

## Tampa VA Hospital is First VA Facility to Create, Buy Lifelike Manikin that Simulates Monkeypox Symptoms

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*Tampa VA Advanced Simulation Center's monkeypox training manikin. (VA Courtesy Photo)*

With prescience, the Tampa VA Advanced Simulation Center with the VA Tampa Healthcare System's infection control and disaster emergency management program worked with Echo Healthcare to develop the very first manikin that portrays a patient afflicted with monkeypox (Mpox). From the hair to the eyes, hands, fingernails and toenails, this first of its kind, high-fidelity manikin represents what is possible when VA and private industry come together to prepare for public health emergencies.

The silicone construction of the manikin gives it a more lifelike feel when compared to the standard hard plastic simulators. In addition to the aforementioned hair, eyes, hand and toe features, the manikin's silicone body sculpture mimics muscle tone. Echo Healthcare hand crafts each individual manikin according to order, and the James A. Haley Veterans' Hospital in Tampa, Florida was the first VA facility to ever create or purchase such a manikin.



*Left: Simulation training participants gather around manikin to learn about Mpxv precautions.  
Right: Lifelike manikin simulates Mpxv sores in the mouth. (VA Courtesy Photos)*

Mpxv is an Orthopoxvirus that was discovered in a Denmark laboratory in the late 1950's. The virus is related to the smallpox virus but was observed in monkeys, which is how the name monkeypox was adopted. Historically, it is a virus commonly found in Africa, but as of May 2022, multiple cases were reported worldwide where Mpxv was not endemic, including the United States. The current outbreak, which began in May 2022, is reportedly the largest global outbreak ever, representing over 19,000 confirmed cases. Due to lack of testing, this number is likely significantly higher. On July 26, 2022, approximately 3,592 Mpxv cases were reported in 46 states, including Washington, D.C. and Puerto Rico (CDC, 2022).

The company that created the manikin being used at the James A. Haley Veterans' Hospital was able to produce various stages of the Mpxv pustules, or small bumps that contain fluid or puss, so that staff could identify the stages the lesions were in. One pustule allows the simulation facilitator to fill it with a purulent fluid to truly express what the stage of pustule looks like before and after expelling the drainage. The realism of this manikin allows learners to see what Mpxv could look like and how it can easily be mistaken for other types of skin disorders such as shingles, flea bites, herpes and other sexually transmitted diseases.

Part of the Mpxv curriculum incorporates how psychological support is needed from the health care staff. The manikin shows how a person may feel embarrassed or ashamed with the various lesions on their body. The social isolation factor was also discussed along with ways to provide social support to any patient who may encounter the disease.



*Mpxv pustules located on the back of manikin.  
(VA Courtesy Photo)*



*Mpx pustules located on legs and feet of manikin. (VA Courtesy Photo)*

Physicians were impressed with how well developed this manikin replicated an actual patient with this disease. For example, respiratory therapists were impressed when they saw the manikin's oral cavity had simulated Mpx lesions in the airway, which would be a concern if they would need to intubate a patient. Environmental management services professionals stopped class at one point to ask how to clean the room after a Mpx patient was transferred or discharged. Registered nurses came and retook the training after completing the class because they enjoyed the realistic approach to training with the manikin.

What we found from the 132 hospital interdisciplinary staff that completed the training evaluations is that 98% of them preferred to train on the lifelike manikin compared to a high-fidelity simulator because the realism captured their attention and motivated them to learn more. The remaining two percent of staff members expressed that it was too overwhelming to see such realism on a simulator.

Overall, there was an improved desire to participate in simulation when we used this type of realistic manikin. In simulation, we focus on how realism promotes customer engagement, and the Tampa Simulation Center plans to encourage more interprofessional interactive simulations throughout the new year.