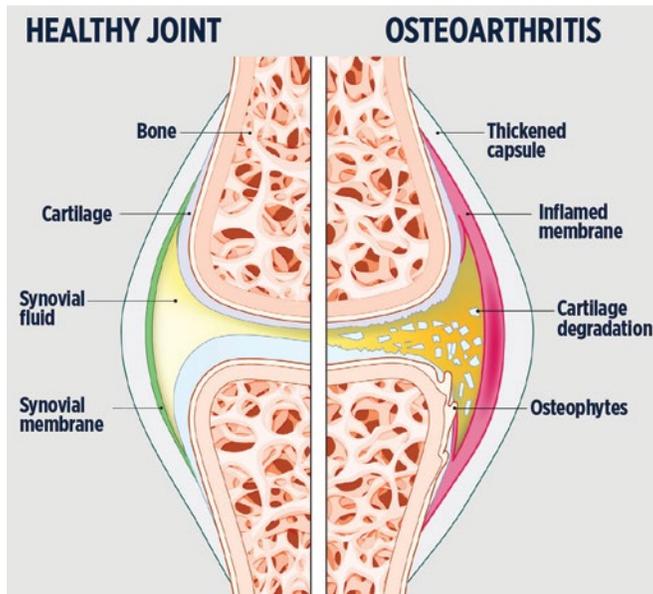


# Osteoarthritis Protocol

Clinical Protocol to Support Healthy Joints and Connective Tissues\*



Osteoarthritis (OA) is the leading cause of disability among adults in the U.S.<sup>1,2</sup> OA is the most common form of arthritis, affecting more than 30 million Americans, of whom more than half are under age 65.<sup>2</sup> OA is believed to be the most prevalent of all musculoskeletal pathologies, affecting an estimated 10% of the world's population over the age of 60.<sup>3</sup>

OA is characterized by pain, swelling, and loss of function around various joints including the knees, ankles, hips, neck, spine, and elbows. Generated by mechanical “wear and tear” over time and the corresponding inflammatory response to tissue damage, OA is prevalent in aging populations and those who have experienced repetitive use and sports injuries. Physical therapy and other modalities that address structural and biomechanical issues are often used in treatment, along with a focus on reducing localized inflammatory response in the affected joints and tissues.

Risk factors that can lead to the onset and progression of OA include advanced age, obesity, genetics, gender, bone density, trauma, and a physical inactivity.<sup>4</sup> Decreasing body mass, improving bone density and joint mobility through appropriate exercise, and adopting a diet that supports a healthy inflammatory response serve as a prudent approach in supporting those with OA.

This clinical protocol is designed to support joint integrity and a healthy inflammatory response in connective tissues through evidence-based diet, lifestyle, and nutritional strategies.\*

## Diagnostic Biomarkers and Clinical Indicators of Osteoarthritis

- Bone x-ray (radiography)
- Erythrocyte sedimentation rate (esr)
- MRI of the musculoskeletal system
- Synovial fluid analysis
- Genomicsinsight® genomic health profile —structural report
- RBC fatty acid profile
- EPA, DHA, AA/EPA ratio

## Therapeutic Diet and Nutritional Considerations

- Guide patients in the adoption of an anti-inflammatory diet consisting of omega-3 fatty acids, polyphenols, and antioxidant-rich foods
- Reduce intake of dietary sugars, refined carbohydrates, and omega-6 fats, as foods high in these compounds may contribute to the production of advanced glycated end-products and inflammatory cytokines<sup>5-7</sup>
- Ensure adequate intake of calcium, magnesium, and protein through consumption of foods rich in these three nutrients:
  - **Calcium:** RDA of 1,000 mg to 1,300 mg based on age and gender<sup>8</sup>
    - Yogurt, sardines, cheese, salmon, turnip greens, kale
  - **Magnesium:** RDA of 310 mg/day to 420 mg/day based on age and gender<sup>9</sup>
    - Kale, spinach, Swiss chard, pumpkin seeds, almonds, cashews, black beans, dark chocolate
  - **Protein:** Dietary Reference Intake of 0.8 grams of protein per kilogram of body weight<sup>10</sup>
    - Grass-fed beef, bison, chicken, turkey, lamb, fish, shellfish, beans, legumes, nuts, seeds

