

وَقُلْ رَبِّ زِدْنِي عِلْمًا



PERIPHERAL NERVOUS SYSTEM

SUBJECT : Community Medicine

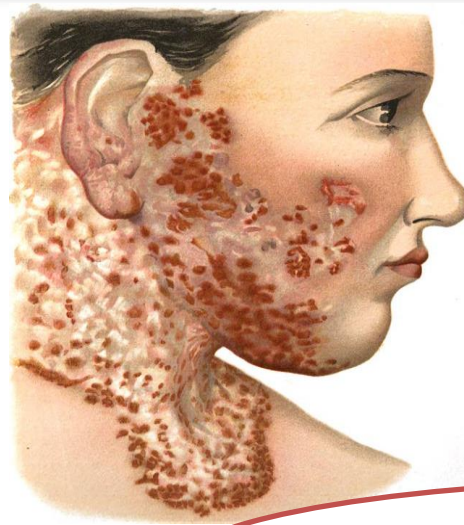
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Epidemiology of

Common Nervous System disorders



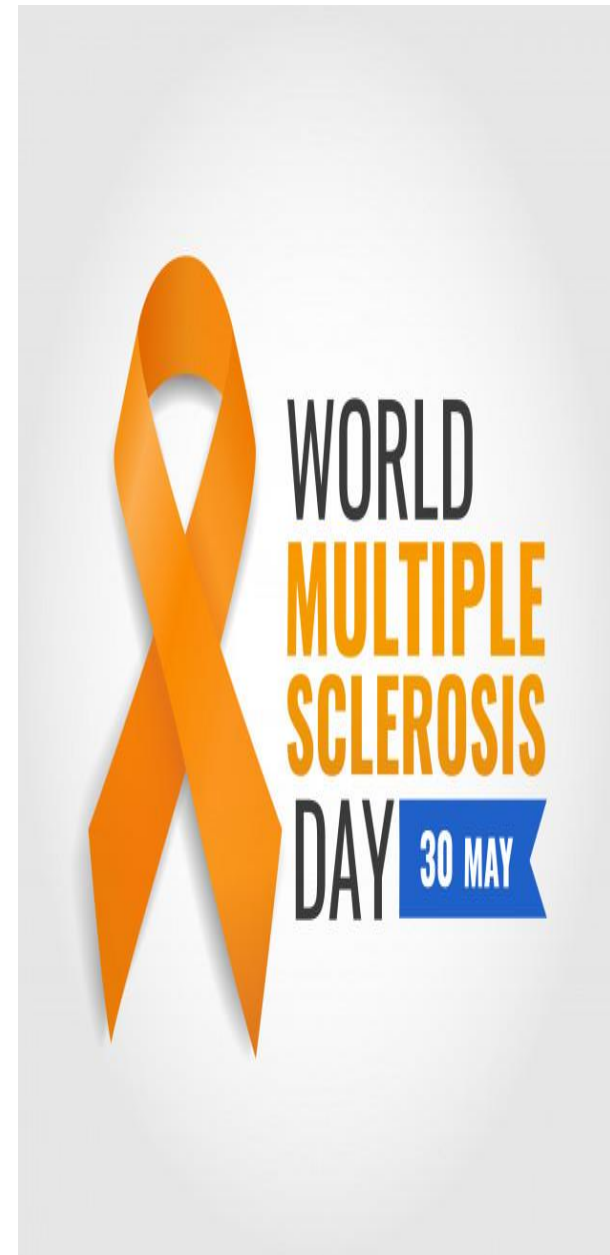
Dr. Omnia Elmahdy

• **Multiple sclerosis** is a **chronic demyelinating inflammatory disease** of the **central nervous system**.

• It's a **lifelong condition** that can sometimes cause serious disability, although it can occasionally be mild.

