A small 2015 study by Duke University finds that a simple tetanus shot lengthened the lives of patients with a deadly form of brain cancer, glioblastoma. Nearly 23,000 Americans are diagnosed with brain cancer each year.

**Keywords**

Cancer, Brain Cancer, Glioblastoma, Glioblastoma Multiforme, GBM, Tetanus, Tetanus Shot, Tetanus Vaccine, Tetanus Booster, Treatment, Duke University, Sandy Hillburn, Kristen Batch, Duke University School of Medicine, Medical Trial, Surgery, Chemotherapy, Radiation, Immune System, Immunotherapy, Cancer Cells, Tumor, Remission, Research, Study

**Citation**

LESTER HOLT, anchor:
A promising development to report tonight in battling one of the hardest forms of cancer to treat. Every year, nearly 23,000 Americans are diagnosed with brain cancer. But now researchers have found that a simple tetanus shot might boost the chances of some patients living years longer than they expected. NBC's Stephanie Gosk explains.

STEPHANIE GOSK, reporting:
Every day, Sandy Hillburn walks and walks. Nine years ago, a doctor told her she had just two to three months to live. How many miles you walking every day?
SANDY HILLBURN: Nothing, just two to four.
GOSK: Nothing, just two to four. That's a lot. Two to four?
HILLBURN: It just feels good.
GOSK: Her diagnosis, glioblastoma, brain cancer.
KRISTEN BATICH (Duke University School of Medicine): Glioblastoma is highly aggressive. It's an absolutely devastating disease and universally fatal.
GOSK: But Hillburn took part in a Duke University medical trial that extended her life. So this whole team?
HILLBURN: These are all new.
GOSK: So the grandmother of two can now proudly say she is a grandmother of six. The study was small, 12 people altogether. Following standard surgery, chemotherapy, and radiation--all received a novel therapy that uses the body's own immune system. Six were also given a dose of a well-known vaccine, the tetanus booster.
KRISTEN BATICH: If you give patient a boost of tetanus, it sort of puts the lymph nodes as well as the entire immune system on high alert acting like a siren to the rest of the cells.
GOSK: So when immunotherapy is given, doctors believe the body is primed to fight the cancer cells more aggressively. The median survival rate for the six who received the tetanus was over two years,
that's twice as long as the rate for patients who received standard therapy. Hillburn's success exceeded all expectations. And she still has no sign of a tumor. Doctors say it is too early to know for sure but they are hopeful the research could help fight other aggressive cancers as well.

HILLBURN: I have such a good quality of life. And I am grateful for the vaccine for that.

GOSK: Sandy Hillburn is the walking proof. Stephanie Gosk, NBC News, New York.