

The Impact of Joint Health on Physical Activity



Understanding the Mechanics of Cartilage Degeneration



- 1** *In healthy cartilage, an equilibrium exists between synthesis and degradation of collagen and proteoglycans*
- 2** *If the balance is tilted toward degradation, cartilage thickness is compromised and functionality is limited*
- 3** *This balance can be compromised by trauma, age, genetics or disease pathology*

An Epidemic Condition that Dramatically Limits Physical Activity

70 million Americans suffer from chronic pain associated with bone, joint conditions¹

20.7 million Americans have OA, making it the most common musculoskeletal condition²

Increased joint pain
Reduced mobility
Decreased activity



Generating A Stronger Tomorrow

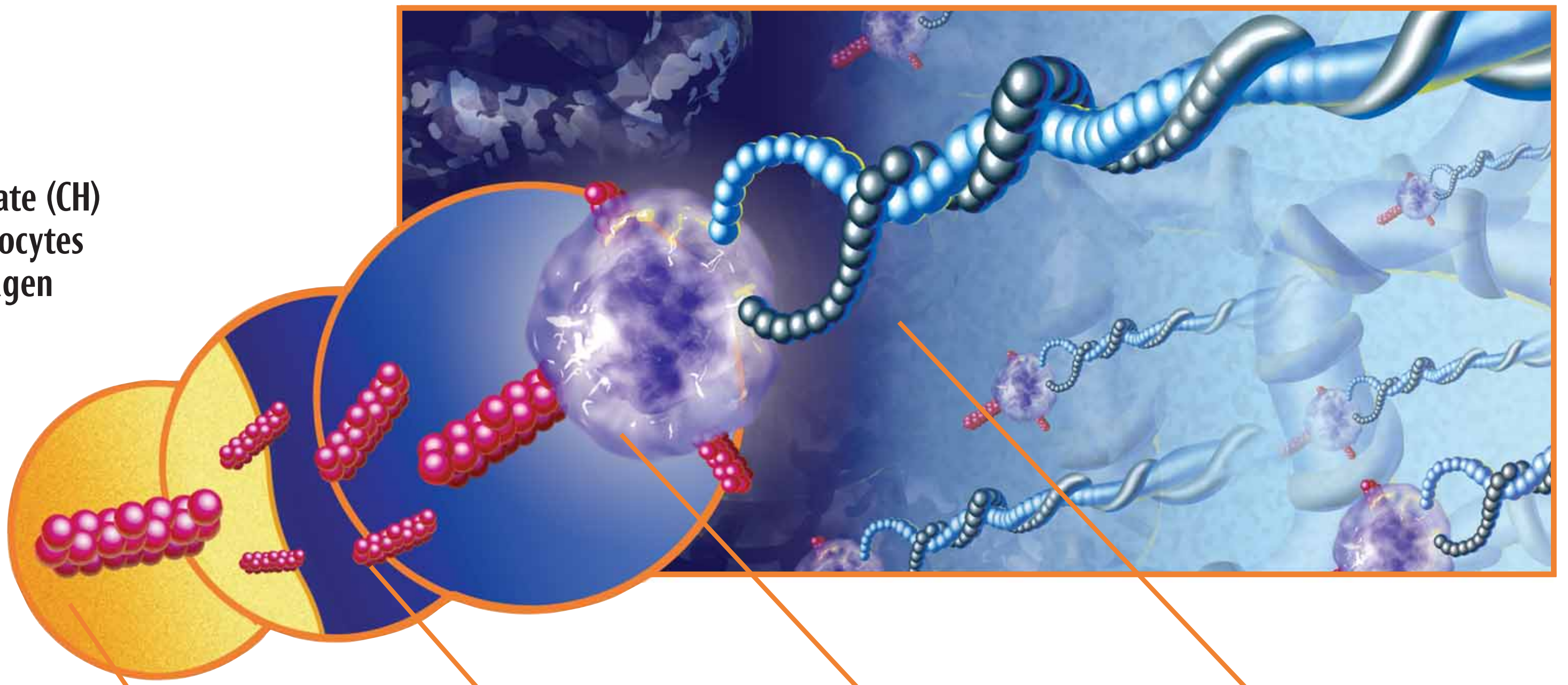
1. United States Bone and Joint Decade. Available at: <http://www.usbjd.org/about/index.cfm?pg=fast.cfm>. Accessed February 8, 2005.

2. Arthritis Foundation. Available at: <http://www.arthritis.org/conditions/DiseaseCenter/oa.asp>. Accessed January 26, 2005.

