

Liquid Biopsies: A Revolution in Early Cancer Detection and Monitoring

Liquid biopsies are non-invasive. They can identify and track cancer-related biomarkers in body fluids like blood, saliva or urine.

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Key Takeaways:

- Liquid biopsies can identify cancer-related biomarkers in body fluids like blood, saliva, or urine. This allows for cancer detection at earlier stages than traditional screening methods and may lead to more effective and less toxic interventions.
- By tracking tumor changes over time, liquid biopsies may help oncologists assess treatment effectiveness or detect cancer relapse. Importantly, can be performed frequently with minimal discomfort.
- While not yet available for all cancer types, ongoing research and FDA-approved tests for certain cancers indicate that liquid biopsies could revolutionize routine cancer screening.

Cancer detection and monitoring have long relied on invasive and uncomfortable procedures such as mammography, colonoscopy and tissue biopsies. However, now a groundbreaking approach called liquid biopsies is poised to transform cancer care.

Liquid biopsies offer a non-invasive method to detect and track cancer by testing body fluids such as blood, saliva or urine. This innovative technique is promising for early cancer detection, treatment monitoring and personalized care.

Liquid biopsies work by identifying cancer-related biomarkers, such as circulating tumor DNA (ctDNA), in body fluid samples.

Finding Cancer Earlier

Traditional early cancer detection screening methods often identify cancer only after symptoms appear or tumors become visible on imaging tests. In contrast, liquid biopsies can potentially detect cancer at its earliest stages. It can do this by identifying minute amounts of genetic material or other cancer-related biomarkers that are shed by cancer cells into the bloodstream.

Recent studies have demonstrated the power of this approach. A 2020 study published in the *Annals of Oncology* showed that a liquid biopsy test could detect over 50 types of cancer, often before symptoms appeared, with a remarkably low false-positive rate. This breakthrough could lead to earlier, more effective and less toxic interventions and improved survival rates for many cancer patients.

Helping with Cancer Treatment

For those already diagnosed with cancer, liquid biopsies offer a non-invasive way to monitor treatment effectiveness and early detection of disease relapse or progression.

Unlike traditional tissue biopsies, which are often painful and carry risks of complications, liquid biopsies can be performed frequently with minimal discomfort. This allows oncologists to track tumor genetic changes over time, potentially enabling more personalized and adaptive treatment strategies, including identifying specific genetic mutations that may respond to targeted therapies.

This personalized approach could significantly improve treatment outcomes while minimizing unnecessary side effects.

Next Steps

While liquid biopsies are not yet widely available for all cancer types, ongoing research is expanding their applications.

Several liquid biopsy tests have already received FDA approval for specific uses, such as monitoring certain lung and breast cancers. As this technology advances, it could revolutionize cancer screening programs, making regular cancer checks as routine and simple as a standard blood test. This could lead to earlier detection and treatment for millions of people, potentially saving countless lives.

At the American Institute of Cancer Research (AICR), we're committed to exploring innovative approaches to cancer care. To learn more about the transformative potential of liquid biopsies in cancer care, we've prepared a special publication, *New Frontiers in Cancer Detection: Liquid Biopsies*. This publication explores the science behind liquid biopsies and discusses their potential impact on cancer diagnosis, treatment, and long-term care.

[Click here for the link to order the free publication.](#)

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