

# Mayo Clinic CPR efforts successful on man with no pulse for 96 minutes

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By all counts, the 54-year-old man who collapsed on a recent winter night in rural Minnesota would likely have died. He'd suffered a heart attack, and even though he was given continuous CPR and a series of shocks with a defibrillator, the man was without a pulse for 96 minutes. But this particular instance of cardiac arrest, reported first in *Mayo Clinic Proceedings* online, turned out to be highly unusual: "The patient made a complete recovery following prolonged pulselessness," says anesthesiologist and cardiac care specialist Roger White, M.D., lead author of the article.

Emergency respondents administered a total of 12 [defibrillator](#) shocks and kept the patient's blood flowing with continuous [chest compressions](#). But a key piece of technology on the scene was capnography, which has been used to monitor patients in operating rooms but is not frequently used by emergency personnel when treating [cardiac arrest](#). It measures how much blood is flowing through the lungs, and thereby, to other organs. As the measurement remained sufficiently high, the rescuers were encouraged to continue resuscitation efforts. "A pulse gradually returned," Dr. White says. "The effort was successful in large part because of capnography, which informed emergency workers that if they persisted, it was conceivable they'd have a survivor on their hands."

Once his pulse had resumed, the patient was flown to Saint Marys Hospital in Rochester, Minn., and found to have an occluded artery. A clot was removed and a stent inserted after the artery was opened. He was discharged a week and a half later showing no neurological

problems from the extended period without a pulse. Shortly after, he underwent an elective [bypass operation](#) to treat his underlying heart disease. "To our knowledge," Dr. White says, "this episode is the longest duration of pulselessness in an out-of-hospital cardiac arrest that ended with a good outcome. The case suggests further study of advanced life support techniques is warranted, as well as the use of real-time technology like capnography that can validate the efficacy of resuscitation efforts."

**More information:** <http://www.mayoclinicproceedings.com>

Provided by Mayo Clinic

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