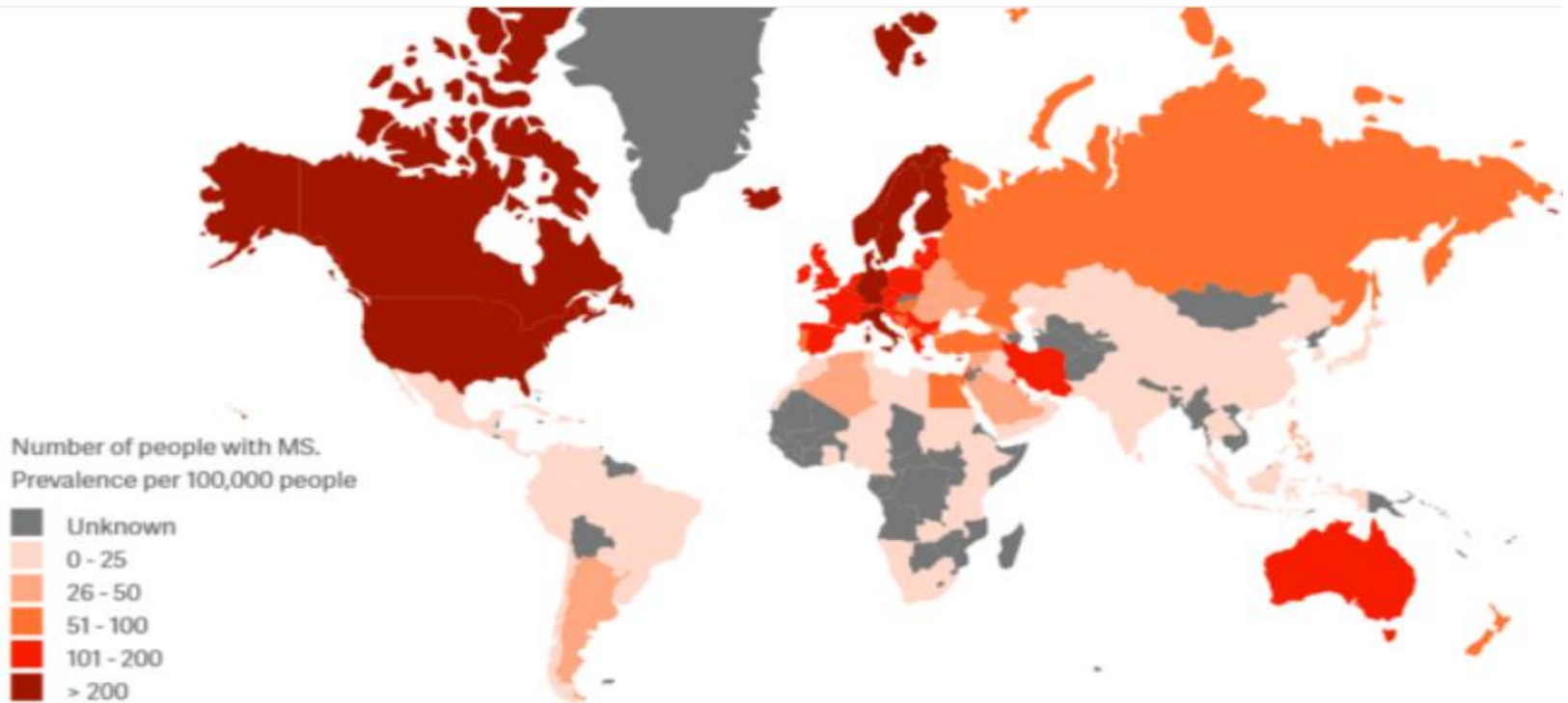
• The **etiology of MS is unknown**, but it is likely the **result of a complex interaction between genetic and environmental factors**, and the **immune system**.

• Average **life expectancy is slightly reduced** for **people with MS**.



Epidemiology of MS

- The estimated number of people with MS worldwide has increased to **2.9 million**, **30% higher than in 2013**. The 2020 **global prevalence is 35.9 per 100,000 people**.
- (MS) usually **presents at a highly productive stage of life** when people are planning families and building careers and as such MS can have a **significant impact on affected individuals, their families and society**.
- **Females are about twice** as **likely to live with MS as males**.



