A Daring Course of Treatment

They cooled Kevin Everett down and then they operated. How quick-thinking doctors used some unproven interventions to help save a young football player with a spinal-cord injury.

By Jeneen Interlandi | Newsweek Web Exclusive
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A series of difficult and controversial medical decisions made in the immediate aftermath of Kevin Everett's spinal-cord injury may have saved the 25-year-old professional football player's life and mobility. On Monday, less than a day after the Buffalo Bills tight end fractured his cervical spine during a game against the Denver Broncos, surgeons said he was unlikely ever to walk again. Today Everett is moving his arms and legs, and though he has a long and difficult recovery ahead of him, doctors say he may walk out of the hospital yet. Although no one can say for sure, the decision to chill Everett's body during the ambulance ride to the hospital and to operate immediately may have made all the difference.

An estimated 10,000-12,000 people suffer spinal-cord injuries in the United States every year, most of them men between the ages of 16 and 30. But while scientists have made enormous progress in the 12 years since Christopher Reeve's riding accident brought national attention to spinal-cord injuries, most of that new knowledge has yet to move from the lab to the hospital. "We aren't as in the dark as we were 10 years ago," says Moses Chao, chair of the science advisory council at the Christopher and Dana Reeve Foundation. "But there's still a lot that we don't know."

We do know this much, however: not all the damage from a spinal-cord injury is immediate. Neurons continue to die for hours, even days, afterward, and the choices doctors make in that time can determine whether a patient dies, lives, or walks again. Everett fractured the third and fourth vertebrae in his cervical spine during a routine tackle. When his helmet struck an opponent's shoulder pad, those adjacent vertebrae jackknifed, compressing the spinal cord like two halves of dull but powerful scissors. The cord was severely damaged, but not severed.

Within 15 minutes of the injury, doctors injected steroids directly into Everett's spine and began administering an IV of cooled saline solution to lower his body temperature to 92 degrees—an experimental procedure known as moderate hypothermia. Although large-scale clinical trials have yet to be conducted, case studies show that lowering the temperature this way can minimize neurological and cardiovascular damage during heart and brain injury, presumably by slowing the process of cell suicide known as apoptosis.

While moderate hypothermia is not a new idea, it is by no means standard in spinal-cord-injury cases, says Naomi Kleitman, program director for the National Institute of Neurological Disorders and Stroke. "We know that it can slow injury progression," she says. "But how fast to cool, and to what temperature, and then when and how quickly to reheat—these things have not been determined by rigorous study."

Less than six hours after Everett was injured, surgeons performed emergency decompression surgery—an operation intended to fuse the damaged vertebra and relieve pressure on the spinal cord. While a growing body of evidence suggests that performing such surgery in the early stages of a spinal injury can reduce the amount of permanent damage, the timing of such operations remains controversial. According to the National Institutes of Health, evidence supporting early surgery has been largely confined to animal studies, and similar results have yet to be shown in human trials. "The thinking has typically been that because these are very sick patients with very little chance of recovery, the risks [of surgery] may outweigh the potential benefits," says Kleitman. A large-scale clinical investigation is currently underway to evaluate the benefits of decompression surgery. In the meantime, Everett may well be on the road to recovery.

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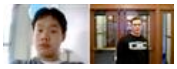

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