

## Multiple Sclerosis Features and Mechanisms

MS is most common in young, white women. It has genetic and environmental components and is an autoimmune disease mediated by T-Cell inflammation.



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### Features

#### Twice as often in Women

[Two women](#)

MS is more common in women than men, at a 2:1 ratio.

#### Presents in 20's and 30's

[\(20\) Twenty dollar bill and \(30\) Dirty](#)

Individuals with MS most often present in their 20s and 30s.

#### Northern Europeans

[North-compass Europeans](#)

MS is most common in individuals of Northern European descent.

### Mechanism

#### Unknown mechanism, genetic factor

[Question-mark Mechanism with DNA-double-helix](#)

The mechanism for autoimmune demyelination is not completely understood; however, there is a genetic factor in addition to environmental.

#### HLA-DRB1

[HuLA Dr. with \(B\) Bee and \(1\) Wand](#)

There is an association with the HLA-DRB1 haplotype and MS.

#### Autoimmune Demyelination of CNS

[Auto-in-moon Demyelinating CNS-brain](#)

It is believed that T-Cells react against self myelin antigens leading to recruitment of macrophages and leukocytes. This causes demyelination of the CNS.

#### White Matter of Brain and Spinal Cord

[White Brain and Spinal Cord](#)

White matter of the brain and spinal cord are particularly impacted, as white matter is composed chiefly of long-range myelinated axon tracts.

## **T Cell Mediated Inflammation**

### **Tennis-ball spreading Flames**

It is believed that T-Cells attack self myelin, recruiting macrophages and leukocytes. Thus, it is hypothesized that T-Cells are likely responsible for autoimmune inflammation reactions in MS.