

RESEARCH STUDIES DEMONSTRATING
INGREDIENT BENEFITS OF YOUNGevity®
BONE AND JOINT HEALTH CARE PRODUCTS



Youngevity®

Youngevity®

90
FOR LIFE™

Since 1997, **Youngevity®** has continued a tradition of excellence and innovation with its Nutraceutical products by committing itself to research and science. Its core message of **90 For Life™**, developed by world-renowned scientist and researcher, Dr. Joel Wallach, has resonated and enhanced the lives of millions through its clinically-supported philosophy of the correlation of specific nutrients to overall health and wellness.

Working closely with the field's most notable biochemists, medical professionals, nutritionists and governmental organizations such as the Food and Drug Administration (FDA), Youngevity® has pioneered the use of nutrition and supplementation to aid in the support of health and defense of the body's most debilitating health concerns.



HOW DO YOUR JOINTS FEEL?

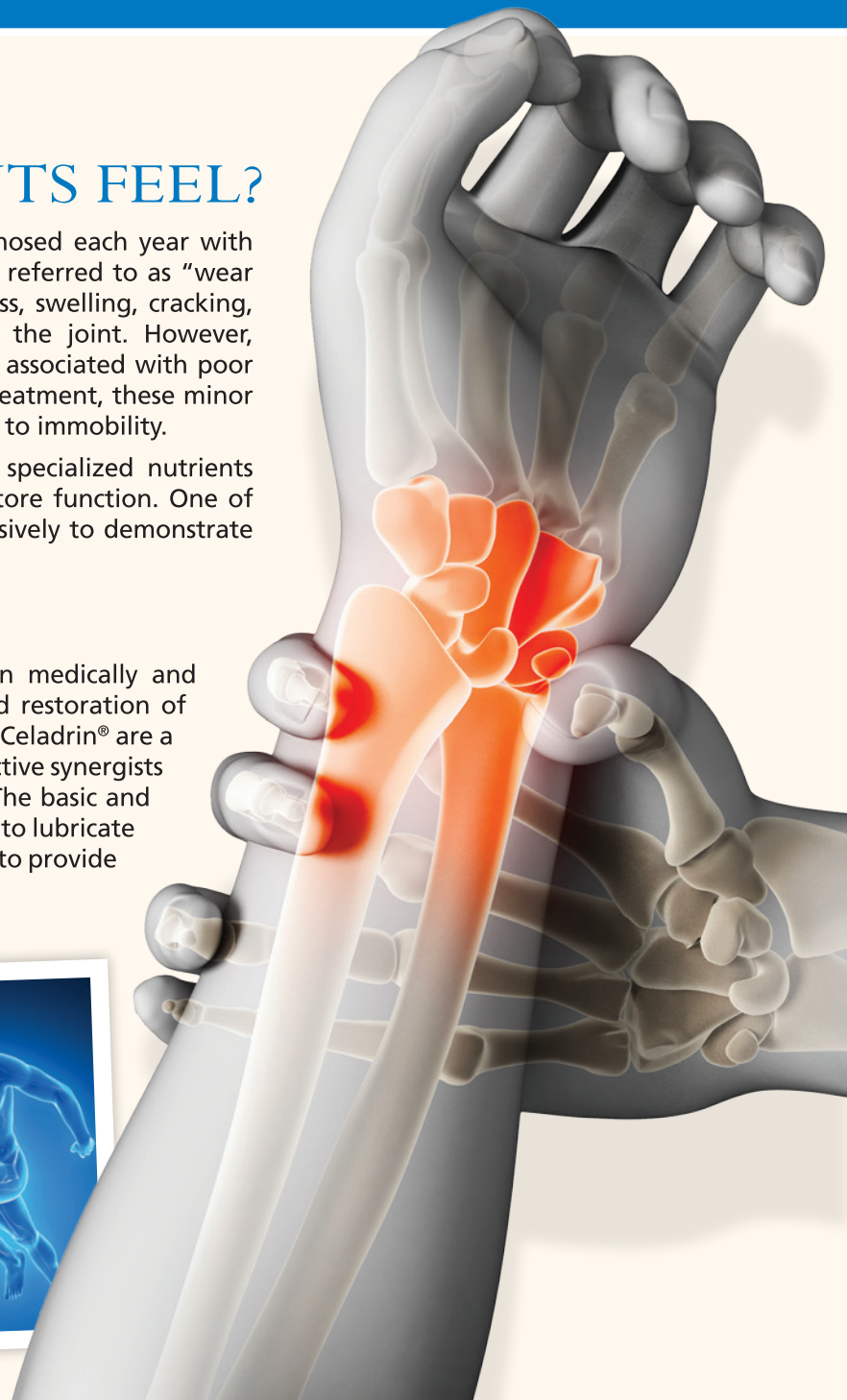
If you're like one of the 27 million Americans diagnosed each year with Osteoarthritis (OA), a joint disease that is commonly referred to as "wear and tear" on the joints, then you experience stiffness, swelling, cracking, grinding, and decreased function and mobility of the joint. However, millions more go undiagnosed but still feel the pain associated with poor joint health. Without proper care, prevention, and treatment, these minor symptoms can cause significant damage that can lead to immobility.

