Cancer is extraordinarily adaptable, but so are the scientists and medical professionals working to outsmart it.

**Genomic testing**

The evolving science of precision cancer treatment has taken literal advantage of the digital world, enabling doctors to dig much further — and react much more quickly than ever before — to keep tumors in check. Today, when tumors are rooted out, in this context, they're first analyzed on a molecular level, and their DNA profiles are scanned—almost like finger prints in a criminal database—for abnormalities that may drive certain behaviors coded in cancer's broken DNA profiles.

**Targeted therapies**

Scientists have discovered that these genetic abnormalities, or mutations, can function as targets for treatment. By focusing on a specific abnormality in a particular tumor, treatments are designed to block the messenger responsible for bringing the tumor's DNA sequence into effect. For example—and neutralizing it so that cancer cells stops growing, progresses or spreads, for instance, and destroys it. Some targeted therapies work by targeting a specific gene or gene-drug interaction. Other therapies focus on a specific protein or protein-drug interaction. These drugs are typically designed to block the messenger responsible for bringing the tumor's DNA sequence into effect.

**Immunotherapies**

Immunotherapies are designed to boost the immune system's ability to recognize and destroy cancer cells. For example, they unleash an immune cell that the cancer has hijacked, tricking it into thinking it's a normal cell. This can help turn the tide against cancer by powering the body to launch its own destructive tasks. But as scientists learn more about cancer's complexities, they are taking over its environment, draining the body's resources, even getting healthy cells to avoid being attacked.

**Advanced cancer testing**

Based on what's known, early detection of cancer can have a significant impact on outcomes. But detecting cancer earlier can be challenging. Advanced cancer testing is helping to make it easier to find cancers at a stage where they're more treatable.

**Targeted therapies**

Targeted therapies are drugs designed to treat cancer's molecular subtypes. They work by focusing on specific abnormalities coded in cancer's DNA profile and shut off the messenger responsible for bringing the gene into effect, and destroy it. Some targeted therapies work by targeting a specific gene or gene-drug interaction. Other therapies focus on a specific protein or protein-drug interaction. These drugs are typically designed to block the messenger responsible for bringing the tumor's DNA sequence into effect.

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