Malaria ...a Neglected Tropical Disease

Malaria is an important global health issue, killing nearly one million people worldwide each year. There is a disproportionate disease burden, since 89% of cases are of African origin, and **85% of deaths worldwide occur in children under 5 years of age of age.** Cerebral malaria (CM) is the most serious complication of infection.

Malaria, caused by the plasmodium parasite, remains endemic in many Third World countries. **1,600 million people are at risk** of infection with malaria worldwide, whilst 396 million people (of which 275 million in Africa) suffers from the disease. The World Health Organisation estimates that almost 2.8 million people, most of whom are children under five, die from the disease every year. Malaria, an infection caused by parasites that invade liver and red blood cells, is transmitted to humans by the female mosquito. Malaria is one of the **leading infectious diseases worldwide,** affecting more than 400 million people and causing more than 2 million deaths each year, mainly among African children. Malaria is a devastating infectious disease transmitted by mosquitoes and caused by infection with small one-celled parasites of the Plasmodium genus. The parasites destroy host red blood cells, resulting in anaemia, fever, and chills. The illness is a driving force for human evolution and has changed the course of history on many occasions. Even today, with recent and **profound understanding of the vector and the pathogen, the disease causes an estimated 2 million deaths every year;** hundreds of millions more are infected with the parasite but do not die from the disease.

The parasite has a complicated life cycle, which begins in the mosquito's gut before moving to the salivary glands, where it awaits transfer to the next host. Once in a human's bloodstream, the parasite lodges in the liver, **burrowing into cells where it feasts and multiplies.** After a week or two the plasmodia burst out-around **40,000 replications** for each parasite that entered the body. Next they **target red blood cells,** this time repeatedly, until there are billions of parasites in circulation. If this cycle isn't checked, the body starts to fail, because with so many oxygen-carrying red cells are destroyed there are too
few left to sustain vital organs. Meanwhile, all it takes for the parasite to pass on its grim legacy is for another mosquito to stop off for a meal.

The parasites enter a person’s blood in the saliva of an infected Anopheles mosquito when the insect bites its victim. The parasites then invade the liver cells of their host, where they reproduce, and later enter the red blood cells. Inside the red blood cells the parasites continue to multiply. **The blood cells eventually burst open, releasing the new parasites**, which can then infect more red blood cells. Infected red blood cells all open at about the same time, **releasing toxins** that cause the victim to experience the chills, fever, headache and muscle pain. Malaria is a major global health problem, with **300 million to 500 million new cases and more than 2 million deaths each year**. In much of Africa and more than 25 percent of all hospital visits are due to malaria.

Through extensive research carried out on one of the world’s fastest supercomputers at the National Institute for Computational Sciences, Karniadakis and colleagues found that malaria-infected red blood cells stiffened as much as 50 times more than healthy red blood cells. The result: **Infected red blood cells, having lost their elasticity**, could no longer pass through capillaries, effectively blocking them.

Malaria is commonly associated with poverty, but is also a cause of poverty and a major hindrance to economic development. The parasites destroy so many oxygen-carrying red cells that too few are left to sustain vital functions. The lungs fight for breath, and the heart struggles to pump. The blood acidifies. Brain cells die. The person struggles and convulses and finally falls into a coma.

**Falciparum Malaria:** It is the most dangerous kind of malaria, where the parasite infects the red blood cells, causes them to sludge, and then form areas of dead tissue (as the parasite cuts off the oxygen supply to the organs. In fact, historians believe that the downfall of the Roman Empire is connected with falciparum malaria.

Malaria can result in anaemia (a decreased number or red blood cells). The remains of the destroyed red blood cells clump together and cause blockages in the blood vessels. This can result in brain damage or kidney damage, which
is potentially fatal. Symptoms, which appear 8 to 30 days after transmission, include fever, headache, vomiting and muscle ache. The parasite’s cycles of multiplication a destruction of red blood cells is often reflected by cycles of fever, shaking chills, drenching sweats.. By this point, the fever has reached maximum intensity. The body is practically boiling itself to death-anything to halt the attack-but to no avail. The parasites can even commandeere blood cells to help aid their survival. In some cases, infected cells sprout Velcro-like knobs on their surfaces, and as these cells pass through the capillaries of the brain, they latch to the sides. The adhesion keeps them from washing into the spleen, which cleans the blood by shredding damaged cells. Somehow-no one is quite sure how-the adhesion also causes the brain to swell. The infection has turned into cerebral malaria, the most feared manifestation of the disease.

As a result, Malaria patients become severely anaemic and suffer from symptoms related to insufficient oxygen delivery. The researchers also found that infected red blood cells had a tendency to stick, flip, and flop along the walls of blood vessels - unlike healthy blood cells that flow in the middle of the channel..

The Immunology Department from Middlesex Hospital Medical School, London, issued a report in June 1982 that Lethal and non-lethal Plasmodium were killed with oxygen therapy treatment. In an experiment with mice, which was infected with Malaria parasites, oxygen therapy was administered in low dosage and all parasites were killed. The oxygen therapy acts by making the environment inhospitable for the parasite. Oxygen therapy is based on the simple principle that diseased cells cannot survive in an oxygen-rich environment. And your healthy cells cannot become diseased if they are supplied with sufficient oxygen. Thus the development of a shortage of oxygen in the blood could very well be the starting point for the loss of the immune system and the beginning of feared health problems such as cancer, leukemia, AIDS, seizures, and nerve deterioration. It produces peroxides within the body, which destroys the cell membrane of bacteria but does not affect healthy cells. Similar experiments have shown reduction in staphylococcus, streptococci, and mycobacterium tuberculosis. Because many strains of bacteria have recently been shown to be resistant to antibiotics,
Super Oxygen™ will offer an effective alternative. More research still needs to be done.

Parasites thrive in an oxygen poor environment. “There are over 6,100 articles in the scientific literature dating from 1920 on the scientific applications of Oxygen Therapy. It seems inconceivable that the astounding medical cures reported in science journals over the past 75 years could have been ignored." Oxygen Therapy is a unique, scientifically proven and natural therapy that creates an environment within the body where disease cannot thrive.