

Help for Heroin Addicts: Scientists have developed an experimental vaccine that may help heroin users end their dependency on the drug

Hello, and welcome to *As It Is*, VOA’s daily magazine show for people learning American English.

I’m Christopher Cruise.

Today on the program, we report on how vaccines are being used in the fight against childhood diseases. There has been a lot of progress. But children are still dying needlessly from diseases that could have been easily prevented.

“If you balance the investment you make in the research and the implementation with the health benefit, vaccines have to be either the top or very much on the short list.”

And we go back 76 years to the opening of what is said to be the world’s most-photographed bridge.

From: “I Left My Heart in San Francisco,” by Tony Bennett:

I left my heart in San Francisco

High on a hill...

But first, we have good news to report in the fight against heroin addiction.

Vaccine Could Be Used To Treat Heroin Addicts

Scientists have developed an experimental vaccine to treat individuals addicted to the drug heroin. Such a treatment would be a major step forward for both public health and safety.

As we hear from Avi Arditti, heroin dependency not only destroys human lives, but fuels a violent drug trade.

An estimated 20 million people around the world are addicted to heroin and other opiate drugs -- all products of the opium poppy plant. Their drug dependency and use of unclean needles puts heroin users at risk of a number of diseases.

It is difficult to keep heroin addicts away from the drug even after they have received treatment to help them end their dependency. But the experimental vaccine may prevent addiction even if a user is offered the drug after leaving a treatment center.

The vaccine is the work of Kim Janda and his team at the Scripps Research Institute in La Jolla, California. It tricks the body's natural defenses for fighting disease into thinking heroin is harmful, like a bacterium or virus. The vaccine causes the immune system to produce antibodies that keep heroin from reaching the brain.

“So, it just, it creates like a wall to block the drug from entering the brain, the pleasure centers.”

Professor Janda is both a chemist and an immunologist. He says developing a vaccine against heroin has been difficult because the body can quickly change the drug into several byproducts. These include morphine -- the drug that produces the feeling that heroin users desire.

Researchers had to develop a vaccine that would help the body’s immune system recognize and fight those chemicals before they reach the brain. To do that, they experimented on heroin-addicted rats. These animals also had an unlimited supply of the drug.

Dr. Janda says the rats were kept away from heroin for one month. That is about the amount of time required for a human addict to complete a drug treatment program.

Then, researchers put the rats into two groups, giving both groups as much water filled with heroin as they wanted. But half the rats had been given the experimental vaccine. Researchers found that the vaccine had a clear and measureable effect on those animals.

“What happens if you don’t vaccinate them they re-escalate and, and double the amount of intake. In, in the case of the ((rats given the)) vaccine, they completely don’t recognize the heroin at all and stop taking it.”

None of the vaccinated rats became addicted to heroin, even after being re-exposed to the drug.

The National Institute on Drug Abuse helped to pay for the research. David Shurtleff is the acting deputy director of the agency. He warns that a heroin vaccine is not a complete cure. He says it would have to be used as part of a treatment program that also helps drug addicts change their behavior.

Researchers at the Scripps Institute are now looking for financing to pay for tests of the vaccine on humans, possibly by later this year.

I'm Avi Arditti.

From “King Heroin,” by James Brown:

All through your sentence you've become resolved to your fate

Hear now, young man and woman

I'll be waitin' at the gate

And don't be afraid, don't run, I'm not chased

Sure my name is Heroin, and you'll be back for a taste...

Behold, you're hooked, your foot is in the stirrup
And make haste, mount the steed and ride him well
For the white horse of heroin will ride you to Hell, to Hell
Will ride you to Hell...

The Value of Vaccines

American health experts say a child dies every 20 seconds from a disease that a safe and effective vaccine could have prevented. Modern vaccines can prevent many childhood diseases. They also protect against hepatitis, influenza, and even cervical cancer. Soon, they may end the threat from polio worldwide.

Onka Dekker reports on the progress of vaccination efforts, and the work that must still be done to reduce the number of preventable deaths.

Chesley Richards is with America's Centers for Disease Control and Prevention. He says that, in the United States, vaccines have made many diseases rare or non-existent.

“Vaccines have made an enormous impact on improving health in the United States. Diseases like smallpox, measles, polio -- they've been eliminated or eradicated from the United States and in the case of smallpox, it's been eradicated worldwide.”

But there is much more to be done. Scientists have been working for many years to create a vaccine against malaria. It could save some of the more than 660,000 people -- most of them children -- who die each year from the disease. Malaria is spread by an organism carried by infected mosquitos.

Anthony Fauci works at the National Institutes of Health. He says it is wise to spend money to develop vaccines.

“If you had to pick out one intervention, if you balance the investment you make in the research and the implementation with the health benefit, vaccines have to be either the top or very much on the short list.”

Dr. Fauci says vaccines cut healthcare costs because preventing a disease is less costly than treating one.

The World Health Organization is urging countries to invest more in immunization programs so more children can grow up healthy and strong.

I’m Onka Dekker.

The Most-Photographed Bridge In The World?

Now, we go back 76 years, to May 27th, 1937, the day the Golden Gate Bridge opened. The bridge links the city of San Francisco, California to communities to its north in Marin County and the state’s northern coast.

The 2.5 kilometer-long structure is often hidden in fog. It crosses the Golden Gate, a waterway that connects San Francisco Bay to the Pacific Ocean.

The Golden Gate Bridge has two steel towers that are each 227 meters tall. They are the largest bridge towers in the world.

The red-painted bridge is a point of interest for many visitors to the West Coast of the United States. It is thought to be the world’s most-photographed bridge.

That’s *As It Is* for today.

Thanks to Avi Arditti and Onka Dekker for their reports.

And many thanks to you for sharing part of your day with us.

We would like to hear what you want to hear about on *As It Is*. So let us know -- send an email to LearningEnglish@voanews.com

I'm Christopher Cruise, and that's *As It Is* from VOA Learning English on the Voice of America.