The Youngevity® Bone and Joint products contain specialized nutrients that support joint repair and recovery, and help restore function. One of those ingredients, Celadrin®, has been studied extensively to demonstrate its benefits.

CELADRIN®

Celadrin® is an all-natural ingredient that has been medically and clinically proven to deal with pain management and restoration of the joint. The proprietary and exclusive ingredients in Celadrin® are a combination of cetylated fatty acid esters and other active synergists that enhance joint function, mobility, and recovery. The basic and fundamental unit of the joint is the cell. Celadrin® acts to lubricate cell membranes and enhance the structures of the cell to provide greater elasticity and flexibility.

- **All-Natural**
- **Clinically and Medically-Proven**
- **Scientifically-designed to Absorb Rapidly and Provide Immediate Relief**
- **FDA Compliant**



Youngevity



THE YOUNGEVITY® BONE AND JOINT HEALTH CARE DIFFERENCE

There is no “quick-fix” to joint care, but there are solutions that allow for powerful prevention and treatment of the issues with joint deterioration. While most products focus on just the symptoms of joint issues, the pain, inflammation, and stiffness, Youngevity® has formulated their products to also focus on the health and healing of the joint. Combining ingredients such as Glucosamine, MSM, Chondroitin, Cetyl Myristoleate (CMO), and other collagen building factors allows the Youngevity® products to target recovery, restoration, and ultimately maximum functionality of the joint.



ABSORPTION

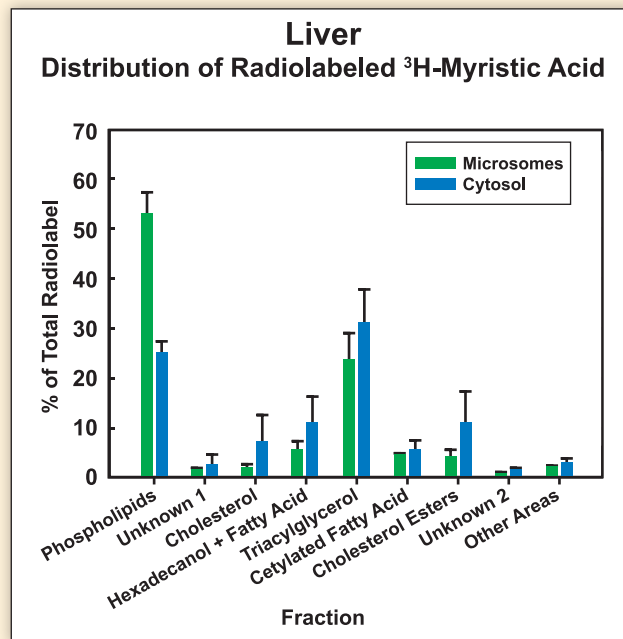
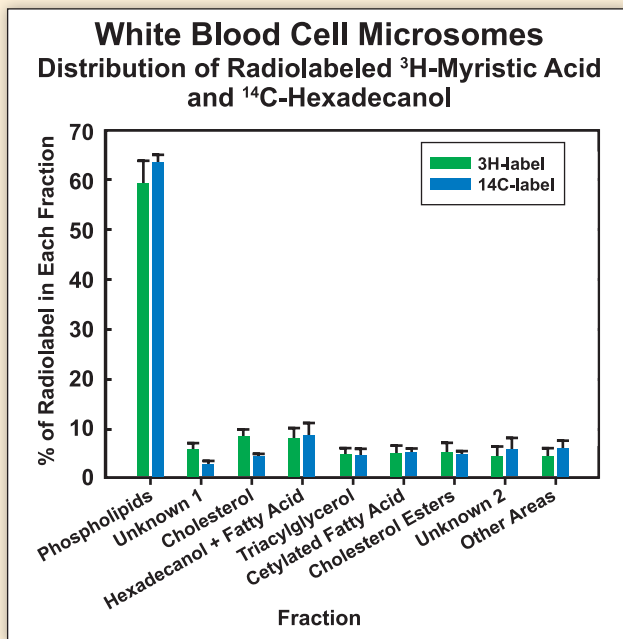
Before any true health can be achieved or understood, there must be research that shows the potent nutrients are affecting the areas where they can create the most healing. Research done at *The University of Minnesota – Department of Food Science and Nutrition* demonstrates that the powerful nutrients in the Youngevity® products and Celadrin® target the areas of the cell that create resiliency, flexibility, and structural repair.



