**Rheumatoid arthritis (RA): (**More than 1 million cases per year)

Animation Video on RA:

<https://youtu.be/Yc-9dfem3lM> :

(notes from video)

* **synovial membrane** surrounds the joints which are movable and **synovial fluid** is inside the membrane which lubricates the cartilages to brush against each other
* **Cartilage** is a resilient and smooth elastic tissue, a rubber-like padding that covers and protects the ends of long bones at the joints. it protects the joints by absorbing the pressure and shock created when you move and put stress on them.
* During RA, the WBC moves into the joints and they release chemicals called **cytokines**, causing the synovial membrane to be attacked leading to release of destructive cells causing the synovial membrane to form new blood vessels and form a thickened area called **pannus**. As the pannus grows it invades and destroys the cartilage. Inflammation causes fluid build up in the joint making the joint swell. Eventually the joint space narrows and **ankylosis**(fusion of bones and growing together) occurs leading to immovability of joints.
* Joint replacement with **artificial joints**.
* For joints that are difficult to replace: **joint fusion** is done with the help of grafting to reduce pain but this method will not provide any motion.
* **Synovectomy**: the synovial fluid is removed (another method other than joint replacement)

**Rheumatic diseases** are characterized by inflammation that affects the connecting or supporting structures of the body — most commonly the joints, but also sometimes the tendons, ligaments, bones, and muscles

RA is an **autoimmune** and inflammatory disease, which means that your immune system attacks healthy cells in your body by mistake, causing inflammation (painful swelling) in the affected parts of the body. RA mainly attacks the joints, usually many joints at once. RA commonly affects joints in the **hands, wrists, ankle, feet and knees**. In a joint with RA, the **lining of the joint becomes inflamed**, causing **damage to joint tissue.** This tissue damage can cause long-lasting or chronic pain, unsteadiness (lack of balance), and deformity (misshapenness).

The exact cause of the immune system’s attacks is unknown. But scientists have discovered [genetic markers](http://www.arthritis.org/about-arthritis/types/rheumatoid-arthritis/causes.php) that increase your risk of developing RA fivefold.

**Characteristics that increase risk**

* **Age**. Adulthood and commonly in sixties
* **Sex.**  two-to-three times higher in women than men.
* **Genetics/inherited traits**. genes, called HLA (human leukocyte antigen) class II genotypes.
* **Smoking**.
* **History of live births.** Women who have **never given birth** may be at greater risk of developing RA.
* **Early Life Exposures.**  For example, one study found that children whose **mothers smoked** had double the risk of developing RA as adults. Children of **lower income parents** are at increased risk of developing RA as adults.
* **Obesity.**

**Characteristics that can decrease risk**

* **Breastfeeding.**

**Diagnosis:**

RA is diagnosed by reviewing symptoms, conducting a physical examination, and doing X-rays and lab tests.

**Treatment: (**Treatment can help, but this condition can't be cured**)**

treatment to **suppress or control inflammation**, can help reduce the damaging effects of RA.

* medications which **slow disease** and prevent joint deformity, called disease-modifying antirheumatic drugs (DMARDs)
* biological response modifiers
* **self-management strategies**: physical activity decreases pain, improves function and delays disability, maintain weight, Avoiding injuries to joints.
* Physiotherapy
* Heating pad
* [**Arthrocentesis**](https://www.google.com/search?authuser=1&sxsrf=ALeKk0164K-DJkpbkI2FlCFt-T0vdWZClg:1583581205925&q=rheumatoid+arthritis+arthrocentesis&stick=H4sIAAAAAAAAAOMQFeLQz9U3MEs3T1biArGMysosKwx2MTEaLGJVLspILc1NLMnPTFFILCrJKMosySyGsPKTU_NKUosziwFBxe9uQgAAAA&sa=X&ved=2ahUKEwj67_fZo4joAhV_wTgGHW-cBDIQ0EB6BAgBEBI): Using a syringe to collect fluid from around a joint. Also called joint aspiration.
* **Surgery**

[*Arthroplasty*](https://www.google.com/search?authuser=1&sxsrf=ALeKk0164K-DJkpbkI2FlCFt-T0vdWZClg:1583581205925&q=rheumatoid+arthritis+arthroplasty&stick=H4sIAAAAAAAAAOMQFeLQz9U3MEs3T1biBLOMy8otdjExGixiVSzKSC3NTSzJz0xRSCwqySjKLMkshrDyC3ISi0sqAVTcGI0_AAAA&sa=X&ved=2ahUKEwj67_fZo4joAhV_wTgGHW-cBDIQ0EB6BAgBEBU)

Surgery to repair or replace a joint.

[*Joint replacement*](https://www.google.com/search?authuser=1&sxsrf=ALeKk0164K-DJkpbkI2FlCFt-T0vdWZClg:1583581205925&q=rheumatoid+arthritis+joint+replacement&stick=H4sIAAAAAAAAAOMQFeLQz9U3MEs3T1biBLEszMtzjHYxMRosYlUrykgtzU0syc9MUUgsKskoyizJLFbIys_MK1EoSi3ISUxOzU3NKwEASAXJj0QAAAA&sa=X&ved=2ahUKEwj67_fZo4joAhV_wTgGHW-cBDIQ0EB6BAgBEBY)

Removing a damaged or defective joint and inserting a new, functioning one in its place.

If no treatment works out, then only the doctor prescribes surgery