There are 2.9 million people living with MS worldwide.

- MS is more common in Europe, the United States, Canada, New Zealand, and some parts of Australia.
- The prevalence of MS in Jordan is 24/100000. There are a total of 2626 MS patients registered in the Health Insurance Agency Ministry of Health until December 2020.

Risk factors

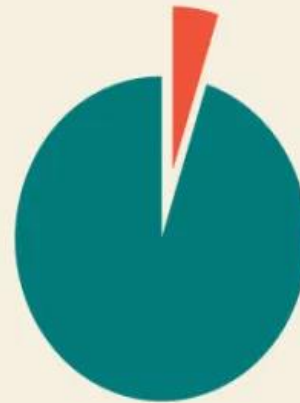
- **Age**: MS can occur at any age, but onset usually occurs around **20 and 40 years** of age.
- **Sex**: **Women** are **more than 2 to 3 times** as likely as men are to have relapsing-remitting MS.
- **Family history**: If **one of parents or siblings has had MS**, **there is higher risk of developing the disease.**
- **Certain infections**: A variety of **viruses** have been linked to MS, including **Epstein-Barr**

- **Low levels of Vitamin D.**
- **Genes:** A gene on chromosome 6p21 has been found to be associated with multiple sclerosis.
- **Obesity:** This is an association of female childhood and adolescent obesity.
- **Certain autoimmune diseases:** such as thyroid disease, pernicious anemia, psoriasis, type 1 diabetes or inflammatory bowel disease.
- **Smoking:** Smokers are more likely than nonsmokers to develop relapsing-remitting MS.

MULTIPLE SCLEROSIS

Risk Factors

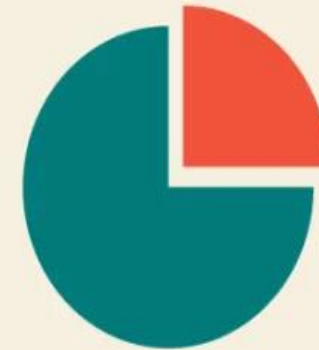
MS is
3x more common
in females than males.



First degree relatives of someone with MS have a

2.5-5%

risk of developing MS.



If **one identical twin** has MS, there's a

25% chance

that the **other twin** will develop MS.

