

SPECIAL REPORT

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# REGENERATING JOINT HEALTH



**Bioriginal**  
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Most people view joint pain as a normal part of aging. It's true that age-related factors can result in weakened joints, and may lead to rheumatic conditions such as arthritis. But a growing number of younger people are also experiencing joint problems. This is creating a broader group of consumers looking for innovative solutions to help maintain healthy joints and prevent injury.



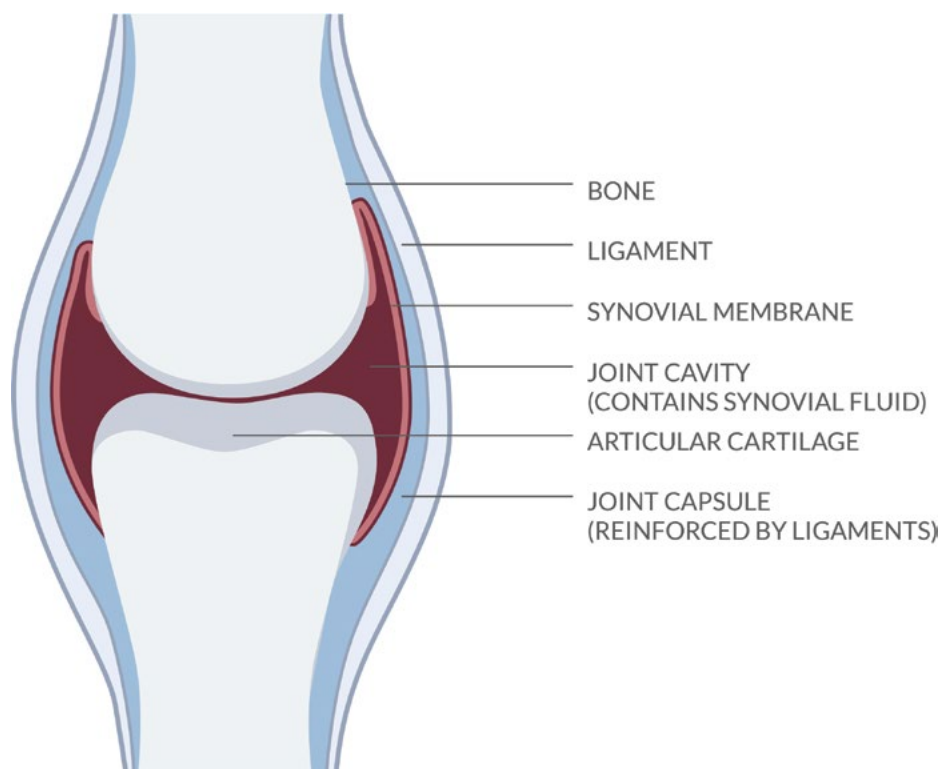
## UNDERSTANDING JOINT HEALTH

In order to maintain joint health, we must first understand how joints work. Joints are the structures where two or more bones connect. A joint consists of cartilage, synovial fluid membrane, ligaments, tendons and bones.

Cartilage works like a shock-absorber consisting of protein molecules called proteoglycans, that allow bones to move smoothly over one another. Some joints have a small fluid-filled cavity between the bones that release a yolk-like liquid called synovial fluid, that lubricates and nourishes the joints. Ligaments and tendons are the connective tissues that help connect bones to each other, as well as muscles to the bones.

When it comes to joint health products, there are two common approaches used to help maintain healthy joints. One approach aims to support joint cartilage and the synovial fluid in order to provide cushioning and lubrication at the joints. The second approach focuses on reducing pain and inflammation, as well as helping recovery from excessive use.

As more consumers understand and recognize the need for healthy joints, a number of key consumer trends add to the appeal of an otherwise slow-growing segment.



## Sports Nutrition & Active Lifestyles

No longer limited to only body builders and elite athletes, the sports nutrition segment now attracts a wider demographic of people who are leading active lifestyles. These can include daily exercise participants, sports extremists and casually-active consumers who are looking for sports nutrition products that fit their busy lifestyles. The Physical Activity Council reports that more Americans are engaging in physical activities, with Millennials and Generation X having the highest activity levels.<sup>1</sup>

But it's the rise in popularity of highly intense activities that is really driving the opportunity for joint health products. Recreational athletes, weekend warriors and extreme sports enthusiasts are pushing their bodies to the limit to achieve their training and fitness goals. As a result, they are putting excessive stress on their joints and need solutions to help recover from their strenuous activities.

The joint health market can provide the solutions to address the needs of these groups. There is a growing segment of the sports nutrition category who is recognizing the role that joint health products play in overall health and fitness. And with the global sports nutrition market expected to surpass US\$45 billion by 2022<sup>2</sup>, demand for joint health products will only continue to grow.



