Cystic fibrosis (CF) is a genetic (inherited) disease that causes sticky, thick mucus to build up in organs, including the lungs and the pancreas. In people who have CF, thick mucus clogs the airways and makes it difficult to breathe.

<https://images.app.goo.gl/tgnwn8N6AZcs8aiu9>

Cystic fibrosis is caused by a change, or mutation, in a gene called CFTR (cystic fibrosis transmembrane conductance regulator). This gene controls the flow of salt and fluids in and out of your cells. If the CFTR gene doesn’t work the way it should, a sticky mucus builds up in your body.

The exact cause of rheumatoid arthritis is unknown. Researchers think it's caused by a combination of genetics, hormones and environmental factors. Normally, your immune system protects your body from disease. With rheumatoid arthritis, something triggers your immune system to attack your joints

**What are the signs and symptoms of RA?**

* Pain or aching in more than one joint.
* Stiffness in more than one joint.
* Tenderness and swelling in more than one joint.
* The same symptoms on both sides of the body (such as in both hands or both knees)
* Weight loss.
* Fever.
* Fatigue or tiredness.
* Weakness.

What are the symptoms of adenosine deaminase deficiency?

Lung infections are common at this early age, and these and other infections can cause severe diarrhea, skin rashes, or other severe symptoms. Some individuals with ADA deficiency have skeletal (abnormal rib shape), liver, and neurological problems (cognition, behavior, and/or deafness).

Alzheimer's disease is a brain disorder that gets worse over time. It's characterized by changes in the brain that lead to deposits of certain proteins. Alzheimer's disease causes the brain to shrink and brain cells to eventually die.

## **Symptoms**

Memory loss is the key symptom of Alzheimer's disease. Early signs include difficulty remembering recent events or conversations. But memory gets worse and other symptoms develop as the disease progresses.

At first, someone with the disease may be aware of having trouble remembering things and thinking clearly. As symptoms get worse, a family member or friend may be more likely to notice the issues.

Alzheimer's disease is thought to be caused by the abnormal build-up of proteins in and around brain cells. One of the proteins involved is called amyloid, deposits of which form plaques around brain cells. The other protein is called tau, deposits of which form tangles within brain cells.

### **Example of biopiracy**

* Patents on turmeric, margosa and many other Indian, traditionally known as medicinal plants have been patented by other countries.

## **DEFINITION**

### **Biopiracy**  Some organisations and multinational companies exploit and/or patent biological resources or bioresources of other nations without proper authorisation from the countries

**BLOOD TRANSFUSION**

While blood transfusion, will the recipient DNA change?

No, receiving a donation does not alter the patient's DNA. Interestingly, though, in most people, it is possible to detect a very small amount of the donor's DNA in the recipient's blood for a few days after the transfusion.

Studies have shown that donor DNA in blood transfusion recipients persists for a number of days, sometimes longer, but its presence is unlikely to alter genetic tests significantly. Red blood cells, the primary component in transfusions, have no nucleus and no DNA. Transfused blood does, however, host a significant amount of DNA-containing white blood cells, or leukocytes—around a billion cells per unit (roughly one pint) of blood. Even blood components that have been filtered to remove donor white cells can have millions of leukocytes per unit.

Getting a standard blood transfusion cannot and will not change your [**DNA**](https://www.allthescience.org/what-is-dna.htm). Most people only receive red cells or blood [**plasma**](https://www.allthescience.org/what-is-plasma.htm) during medical procedures, and neither one of those blood components contain any DNA material. Transfused blood still needs to be a match to the recipient's blood type, including the ABO blood groupings. A [**blood test**](https://www.thehealthboard.com/what-is-a-blood-test.htm) performed after a standard blood transfusion would reveal only the patient's DNA profile.