The Impact of Collagen Hydrolysate on Cartilage and Joint Health

A New and Different Way to Intervene

Collagen hydrolysate (CH) stimulates chondrocytes to synthesize collagen

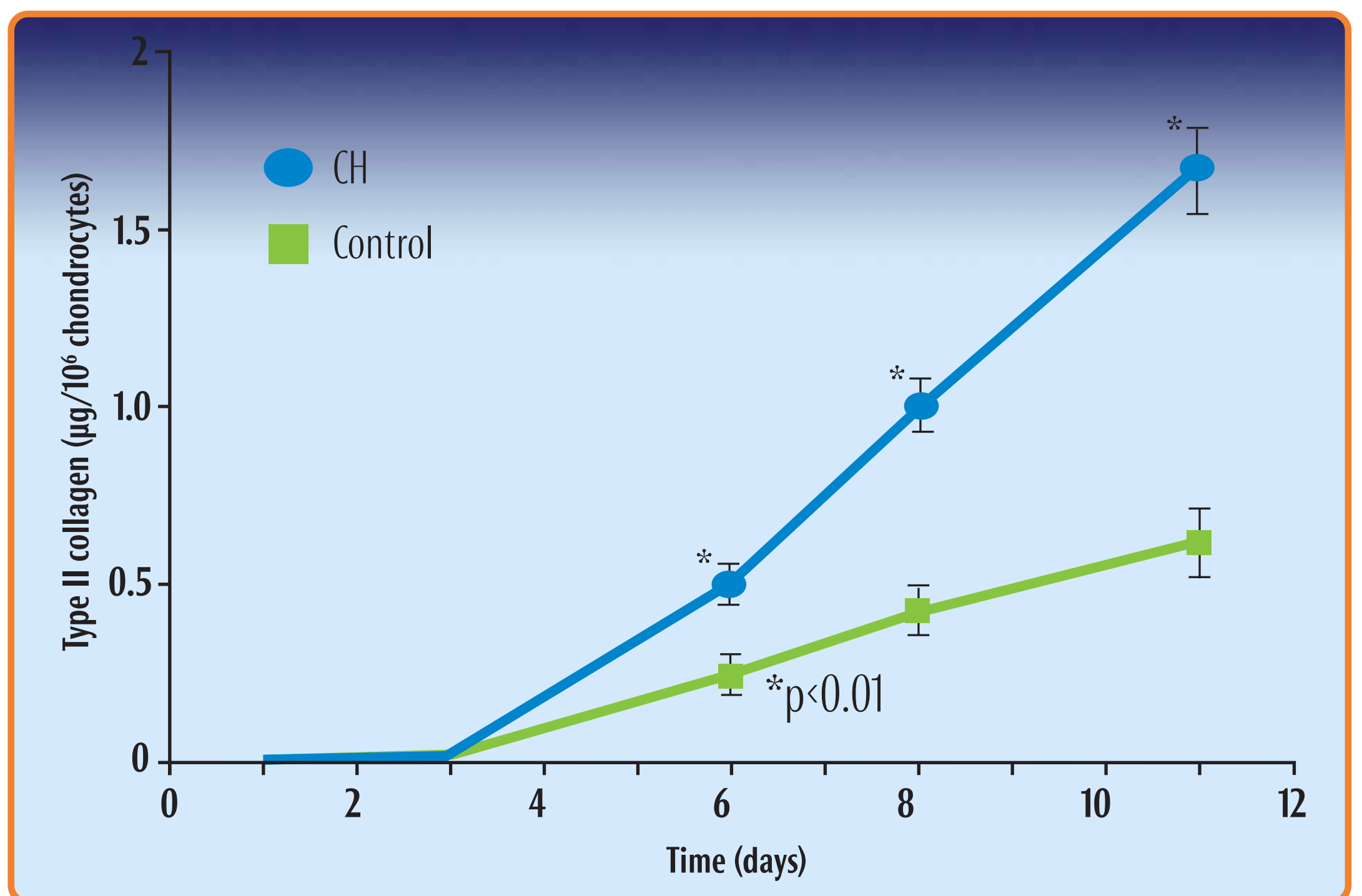


- 1 Orally administered collagen hydrolysate is absorbed intact
- 2 CH passes into the synovial fluid and diffuses to the chondrocytes
- 3 It is hypothesized that CH stimulates collagen and proteoglycan synthesis in joint cartilage
- 4 Enhanced collagen and proteoglycan synthesis likely improves joint health

