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There are over 100 different forms of arthritis, four of which will be looked at later in this slide show (these include a few of the most common: rheumatoid arthritis (RA), osteoarthritis, and septic arthritis. As well as one relatively rare type: gouty arthritis).

The most common joint disorder is osteoarthritis (degenerative joint disease). It affects 80% of those who reach age 70, resulting in more than 50,000 hip and knee replacements in the UK each year. (http://www.answers.com/topic/osteoarthritis)

RA is another very common rheumatic disease. According to current census data, it affects nearly 1.3 million people in the United States alone. (http://www.medicinenet.com/rheumatoid_arthritis/article.htm)

Approximately 20,000 septic arthritis cases occur in the United States each year. (http://emedicine.medscape.com/article/236299-overview)

Gouty arthritis, on the more rare side of arthritis, accounts for only 5% of all arthritis cases. (http://arthritis.about.com/od/gout/g/goutdefinition.htm)

Many forms of arthritis are known as a chronic diseases, this means that patients may experience periods of time without symptoms. Although, it is usually a progressive illness that may lead to joint destruction and functional disability.

The intention of this slide show is to inform oneself, as well as others, of a few different forms of arthritis. To become knowledgeable of the risks, symptoms, and therapies for arthritis. It is important to be aware of the fact that arthritic diseases are very common and that many have no indefinite cure.
**Risk Factors**

- **Gender.** Depending on the type of arthritis, some genders have a higher risk than others of becoming afflicted by the disease. For example, rheumatoid arthritis is three times more prevalent in women than in men. In the case of gouty arthritis, men are at a much higher risk. And in other cases, like septic arthritis there is little gender preference.

- **In the case of **ethnicity**, there seems to be no racial discrepancy or significance in RA, osteoarthritis, or septic arthritis. There may be some ethnic influence in gouty arthritis.

- **Age.** RA and osteoarthritis can develop at any age, however, it usually presents itself in individuals between the ages of 40 and 60 years old. Gouty and septic arthritis also typically affect the elderly more frequently than children and young adults.

- **Genetics.** Research suggests the possibility of genetic influences on a person's likelihood of becoming afflicted with RA, osteoarthritis, and gouty arthritis. Doctors do not believe that one can directly inherit these forms of arthritis. Instead, it is believed that you may inherit a predisposition to them. ([http://en.wikipedia.org/wiki/Rheumatoid_arthritis](http://en.wikipedia.org/wiki/Rheumatoid_arthritis))

- **Smoking.** Smoking cigarettes extremely increases your risk of rheumatoid arthritis (as much as doubling one's likelihood), especially if you are a heavy long-term smoker. Quitting can reduce your risk. ([http://www.mayoclinic.com/health/rheumatoid-arthritis/DS00020/DSECTION=risk-factors](http://www.mayoclinic.com/health/rheumatoid-arthritis/DS00020/DSECTION=risk-factors))

- **Diet.** Some suggest that a poor diet may encourage the onset of arthritis, particularly with gouty arthritis.

- **Activity level.** In some cases of arthritis, the amount of wear and tear an individual's joints are exposed to increases the chance of such joints becoming arthritic, this is a more common risk factor for osteoarthritis.

- **Injury.** Fractures, torn ligaments, etc., can lead to certain forms of arthritis.
These images illustrate the difference between normal joints and joints afflicted with arthritis. Figure 1 demonstrates an x-ray of a normal hand (note the straightness and clean connection between the carpals, metacarpals, and phalanges).

Now, compare that to the hand in Figure 2. The joints appear swollen, dislocated, and deformed.

Figure 3 is an excellent illustration. It shows a clear picture of what the inside of a normal joint looks like in relation to an arthritic one. As the labels indicate, arthritic joints are characterized by bone erosion and swollen, inflamed synovial fluids and membranes.
Osteoarthritis

- "Osteoarthritis is the disease process by which joints wear out. As the joint surface wears away it sheds wear particles which stimulate the joint lining to produce fluid, causing the knee to swell. When the articular cartilage wears through, the underlying bone becomes exposed. The exposed bone rubs against exposed bone when walking and this causes pain." (http://www.noc.nhs.uk/hipandknee/information/knee/conditions/arthritis.aspx)

- In both images, the aforementioned wearing out can be witnessed. Particularly with the case of the arthritic knee joint, exposed bone is evident.

- On the right, one can see an actual image of an individual’s hands that are afflicted with osteoarthritis. http://www.cdaarthritic.com/images_slides/18_defined_a_hands_800.jpg
Septic arthritis, also known as pyogenic, is a very particular type of arthritis because it results specifically from infection.

“Pyogenic septic arthritis is most frequently caused by *Staphylococcus aureus*. It also may be caused multiple other organisms, including staphylococci, *Streptococcus pneumoniae*, group B streptococci, *Gonococcus* species, *Escherichia coli*, *Haemophilus* species, *Klebsiella* species, *Pseudomonas* species, and *Candida* species.” Infection, if ignored, may lead to rapid and severe joint destruction.

Infection common to septic arthritis can be seen in all three images, particularly image c. Images a and b show erosion and sclerosis due to late diagnosis of Pyogenic Septic arthritis.
Gouty arthritis is a form of arthritis characterized by deposits of needle-like crystals of uric acid.

