

Osteoarthritis of the Knee

Definition The term Arthritis literally means inflammation of a joint. This may refer to any joint in the body. Inflammation is usually accompanied by swelling and pain.

-While there are many types of arthritis, including rheumatoid, post-traumatic and auto-immune induced, Osteoarthritis, or Degenerative Joint Disease (DJD) is by far the **most common**. **This type of arthritis is an isolated degeneration of joint cartilage, accompanied by other processes in the joint.**

-Although Osteoarthritis may affect any major joint, most cases of it occur in weight-bearing joints, especially the knee.

Facts and Statistics about OA of the Knee

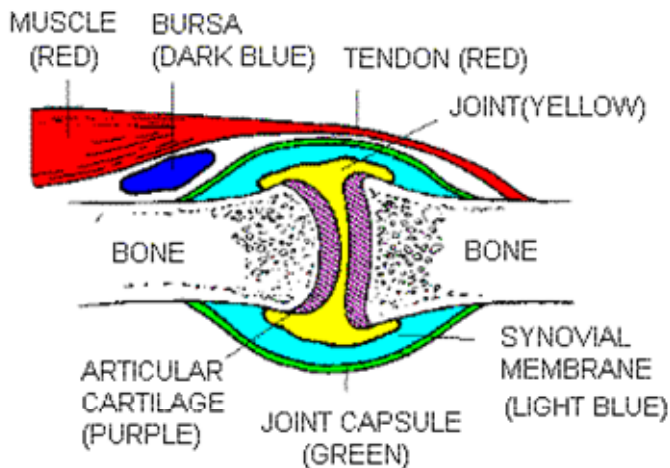
- Today, nearly 21 million Americans are affected by Osteoarthritis, or OA of the knee
- OA of the knee is 1 of the 5 leading causes of disability among elderly men and women
- There are presently 35 million people (13% of the U.S. population) who are 65 years of age or older; more than half of this age group has shown some radiological signs of OA in at least 1 joint

[By the year 2030, the population of those over 65 will grow to 70 million (20% of the population at that time), which means that an even larger number of people will be at risk of OA; it is therefore imperative that additional treatments be available by that time.]

- There is presently an extreme lack of therapies and treatments to cure or stop OA of the knee. Many types of treatment merely reduce pain caused by the disease or seek to prevent the disability caused by bone and cartilage degeneration. These solutions are unfortunately much more temporary than permanent

What Exactly is OA of the Knee?

First lets look at a normal joint



www.medicalphoto.com

OA knee is caused as a result of the following steps

1. The femur (thigh bone), the tibia (shin bone) and the rear surface of the patella (knee cap) are connected by a series of ligaments and joint capsules
2. The ends of the femur and tibia are coated by articular cartilage, which is a firm, slippery, rubber-like protein-composed substance that absorbs shock and acts as a cushion in order to prevent the bones from touching one another

3. When the articular cartilage begins to deteriorate for whatever reasons (see next sections), the decreasing supportive cushion causes the bones to rub and grind against each other, (which bones are not designed to do)
4. As a result, pain, swelling, bone spur formation and decreased motion occur
5. If not tended to early enough, OA of the knee will continue to progress over time; eventually the articular cartilage will completely dissipate, leaving no cushion at all for the bones, which will most likely lead to a major joint deformity **(for another look at the knee, click [here](#))**

Common Risk Factors That May Contribute to OA Knee

- A. **AGE:** The most prevalent factor that contributes to OA of the knee is age, as indicated by the frequency of elders diagnosed with OA
- B. **Weight:** people who are overweight place more pressure on their knees which causes the articular cartilage to wear away easier and at a more rapid rate
- C. **Gender:** women, especially elders, are at a higher risk than men; while the reasons for this are still being studied, females are generally diagnosed with OA of the knee more than men
- D. **Previous knee injury:** damage to the knee from an injury in the past may frequently weaken the underlying bone and ligaments in the knee and make it more difficult for them to heal
- E. **High impact sports:** athletes in sports such as soccer, long-distance running and tennis are at a higher risk of developing OA of the knee
- F. **Family history:** whether or not genetics have a major affect on OA or not is additionally being investigated, but some signs show that it may increase the chance of incurring the disease