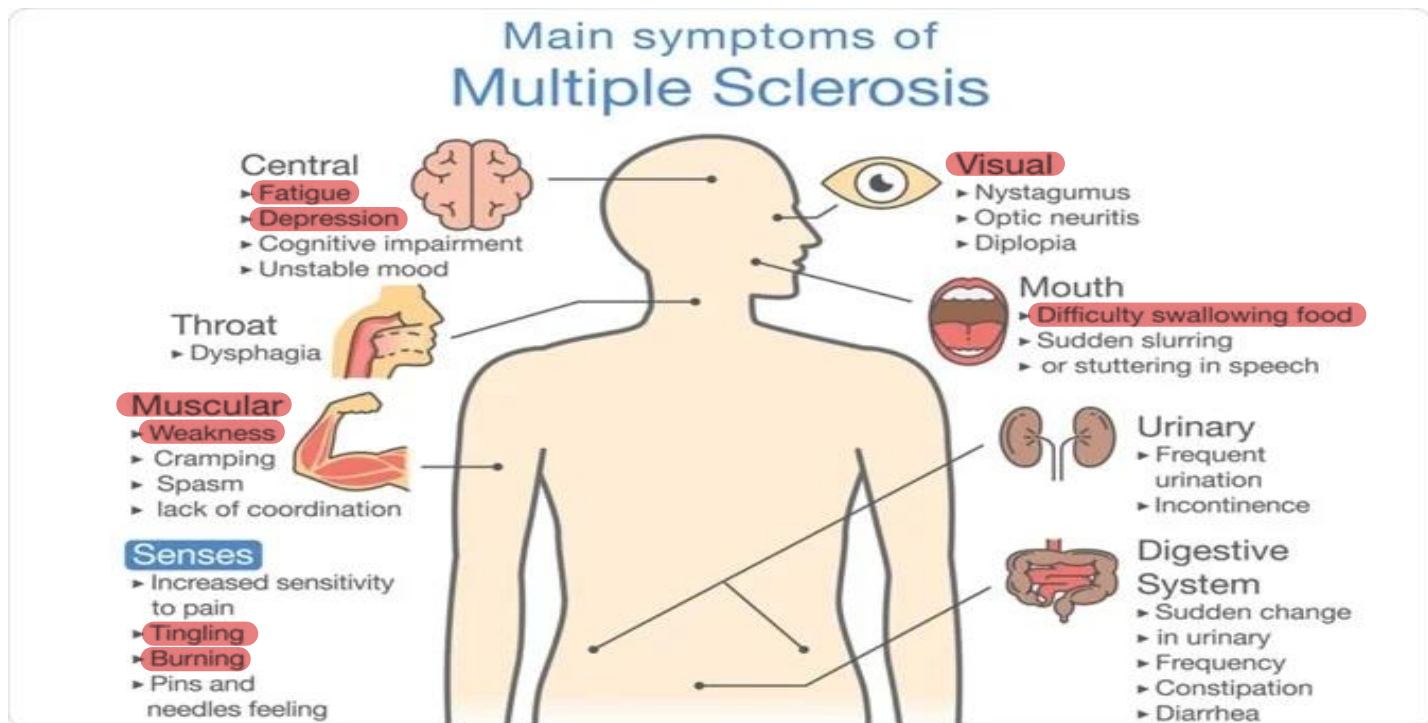
*Prevalence per 100,000 individuals

Source: National Multiple Sclerosis Society

healthline

Disease course

- Most people with MS have a **relapsing-remitting disease** course. They experience periods of new symptoms or **relapses that develop over days or weeks** and **usually improve partially or completely**. These relapses are followed by quiet periods of disease remission that can last months or even years.

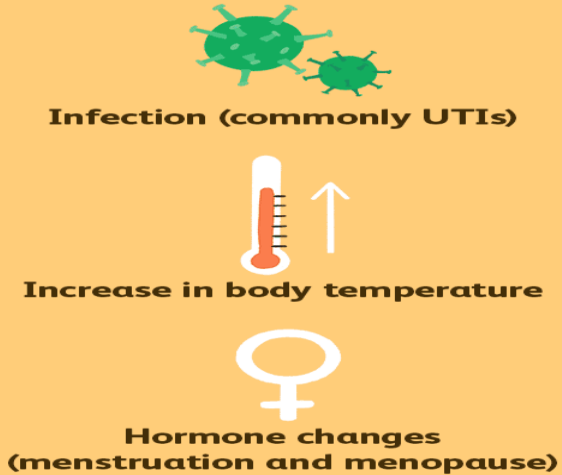


Avoid triggers in MS

1. **Stress, fatigue.**
2. **Heat.**
3. **Infections**, like flu.
4. **Certain vaccines: live-attenuated.** However, many vaccines are preventive.
5. **Vitamin D deficiency.**
6. **Lack of sleep.**
7. **Smoking.**
8. **Certain medications used for rheumatoid arthritis or Crohn's disease**
9. **Stopping MS medications too soon**

ال fatigue يؤدي إلى lack of sleep

Common Triggers of MS Pseudo-Exacerbation



Stress



Fatigue



verywell

Prevention

Though MS cannot be totally prevented, quitting smoking, maintaining moderate body weight, and getting enough vitamin D through diet or sun exposure could help reduce your risk.

Staying active, minimizing stress levels, and following a healthy diet may also be beneficial.