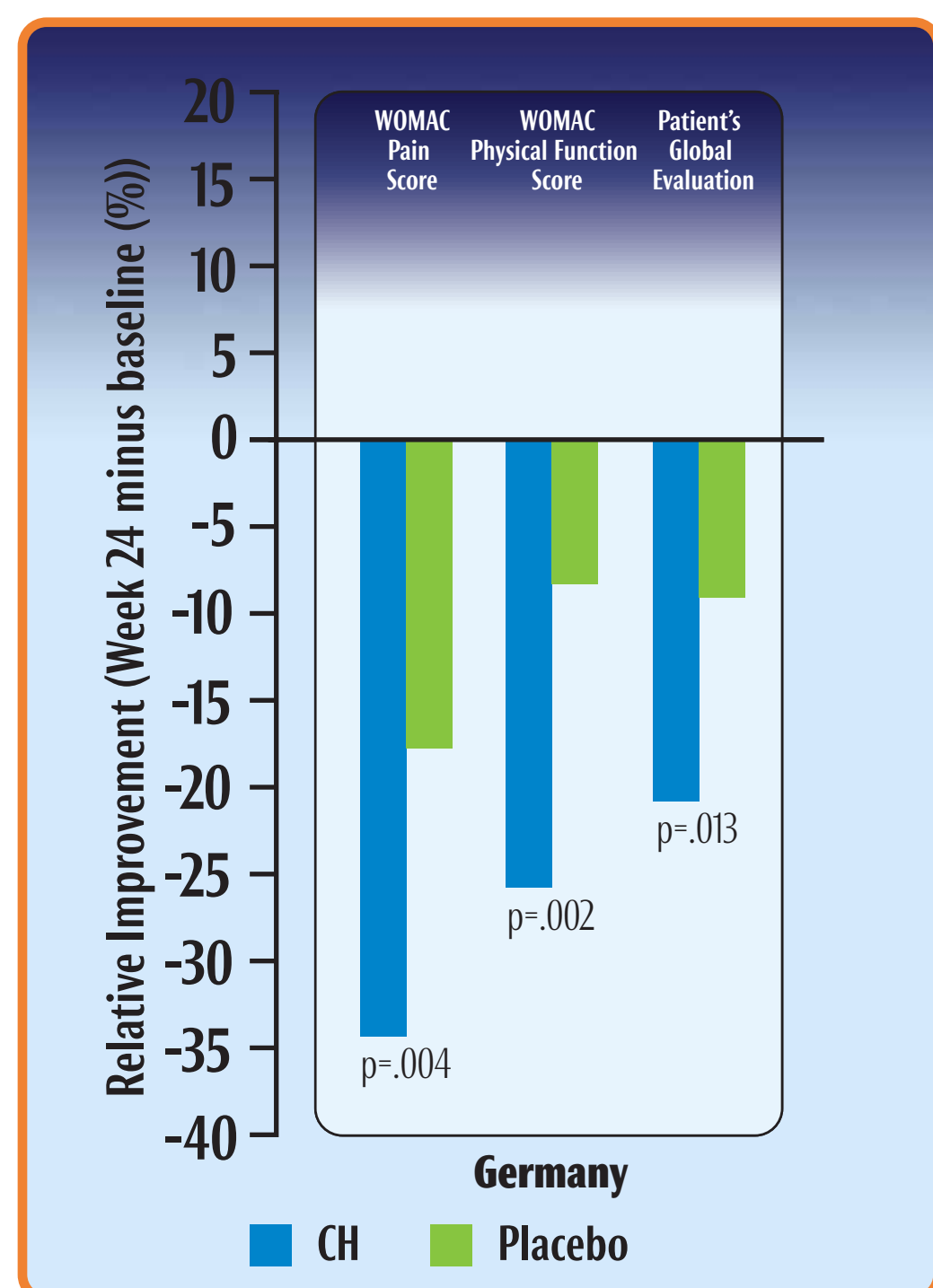
Collagen Hydrolysate May Stimulate Type II Collagen Synthesis...

CH significantly increases type II collagen synthesis

Time course of type II collagen secretion into supernatants of bovine chondrocytes cultured in basal medium (BM) or in medium supplemented with 0.5 mg/ml CH. Data represent mean \pm SD of 4 chondrocyte preparations performed in triplicate.¹

