. Antioxidants play a key role in these defense mechanisms¹³⁻¹⁴. This is one of the reasons why rose hip maybe beneficial for joint health, as rose hip may help reduce oxidative stress caused by free radicals, which helps prevent further damage.

Figure 3: The loss of an electron leads to the formation of a reactive oxygen specie (ROS). ROS can however be neutralized by gaining an electron from an antioxidant.





References:

1. Chrubasik C, Roufogalis BD, Muller-Ladner U, Chrubasik S. A systematic review on the *Rosa canina* effect and efficacy profiles. *Phytother Res* 2008;22(6):725-733.
2. Rein E, Kharazmi A, Winther K. A herbal remedy, Hyben Vital (stand. powder of a subspecies of *Rosa canina* fruits), reduces pain and improves general wellbeing in patients with osteoarthritis – a double-blind, placebo-controlled, randomised trial. *Phytomedicine* 2004;11:383-391.
3. Willich SN, Rossnagel K, Roll S et al. Rose hip herbal remedy in patients with rheumatoid arthritis – a randomised controlled trial. *Phytomedicine* 2010;17(2):87-93.
5. Winther K, Rein E, Kharazmi A. The anti-inflammatory properties of rose-hip. *Inflammopharmacology* 1999;7:63-68.
6. Warholm O, Skaar S, Hedman E, Mølmen HM, Eik L. The Effects of a Standardized Herbal Remedy Made from a Subtype of *Rosa canina* in Patients with Osteoarthritis: A Double-Blind, Randomized, Placebo-Controlled Clinical Trial. *Current Therapeutic Research* 2003;64:21-31
4. Christensen R, Tarp S, Altman RD et al. Comparing different preparations and doses fo rose hip powder in patients with osteoarthritis of the knee: an exploratory randomized active-controlled trial [abstract Christensen R, Tarp S, Altman RD et al. *Osteoarthritis and Cartilage* 2013;21:S9-S62
7. Christensen R, Bartels EM, Altman RD, Astrup A, Bliddal H. Does the hip powder of *Rosa canina* (rose hip) reduce pain in osteoarthritis patients? – a meta-analysis of randomized controlled trials. *Osteoarthritis Cartilage* 2008;16(9):965-972.
10. Larsen E, Kharazmi A, Christensen LP, Christensen SB. An antiinflammatory galactolipid from rose hip (*Rosa canina*) that inhibits chemotaxis of human peripheral blood neutrophils in vitro. *J Nat Prod* 2003;66:994-995.
11. Halvorsen BL, Holte K, Myhrstad MC et al. A systematic screening of total antioxidants in dietary plants. *J Nutr* 2002;132(3):461-471.
12. Ames BN, Shigenaga MK, Hagen TM. Oxidants, antioxidants, and the degenerative diseases of aging. *Proc Natl Acad Sci U S A* 1993;90(17):7915-7922.
13. Halliwell B. Antioxidant defence mechanisms: from the beginning to the end (of the beginning). *Free Radic Res* 1999;31(4):261-272.
14. Sies H. Oxidative stress: oxidants and antioxidants. *Exp Physiol* 1997;82(2):291-295.

Map of distribution



AUSTRIA	Distributor	PERU	Distributor
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DENMARK	Orkla Care	ROMANIA	Distributor
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