Absorption: To fully maximize the uptake and incorporation of nutrients into the body and target the specific areas where those nutrients offer the most benefit and health.

STUDY:

The Cetylated Fatty Acid, myristyl hexadecanol (MHD), was tracked through the tissues of the Liver, Kidney, Adipose (Fat), Muscle, and White Blood Cells, and was found to be deposited in a wide cellular distribution. The healing fatty acids were shown to be absorbed and metabolized in these cells and specifically in areas that are vital for cellular structure and function.



Full Report And Graphs of Liver, Kidney, Adipose (Fat) can be found: www.YoungevityResearch.com.

The University of Minnesota – Department of Food Science and Nutrition does not support, endorse, sponsor, or affiliate with the Youngevity® products or company.

THESE STATEMENTS HAVE NOT BEEN EVALUATED BY THE FOOD AND DRUG ADMINISTRATION. THESE PRODUCTS ARE NOT INTENDED TO DIAGNOSE, TREAT, CURE, OR PREVENT ANY DISEASE.



INFLAMMATION

Although inflammation can be a beneficial response to injury and infection, triggering much needed healing mechanisms that promote repair and recovery, when left uncontrolled, inflammation can cause tissue destruction and systemic complications. Joint trauma can be incredibly inflammatory and studies at *Boston University* sought to understand the inflammatory response after application of the cetylated fatty acid, Celadrin®. It was found that the ingredient in the Youngevity® products, Celadrin®, inhibited the further inflammatory response that could cause damage to joints.

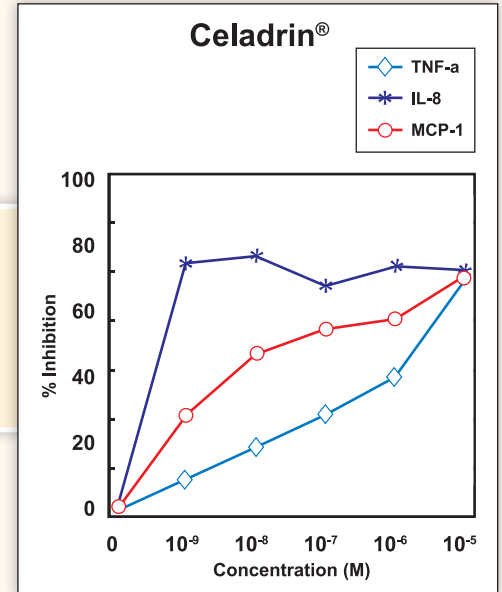


Inflammation: A protective and destructive response of the body in response to joint injury and deterioration. Must be contained and inhibited to promote recovery and repair.

STUDY:

During a study conducted on periodontal disease, various inflammatory bio-markers were assessed after application of the cetylated fatty acid, Celadrin®. After inflammation was induced in tissue, it was seen that the cetylated fatty acid mixture inhibited the pro-inflammatory mediators of TNF- α , IL-6, and MCP-1, 6 and 24 hours after inflammation stimulation.

Boston University does not support, endorse, sponsor, or affiliate with the Youngevity® products or company.