## Plant-Based Alternatives

Plant-based is a huge trend that has moved from niche to mainstream. Innova Market Insights reports that new product launches with a plant-based claim grew at a CAGR of 49% from 2012-2016.<sup>3</sup> And HealthFocus International reveals 17% of US consumers aged 15 to 70 currently claim to eat a predominantly plant-based diet, while 60% report to be cutting back on meat-based products.<sup>4</sup>

This continued desire for plant-based alternatives provides an opportunity for the joint health market to broaden its reach even further. In particular, plant-based ingredients such as curcumin from turmeric and gamma-linolenic acid (GLA) from borage oil or black currant seed oil can fill the desire for plant-based products. These ingredients are known for their anti-inflammatory properties, and offer consumers an alternative from traditional joint health products that consist of ingredients such as glucosamine (commonly extracted from shellfish) and chondroitin (usually sourced from animal cartilage).

Although glucosamine and chondroitin are the most studied and well-known joint ingredients on the market, recent data shows that they're experiencing declining sales.<sup>5</sup> Plant-based options are a means to helping further growth.



## Growth of Traditional Target Groups

Although the joint health market is appealing to a broader demographic, it's important to note that the rising population of traditional target groups—the aging population, obese and overweight people, and arthritis sufferers—is also fueling market growth.

The United Nations reports that the global number of persons aged 60 years and over is expected to more than double by 2050.<sup>6</sup> With age comes the normal wear and tear of the joints, resulting in decreased cartilage and increased pain and discomfort.

Weight is another factor that can cause joint pain. The more weight on a joint, the more stressed the joint becomes, and the more likely it will become damaged. A recent research report from the National Center for Health Statistics found that in 2015-2016, 39.8% of adults and 18.5% of youth are obese in the US, which is a 30% increase in adult obesity and 33% increase in youth obesity from the 1999-2000 data.<sup>7</sup>

Age and increased weight puts people at a higher risk for rheumatic diseases and conditions such as arthritis. The Center for Disease Control and Prevention (CDC) reports that more than 54 million US adults have some form of arthritis, that's more than 1 in 4 people with estimates growing to 78 million US adults by 2040.<sup>8</sup>

Age, weight and arthritis conditions are primary risk factors that cause joint pain and damage. As these traditional target groups grow, so too will the need for joint health products to help support joint health.



# INNOVATION STRATEGIES

Current trends are refreshing the category by growing its appeal to a wider range of consumers. As interest in joint health products grow, companies will have to innovate in order to meet the needs of these changing target groups.

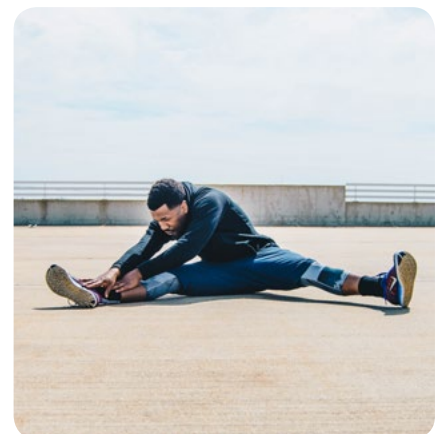
New and emerging ingredients offer an opportunity for businesses to innovate in the joint health market. Although glucosamine and chondroitin still dominate, newer ingredients are reaching a broader audience. For example, ingredients such as curcumin, gamma-linolenic acid (GLA), boswellia serrata extract, omega-3 fatty acids and avocado/soy unsaponifiables (ASU) appeal to consumers who are looking for natural ingredients with anti-inflammatory properties.

Improved delivery formats are another innovation opportunity. Today's consumers are constantly on-the-go. They want health and wellness products that are convenient and easy to take as part of their daily routine. The traditional pill format doesn't appeal to them. This shift in consumer attitudes leads to an opportunity for new delivery formats such as combining synergistic ingredients in one product, or concentrated ingredients in a smaller dosage.



## A REVITALIZED JOINT HEALTH MARKET

Baby Boomers and older generations are no longer the only ones concerned with joint health. Younger active consumers are also becoming increasingly aware of the importance of healthy joints for achieving their fitness goals. The joint health consumer is a more diverse target market with differing needs that will require differing solutions. Businesses need to understand what those needs are in order to succeed, which will lead to innovation in ingredients and delivery formats. The result is a joint health market poised for growth.



# ABOUT BIORIGINAL

Bioriginal is a global leader in delivering complete nutritional solutions to the food and nutraceutical industries. Bioriginal has over 20 years of global expertise with a wide portfolio including plant and marine-based oils, seeds & grains, protein products and botanical ingredients. Bioriginal has carved out a niche by combining ingredients from all over the world, directly from the source, to create innovative and efficacious solutions. Developing proprietary methods and systems, Bioriginal provides customized turnkey solutions for our customers that help them compete and win in a highly competitive space. Bioriginal is headquartered in Saskatoon, Canada with facilities throughout the USA and Europe. Bioriginal is the Human Nutrition Division of Omega Protein Corporation.

For more information, please visit [www.bioriginal.com](http://www.bioriginal.com).

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*This information is provided as educational material. Please consult legal counsel prior to making any nutritional content or health claims on finished product.*

\*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

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