Texas Tech researchers making strides to a universal flu vaccine

By: Rache Ahdey

Updated: Jan 18, 2019 09:43 PM CST
LUBBOCK, Texas - While the flu vaccine has traditionally been administered through an injection on an annual basis, Texas Tech researchers are making strides to change that with a universal flu vaccine.

Dr. Harvinder Gill, associate professor in chemical engineering, and Dr. Steve Presley, professor of environmental toxicology, teamed up to develop a vaccine that would address major issues facing the current vaccinations—annual injections, minimal coverage of flu strains and required refrigeration.

"The ability to make a vaccine that has universal protection, it basically means that you don't have to get a flu shot every year," Gill said. "If the vaccine works, then you can say that we took a shot and it's going to keep me in protection against the flu virus year after year, after year."

With a universal vaccine, a broader protection would be made possible, allowing for more strains of the flu to be included in a dose, according to researchers.

"To boil it down to simple terms, the uniqueness of a universal influenza vaccine takes away the guess work from the year before, when CDC creates and makes a prediction of what the flu outbreak the next year is going to be," Presley said.

With the combined efforts of Dr. Presley and Dr. Gill, they said a universal vaccine is not too far out of scope.

"Dr. Gill’s approach to a universal vaccine, where you don’t have to reformulate every year and the antibodies that I develop from the universal vaccine, will be effective against the flu virus for the next several years," Presley said.

Both researchers said they will continue working as a team to see this project to completion in about the next 5 years. And while they've already seen success, they said more research is necessary.

"At the moment, we can show that the vaccine we have at the moment is protective against 2009 pandemic and other flu strains," Gill said. "We're about 40 percent there. There's still a lot of work to be done. We have tested a version of the vaccine; it was not optimal so we have ideas on how to improve it."