

## CASE STUDY

# Too Unstable for Med Flight, Montana Man Survives SCA AutoPulse Gives Medics a Second Option

During most of the year, the population of West Yellowstone, Montana, hovers around 1,000. But during the summer high season, up to 15,000 visitors a day stream into Yellowstone National Park through the popular entrance near Old Faithful. When tourism soars, so too do calls for emergency services and medical care.

The Hebgen Basin Fire District (HBFD) serves this 300-square-mile area of rugged terrain in the Gallatin National Forest of Montana's Southwest Rockies. During peak season, it's not unusual to receive multiple calls at the same time for ambulances; nor is it unusual for the emergency rigs to run throughout the night. Unlike more densely populated areas, the closest hospital is 84 miles away in Rexburg, Idaho. And the closest cardiac and trauma center is 110 miles to the southwest in Idaho Falls. Fortunately for sudden cardiac arrest (SCA) victims, one of HBFD's two ambulances is equipped with a ZOLL AutoPulse® Non-invasive Cardiac Support Pump, which provides automated chest compressions. This proved to be very fortunate for Steve Bartlett.

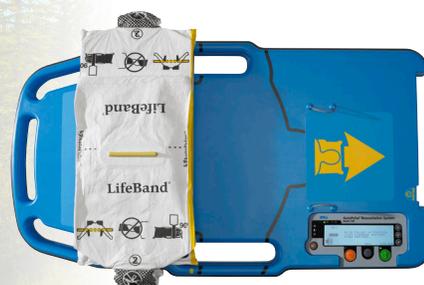
Early on the evening of August 9, a 911 call came into the West Yellowstone Dispatch Center from Bartlett, a 56-year-old maintenance worker at a local hotel. He had just finished dinner, when he began having chest pains and difficulty breathing. Within minutes, Captain John Moore, a 14-year veteran paramedic and firefighter, and his partner, Leslie James McBirnie, an eight-year veteran firefighter and EMT, arrived at Bartlett's side in the maintenance shop.

### A Witnessed Arrest

"He was talking with us and had the look of a very sick person," recounted McBirnie. "I went to get the gurney and when I came back inside, Moore told me that Steve just had a seizure and was out. We carried Steve to our gurney, then placed him into our ambulance. He still had a pulse. About a minute into this, his eyes opened and he went into sudden cardiac arrest."

McBirnie immediately started manual chest compressions, while Moore grabbed the ZOLL E Series® defibrillator and shocked Bartlett. It would be the first of many times that evening that Bartlett would be shocked. Next, the AutoPulse was placed on Bartlett to deliver consistent, high-quality automated chest compressions.

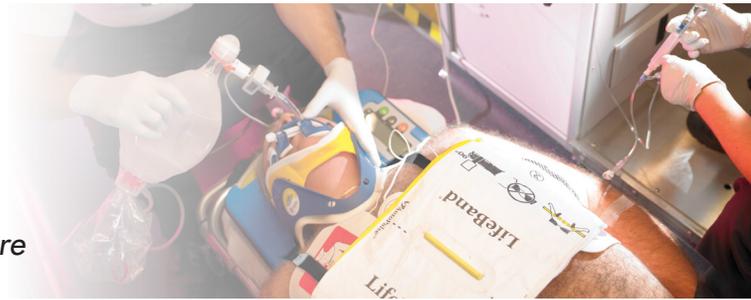
The device did what it was designed to do. Bartlett achieved ROSC (return of spontaneous circulation). The AutoPulse was turned off, but left on him. Minutes later, Bartlett re-arrested and the AutoPulse was turned on again for four minutes. A pattern was developing.



Because the AutoPulse uses a load-distributing band that squeezes the entire chest, patients receive consistent, high-quality compressions that drive good blood flow.

*“The AutoPulse worked flawlessly, coming back on each time we needed it to do chest compressions.”*

*Hebgen Basin Fire District Captain John Moore*



According to McBirnie, Bartlett’s pulse was between 60 and 70 beats per minute, but it couldn’t be maintained. Bartlett went into V-tach, was shocked, and converted into a sinus rhythm with frequent PVCs (premature ventricular contractions). His pulse then dropped to under 40, and the AutoPulse was turned on for another round of mechanical chest compressions.

A decision was made to call Air Idaho to med flight Bartlett to the cath lab at Eastern Idaho Regional Medical Center in Idaho Falls. With lights and sirens blazing, Moore and McBirnie transported Bartlett, still on the AutoPulse, to meet the flight crew at the Elk Creek landing zone. Follow the 20-minute drive, both teams decided Bartlett was too unstable for the flight.

Instead, the flight crew joined Moore and McBirnie in the ambulance to drive Steve to the town of St. Anthony, the halfway point between the landing zone and Idaho Falls, where they met the Idaho Falls Fire Department (IFFD) ambulance. There, Steve was transferred to the IFFD ambulance under the continued care of the helicopter crew. Idaho Falls FD would transport him to Eastern Idaho Regional Medical Center and both emergency teams would provide manual CPR for the 40-minute drive.

At the hospital, Bartlett coded 30 times the first night in the ICU, then another 15 times the second night. He spent three weeks in the hospital and eventually underwent surgery to have a stent inserted.

He’s now living with relatives 100 miles away from West Yellowstone, but came back to an HBFD Board of Directors meeting to thank John Moore, “Birnie” McBirnie, and what he calls “that good-looking machine” (i.e., the AutoPulse) for helping to save his life.

Asked what role the AutoPulse played when Bartlett collapsed, Moore doesn’t hesitate. “It saved his life,” Moore said. “The first time we used it on Steve, he had ROSC. In later attempts, we were able to achieve ROSC again. The AutoPulse worked flawlessly, coming back on each time we needed it to do chest compressions.”

“There’s no way we could have managed that call with just two people and a driver. You can’t maintain adequate CPR for that length of time and achieve ROSC. Also, ideally it takes a team of rescuers to do everything required as quickly as possible, including managing the airway, administering drugs, and doing CPR. We don’t have that number of people, which is why having the AutoPulse as a member of our two-man crew is so important,” he said.

Moore and McBirnie have both known Bartlett throughout the time they’ve worked for HBFD. “West Yellowstone is a small community where you get to know everyone pretty well,” said Moore. “Steve’s a heck of a guy, and we’re so happy to have him still with us.”

**For more information on the ZOLL AutoPulse, please call 800-804-4356 or go to [www.zoll.com/autopulse](http://www.zoll.com/autopulse).**

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