Fighting Malaria, Brain Cancer and TB

Welcome to As It Is, from VOA Learning English.

I'm Christopher Cruise.

Today, we'll report the latest news in the fight against three deadly enemies: malaria, brain cancer and tuberculosis.

Jeri Watson tells us about the development of a new drug that fights malaria quickly and inexpensively.

And I'll tell you about how stem cells taken from a person's body fat may one day be used to fight brain cancer.

But first, we report on a campaign for money to fight the world's second-deadliest infectious disease.

Some forms of tuberculosis are resistant to drug treatments. Health experts say these strains of tuberculosis -- TB -- present a major threat and could spread widely.
The World Health Organization and the Global Fund to Fight AIDS, TB and Malaria are seeking help in the fight against TB. Mario Ritter reports.

The number of new tuberculosis cases has gone down every year since 2006. And the number of TB-related deaths is expected to reach a 50 percent reduction from 1990 levels by 2015. Yet the World Health Organization says there were almost nine million new cases of TB and 1.4 million deaths from the disease in 2011.

Mario Raviglione is director of the World Health Organization's Stop TB department. He is happy with a two percent decline in the number of new infections every year. But he says the progress is still too slow.

"We are not seeing a major effect in getting the numbers of cases of TB reduced year-by-year in an accelerated way."

Two areas -- Europe and Africa -- will likely not cut the TB death rate by 2015, which is the goal set by the United Nations. Mr. Raviglione reports

that in Western Europe and North America, there are about five or six TB cases for every 100,000 persons. He says the numbers in Africa are much higher.

"In Africa you find peaks, especially in southern Africa, like South Africa, Swaziland, Lesotho etcetera, of a thousand cases per 100,000 -- so, many times higher than what you see in rich countries."

The World Health Organization and the Global Fund to Fight AIDS, TB and Malaria say they need an extra $1.6 billion every year to treat and prevent the disease. They say that money could pay for treatment for 17 million people with TB and save 6 million lives between 2014 and 2016.

Mr. Raviglione says about 60 percent of the $1.6 billion dollars would be for WHO operations in Africa.

I'm Mario Ritter.

Stem cells have the ability to develop into many kinds of cells in the body. A new report says stem cells taken from a person's own body fat may one day be used to fight a deadly form of brain cancer.

The brain tumor known as glioblastoma mainly affects men. Most patients do not live more than a year after the tumor is found. By operating, doctors can remove most of the cancer. But that does not cure the patient.

Doctor Alfredo Quiñones-Hinojosa is with the Johns Hopkins University in Baltimore, Maryland. He and other researchers are working to improve a treatment aimed at the cancer cells left in patients after the operation.

In recent years, doctors have been studying an adult stem cell -- called mesenchymal -- which move toward these cancer cells. The stem cells now used on patients come from bone marrow from donors. Dr. Quiñones-Hinojosa wants to get them from the patient's *own* fat tissue. That method would be less costly and avoid the risk of rejection.

Laboratory test results seem promising. But it is not clear how these stem cells seek out the cancer cells.

The Johns Hopkins researcher and his team have begun experiments with animals. He says it will be three to five years before human testing begins.

The findings were published in the journal PLOS ONE.

Researchers in the United States are working on a new way to fight plasmodium, the organism responsible for malaria in humans. The new drug is called ELQ-300. As Jeri Watson tells us, the drug acts quickly and in an unusual way.

Researcher Michael Riscoe is with the Oregon Health and Science University. He says the drug attacks the mitochondria -- energy-producing structures in the plasmodium -- and the genetic building blocks they produce.

"So the plasmodium mitochondrion serves as a factory to make these DNA building blocks, but this is completely blocked by ELQ-300. Studies show that the drug acts very quickly to shut down this process -- in fact, only about 10 minutes."

A big issue in the fight against malaria is the plasmodium parasite's ability to develop resistance to each new drug used against the disease. But in laboratory tests on animals, the parasite did not develop resistance to ELQ-300.

"These findings suggest that if the drug is eventually developed for human use, then it could enjoy a long, useful clinical life before resistance emerges in the field."

Dr. Riscoe says the new drug seems to be more effective than other medicines now being used to treat people with the disease.

"ELQ-300 is about 30 times more effective at curing malaria in mice as compared to atovaquone -- a drug that's in clinical use today."

Researchers say ELQ-300 may cost less to make than other anti-malaria drugs and they say it may be effective in smaller amounts, or doses. They suggest it could be combined with another drug to cure malaria.

Now that tests on laboratory mice have been successful, researchers are preparing to test ELQ-300 in humans.

Michael Riscoe spoke in a podcast to the journal Science Translational Medicine, which published his research.

I'm Jeri Watson.

And that's "As It Is," our daily show in VOA Special English. Thanks to Mario Ritter and Jeri Watson for their reports.

We would like to hear what you want to hear about on "As It Is." We want to report on the issues and ideas of interest to you, so let us know -- send an email to special@voanews.com -- or go to our website VOASpecialEnglish.com and click on Contact Us.

On the next As It Is, Jim Tedder tells us about a new study in South Africa that suggests lower prices may persuade you to buy more-healthful food.

I'm Christopher Cruise, and that's As It Is in Special English from the Voice of America.