Gouty arthritis accounts for approximately 5% of arthritis cases. It is considered one of the most painful rheumatic diseases.

Typically, the disease affects a single joint, most commonly the big toe.

There are four stages of Gouty arthritis:

- **Asymptomatic Hyperuricemia**: In this stage a person experiences elevated blood uric acid levels but no other symptoms.
- **Acute Gout/Acute Gouty Arthritis**: Here, hyperuricemia has caused deposits of uric acid crystals in joint spaces, leading to gouty attacks.
- **Interval/Intercritical**: There are the periods between acute gouty attacks where a person experiences no symptoms.
- **Chronic Tophaceous Gout**: At this point, the disease has caused permanent damage. Typically the disease is recognized prior to this stage. Most never progress to this point. ([http://arthritis.about.com/od/gout/g/goutdefinition.htm](http://arthritis.about.com/od/gout/g/goutdefinition.htm))

These images were chosen to illustrate the extreme forms of gouty arthritis. The above photo is an excellent example of someone in the fourth stage of this disease.
Comparing the Forms of Arthritis

Observe the variation in the x-rays. Each form arthritis shows difference, be they subtle or drastic.

• **Gouts** are specific to **Gouty arthritis**.

• **Rheumatoid arthritis** shows severe deformity in the joint structure.

• **Osteoarthritis** appears as joint inflammation and bone deterioration.

• **Septic**, in x-rays, looks like a mixture between RA and **Osteoarthritis**.
**SEPTIC ARTHRITIS**

- **Antibiotics** - The first step in treating Septic arthritis is for a physician to figure out which bacterium is causing the infection. Then, after doing so, he can prescribe antibiotics accordingly that will battle the infection and alleviate the pain. These can be administered orally or injected.

- **Fluid Drainage** - Removing the infected synovial fluid aids in alleviating the painful pressure the infection causes. It also removes harmful bacteria.

- **Physical therapy** - It is important to make sure the affected joint retains movement. Physical therapy helps to rebuild lost muscle and increase joint flexibility.


**GOUTY ARTHRITIS**

- **Prescriptions** - Many different medications are prescribed to treat and manage Gouty Arthritis. Some include colchicine, corticosteroids, probenecid, allopurinol. These work to lower uric acid blood levels, prevent uric acid production, and aid in inflammation and pain.

- **Diet** - Persons suffering from gouty arthritis should avoid certain foods that raise blood levels of uric acid. These foods include mussels, yeast, sardines, bacon, trout, etc. ([http://www.arthritistreatment.asia/26/gouty-arthritis-treatment](http://www.arthritistreatment.asia/26/gouty-arthritis-treatment))

- **Surgery**
There are no cures for RA nor Osteoarthritis. However, different forms of treatment and therapy can aid in alleviating some of the symptoms and prevent further progression.

* **Pararmacological treatments** - This form of therapy can be dividing into anti-inflammatory agents and analgesics, and disease-modifying antirheumatic drugs (DMARDs).

* **Cortisone therapy** - Involves regular administration of cortisone injections.

* **Applying hot/cold compresses and resting** the afflicted area.

* **Physical Therapy**

* **Surgery**

Typically a combination of the aforementioned treatments/therapies are used for greater impact.

(http://en.wikipedia.org/wiki/Rheumatoid_arthritis)
Because there are many different forms of arthritis there are also many different ways to diagnose the disease and the specific form of the disease.

- **Medical history** - Since many forms of arthritis have a genetic predisposition, knowing if any forms arthritis runs in the patients family helps in providing a good starting off point.

- **X-Rays** - These are useful in examining the afflicted area. It allows the physician to get a good picture of the degree of joint destruction.

- **Physical examination** - “This includes the doctor’s examination of the joints, skin, reflexes, and muscle strength” ([http://www.glucosamine-arthritis.org/arthritis/handout-on-health-rheumatoidra_5.html](http://www.glucosamine-arthritis.org/arthritis/handout-on-health-rheumatoidra_5.html))

- **Blood tests** - The most common way of determining arthritis. There are many different types of blood tests a healthcare provider may recommend. Some of these tests include white blood cell counts, rheumatoid factor (RF), antinuclear antibody (ANA), erythrocyte sedimentation rate, HLA-B27. ([http://arthritis.emedtv.com/arthritis/diagnosing-arthritis-p2.html](http://arthritis.emedtv.com/arthritis/diagnosing-arthritis-p2.html))

In most cases, all of the above are used in determining if the patient is suffering from arthritis and, if so, what type.
ARTHRITIS... IN A NUT SHELL

• Arthritis is a category of autoimmune diseases that affects the skeletal and muscular systems of the body (as well as other systems in certain cases of arthritis).

• There are many different forms of this disease and it affects an immense number of individuals.

• Knowing the risks associated with arthritis, especially the more common forms, is important. In some cases, things can be done in an effort to prevent arthritis. This is important because many forms of arthritis are incurable. Therefore, taking steps to prevent onset is ones’ best defense.

• Diagnosis for arthritis can be difficult, so it is important to understand your family and personal medical history to help your physician to come to a conclusive diagnosis.

• If you are an individual with RA or osteoarthritis, although there is no cure, there are ways of managing the disease. Below is a helpful website. It was constructed by doctors with helpful tips in coping with your disease and pain management.

REFERENCES

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