

New video game takes a shot at soothing vaccine anxiety in pediatric patients

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With the chill of the season come the inevitable cold, flu, COVID-19, and other respiratory concerns such as the respiratory syncytial virus (RSV), all infectious diseases that can be serious, especially for young

children. As health care experts say, vaccines are our superheroes when it comes to protecting people against these highly contagious respiratory illnesses. But for some kids, shots can be as scary as a Halloween spookfest. And one bad experience at a clinic can lead to a fear of vaccines well into adulthood.

This season, some Stanford Medicine Children's Health flu clinics are offering [young kids](#) the opportunity to play a new video game, called Piñataz, designed to distract and ease their anxiety right before getting an injection. The tablet-based video game was designed by the Stanford CHARIOT program to add some fun to an otherwise stressful situation.

The video app is designed for children ages 2 and older, ideal for patients receiving a flu shot, a COVID booster, or their annual school vaccinations.

"We're really working to prevent kids from being scared of getting shots," said Sam Rodriguez, MD, pediatric anesthesiologist and co-director of the Stanford CHARIOT program. "We want to create positive experiences for kids to avoid vaccine hesitation, and not just for today, but hopefully throughout their lifetime."

Health care experts say that taking their child to see his or her pediatrician for routine well-child visits and recommended vaccines is one of the best things a parent or guardian can do to protect their child and community from serious diseases and respiratory viruses that are easily spread, such as the flu and COVID-19.

"If kids have a happy memory attached to getting a shot in the arm, then these [young patients](#) will return regularly—even as adults—for their vaccines," said Dr. Rodriguez.

The Piñataz game is the latest of more than 20 [software applications](#)

designed by the Stanford CHARIOT program's team to transform the care of pediatric patients at every stage of their care. The group uses virtual reality applications to help patients ease their pain and anxiety in the hospital. "Most of the applications used are for sick kids, but this is exciting and unusual for our team because it is for a [healthy population](#) too," said Maria Menéndez, MD, clinical manager of the Stanford CHARIOT program.

The power of the prize

How it works: As a health care team member preps for the vaccination, the patient is focused on building their personal piñata, a symbol of celebration. First, the kid picks goofy features like a beach ball for a tail, a gorilla-shaped head, and airplane wings.

Next, the child stuffs their pretend piñata with cupcakes, chocolate bars, hot dogs, and other fun emojis. The patient taps on their piñata as it travels around the screen, popping it again and again. Just before the vaccine is administered to the patient's arm, the child is asked to use their free hand to press a red buzzer to burst open their piñata a final time and discover a treasure box of small toys and stickers.

The patient leaves the office with a Band-Aid on their arm, a prize in hand, and a pleasant memory.

"We know that rewards are a great incentive to get kids through procedures," said Dr. Rodriguez. "Tapping away at a piñata to win an actual prize that they get to keep creates a positive feeling about doctor visits that can otherwise feel pretty scary. Patients might look back at their experience playing this game and remember the reward and elation of exploding the simulated piñata, more than the shot."

Throughout the winter season, the Stanford CHARIOT team will be

testing the vaccine game, training practitioners in how to use the app, and applying the feedback they receive from the young users to improve the game.

"If we can keep a kid from screaming in fear about shots, this project will be a success," said Dr. Rodriguez. "Our hope is that programs like this will grow for all [kids](#) who have painful and stressful experiences in the doctor's office or at the hospital. Our lab will continue to be a resource to work on other problems we see in health care settings."

Getting the flu and COVID vaccines this season is more important than ever to protect your child and your family from getting sick. Flu and COVID shots are available from your Stanford Medicine Children's Health provider or at the following locations.

Provided by Stanford University

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