

'Zero detectable cancer cells': Experimental CRISPR tool appears to cure 13-year-old's 'incurable' leukemia

A groundbreaking treatment has cleared a teenage girl's incurable cancer.

In May 2022, 13-year-old Alyssa from Leicester became the first reported patient in the world to receive a [new kind of CRISPR](#) called base editing.

The base-edited T-cells at Great Ormond Street Hospital for Children (GOSH), in collaboration with the UCL Great Ormond Street Institute of Child Health (UCL GOS ICH), treated Alyssa's "incurable" T cell leukemia, leaving her with zero detectable cancer cells, [a press release reported](#).

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Alyssa was diagnosed with T-cell acute lymphoblastic leukemia (T-ALL) in 2021 and had already received chemotherapy, a bone marrow transplant, and other therapies for her cancer. However, it was all in vain, and her disease returned. At that point, there were no further treatment options available.

She became [part of a trial](#) to receive genetically modified CAR T-cells that originally came from a healthy donor. Using new base-editing technology, the cells were edited, thereby allowing them to chase and kill the cancerous T-cells without attacking each other.

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The [donor T-cells are edited](#) and changed so that they aren't attacked by the patient's immune system. Eventually, the edited CAR T-cells are given to the patients to find and destroy T-cells in the body. Once successfully, the patient receives a bone marrow transplant to restore their depleted immune system.

[**This is an excerpt. Read the full article here**](#)