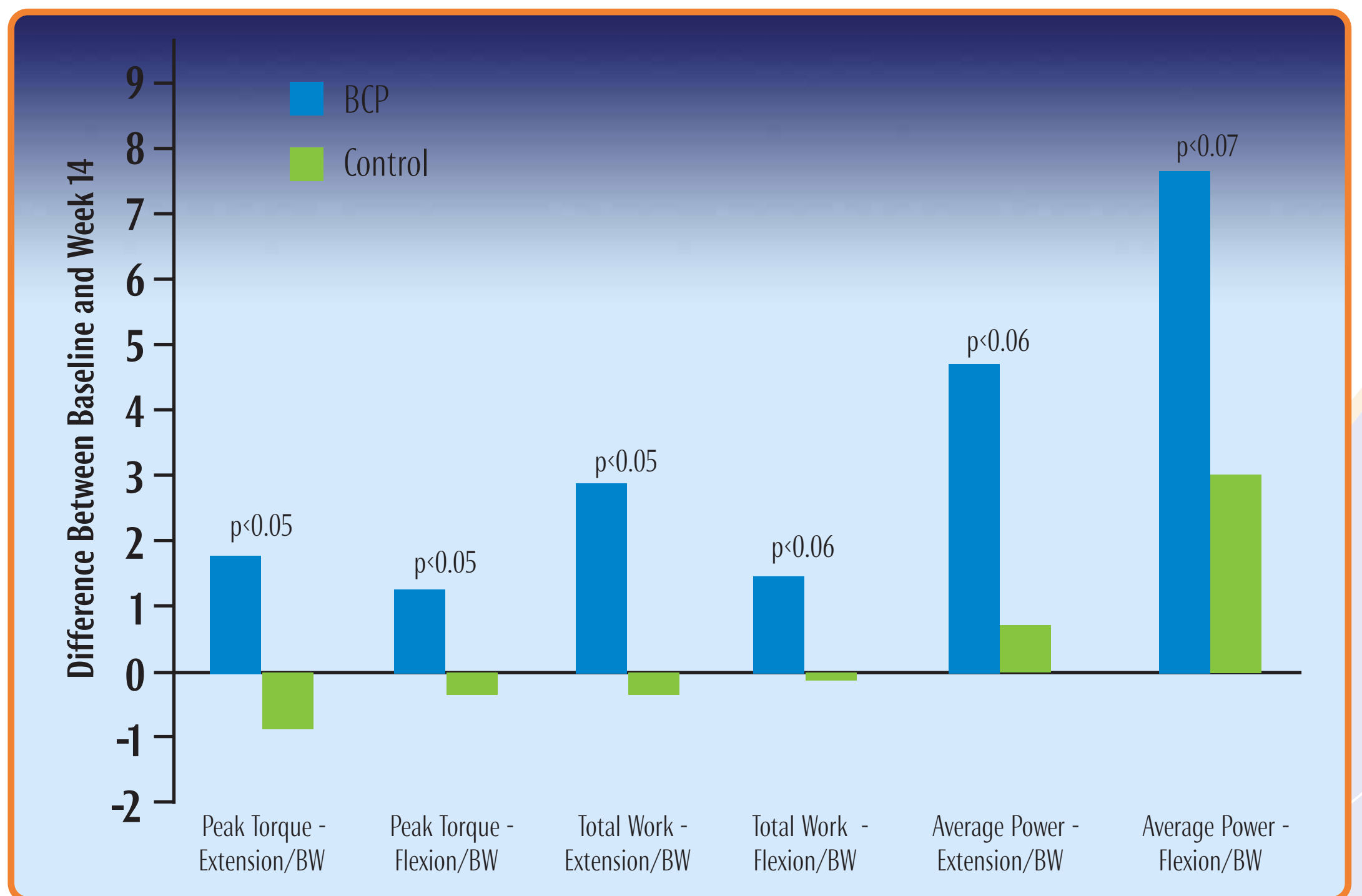


...Reducing Symptoms and Improving Joint Function



CH reduces the symptoms of joint disease

Prospective, randomized study conducted at 20 sites in 3 countries including 389 individuals with ACR criteria knee OA. Patients received 10 g collagen hydrolysate or 12 g lactose as control for 24 weeks. Acetaminophen rescue up to 4 g/day was allowed. Statistical analysis conducted on ITT population. Substitution of drop outs with last observation carried forward. Data shown from German sites only. Results from other countries not statistically significant.²



CH enhances joint strength and endurance

190 individuals with mild ACR criteria knee OA were randomly assigned to receive either collagen hydrolysate (10 g), calcium (300 g), and Vitamin C (60 mg), or placebo. Subjects were assessed at baseline, 8, and 14 weeks for leg strength (isometric and isokinetic) using the Biodex Multi-Joint System B2000 to measure joint strength and work performance.³



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1. Oesser S and Seifert J. Stimulation of type II collagen biosynthesis and secretion in bovine chondrocytes cultured with degraded collagen. *Cell Tissue Res.* 2003;311(3):393-399.
2. Selbmann H-K, Fischer IU, Moskowitz RW. Collagen hydrolysate in knee osteoarthritis (OA): population specific responses. 9th World Congress of Osteoarthritis Research Society International (OARSI). December 2004; Chicago, IL.
3. Zuckley L et al/Rippe Lifestyle Institute. Collagen hydrolysate improves joint function in adults with mild symptoms of osteoarthritis of the knee. 51st American College of Sports Medicine (ACSM) Meeting. June, 2004; Indianapolis, IN.

CH-Alpha™ — A Marked Impact on Joint Health

Maintaining Joint Health for Active Living

*CH-Alpha™ is a unique
source of Collagen
Hydrolysate for
improved joint health*



Convenient daily dose vials

Many Individuals May Benefit From CH-Alpha™

Older, active individuals, athletes, those engaged in repetitive motion activities, and overweight and sedentary individuals may all enjoy substantial benefits from CH-Alpha™



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