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Mobile pioneers rescue protocol

Paramedic protocol that local department pioneered has been adopted across Alabama

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When Mobile Fire-Rescue Capt. Eric Creel needs to administer emergency life-saving medicine to a person in cardiac arrest, he now has a new device and protocol pioneered by his department to act faster and more efficiently.

The tool is called a Vidacare EZ-IO, and it's used to inject drugs instantly into a person's body through bone marrow instead of through the more traditional intravenous route.

Mobile Fire-Rescue paramedics were used for a pilot study, and had such convincing results with the device that a new version of a protocol written and tested by them has been adopted by all Alabama paramedics, according to state authorities.

"Since we've had it in, we've had a lot of great success stories with it," said Creel, who was one of the paramedics who helped test the device out. "It has worked wonders in quite a few cases."

The procedure of injecting into the bone marrow is called intraosseous infusion, commonly referred to as IO, and has been established for decades. It's used to give fluids and medications to patients at emergency scenes when it might be difficult or take too long to find a vein and administer the medicine intravenously.

But the new device works almost instantly, much more quickly than the old technique of manually grinding a port into a patient's bone.

"It's fast, and it works," said Capt. Jack Busby, a firemedic with Mobile Fire-Rescue who wrote the protocol.

Mobile Fire-Rescue trained all of their medics and conducted field tests using the Vidacare EZ-IO on 79 patients between Aug. 22, 2005, and Dec. 2, 2006.

The battery-powered device is used to place a stable port in the tibia, giving vascular access within seconds with minimal trauma to the patient, according to the company's Web site.

The port stays open, and anything that can be given intravenously, from blood to life-saving emergency

medicines, can be injected through it.

"I can have one of those in and set up and be pushing medication before someone can even set up an IV bag," Busby said. The whole IO process can take as little as 12 seconds, he said.

On a person with difficult veins, setting up a traditional IV can take up to a minute or more, Creel said.

Mobile Fire-Rescue concluded the pilot study of the device in December, and presented their findings to the state Medical Control Committee of the Alabama Department of Public Health's Office of EMS & Trauma in January, Fire-Rescue spokesman Steve Huffman said.

A modification of the protocol developed by Fire-Rescue was adopted for statewide use in June, and by Oct. 1, an adult IO device will be on every advanced life support ambulance in the state, according to Dr. John Campbell, the state EMS medical director.

Part of the protocol specifies that the device is only used on very specific patients in very specific cases, Campbell said. Patients who are in cardiac arrest or who have a life- or limb-threatening condition are both examples, Campbell said.

"Or somebody who's in shock, and you've worked on them for 90 seconds and didn't have an IV, then you can go to the intraosseous route," Campbell said. "We don't want this used for somebody passed out for hypoglycemia. This is not the way to give them sugar."

But in the cases of critically injured or ill patients on whom a vein can't be found in a timely matter, the IO device can literally save a person's life, authorities said.

"I think it will make a big difference in rare cases," Campbell said. "But in those cases, it will probably be life-saving. ... On those patients, it will be really, really helpful."

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