balchem HUMAN NUTRITION & HEALTH

THE BALCHEM BEAT

Issue 9, March 2023

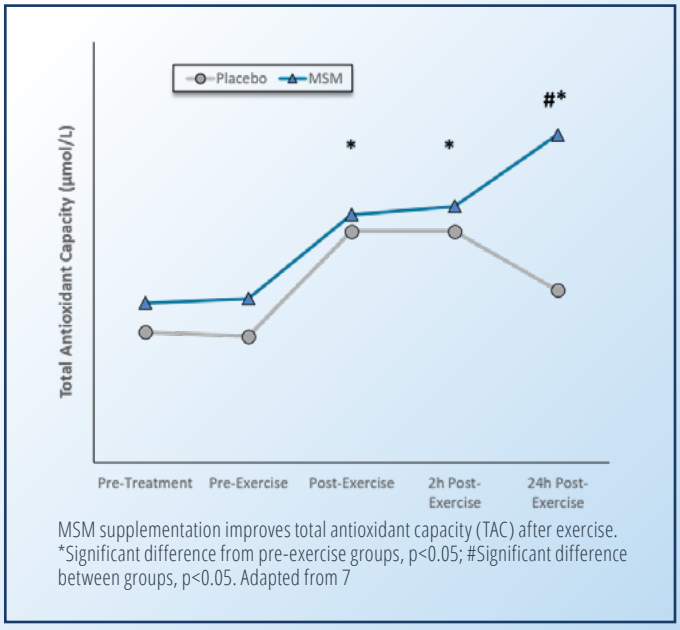
OptiMSM®, Clinically Shown to Support Joint Health and Mobility, Offers a New Approach to Exercise Recovery

Gains aren't made in the gym; they are made during recovery. Regular exercise can put a lot of stress on your body, including stressing your connective tissue[1], and increasing oxidative stress[2] and inflammation[3]. Diet is a key component in helping you recover from exercise so you can perform your best next time you step into the gym.

Sulfur is a nutrient that helps to support protein turnover and amino acid metabolism[4]– key components of exercise recovery. In the diet, sulfur can be found in amino acids, but also as a dietary supplement in as **methylsulfonylmethane (MSM)**. As a source of sulfur, MSM has been shown to beis involved in multiple aspects of exercise recovery:

- MSM acts a source of sulfur, which helps make components involved in maintaining healthy bones, joints, and connective tissue[4]
- Sulfur supports of the production of molecules such as glutathione, which help support the body's antioxidant response[4]
- MSM supplementation has been shown to reduce post-exercise oxidative stress in both new[5] and experienced[6,7] athletes alike and improve the body's total antioxidant capacity (shown in graph)
- Emerging data suggests that MSM may reduce post-exercise inflammation in athletes[8]

OptiMSM® is the highest and most tested form of MSM on the market today. Made in the USA and Generally Recognized as Safe (GRAS), OptiMSM is produced to the highest quality standards in the dietary supplement market. Let us help you formulate products to support your athletes so they can recover and dominate!



MSM supplementation improves total antioxidant capacity (TAC) after exercise. *Significant difference from pre-exercise groups, p<0.05; #Significant difference between groups, p<0.05. Adapted from 7

Spring into Action with OptiMSM®

Maintaining Mobility and Joint Health for All Ages

WEBINAR

Methylsulfonylmethane (MSM) is an organic sulfur-containing compound used in dietary supplement formulations that provides a variety of research-backed health benefits. Discover how this unique ingredient can have a big impact on the success of your finished products as you look to lead an active and healthy lifestyle. **Request for more information**

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Science Update

A Meta-Analysis on Choline and Brain Development

Research on the impact of choline in brain and spinal cord development during the prenatal and early postnatal periods has grown tremendously in recent years. To better understand the current state of the science, a team of researchers conducted a systematic review and meta-analysis of human studies to examine the link between maternal choline, fetal brain development, and neurocognition.

First, their meta-analysis showed that higher maternal intake / circulating concentration of choline was linked to significantly higher odds of healthy spinal cord development in the newborns compared to those with low choline intake / status. This relationship was also independent of folic acid, another essential nutrient with a critical role in spinal cord development.

In addition, the research team also conducted a systematic review of trials examining the relationship between choline and child neurocognition / neurodevelopment, identifying 23 articles in total. In total, they found that the results "generally support favorable effects of higher maternal choline intake on some domains of neurodevelopment and neurocognition in the child", including self-regulation, learning, and memory.

In the end, there were a few key takeaways from the authors:

1. The associations between maternal choline intake and offspring health were "*likely to be reflective of a cause-and-effect relation*".
2. "*Choline intake exceeding the current recommendations appears to be necessary to influence child neurocognition.*"
3. "*Updated, robust recommendations from obstetric societies about the need to fulfill choline intake during pregnancy and lactation to support brain development are warranted*"
4. The need to add choline to pre/post-natal supplements "*should be urgently considered*".

