

Your expert for minerals and nutraceuticals.



OptiMSM®

Deep Dive into

Joint Health



Sulphur as a Critical Component of Joints & Connective Tissue

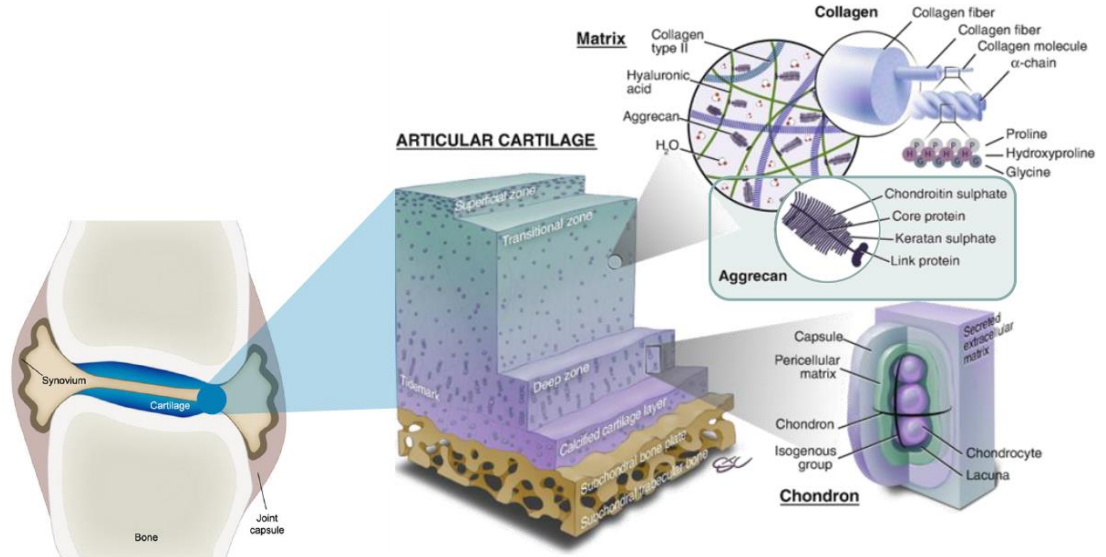
Sulphur is a key component of the building blocks of joints and connective tissue.

Dermatan Sulfate → Skin

Chondroitin Sulfate → Cartilage

Keratan Sulfate → Cartilage & Bone

Healthy joints rely on sulphur for proper structure and function



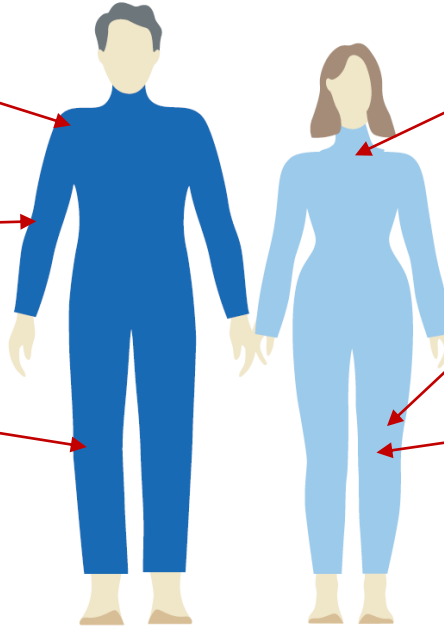
Food and Nutrition Board, Institute of Medicine, 2005

What do MSM & Sulphate do for Joint Health?

