A new treatment called targeted cellular therapy has helped leukemia patients by using immune cells from each patient to treat their cancer.

**Keywords**
Cancer, Gene Therapy, Targeted Cellular Therapy, Leukemia, Bob Levis, University of Pennsylvania, UPenn, Genes, Genetic Engineering, Genetic Therapy, White Blood Cells, Immune Cells, David Porter, Kari Whitehead, Emily Whitehead, Research, Symptoms, Study, Trial, Remission

**Citation**

**MLA**

**APA**
Gene Therapy Offers New Hope to Cancer Patients

BRIAN WILLIAMS, anchor:
We mentioned health news tonight specifically in the fight against cancer, a small but significant study this time involving patients suffering from the most common forms of leukemia. They were all told that the conventional treatments like chemo were no longer working. They were all given one last hope by doctors. This story is about what happened next. Our report tonight from our Chief Medical Editor Doctor Nancy Snyderman.

DOCTOR NANCY SNYDERMAN, reporting:
Less than a year ago, Bob Levis was relying on blood transfusions to stay alive. He had aggressive leukemia and was quickly losing hope.

BOB LEVIS: I met with my lawyer, updated the will be-- because I-- I-- I thought I was headed that direction. I-- I didn’t see a lot of options out there.

DR. SNYDERMAN: So he signed up for an experimental treatment at the University of Pennsylvania. Doctors there genetically engineered his white blood cells and transfused them back into his own body to fight and destroy the cancer cells.

DR. DAVID PORTER (University of Pennsylvania): I think this is really a new paradigm in cancer treatment. This is really using a patient’s own immune cells to treat their own cancer.

MAN: The tool to grow the cells.

DR. SNYDERMAN: The study started small in 2010 but early outcomes were so promising, researchers enrolled more adults and children. Experts say the results released this weekend are remarkable. Fifty-nine patients with the most common forms of leukemia were treated in the study. Many had significant improvement and today 25 are cancer-free, including eight year-old Emily Whitehead. In 2012, she was within days of complete organ failure when she got this new treatment called targeted cellular therapy. The short-term side effects can be miserable. Most patients have severe flu-like symptoms like Emily did. But her parents say it was worth it.

KARI WHITEHEAD (Emily’s Mother): Emily is doing amazing. She is in third grade. She was able to keep up with her class. She’s just really a normal child right now.

DR. SNYDERMAN: Well, doctors say proving this is a cure will require following these patients and
many others for years. Most agree this approach is the new frontier in fighting leukemia and other cancers.

LEVIS: I’m in complete remission and that’s a good place to be after being on death’s doorstep just a few months ago.

DR. SNYDERMAN: For Bob and his family, it’s the gift of life during a holiday season he thought he would never see. Doctor Nancy Snyderman, NBC News, New York.