Lupus disease

الـ lupus يكون مميز بشكل الـ rash الذي على وجه المريض و بنسيميها butterfly rash

- Lupus is an **autoimmune disease**.
- Inflammation caused by lupus can affect many different body systems, **including joints**, skin, kidneys, blood cells, brain, heart and lungs, **and peripheral nerves**.
- Some people are **born with a tendency** toward developing lupus, which may be **triggered by infections, certain drugs or even sunlight**.



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Epidemiology of Lupus disease

- at least five million people worldwide, have a form of lupus. Lupus **strikes mostly women** of childbearing age (90% of lupus cases).

- It is believed that between 10-15% of people with lupus will die prematurely due to complications of lupus.
- People with lupus can develop other autoimmune diseases.

20% of people with lupus will have a parent or sibling who already has lupus or may develop lupus. Although lupus can develop in people with no family history of lupus, there are likely to be other autoimmune diseases in some family members.

- **Age:** Although lupus affects people of all ages, it's most often diagnosed between the ages of 15 and 45 years.
- **Sex:** Lupus is more common in women.
- **Race:** Lupus is more common in African Americans and Asian Americans.
- **Genetic factor:** There are dozens of known genetic variants linked to lupus.

Patients report pain, lifestyle changes, and emotional problems associated with lupus as the most difficult parts of coping with lupus.