Sulphur acts as a key component of healthy joints¹

Sulphur maintains healthy joint function¹

Sulphur supports joint health¹



Maintains quality of life measures²

Maintains joint comfort²



Maintains physical function and joint function²

Sources

1) Food and Nutrition Board, Institute of Medicine, 2005

2) Debbi EM, et al., BMC Comp Alt Med 2011; 11:50

MSM has Proven Advantages for Joint Health

Author/Publication	Study Design & Subject Population	Duration/Dosage	Outcome Measures	Conclusions
Toguchi A, et al., <i>Nutrients</i> 2023; 15: 2995.	Randomized, double-blind, placebo-controlled trial N=88 M/F w/mild knee pain, age 20y+	12 weeks <ul style="list-style-type: none"> Placebo 2000 mg/day OptiMSM 	JKOM score	OptiMSM significantly improved overall joint health and comfort relative to placebo
Debbi EM, et al., <i>BMC Comp Alt Med</i> 2011; 11:50	Randomized, double-blind, placebo-controlled trial N=49 M/F w/ OA, age 45-90y	12 weeks <ul style="list-style-type: none"> Placebo 3375 mg/day MSM 	WOMAC score Joint stiffness Joint pain Joint function	MSM supplementation for 12 weeks significantly improved markers of joint function
Kim LS, et al., <i>Osteoarthritis Cartilage</i> 2006; 14(3): 286-294.	Randomized, double-blind, placebo-controlled trial N=50 M/F w/ OA, age 40-76y	12 weeks <ul style="list-style-type: none"> Placebo 6000 mg/day MSM 	WOMAC score Joint pain Joint function Activities of daily living	MSM supplementation significantly improved markers of joint comfort and physical function
Lubis AMT, et al., <i>Acta Med Indones</i> 2017; 49(2): 105-111.	Randomized, double-blind, placebo-controlled trial N=147 M/F w/ OA; mean age = 61y	3 months <ul style="list-style-type: none"> Placebo 1500 mg GS + 1200 mg CS/day 1500 mg GS + 1200 mg CS + 500 mg MSM/day 	WOMAC score VAS	Supplementation with GS + CS + MSM significantly improves markers of joint health and comfort
Pagonis TA, et al., <i>Int J Orthopaed</i> 2014; 23(1): 19-24.	Randomized, double-blind, placebo-controlled trial N=100 M/F w/ OA	26 weeks <ul style="list-style-type: none"> Placebo 6000 mg/day MSM 	WOMAC score Quality of life	MSM supplementation significantly improved performance in activities of daily living and overall health-related quality of life
Usha PR & Naidu MUR. <i>Clin Drug Invest</i> 2004; 24(6): 353-363.	Randomized, double-blind, placebo-controlled trial N=118 M/F w/ OA; age 40-70y	12 weeks <ul style="list-style-type: none"> Placebo 1500 mg GS/day 1500 mg MSM/day 1500 mg GS + 1500 mg MSM/day 	Joint pain Joint swelling VAS pain	GS + MSM supplementation significantly improved functional ability of joints

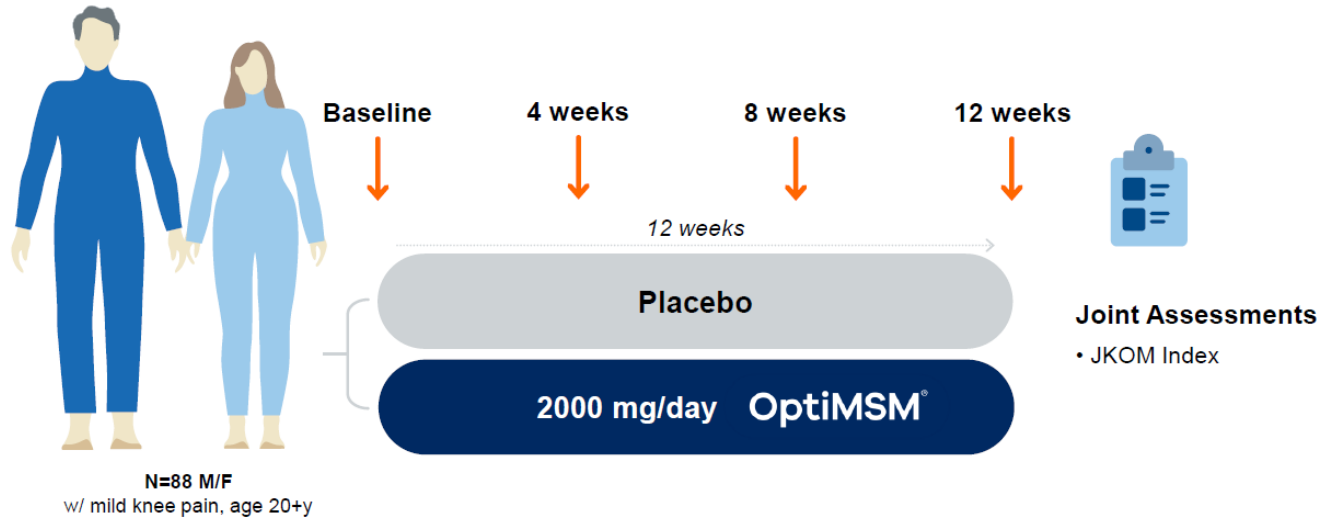
BA = boswellic acid | GS = glucosamine sulfate | CS = chondroitin sulfate | OA = Osteoarthritis | Osteoarthritis | JKOM = Japanese Knee Osteoarthritis Measure
WOMAC = Western Ontario and McMaster University Osteoarthritis Index scale | VAS = visual analogue scale

