

What is Osteoarthritis, and how does it affect you?

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Introduction

Arthritis is a condition that affects the biomechanics of a joint. The most frequent type of arthritis is osteoarthritis (OA). Osteoarthritis is caused by a number of reasons, one of which being age.

The most prevalent type of arthritis is osteoarthritis, commonly known as degenerative joint disease (DJD). As people get older, they are more likely to acquire osteoarthritis [1]. Changes in osteoarthritis normally take many years to manifest, though there are exceptions. Inflammation and damage to the joint produce bone alterations, tendons and ligament degradation, and cartilage breakdown, resulting in joint discomfort, swelling, and deformity.

Osteoarthritis is divided into two types:

Primary: Most common and widespread, affecting mostly the fingers, thumbs, spine, hips, knees, and great (large) toes.

Secondary: Occurs in the presence of a pre-existing joint abnormality, such as repetitive or sports-related injury or trauma; inflammatory arthritis, such as rheumatoid, psoriatic, or gout; infectious arthritis; genetic joint disorders, such as Ehlers-Danlos syndrome (also known as hypermobility or "double-jointed"); congenital joint disorders; or metabolic joint disorders [2].

Description

What exactly is cartilage?

Cartilage is a connective tissue that covers the ends of bones in normal joints and is stiff, rubbery, and flexible. It is mostly composed of water and proteins, and its major function is to reduce joint friction and act as a "shock absorber." Normal cartilage's shock-absorbing ability stems from its high water content, which allows it to alter shape when compressed [3]. Although damaged cartilage can be repaired, the body cannot produce new cartilage after an injury. Cartilage is avascular, which means it lacks blood vessels. As a result, mending takes time.

Cartilage is made up of two primary components: chondrocytes, which are the cells that make up the cartilage, and matrix, which is a gel-like substance made largely of water and two types of proteins (collagen and proteoglycans)[4].

Chondrocytes and their precursors, chondroblasts, are multifunctional cartilage cells with a high level of complexity. Synthesizing and maintaining the extracellular matrix, which is made up of collagen and proteoglycans, is one of the functions that helps healthy cartilage develop and mend.

Collagen is a structural protein that can be found in a variety of tissues, including skin, tendons, and bone, and is an important component of cartilage. Collagen gives cartilage its strength and serves as a foundation for the other components.

Proteoglycans are complex molecules that are interwoven in the matrix of cartilage and are made up of protein and sugar combinations. Their purpose is to trap enormous amounts of water in cartilage, allowing it to alter shape and act as a shock absorber when squeezed. Proteoglycans reject each other at the same time, helping cartilage to

keep its form and durability.

Osteoarthritis affects a wide range of people

On X-ray, around 80% of older persons, aged 55 and up, have indications of osteoarthritis. Approximately 60% of these people have symptoms. Symptomatic osteoarthritis affects 240 million adults globally, including more than 30 million adults in the United States. In comparison to men, postmenopausal women had a higher rate of knee osteoarthritis.

Conclusion

What is the treatment for osteoarthritis?

Osteoarthritis has no known cure. A mix of pharmacologic and non-pharmacologic therapy usually works effectively for mild to severe symptom [5]. Medications are one of the medical treatments and recommendations (topical pain medicines and oral analgesics including non-steroidal anti-inflammatory medications, NSAIDs) [6].

- Workout (land- and water-based).
- Hot and cold packs that come and go (local modalities).

Physical, occupational, and exercise therapy are all types of therapy.

- Loss of weight (if overweight).
- Healthy eating, diabetes, and cholesterol management
- Braces, orthotics, shoe inserts, a cane, or a walker are examples of assistive devices.
- Therapies including intra-articular injections (steroid, hyaluronic acid "gel").
- Vitamins and supplements are part of complementary and alternative medical practises.

Acknowledgement

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Conflict of Interest

None

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