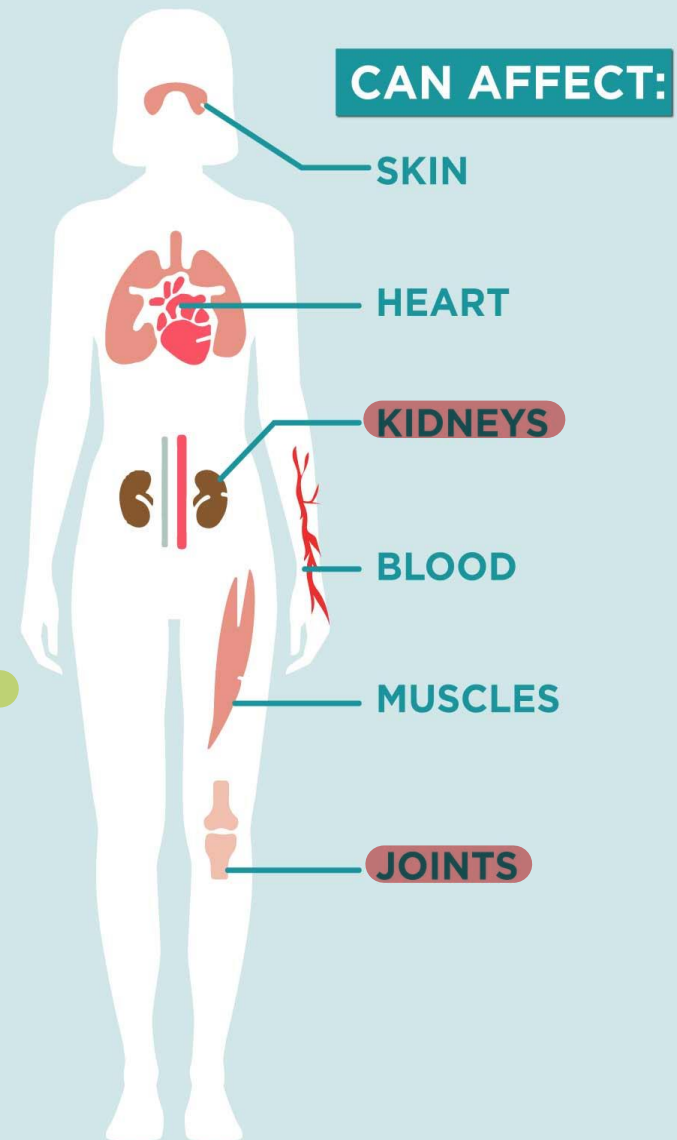
LUPUS

- Autoimmune disease
- Commonly diagnosed between age 15 and 44

- 90% of patients are women

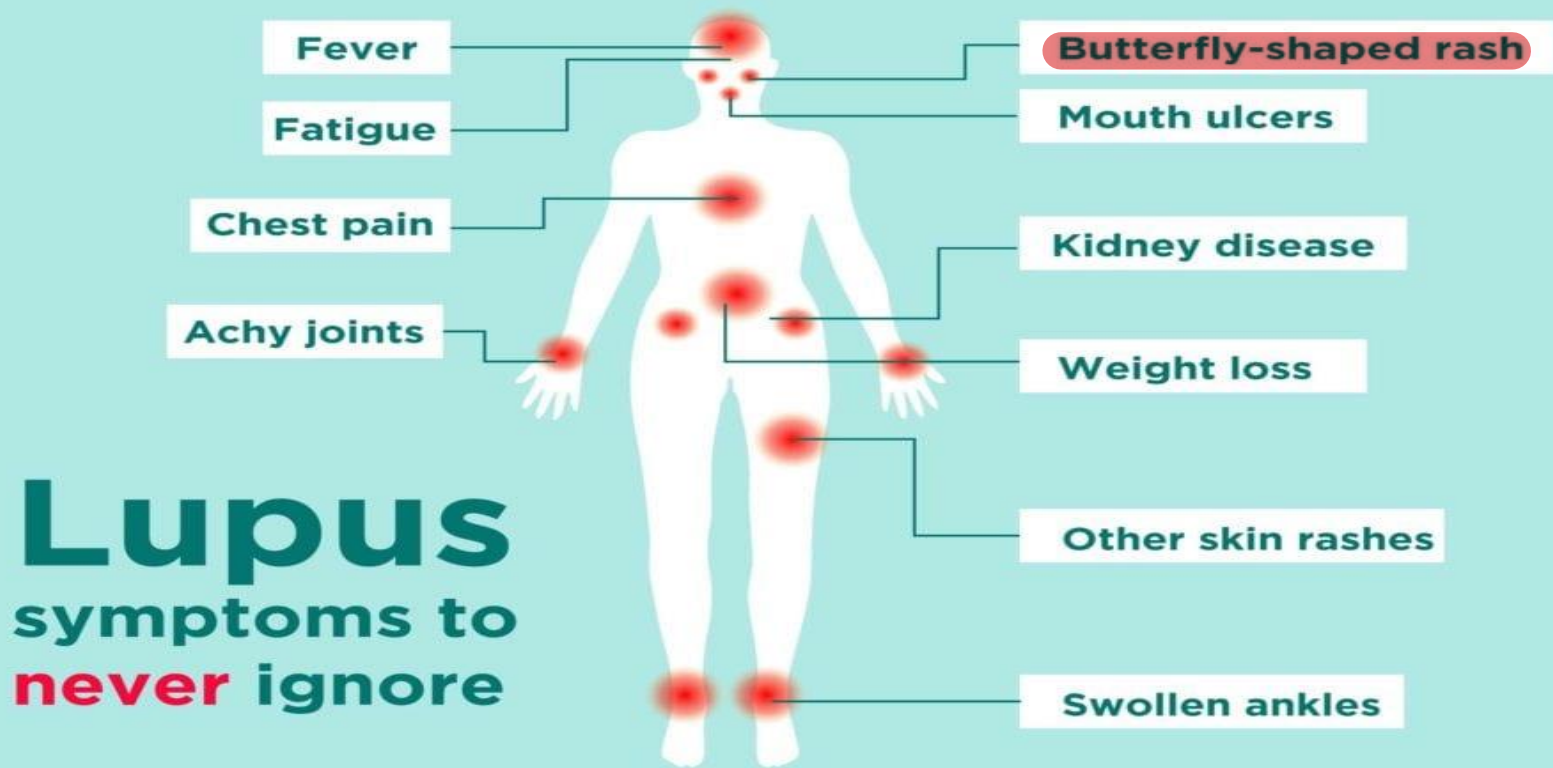


- **Black people have a higher risk**
- Treated by a rheumatologist
- Most people test positive to an ANA blood test
- **Hydroxychloroquine is most common medication**



Potential triggers

- **Sunlight:** may bring on lupus skin lesions or trigger an internal response in susceptible people.
- **Infections:** can initiate lupus or cause a relapse in some people.
- **Medications:** Lupus can be triggered by certain types of blood pressure medications, anti-seizure medications and antibiotics. People who have drug-induced lupus usually get better when they stop taking the medication. Rarely, symptoms may persist even after the drug is stopped.

