

Title: Osteoarthritis of the Knee: What you need to know about symptoms, diagnosis, & treatment.

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Abstract: Osteoarthritis (OA) is the most common type of arthritis. OA is sometimes referred to as degenerative, or wear and tear, arthritis, as opposed to inflammatory arthritis. It may be due to trauma to the joint, excessive loading of the joint over time, or even because of hereditary tendencies. OA commonly affects the knee joint. In fact, knee OA is the most common cause of disability in the United States. Treatments for OA include analgesics, NSAID's, weight loss, orthopaedic bracing, total knee replacement, and proximal tibial osteotomy. In addition, currently in the lay press, glucosamine and chondroitin sulfate are being heralded as safe and effective treatments for this condition. A recent study has shown that while these products offer no additional relief when compared to placebo or NSAID use, the combination of glucosamine and chondroitin sulfate may offer relief superior to that of placebo in patients with "moderate" to "severe" osteoarthritis of the knee.

This document was created by a medical student enrolled in the Primary Care Clerkship at the University of Minnesota Medical School as part of the course project. The aim of the project is to present information on a medical topic in the format of a patient education handout. It does not necessarily reflect the views of the University of Minnesota Medical School physicians and faculty. These materials are provided for informational purposes only and are in no way intended to take the place of the advice and recommendations of your personal health care provider. The information provided may no longer be up to date since it has not been reviewed since the date of creation. The information provided should not be used to diagnose a health problem or disease, or as a means of determining treatment. In the event of a medical emergency, immediately contact a doctor or call 911.

Treatments:

There are many treatment options for OA, depending on your preference and the severity of your condition. Some common starting options are physical therapy, orthopaedic braces, and weight loss.

Medical Treatments:

- Non-steroidal anti-inflammatory drugs (NSAID's) like aspirin or ibuprofen.
- Analgesic medications such as acetaminophen (Tylenol).
- Glucosamine and/or Chondroitin Sulfate have been suggested to help those with moderate to severe OA. They are not as of yet regulated by the FDA.
- Glucocorticoid (anti-inflammatory) or hyaluronate (a component of cartilage) injections into the joint space.

Surgical Treatments:

- Proximal tibial opening wedge osteotomy – a procedure designed to take stress off of the medial (inner) portion of the knee in patients with OA and “bowed-legs”
- Total Knee Arthroplasty or “knee replacement” – a procedure where the knee is resurfaced with plastic and metal implants.



Tibial Osteotomy

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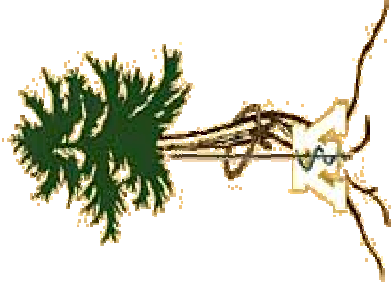
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UNIVERSITY OF MINNESOTA
MEDICAL SCHOOL

Osteoarthritis of the Knee:

WHAT YOU NEED TO KNOW ABOUT SYMPTOMS, DIAGNOSIS, & TREATMENT.



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Introduction:

Osteoarthritis (OA) is the most common type of arthritis. OA is sometimes referred to as *degenerative*, or wear and tear, arthritis, as opposed to inflammatory arthritis. It may be due to trauma to the joint, excessive loading of the joint over time, or even because of hereditary tendencies. OA commonly affects the knee joint. In fact, knee OA is the most common cause of disability in the United States.

Where is the Problem?

The main problem in OA is degeneration of the *articular cartilage*. Articular cartilage is the smooth lining that covers the ends of the leg bones where they meet to form the knee joint. The cartilage gives the joint freedom of movement by decreasing friction. In addition, when the cartilage degenerates, or wears away, the bone underneath is uncovered and rubs against bone. Small outgrowths called *bone spurs* or *osteophytes* may form in the joint. A good example of bone spurs can be seen in the figure on the next page.

What are the Symptoms of OA?

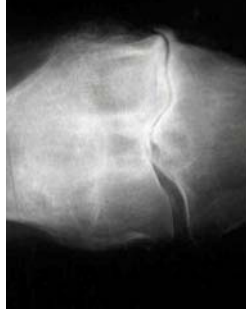
- Pain, swelling, and stiffening of the knee.
- Enlargement of the knee joint.
- Pain with palpation (pressing) of the bone along your joint line.
- Pain usually worse after activity – patients typically do well during their activity, but once activity stops, stiffness and pain set in within minutes.
- Stiffness in the morning for approximately 30 minutes.
- A grinding feeling and/or grinding sounds in your knee joint.
- With more severe OA, you may have continuous pain that may even affect sleep patterns.

How is OA Diagnosed?

Like most other diagnoses, your symptom history and your physical play a large part in the diagnosis. Your doctor is looking for characteristics such as pain and grinding with movement, muscle atrophy, and pain when pushing on your joint line. In addition, you may need an x-ray to determine the severity of your disease. Your x-ray may show bone spurs, decreased space between your femur (thigh) and tibia (shin bone), or hardening of the bones around the joint. MRI's may also be used, but this is less common.

What are the Risk Factors for OA?

- Patients over 50 years old.
- Previous injury to a joint.
- Being overweight or obese.
- Prolonged occupational or sports stress, especially competitive contact sports.
- Family history of OA.



An example of an x-ray of a knee with OA. Note that the bone at the joint line looks whiter – this is because bone-on-bone rubbing causes the bone to harden there.