

# Many factors key to Giffords' survival, docs say

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In this Jan. 8, 2011 file photo, emergency personnel and Daniel Hernandez, an intern for U.S. Rep. Gabrielle Giffords, second right, move Giffords after she was shot in the head outside a shopping center in Tucson, Ariz. Giffords remains in critical condition, but doctors have reported steady progress each day since she was wounded last weekend. If all goes well, she may be "out of the woods" on Friday, said Dr. Peter Rhee, trauma chief at University Medical Center, who has treated soldiers in Iraq and Afghanistan. (AP Photo/James Palka, File)

(AP) -- It looks like Rep. Gabrielle Giffords is one of the lucky ones. Few people who take a bullet to the brain - just 10 percent - survive such a devastating wound.

Yet doctors have reported the critically injured woman has been making steady progress each day since she was wounded last weekend.

Then Wednesday night - with her closest friends from Congress holding her hand - Giffords opened her eyes for the first time.

"It was raw courage. It was raw strength. It was so beautiful and so moving," said Sen. Kirsten Gillibrand, D-N.Y. "She wanted us to know that she was with us a hundred percent and understood everything we were saying."

If all goes well, Giffords may be "out of the woods" on Friday, said Dr. Peter Rhee, trauma chief at University Medical Center, who has treated soldiers in Iraq and Afghanistan.

It's a far cry from Saturday when a shocked nation braced for the worst for the 40-year-old Arizona congresswoman. Several news outlets erroneously declared her dead soon after the shooting rampage that killed six. Stunned by the day's events, crowds held candlelight vigils outside the hospital and Giffords' Tucson office.

After her surgery, Dr. Richard Carmona, the former surgeon general and family friend who looked at Giffords' [brain](#) scans, gave a bleak outlook.

"With guarded optimism, I hope she will survive, but this is a very devastating wound," he said.

But as the days ticked by, doctors shared signs of improvement even as they cautioned about a long and uncertain path to recovery. There was a glimmer of hope early on: Giffords was able to squeeze a doctor's hand in the emergency room.

By Sunday, her [neurosurgeon](#) Dr. Michael Lemole said he was "cautiously optimistic" about her survival. She could follow basic commands when they briefly eased up on her sedation.

Giffords' condition was unchanged Monday, which doctors took as a good sign. There was no further brain swelling. She could raise two fingers of her left hand and even flashed a thumbs-up, doctors reported.

The following day, doctors said Giffords was breathing on her own, but still connected to a respirator as a precaution. She was also moving both arms. Doctors gave their most confident prognosis yet: She will survive. Rhee said he was "101 percent" sure she'd pull through.

"She has no right to look this good and she does," Lemole said.

As her sedation was scaled back, Giffords became more alert and moved on her own - touching her wounds and fixing her hospital gown. She even scratched her nose, Lemole said.

The encouraging news continued when Gillibrand and Rep. Debbie Wasserman Schultz, D-Fla., stood in the hospital room Wednesday, talking, joking and touching their friend.

"She was rubbing our hands and gripping our hands so ... we knew she could hear and understand what we were saying and she moved her leg, and so we knew she was responding," Gillibrand said. "And the more we joked about what we were going to do, she started to open her eyes."

Giffords' husband, Mark Kelly, realized the significance of the moment. "Gabby, open your eyes, open your eyes," he said, according to Gillibrand.

Said Schultz: "It felt like we were watching a miracle."

So how did Giffords survive the gunshot wound? The path of the bullet, quick and quality medical care, and a stroke of luck meant the difference between life and death, say her doctors and brain experts.

Doctors think the bullet pierced the front of Giffords' head and exited the back, slicing the left side of the brain, which controls speech abilities and muscles on the right side of the body.

Had the bullet damaged both sides of the brain or struck the brain stem, which connects to the spinal cord, the outcome would likely be worse - extensive permanent damage, vegetative state or death.

"So far, she's passed with flying colors of each stage" of her recovery, said neurologist Dr. Marc Nuwer of the University of California, Los Angeles, who is not involved in the congresswoman's treatment.

Most gunshot victims are not that fortunate. Several years ago, a Tucson police officer was shot in the head during a chase. His heart was beating when he was rushed to University Medical Center, but doctors couldn't control the bleeding in the brain and he died, Rhee said.

When Giffords arrived at the hospital, doctors first checked to make sure she didn't have any other injuries. They took a brain scan and wheeled her to the operating room in a swift 38 minutes.

The same attack in the desert many miles away from a trauma center may have led to a different ending.

"She's just lucky in so many ways," said UCLA's Nuwer. "The breaks have been in her favor. That's not to say they'll continue to be in her favor."

It's too early to tell the extent of damage Giffords suffered, but experts say it's rare for people with gunshot wounds to the head to regain all of their abilities. Damage to the left side of the brain can result in memory loss, difficult reading and hand-eye coordination problems. Giffords' doctors have not been able to determine how well she can speak since

she still has a breathing tube.

"Her full-time job now for the next year is working on her recovery and rebuilding her life around her disability whatever it may be," said Dr. Stephan Mayer, professor of clinical neurology at Columbia University Medical Center in New York, who has no role in Giffords' care.

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