

Woman appears to be cured of HIV after treatment with umbilical cord blood

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Microscopic image of an HIV-infected T cell. Credit: NIAID

A team of researchers at the New York-Presbyterian/Weill Cornell Medical Center announced that a woman they have been treating for both HIV and leukemia has apparently been cured of HIV—14 months

after discontinuing antivirals, she still is testing negative for the HIV virus. They have presented their findings at this year's [Conference on Retroviruses and Opportunistic Infections](#).

Prior to this most recent effort, only two other people have ever been cured of an HIV infection—both were male, and both were also suffering from leukemia. Those patients were treated with a bone marrow transplant from another person who carried a genetic mutation that is known to block HIV infections.

In this new effort, the woman was given cord blood from a person with the same genetic mutation as the donor for the two prior cured patients. She was also given [blood stem cells](#) from a first-degree relative. The [stem cells](#) were given to bolster the woman's immune system while the donated cord blood cells became dominant in her system. Such stem cells take approximately six weeks to become dominant, unlike those from a bone marrow transplant, which take much less time. The woman continued to take the antiviral drugs that keep HIV at bay for 37 months after the procedure until 14 months ago, and she is still HIV-free.

The researchers were not able to explain why the cord blood cells worked so well to get rid of the HIV virus, but suspect it has something to do with their ability to adapt to a new environment. They also suspect that cord blood may contain stem cells that aid the process. They also note that the fact that the patient was female and also of mixed race was an important part of their research. Most studies involving efforts to treat or cure HIV have involved white men.

The researchers say that cord blood is much easier to obtain than the stem [cells](#) used in [bone marrow transplants](#) and that the procedure was much gentler on the patient than the typical bone marrow transplant. Both of the men that were cured of HIV suffered [severe side effects](#), including developing graft-versus-host disease, where the body reacts to

the transplant by attacking the body. One of the patients almost died after his transplant; the other suffered massive weight loss and damage to his inner ears, making him nearly deaf. The woman in this new effort, in sharp contrast, suffered very few side effects.

More information: www.croiconference.org/

Press release: [sciencex.com/wire-news/4064646 ... ssion-following.html](https://www.sciencex.com/wire-news/4064646...-ssion-following.html)

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