## Lifestyle Interventions

- Recommend flexibility and mobility exercise to maintain joint range of motion
- Support maintenance of a healthy body weight — overweight status (BMI > 24.9) may place excess load, compression, and shear force on affected joints
- Recommend hot and cold therapy to help manage pain and stiffness; AthroSoothe™ Cream may support occasional joint and muscle discomfort and can be used as an ultrasound-conducting medium



## Supplement Protocol

Primary Support:



### Arthroben® or Whole Body Collagen

<b>Dose</b>	Mix one serving in 8 ounces of water per day / Mix 13 grams (approximately one scoop) in 8 ounces of water per day
<b>Duration</b>	12 weeks; repeat OA assessment / 12 weeks; repeat DXA scan
<b>Formula Highlights</b>	This formula features the patented collagen peptides Fortigel® and Tendoforte® that have been shown in studies to support joint function and promote tendon and ligament strength.* It also includes a proprietary blend of standardized extracts from Chinese skullcap ( <i>Scutellaria baicalensis</i> ) and cutch tree ( <i>Acacia catechu</i> ) to promote a normal inflammatory response.* It contains no artificial sweeteners, mixes easily in water, and is available in a lemon-lime flavor, as well as an unflavored/unsweetened version. Whole Body Collagen contains the research-proven collagen peptide blends Verisol®, Fortigel®, and Fortibone®. This unique blend is supported by clinical research showing its efficacy for collagen production, bone strength, joint health and integrity, and skin elasticity.*

### Glucosamine Chondroitin or ArthroSoothe™ Supreme

<b>Dose</b>	4 capsules per day
<b>Duration</b>	12 weeks; repeat OA assessment / Ongoing as needed
<b>Formula Highlights</b>	Glucosamine Chondroitin combines glucosamine sulfate and clinically trialed CSbioactive® chondroitin sulfate, to promote healthy joint function.* Glucosamine and chondroitin are the building blocks of cartilage and may help promote normal cartilage development.* They may also help support healthy aging.* ArthroSoothe™ Supreme provides a synergistic blend of joint-supportive compounds including glucosamine sulfate, New Zealand green-lipped mussel, methylsulfonylmethane (MSM), quercetin, trans-resveratrol (as Veri-te™), and a proprietary blend of the plant extracts <i>Scutellaria baicalensis</i> and <i>Acacia catechu</i> .*

### Secondary Support:

### OmegAvail™ Hi-Po or OmegAvail™ TG1000, based on EFA testing

<b>Dose</b>	2 softgels per day with a meal
<b>Duration</b>	12 weeks; repeat OA assessment
<b>Formula Highlights</b>	OmegAvail™ TG1000 is our highest potency omega-3 formula, offering 1000 mg of omega-3s per softgel. OmegAvail™ Hi-Po contains 800 mg each of EPA and DHA per 2-softgel serving. The special feature of OmegAvail™ Hi-Po is the EPA=DHA balance, while OmegAvail™ TG1000 has slightly higher EPA than DHA.

### SPM Supreme™

<b>Dose</b>	1-2 softgels per day
<b>Duration</b>	8-12 weeks; retest inflammatory markers
<b>Formula Highlights</b>	SPM Supreme™ is a combination of three highly potent “specialized pro-resolving mediators” designed to help support the body’s natural ability to respond to physiological stress and “resolve” the initial steps in the natural inflammatory process. The “resolution” of a healthy inflammatory response is an active process controlled by these unique metabolites.*

For a list of references cited in this document, please visit:

<https://www.designsforhealth.com/api/library-assets/literature-reference---osteoarthritis-protocol-references>

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Veri-te™ is a trademark of Evolve or its affiliates in the U.S. and other countries.

Dosing recommendations are given for typical use based on an average 150 pound healthy adult. Health-care practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage. Any product containing botanical substances has the potential for causing individual sensitivities, appropriate monitoring, including liver function tests (LFT) is recommended.

For considerations regarding herb-drug and nutrient-drug interactions, please refer to reliable, evidence-based resources such as the Natural Medicine Database or Stargrove MB, Treasure J, McKee DL. *Herb, Nutrient, and Drug Interactions: Clinical Implications and Therapeutic Strategies*. St. Louis, MO: Mosby-Elsevier; 2008.

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\*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.