Does OptiMSM Support Joint Health in Healthy Subjects?

Toguchi (2023)

Study Goal

To determine the efficacy of **OptiMSM®** supplementation on joint function and comfort in healthy participants.



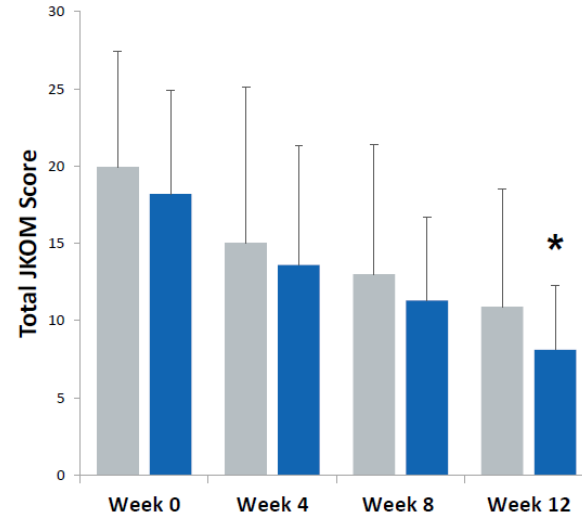
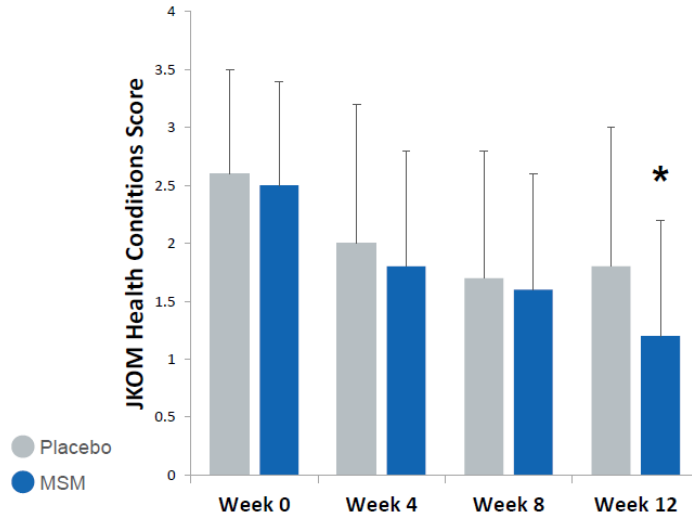
Toguchi A, et al., *Nutrients* 2023; 15: 2995

OptiMSM Supplementation Improves Measures of Joint Health

Toguchi (2023) Study key Results

OptiMSM® supplementation

- Significantly improved self-reported systemic health.
- Significantly improves markers of joint health, function & comfort.



Toguchi A, et al., *Nutrients* 2023; 15: 2995
*Significant difference between groups, $p \leq 0.05$ Mean \pm SD

Importance of OptiMSM® in Joint Health

OptiMSM® is a source of sulphur, a nutrient that:

- Acts as a key component of healthy joints¹.
- Helps maintain healthy joint function¹.
- Provides your joints with the nutrients they need¹.

MSM supplementation has been shown to ...

... Improve joint and physical function²

... Improve quality of life²

Sources: 1) Food and Nutrition Board, Institute of Medicine, 2005
2) Debbi EM, et al., BMC Comp Alt Med 2011; 11:50;





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