Symptoms

- Steady or intermittent pain in the knee
- Stiffness after periods of inactivity, such as sitting for along time or sleeping
- Swelling or tenderness of the knee
- Any type of a crunching feeling or a bone-on-bone sound (called crepitus) when the knee is being used
- Sometimes bumps, or nodes, will appear on or around the knee
- **OA knee comes on slowly, so it is best if the potential problem is observed as early possible so that it may be dealt with applicably**

***If any of the above risk factors or symptoms applies to you, you should consult a health care professional as soon as possible to determine whether or not you have OA of the knee**

Treatments

While there is some limitation of treatment options, choices are available as to how you can treat OA of the knee. Presently, there is an ongoing OA Knee Initiative being conducted by a private-public partnership whose mission is to research the disease, produce more readily available and affordable treatments, and finally, to disperse knowledge to physicians. This is exciting news that holds promise for the future. [View an article on the ongoing OA knee initiative.](#) There are presently a number of treatment options to manage OA of the knee and relieve pain plus some important tips to take into account to help with daily activities.

- Basic modifications of your daily habits such exercising more or eating healthier (although prescribed for many ailments) will lower your weight and the pressure being placed on the bones of the knee
- Physical therapy sessions and exercises for the knee. It has been proven that strengthening of muscles, in addition to other techniques a therapist can teach you, can improve your pain and function.
- Medications are another temporary solution. Medications can be broken down into two categories: non-steroidal anti-inflammatory- which consists of ibuprofen and others, seek to reduce the inflammation of OA and subsequently relieve pain. Analgesics are purely pain relievers. Nonopioid analgesics- such as acetaminophen are available over the counter. As with all medications, there are side effects and you will be guided by your physician.
- Another possibility is intra-articular steroid injections; popular injections like triamcinolone acetonide have proven effective in many [studies](#). This is however, not without risk and your physician will guide you on these choices.
- If medications still do not reduce the pain in the knee, the next step is [hyaluronic acid injections](#): there is already hyaluronic acid in joints, however with osteoarthritis, the acid gets thinner. The injections will replace the acid and can relieve pain up to 80% of the time, according to <http://www.e-hyaluronicacid.com/>. The unfortunate downside of the hyaluronic acid treatments is the cost. Most treatments will cost anywhere in the range of \$600, so it is best to consult your physician to decide whether the treatments are right for you.
- Surgery is sometimes performed to clean out an already damaged arthritic joint. Also joint replacement surgery is utilized when all else fails. While this contains risks, new techniques and technology have provided very good results in patients who must resort to this alternative.

Summing Up With such a prevalent rate for OA of the knee among elders and younger-to-middle-aged people alike, and such a high disability rate caused by the disease throughout life, it is extremely important that you seek medical help if you have the

slightest feeling you may be at risk. Tend to the disease as early as possible and take advantage of the treatments options while the OA Knee Initiative works on understanding more about this disease and creates ways to treat and avoid it.

Cited and Additional Links

1. <http://www.nih.gov/news/pr/aug2006/niams-01.htm>
2. <http://familydoctor.org/616.xml>
3. <http://www.arthroscopy.com/sp07001.htm>
4. <http://www.e-hyaluronicacid.com/>
5. http://celebrex.com/understanding/osteoarthritis.asp?source=google&HBX_PK=s_knee+osteoarthritis&HBX_OU=50&o=%epid!!%eaid!!%erid!
6. http://orthoinfo.aaos.org/fact/thr_report.cfm?Thread_ID=418&topcategory=Knee
7. <http://www.cfpc.ca/cfp/2004/Feb/vol50-feb-cme-1.asp>