Are you looking for more insights and data about choline's role in supporting a healthy pregnancy?

Contact us today!

WEBINAR

Gaining a Mental Edge

How VitaCholine® Activates the Mind and Propels the Body

The sports nutrition category continues to grow. Manufacturers are looking for ways to breakthrough with new, differentiated ideas. Mintel identified 'Staying Sharp' as a key trend in 2023 – a need for products that help consumers optimize their mental performance.

Register for the webinar here.

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Food and Beverage Solutions: Cold Liquid-Soluble Powders

Struggling to formulate your cold beverage or frozen dessert? At Balchem, we provide Cold Liquid formulation solutions, saving you both time and money. Our Cold Liquid-Soluble Powder systems have fast dispersibility and wettability in a range of cold liquid applications while achieving the desirable richness and creamy mouthfeel you need. Discover the simplified, plant-based, clean label ingredients, saturated and unsaturated fats options with Balchem. You will find the best fit that can transform your formulation and help you win the market. With increased consumers looking to improve their health through what they eat and drink, Balchem's powder systems combine high-quality nutrients with exceptional flavor and sensory profiles can provide the solution. Partner with us, so you can delight consumers by delivering food and beverage products that do good, feel good and taste good!

To learn more about Balchem's Cold Liquid-Soluble Powder solutions, reach out to your account manager or connect with our sales team today.

Society of Maternal Fetal Medicine

43rd Annual Pregnancy Meeting

VitaCholine®

From Feb 6 -11, 2023, the team from Balchem exhibited at the 43rd Annual Pregnancy Meeting held by the Society for Maternal Fetal Medicine in San Francisco, CA! The Balchem team helped to build awareness about the exciting new research on choline and healthy pregnancies among Maternal-Fetal Medicine specialists. Balchem also sponsored a fantastic lunch & learn session featuring leading minds in prenatal nutrition science, including Susan Carlson, Ph.D. (University of Kansas Medical Center), Richard Canfield, Ph.D. (Cornell University), and Kevin Klatt Ph.D., RD (University of California, Berkeley). This panel of experts shared compelling new research to help physicians inform and engage their patients about the importance of prenatal choline intake.

Want to learn more about some exciting new research showing how VitaCholine® can help moms improve their children's cognitive function? Learn more here

INFORMATION - INSIGHT - INSPIRE - IDEATE - INNOVATE - IMPACT
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SupplySide® EAST | APRIL 18 & 19 2023 SECAUCUS, NJ

At Balchem, we are committed to ***making the world a healthier place***. Don't miss East Coast's leading ingredients and solutions tradeshow, **SupplySide East**, at the Meadowlands Exposition Center in Secaucus, New Jersey.

Swing by **Booth 702** and check out our samples:

- Power Boost (*Immune Health Shot featuring ingredients such as K2VITAL® and Z-Life™*)
- BoostU fortified stick packs (*with essential nutrients like VitaCholine®, MetaMag®, and ZLife™*).

While you're there, it's the perfect opportunity to learn more about our newest brands, OptiMSM® (the world's purest MSM) and K2VITAL® (all-trans vitamin K2 MK-7, with unmatched stability and 99.7% purity).

Contact us today to schedule a meeting with one of our industry experts, or stop by to say "hi"! Looking forward to seeing you there!

Upcoming Events & Webinars

VitaCholine® Webinar
April 12, 2023 | **Online** | **Register here**

Great Lakes IFT
April 18, 2023 | **Battle Creek, MI** | **Request a meeting with us**

Ice Cream Technology Conference
April 18-19, 2023 | **Austin, TX** | **Request a meeting with us**

Supply Side East - Booth 702
April 18-19, 2023 | **Secaucus, NJ** | **Request a meeting with us**

OptiMSM Webinar
April 25, 2023 | **Online** | **Request for more information**

Northern California Regional IFT
April 25, 2023 | **Pleasanton, CA** | **Request a meeting with us**

References (OptiMSM®, Clinically Shown to Support Joint Health):

1. Stone MH. Med Sci Sports Exerc 1988; 20(5 Suppl): S162-168.
2. Kawamura T & Muraoka I. Antioxidants 2018; 7(9): 119.
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4. Institute of Medicine, 2005. Dietary Reference Intakes for Water, Potassium, Sodium, Chloride, and Sulfate.
5. Nakhostin-Roohi B, et al., J Pharm Pharmacol 2011; 63(10): 1290-1294.
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7. Nakhostin-Roohi B, et al., IJPR 2013; 12(4): 845-853.
8. Godwin S, et al., J Int Soc Sports Nutr 2015; 12(Suppl 1):P48. 550-2783-12-S1-P48.

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