

# Medical Advances in Cancer Treatment

Written by Arizona Foothills Magazine

---

Cancer is one of the [leading killers in men and women](#) in the United States. Nearly everyone knows someone who has been affected by cancer, or has been affected by cancer themselves, and awareness campaigns and research campaigns are constantly being administered in a hope to raise a cure.



However, determining a cure for cancer isn't easy. Cancer is actually the name given to a broad spectrum of related diseases. One thing all cancers have in common is that they result when cells began dividing at an unregulated rate and become invasive to surrounding tissues. Otherwise, cancers are rather diverse and can develop due to varying genetic or environmental factors and can develop in various areas of the body.

Although finding a cure for cancer is still under works, medical professionals and researchers have developed several advances in cancer treatment. A few of the most notable cancer treatment advances which have improved treatment efficiency and cancer survivability rates include:

## Intensity Modulated Radiation Therapy

Radiation treatment has always been one of the most physically taxing on patients suffering from cancer. Early radiation treatments treated entire areas of a person's body which meant that both normal and cancerous cells were destroyed. While this was effective at removing the cancer, this type of radiation treatment left people weak.

Intensity Modulated Radiation Therapy, or IMRT, reduces the side effects of radiation by further limiting exposure to the normal cells in the body. Intensity Modulated Radiation Therapy is able to locate the exact location of the tumor being treated and deliver the exact dose of needed radiation to that area. IMRT reduces the likelihood of damaging additional cells which helps patients recover faster.

## Genetic Testing Before Diagnosis

In decades past, cancer patients were not aware they had cancer until it metastasized. CT scans, MRI, x-rays, and ultrasounds were usually used as the first line in diagnosis, and only happened after the patient complained of multiple symptoms and signs that suggested cancer. Because cancer was typically located after it metastasized, it was normally diagnosed in later stages which made it more difficult to treat and more likely to be fatal.

Now people at high risk for developing cancer can be alerted before cancer has even developed through genetic testing. Because cancer can be caused by genetics, genetic testing can provide people with results that let them know if they have the genes likely to cause cancer. Tests such as the Trovogene's [BRAF V600E](#), confirms the presence of the BRAF V600E gene which has been linked to the development of cancer. Similar urine tests may also seek the KRAS gene which has also been linked to abnormal cell growth.

By receiving results confirming the presence of cancer-linked genes prior to diagnosis, individuals can take better care of their bodies and better monitor their bodies to catch cancer in earlier stages. Catching cancer in an earlier stage increases treatment odds and increases the likelihood of patient survival.

## Dedicated Breast CT

Mammograms and clinical breast exams have been the traditional way to determine whether or not a woman had breast cancer. These types of exams looked for the appearance of lumps, or abnormal tissue. Clinical breast exams relied on touch to feel for lumps, while mammograms looked for lumps within the tissue through imaging. Although these exams are effective, they aren't always accurate in detecting just where cancer is located.

New [Dedicated Breast CTs](#) are now able to view the breast in 3D. For women, this means that mammograms no longer have to be painful as there is no need for breast compression. The new Breast CTs are also able to better detect lesions and produce less false positives. This means better and more thorough results for women who may need to seek treatment quickly.