

Comprehensive Guide to Malaria

1. History of Malaria

Malaria has plagued humanity for thousands of years. References to periodic fevers resembling malaria are found in ancient Chinese medical texts (c. 2700 BCE) and the writings of Hippocrates.

For centuries, it was believed that the disease was caused by "miasma" or "bad air" (in Italian, *mal aria*) rising from swamps. The true cause remained a mystery until 1880, when **Charles Alphonse Laveran**, a French army surgeon, first observed parasites inside the red blood cells of an infected person. Later, in 1897, **Sir Ronald Ross** proved that the malaria parasite is transmitted specifically by mosquitoes.

2. How the Disease Spreads

Malaria is not contagious; it cannot be spread from person to person through casual contact. Instead, it relies on a biological cycle involving humans and mosquitoes.

- **The Vector:** The disease is transmitted by the bite of an infected **female Anopheles mosquito**.
- **The Parasite:** The primary cause is a single-celled parasite from the genus *Plasmodium*.
- **The Cycle:** 1. A mosquito bites an infected person, taking in the parasite. 2. The parasite develops within the mosquito. 3. The mosquito bites a healthy person, injecting the parasite into their bloodstream. 4. The parasites travel to the **liver** to mature and multiply, eventually entering the bloodstream to destroy red blood cells.

3. Common Symptoms

Symptoms usually appear 10 to 15 days after the infective mosquito bite. They often occur in cycles or "attacks."

- **The "Cold Stage":** Shaking chills and a sensation of extreme cold.
- **The "Hot Stage":** High fever, headaches, and intense sweating as the body temperature falls back down.
- **General Malaise:** Muscle aches, fatigue, nausea, and vomiting.

- **Anemia:** Due to the destruction of red blood cells, patients may experience paleness and shortness of breath.

4. When to Visit a Doctor

Malaria can quickly become life-threatening if it progresses to "complicated" or "severe" malaria. You should seek immediate medical attention if:

- You develop a high fever after traveling to a region where malaria is common.
- Symptoms like confusion, seizures, or loss of consciousness occur.
- There is visible yellowing of the eyes or skin (jaundice).
- The patient is a young child or a pregnant woman, as these groups are at higher risk for rapid deterioration.

5. Preventative Measures (Precautions)

Prevention focuses on avoiding mosquito bites and controlling the mosquito population.

Personal Protection:

- **Bed Nets:** Use Long-Lasting Insecticidal Nets (LLINs) while sleeping.
- **Repellents:** Apply mosquito repellent containing DEET, Picaridin, or IR3535 to exposed skin.
- **Clothing:** Wear long-sleeved shirts and long trousers, ideally treated with permethrin.

Environmental Control:

- **Eliminate Standing Water:** Mosquitoes breed in stagnant water. Empty buckets, flowerpots, and tires.
- **Indoor Spraying:** Use indoor residual spraying (IRS) to kill mosquitoes that rest on walls inside homes.
- **Screens:** Ensure windows and doors have tight-fitting mesh screens.