



Mute 19 Years, He Helps Reveal Brain's Mysteries

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HARRIET, Ark., July 2 — Terry Wallis spends almost all of his waking hours in bed, listening to country-western music in a cramped, two-room bungalow down a gravel road off State Highway 263.

Mr. Wallis, 42, wears an open, curious expression and speaks in a slurred but coherent voice. He volleys a visitor's pleased-to-meet-you with, "Glad to be met," and can speak haltingly of his family's plans to light fireworks at his brother's house nearby.

For his family, each word is a miracle. For 19 years — until June 11, 2003 — Mr. Wallis lay mute and virtually unresponsive in a state of minimal consciousness, the result of a head injury suffered in a traffic accident. Since his abrupt recovery — his first word was "Mom," uttered at the sight of his mother — he has continued to improve, speaking more, remembering more.

But Mr. Wallis' return to the world, and the progress he has made, have also been a kind of miracle for scientists: an unprecedented opportunity to study, using advanced scanning

technology, how the human brain can suddenly recover from such severe, long-lasting injury.

In a paper being published Monday, researchers are reporting that they have found strong evidence that Mr. Wallis's brain is healing itself by forming new neural connections since 2003.

The paper, appearing in *The Journal of Clinical Investigation*, includes a series of images of Mr. Wallis's brain, the first such pictures ever taken from a late-recovering patient.

The new findings raise the hope that doctors will eventually have the ability to determine which patients with severe brain damage have the best chance of recovering. They might also help settle disputes in cases like that of [Terri Schiavo](#), the Florida woman who was removed from life support and died last year after a bitter national debate over patients' rights. Ms. Schiavo suffered more profound brain damage than Mr. Wallis and did not show signs of responsive awareness, according to neurologists who examined her.

"We read about these widely publicized cases of miraculous recovery every few years, but none of them — not one — has ever been followed up scientifically until now," said Dr. Nicholas Schiff, a neuroscientist at Weill Cornell Medical College in Manhattan and the senior author of the new imaging study.

An estimated 100,000 to 200,000 Americans subsist in states of partial or minimal consciousness, cut off from those around them.

On Saturday, Mr. Wallis said he felt good, but he showed no memory of the study. After prompting from his mother, he did remember the trip back from the researchers' laboratory in New York.

"Gasoline," he said, referring to a stop the airplane made to refuel. "We stopped for gasoline."

His mother, Angilee Wallis, said: "He is starting to learn things now. That right there is new."

In recent weeks, she said, he has also shown hints of self-awareness, alluding to his disabled condition for the first time.

Mrs. Wallis, 58, and her husband Jerry, 62, live with and care for their son in a white clapboard cabin, with a small concrete porch surrounded on all sides by acres of trees. Their

house, between Harriet and Big Flat, is among a scattering of such hidden homes, sheds and dirt roads a couple of miles from a highway intersection anchored by two liquor stores. The nearest decent grocery store is 30 minutes away, in Mountain View, Ark.

For the Wallis family, Terry's accident, his long years of mental absence and his return have been a story of celebrity as well as recovery, of how media attention can strike like a flash flood and just as quickly dry up, leaving families to figure out what all the attention meant, if anything — and whether it was worth it.

He was a lanky 19-year-old in 1984, with a gift for elaborate pranks and engine work, when he and two friends skidded off a small bridge in a pickup, landing upside down in a dry riverbed. The family never figured out exactly what happened. The crash left their son unresponsive, breathing but immobilized, there but not there, said his father.

Terry Wallis showed no improvement in the first year, and doctors soon pronounced him to be in a persistent vegetative state, and gave him virtually no chance of recovery, his parents said.

About 52 percent of people with traumatic wounds to the head, most often from car accidents, recover some awareness in the first year after the injury, studies find; very few do so afterward. Only 15 percent of people who suffer brain damage from oxygen deprivation — like Terri Schiavo, whose heart stopped temporarily — recover some awareness within the first three months. A 1994 review of more than 700 vegetative patients found that none had done so after two years.