MOBILITY

We have over 250 joints in our bodies and they can all ache, stiffen, be painful, and lose function, regardless of our age or activity level. Although each joint has some uniqueness to its function and structure, they can all be supported in a very similar way. Research done at the *University of Connecticut* examined the effects of the ingredient in the Youngevity® products, Celadrin®, and its function on a wide variety of joints.



Mobility: The ability to move freely and without restriction or pain. Having full function and confidence in your movements.

STUDY:

A group of patients were evaluated that separately had knee osteoarthritis, wrist osteoarthritis, and elbow arthritis. They applied the Celadrin® based cream twice per day for a week. They had significant improvements in exercises that related to knee performance, balance, strength, and range of motion, and most importantly, they had reductions in pain.

The University of Connecticut and The Journal of Strength and Conditioning does not support, endorse, sponsor, or affiliate with the Youngevity® products or company.

Research Note

A CETYLATED FATTY ACID TOPICAL CREAM WITH MENTHOL REDUCES PAIN AND IMPROVES FUNCTIONAL PERFORMANCE IN INDIVIDUALS WITH ARTHRITIS

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Abstract: Arthritis is a progressive, degenerative disease that affects more than 21 million individuals in the United States annually. The most common symptoms are pain, stiffness, reduced joint range of motion, and limitations in normal activities that are a part of daily living, such as getting up from a chair, walking, balancing, and ascending/descending stairs. In this study, we examined the effectiveness of Celadrin, a topical cream containing cetylated fatty acids, in a group of individuals with osteoarthritis of the knee. We hypothesized that individuals with OA without functional deficits, symptoms, or pain would show similar improvements in pain, strength, and range of motion as individuals with OA with functional deficits. We used a single treatment group with a 10% menthol cream (placebo) and a 10% menthol cream with cetylated fatty acids (Celadrin). We found that the Celadrin group showed significantly greater improvements in pain, strength, and range of motion compared to the placebo group. These improvements were maintained for up to 12 weeks post-treatment. The Celadrin group also showed significantly greater improvements in functional performance (e.g., 6-min walk test) compared to the placebo group. These findings suggest that Celadrin may be an effective treatment for individuals with OA who experience pain, stiffness, and functional limitations. Further research is needed to determine the optimal concentration and frequency of application for Celadrin in individuals with OA.

Key Words: fatty acids, osteoarthritis, physical performance, variety of life





QUALITY OF LIFE

Joint pain and immobility can significantly reduce your ability to function, which then affects your freedom and Quality of Life. Range of motion, the power that needs to be produced for action, and stability and balance are keys to enhancing function. Two studies were done at the *University of Connecticut* evaluating the nutrients found in the *Youngevity®* products, testing them against these factors.



Quality Of Life: Your ability to enjoy the full breadth of normal life activities. To enhance your abilities so that you can capture the full potential of personal achievement.

STUDY:

Combining both studies, over 80 patients with various degrees of osteoarthritis in the knee were evaluated after treatment with cetylated fatty acids. After various assessments that included knee range of motion, various actions that placed loads and stress upon the knee (stair climbing, walking, etc.), and balance and stability tests, it was found that treatment with cetylated fatty acids significantly improved these functional areas and thus improved the participants Quality of Life.



Effect of a Cetylated Fatty Acid Topical Cream on Functional Mobility and Quality of Life of Patients with Osteoarthritis

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ABSTRACT

Objective. To examine the effect of a topical cream consisting of cetylated fatty acids on functional performance in patients diagnosed with osteoarthritis (OA) of one or both knees.

Methods. Forty patients diagnosed with knee OA were randomly assigned to one of 2 topical treatment groups: (1) cetylated fatty acid (CFA) (n = 20, age 62.7 ± 11.7 yrs), or (2) placebo group (n = 20, age 64.6 ± 10.5 yrs). Patients were tested on 3 occasions: (1) baseline (T1), (2) 30 min after initial treatment (T2), and (3) after 30-day treatment of cream application twice per day (T3). Assessments included knee range of motion (ROM), timed "up-and-go" from a chair and stair climbing, medial step-down test, and the unilateral anterior reach.

