

Restoring men's fertility after cancer

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A tragic side-effect of chemotherapy might soon be a thing of the past, with researchers uncovering a vital pathway to restoring men's fertility after cancer.

The same treatment used to defeat [cancer](#) can often have damaging effects on the male reproductive system, leaving many men cancer-free but infertile.

Regeneration pathway discovered

Now researchers at Hudson Institute of Medical Research have for the first time defined the cellular pathways that control regeneration of the male germline—the cells responsible for producing sperm.

Lead researcher, Associate Professor Robin Hobbs, says sperm banking has helped some men to become fathers after [chemotherapy](#), but other men, and those who had cancer treatment as children, never get that opportunity.

"Spermatogonial stem cells (SSCs) in the testes are essential for production of germ cells and sperm in men," Associate Prof Hobbs says. "Now,

for the first time we have defined the cellular pathways that can allow these cells to regenerate after they have been damaged."

Treatments to restore fertility of male cancer patients

"While it's not a cure in itself, our new understanding of these pathways may allow us to develop treatments that restore male fertility after chemotherapy," notes Hobbs.

The discovery, published in the journal *Nature Communications*, is an important step in addressing this major quality of life issue for cancer survivors.

"Understanding the cellular factors that promote the regenerative response of SSCs can ultimately allow us to design treatments to help restore fertility of male cancer patients," Hobbs says.

More information: Hue M. La et al, Distinctive molecular features of regenerative stem cells in the damaged male germline, *Nature Communications* (2022). [DOI: 10.1038/s41467-022-30130-z](https://doi.org/10.1038/s41467-022-30130-z)

Provided by Hudson Institute of Medical Research

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