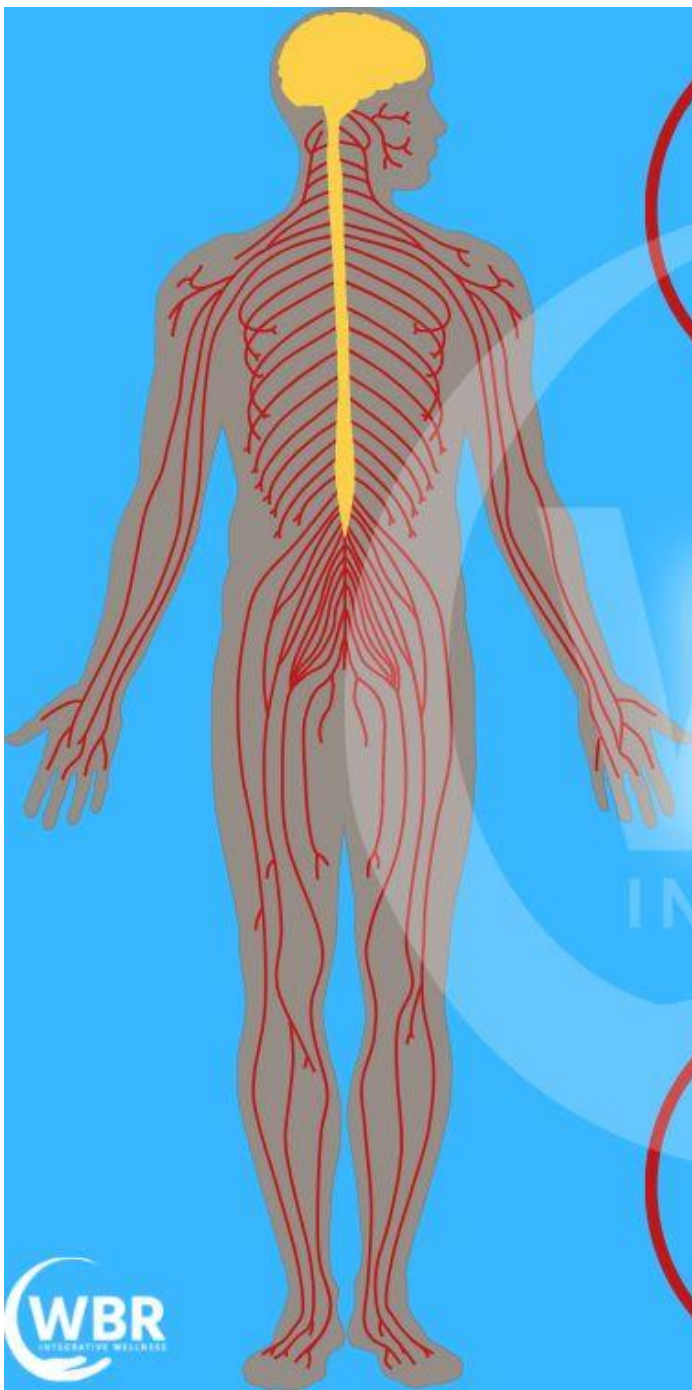


As many as **1 in 5 people with lupus have peripheral neuropathy**, which is widespread pain caused by nerve damage.