Results. For stair climbing ability and the up-and-go test, significant decreases in time were observed at T2 and T3 compared to T1 in the CFA group only. These differences were significant between groups. Supine ROM of the knees increased at T2 and T3 in CFA group, whereas no difference was observed in the placebo group. For the medial step-down test, significant improvement was observed at T2 and T3 compared to T1 in CFA group and in only the left leg in the placebo group. However, the improvements observed in CFA group were significantly greater than placebo group for both legs.

Conclusion. Use of a CFA topical cream is an effective treatment for improving knee ROM, ability to ascend/descend stairs, ability to rise from sitting, walk and sit down, and unilateral balance. (J Rheumatol 2004;31:767-74)

EFFECTS OF TREATMENT WITH A CETYLATED FATTY ACID TOPICAL CREAM ON STATIC POSTURAL STABILITY AND PLANTAR PRESSURE DISTRIBUTION IN PATIENTS WITH KNEE OSTEOARTHRITIS

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Objective. To examine the effect of a topical cream consisting of cetylated fatty acids on static postural stability and plantar pressure distribution in patients with knee osteoarthritis (OA). **Methods.** Forty patients diagnosed with knee OA were randomly assigned to one of 2 topical treatment groups: (1) cetylated fatty acid (CFA) (n = 20, age 62.7 ± 11.7 yrs), or (2) placebo group (n = 20, age 64.6 ± 10.5 yrs). Patients were tested on 3 occasions: (1) baseline (T1), (2) 30 min after initial treatment (T2), and (3) after 30-day treatment of cream application twice per day (T3). Assessments included knee range of motion (ROM), timed "up-and-go" from a chair and stair climbing, medial step-down test, and the unilateral anterior reach.

Results. For static postural stability, significant differences were observed at T2 and T3 compared to T1 in the CFA group only. These differences were significant between groups. For the medial step-down test, significant improvement was observed at T2 and T3 compared to T1 in CFA group and in only the left leg in the placebo group. However, the improvements observed in CFA group were significantly greater than placebo group for both legs.

Conclusion. Use of a CFA topical cream is an effective treatment for improving knee ROM, ability to ascend/descend stairs, ability to rise from sitting, walk and sit down, and unilateral balance. (J Rheumatol 2004;31:767-74)

The University of Connecticut and/or The Journal of Rheumatology does not support, endorse, sponsor, or affiliate with the *Youngevity®* products or company.



Healthy Bone and Joint Body Pak™



A specially-designed nutritional system that provides a comprehensive set of bone and joint supporting nutrients for immediate and long-term relief of joint pain. Featuring the five most powerful joint supporting products, this Pak™ includes the exclusive 90 For Life™ system of health along with Ultimate™ Gluco-Gel™ and CM Cream™.

Ultimate™ CM Cream™

For immediate relief of joint pain and sore muscles, CM Cream™ provides a concentrated dose of proprietary Celadrin®, to soothe aches and pains. CM Cream™ has been clinically-supported to provide immediate pain relief while helping to rebuild and repair the joint for extended benefits.



Ultimate™ CM Soft Gels™

A concentrated amount of proprietary Celadrin®, a natural and clinically-supported joint health nutrient, in a soft gel. This preventative formula allows for daily intake of Celadrin® to help rebuild and repair joint areas. In addition, it helps to strengthen the joint so that the highest intensities of activities do not cause deterioration or damage.



Beyond Osteo-fx™ (liquid and powder)

For those that find liquid nutrition easier to consume, the great taste of Beyond Osteo-fx™ comes in both liquid and powder form, that can be mixed with water or juice. This formula is designed with nutrients that are specific to feed ligaments, tendons, and cartilage for greater preventative and long term joint health.



Ultimate™ Gluco-Gel™

Aging or damaged joints may be missing the vital nutrient Glucosamine to help rebuild and restore. Gluco-Gel™ offers the fundamental nutrients for greater joint health by providing extra care, protection, and even enhanced support to joints which have experienced prolonged deterioration.



Ultimate™ Osteo-fx™

Power-packed with bone and joint specific nutrients, Osteo-fx™ contains the vitamins, minerals, and specialized ingredients that target the protection, rebuilding, and repair of ligaments, tendons, cartilage, and bone. Osteo-fx™ is a comprehensive formula for all joint concerns. To be mixed with water/juice, Osteo-fx™ is a convenient, simple, and great-tasting way to get your joint nutrition.



Youngevity