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Jacksonville joins regional transport system to handle infectious patient transport to Emory

By Dan Scanlan
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The image remains a scary one — American missionary Kent Brantly, wearing a fully-sealed biohazard suit because he was infected with Ebola, stepping out of a specially-equipped ambulance Aug. 2, 2014, at Emory University's Serious Communicable Diseases Unit.

Contracting the deadly viral disease in West Africa and flown to Atlanta for care, he was the first of four patients successfully treated there at one of the nation's designated Regional Ebola Treatment Centers.

Now the Jacksonville Fire and Rescue Department is the latest transport hub in the Florida Infectious Disease Transportation Network, used to transport a patient with Ebola or some other highly infectious disease to Emory.

Two rescue units are being equipped with AeroClave decontamination units and isolation capsules for safe transport of an infectious patient across Northeast Florida and into Georgia. A third AeroClave unit to spray a special disinfectant that kills bacteria and viruses will soon be part of a Jacksonville fire department supply truck that can decontaminate other rescue units for overall safety, Division Rescue Chief David Castleman said.

"We didn't seek to be part of this. We were recruited by the coordinator of the Florida Infectious Disease Transportation Network because the Northeast Florida region had no one in the area to continue the link of patient transport to Georgia," Castleman said. "They sought us out because we were a natural link. ... And the reason behind the AeroClave is the diseases that it kills. It uses Vital Oxide disinfectant cleaner. This is EPA-approved and very safe to the environment."

The Florida Department of Health has a plan to safely transport a highly infectious patient from one of the state's medical facilities to the Regional Treatment Center at Emory, or within the state to a hospital that can handle it.

The best mode of transport would be by airplane to avoid causing any infection, Castelman said. But ground transport might be necessary due to the patient's condition, or circumstances like bad weather. So the plan is to transfer the patient from South to Central Florida by an equipped rescue unit, then to a second unit for the trip to Northeast Florida. Jacksonville would transport the patient into Georgia, where another unit would take the victim up to Atlanta, Castleman said.

Each unit is $15,000 and includes one year of the disinfectant chemical.

"It's a continuity of trained transport agencies," Castleman said.

Only six other agencies in Florida are participating in the network. The next closest is Alachua County Fire Rescue.

To ensure the sterility and safety of the rescue unit before and after it is used to transport the infectious patient, Jacksonville Fire and Rescue will be using the AeroClave. Made in Winter Park, the 48-pound unit is self-contained in a plastic box and can treat up to a 5,000-cubic-foot space. Set inside a rescue unit with spray nozzle extended, it mists up the interior in a few minutes. The system has a hand sprayer to treat the outside to Occupational Safety and Health Administration specifications. AeroClave's own video shows it in action at facebook.com/AeroClave/videos/1571233439598303.

The Northeast Florida Healthcare Coalition has funded the purchase of one AeroClave decontamination unit and a year's supply of Vital Oxide, while a Florida Department of Health EMS grant will purchase another.

"Our HazMat teams are already equipped to handle these kinds of patients and scenarios and have the skills already, so we have designated Rescues 7 and 21 to be the designated transports," Castleman said.

Emory University will also provide an AeroClave to the Florida Department of Health for Jacksonville's use, while St. Johns County Fire Rescue also has one.

Jacksonville's HazMat teams will be trained on the gear next week. That also includes a removable "isolation capsule" for the back of each unit to seal patients and paramedics inside for safe transport.

"It seals everything off," Casteleman said. "Not only are you the caregiver in a type of protective suit, but the unit itself will be encapsulated. You will be sealed off so nothing can get out. It is a soft pliable material capsule they put in the back and hangs

on the walls. They will teach us how to deploy it in the back of a rescue so there is no chance of a virus getting out airborne or otherwise."

The third AeroClave will be used on a fire department truck that brings medical supplies and uniforms to each of the fire stations' 53 rescue units, soon to be 56 by June 1. Each station would set the AeroClave inside and let it do its 7-minute cycle for full decontamination, Castleman said. The disinfectant dries in about 10 minutes and the rescue unit is back in service as the supply truck goes to the next station.

"There is no telling what the potential uses could be," he said. "For now our plan is to use it to decontaminate rescues, and we may deploy in bunk rooms. They say it helps reduce illnesses, which reduces sick leave and is a benefit for taxpayers. It prevents hepatitis, HIV, all the different types of tuberculosis and all those viruses that live on surfaces."

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