



Researchers Working on New Vaccine that Could Target Opioid Addiction

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Researchers are now looking into creating a new solution for the opioid epidemic. This approach involves a promising new vaccine that could potentially aid in the battle against opioid abuse. People struggling with opioid addiction may simply get the vaccine and manage their addictive behavior.

Researchers from the University of New Mexico are joining forces with a Northern Arizona University (NAU) researcher in hopes of creating an innovative vaccine that would block opioids from acting in the brain. The UNM and NAU researchers are working with the help of a grant from the National Institutes of Health worth \$250,000.

If they are successful, such a vaccine would be able to help those with opioid use disorder overcome their addiction, according to a statement from the UNM Health Sciences.

The vaccine would operate similar to HPV vaccines. It is designed to trigger a person's own immune system in order to create antibodies that would fight against the opioids consumed by a user. Click the link to see San Antonio's top rehab placement programs.

“The main concept of this vaccine is to treat individuals who are suffering from opioid addiction,” said NAU researcher Naomi Lee, Ph.D. “It’s to trick your body into thinking that it’s a foreign or bad molecule, and create antibodies, which is essentially what we do with our current vaccines, and then protect your body against those opioids.”

By preventing the opioids from reaching the brain blood barrier, it would also prevent the expected high of a drug. Without the high, people would be far less susceptible to their own cravings. The high is what gets people addicted in the first place. This could go a long way towards more effective addiction treatment programs.

In a way, the vaccines work similarly to the opioids themselves. Opioids are prescribed as painkillers because they have the ability to block pain signals from entering the brain. While they certainly have their place in the medical industry, they are also very potent and highly addictive.

In fact, over 130 people in the US die every day because of an opioid-related overdose. Lawsuits are coming from multiple states against drug manufacturing companies such as Purdue Pharma, Teva Pharmaceutical, and Johnson & Johnson for their alleged role in spreading the epidemic. The lawsuits blame the drug makers for using marketing methods that allegedly downplayed the addictive properties of their opioid products while emphasizing their benefits. Blocking opioids from reaching the blood barrier, as this new vaccine would do, could help save thousands of lives.

According to Kathryn Fietze, Ph.D., assistant professor in UNM’s Department of Molecular Genetics and Microbiology, the vaccine will operate by attaching molecules of different opioid drugs to the protein shell of a virus-like particle or VLP, that has its genome removed, leaving only the outer protein shell.

Fietze said researchers hope that by using this VLP protein shell, the particles will not be able to reproduce but will be able to trigger the immune system to do its job and attack the invader by creating antibodies.

A similar process has been used before to trigger immune responses by attaching opioids to proteins like tetanus toxoid. The challenge has been that it requires multiple injections. It isn’t a long-lasting solution.

However, the researchers are hopeful that their new process will offer more long-lasting results. They are currently testing the speed, strength, and duration of the immune response in mice. They hope that the VLPs will produce a fast, and longer-lasting antibody response to opioids.

If the vaccine is proven to be effective, Fietze said it “would not be a standalone treatment”. It would likely be used along with other treatment options, wherein it could play a valuable role in managing the physical

effects of addiction. It could make a difference in the fight against the opioid epidemic.

If someone in the family is struggling with opioid or alcohol addiction, it is important to seek help. A combination of medical detox and behavioral therapy can go a long way in the fight against drug abuse. But because every individual is affected by addiction differently, a comprehensive program tailored to their specific needs is necessary. Look for a nearby addiction treatment facility today and find out how drug treatment programs work.

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