

Immunotherapy for Cancer: How It Works, Benefits and What's Next

Immunotherapy is a type of cancer treatment that helps the immune system recognize and attack cancer cells.

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Key Takeaways

- Immunotherapy trains the body's natural defenses to recognize and attack cancer cells, offering a more targeted approach than traditional treatments.
- By sparing healthy cells, immunotherapy often causes fewer side effects and can lead to longer survival, even in advanced cancers.
- Ongoing research is expanding immunotherapy to more cancer types and exploring how lifestyle factors like diet and exercise may boost its effectiveness.

Immunotherapy is a new and exciting way to treat cancer. Instead of using strong medicines that attack both healthy cells and cancer cells, immunotherapy helps the body's own immune system find and fight cancer cells directly. That means it often causes fewer side effects and can give people a better quality of life. For some patients, it has even led to longer survival, offering new hope where other treatments may not have worked.

Let's explore immunotherapy and why it's an exciting area of cancer research.

What is Immunotherapy?

Immunotherapy is a type of cancer treatment that helps the immune system recognize and attack cancer cells. Immunotherapy can be given:

- Directly into a vein
- As an injection just under the skin
- Topically applied to the skin
- Orally in pill or capsule form

The treatment will depend on the type of cancer. For example, injections under the skin are used to treat certain types of lung cancer, while topical creams are used to treat some skin cancers.

How Does Immunotherapy Work?

Our immune system protects our body from being attacked by foreign substances that cause disease. Cancer cells develop from healthy cells within our body, which can “trick” our immune system into not recognizing them as harmful. Even when an immune response is activated by cancer cells, it is often too weak to mount a successful attack. Cancer cells can “hide” from the immune system by releasing substances that make them unrecognizable.

Different types of immunotherapy work by:

- Elevating the immune system’s ability to recognize and kill cancer cells
- Using man-made substances called monoclonal antibodies that mimic our bodies’ immune proteins
- Reprogramming normal immune cells to recognize and destroy cancer cells
- Using vaccines that trigger an immune response to target cancer cells
- Carrying radiation or chemotherapy molecules to cancer cells via turning on the immune system

Immunotherapy is now recognized as one of five major types of cancer treatment, alongside:

- Surgery
- Radiation
- Chemotherapy
- Targeted therapy

Immunotherapy works differently from traditional treatments. It harms fewer healthy cells, lessening side effects and improving quality of life for patients.

Better Survival Rates

One exciting aspect of immunotherapy is longer survival, even in the advanced stages of cancer. While not every patient responds to immunotherapy, the results may be lifechanging for those who do.

One study found that 43 percent of previously untreated advanced melanoma patients treated with a combination of immunotherapy drugs were still alive after 10 years. That's a marked improvement over past survival rates. Another study showed that patients with liver cancer who received combination immunotherapy instead of traditional targeted therapy lived twice as long, with 20 percent alive at five years. This was previously unheard of.

What's Next?

Ongoing research holds promise for using immunotherapy in earlier-stage cancers and in a wider range of cancer types. Researchers are also looking at the role of diet and physical activity. Studies show that exercise and higher-fiber diets may improve immunotherapy response.

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