Managing Lupus

 **You can't prevent lupus.** 

- Nonsteroidal anti-inflammatory drugs (NSAIDs).
- Antimalarial drugs.
- Corticosteroids.
- Immunosuppressants.
- Biologics.



PERIPHERAL NEUROPATHY

INTEGRATIVE WELLNESS



Peripheral neuropathy happens when the nerves that are located outside of the brain and spinal cord (peripheral nerves) are damaged. This condition often causes weakness, numbness and pain, usually in the hands and feet.

Peripheral neuropathy may be either acquired or inherited.

Peripheral Neuropathy

Symptoms



skin, hair, and nail changes



motor nerve damage



painful cramps



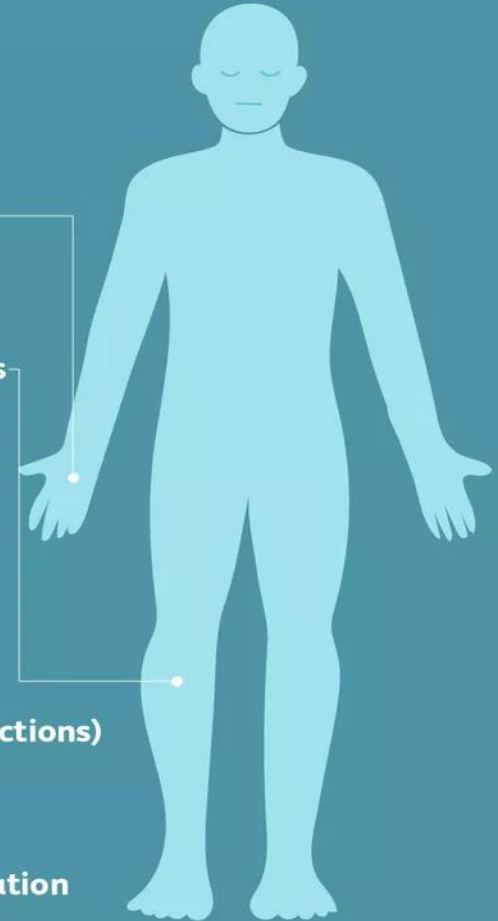
muscle loss



fasciculations (muscle contractions)



bone degeneration



Epidemiology of peripheral neuropathy

- About **2.4% of world population** is affected by peripheral neuropathy. The prevalence increases to **8% in older populations**.
- **Diabetic neuropathy** occurs in approximately **half** of individuals with chronic type 1 and type 2 diabetes.
- Globally, **leprosy remains a common cause** of peripheral neuropathy, with the highest prevalence in South East Asia.
- The **most common genetic** sensorimotor polyneuropathy is *** Charcot-Marie-Tooth disease**.
- *** The most common mononeuropathy** is **carpal tunnel syndrome**.

Causes of acquired peripheral neuropathy سلايد مهم جدا

- **Physical injury (trauma) to a nerve**
- **Tumors**
- **Toxins** (heavy metals, cancer treatments, anticonvulsants, antivirals, & antibiotics)
- **Infections and Autoimmune disorders** (Herpes zoster, Epstein-Barr virus, CMV, Herpes simplex, HIV, lupus, rheumatoid arthritis)
- **Nutritional deficiencies** (Vitamins E, B1, B6, B12, and niacin) and **Alcoholism**
- **Inflammatory neuropathies:** (as Guillain-Barré syndrome)
- **Vascular and metabolic disorders** (Diabetes, vasculitis, hypothyroidism)
- **Repetitive Stress**

Lifestyle management of peripheral neuropathy

- **Exercise:** can reduce cramps, improve muscle strength, and prevent muscle wasting in paralyzed limbs.
- **Adequate diet and nutrition**
- **Stop smoking:** (particularly important) because smoking constricts the blood vessels that supply nutrients to the peripheral nerves and can worsen neuropathic symptoms.
- **Self-care skills:** such as **foot care** and **careful wound treatment** in people with diabetes and others who have an impaired ability to feel pain, can alleviate symptoms and improve quality of life