

# I CAN NEWSLETTER

Fighting cancer through science, healthy living, and prevention

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In this edition of Texas Oncology's newsletter, we focus on advancements in cancer treatment.

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For more information about advancements in cancer treatment and other topics, visit [www.TexasOncology.com](http://www.TexasOncology.com).

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Visit [www.TexasOncology.com](http://www.TexasOncology.com) for more information and tips.

### About Texas Oncology

Texas Oncology delivers high-quality cancer care with leading-edge technology and advanced treatment and therapy options to help patients fight cancer.

A pioneer in community-based cancer care, Texas Oncology is an independent oncology practice with sites of service throughout Texas and southeastern Oklahoma. Texas Breast Specialists and Texas Urology Specialists are a part of Texas Oncology. Texas Oncology patients have the opportunity to take part in some of the most promising clinical trials in the nation for a broad range of cancers. For more information, visit [www.TexasOncology.com](http://www.TexasOncology.com).

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ISSUE **02** JUNE 2012  
VOLUME 03

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More breakthroughs. More victories.®



## Advancements in Cancer Treatment

The fight against cancer continuously evolves as technology advances and more is learned about the disease through clinical trials and other research. This issue of Texas Oncology's "I Can" newsletter highlights some of the exciting advancements that offer powerful new options to cancer patients. Texas Oncology is committed to making these advancements available to patients where they live, close to the support of family and friends.

## Putting a Bulls-Eye on Cancer

Overall cancer survival rates continue to improve due to advancements in prevention, early detection, research, and treatment. However, more than 110,000 Texans will be diagnosed with cancer in 2012. Texas Oncology physicians remain focused on research and developments that expand and advance the tools available to fight cancer.

Researchers have made significant strides in recent years and now have the ability to evaluate the genetic mutations of cells, which may trigger cancer. With this genetic information, physicians are able to treat patients with targeted therapies "personalized" for individual patients. According to Dr. Kartik Konduri, "These advancements have created the largest leap forward in cancer treatment to date."

### Understanding Cancer's DNA

Using a process called whole genome sequencing, researchers compare the DNA of a cancer tumor to the normal DNA of a patient. By mapping the whole genome, they sometimes find genetic defects linked to cancerous tumors. These findings allow physicians to attack the specific molecules responsible for the growth and spread of certain types of cancer by developing a unique treatment for individual patients.

**"Whole genome sequencing will change the future of treating cancer."**

**– Kartik Konduri, M.D.**

**Medical Oncologist, Texas Oncology–Baylor Charles A. Sammons Cancer Center**

## Personalized and Targeted Treatments

Personalized medicine eliminates the "one-size-fits-all" treatment model of the past, matching therapies with patients on a highly specific, genetic level. Many of the most dramatic advancements in cancer treatment recently have been associated with these so-called targeted therapies.

For example, breast cancer is now being treated with trastuzumab (Herceptin), a biologic drug, in combination with chemotherapy, resulting in improved responses in patients. As researchers continue to unravel the genetic framework of different cancer types, treatment with targeted therapies will expand, enhance, and may someday even eliminate treatments now considered best-in-care.

**"This new treatment approach assesses a patient's own biology and directs treatment based on the tumor's genetic makeup."**

**– Russell Hoverman, M.D.**

**Medical Oncologist, Texas Oncology**



## Research Behind the Treatment

Clinical trials continuously lead researchers to new and more effective ways to fight cancer and are helping scientists understand more about the genetic make-up of cancer. Texas Oncology's commitment to community-based cancer treatment has made vital clinical trials more accessible to patients and to researchers who can more quickly identify and match patients to relevant studies under way. This enables patients to receive the most advanced cancer treatment available while advancing the science behind new treatments at a faster pace.





Some clinical trials focus on identifying or analyzing a potential bio-marker, or target, within cancer cells. For example, researchers studying adenocarcinoma tumors of the lungs have found 50 percent of these tumors have the same bio-marker. While patients with adenocarcinoma tumors were previously treated with general chemotherapy, this discovery allows physicians to fight the tumor's specific genetic mutation with a more effective targeted therapy.

Breakthrough research in recent years has also led to the first new medications in a decade for melanoma, the most deadly form of skin cancer. Ipilimumab, an immunotherapy that works by boosting the immune system, has led to significant advances in treating skin cancer when combined with chemotherapy. The targeted therapy, vemurafenib, has increased survival rates among melanoma patients who have the gene mutation BRAF.

**“While genetic and cancer research is a work-in-progress, future clinical trials could change the whole approach to fighting cancer.”**

**– Mikao Cline-Burkhardt, M.D.**

**Medical Oncologist, Texas Oncology–Seton Williamson and Killeen**

### **Tissue Banking**

Going forward, tissue banking will be more of a focus. Researchers owe this “next big thing” to the availability of genomics and whole genome sequencing. In tissue banking, tissue samples from tumors are grouped together, enabling researchers to identify and study similarities. Tissue banking facilitates collaboration between physicians and pharmaceutical companies to develop clinical trials that are much more specific.

### **Supportive Care Advancements**

Advancements in managing nausea, pain, and other side effects during cancer treatment have vastly improved the quality of life for patients and allowed physicians to fight cancer with more aggressive treatments when necessary. Anti-nausea medications given in advance

of cancer treatment can now reduce or eliminate nausea in most patients for a treatment cycle. Bone health medications have reduced the number of bone fractures resulting from tumor spread. Sustained release pain medications and pain management techniques, such as nerve blocks, allow patients to be more comfortable. These developments have helped shift most cancer treatment from in-patient hospital stays to a community based setting.

**“Supportive care converted cancer to an outpatient disease.”**

**– Steve Paulson, M.D.**

**President, Texas Oncology**

Advancements will continue to emerge, and Texas Oncology physicians are committed to bringing high-quality care and the most advanced treatments to communities and patients across Texas.

### **Cancer Q&A**

*By Russell Hoverman, M.D.*

*Medical Oncologist, Texas Oncology*

**Q: Why is it so hard to find a cure for cancer?**

**A:** Cancer is a very complicated disease, with more than 200 different types. Even within a specific type of cancer, individual cancers may have different genetic defects. As a result, no single biological or environmental factor has been identified as causing the disease. Heredity, age, and health habits also contribute significantly to risk factors associated with cancer. We have made great strides in curing some cancers, but pinpointing a cure for cancer in general is not possible yet. Texas Oncology is committed to clinical trials across the entire spectrum of cancers in order to find more ways to prevent, detect, and more effectively treat cancer. These clinical trials are pivotal to narrow down the many causes of cancer so that some can be paired with personalized treatments to cure individual patients.

## Detecting the Risk of Cancer Before It Strikes



Advancements in genetic testing are helping families take steps to prevent cancer. Genes are passed along to children from both parents, and sometimes these include altered genes that are linked to higher cancer risk.

Genetic testing analyzes individual DNA to see if that DNA includes a change that may increase the risk of certain cancers. For the patient, it typically involves a simple blood test. Texas Oncology's Hereditary Cancer Risk Assessment Program provides an in-depth assessment and options for next steps for individuals found to be at higher risk.

**“Genetic testing is a critical advancement helping patients understand their inherited risk of developing cancer and make informed decisions.”**

**– John Sandbach, M.D.**

**Medical Oncologist, Texas Oncology–Austin Central**

Texas Oncology recently completed a study focusing on two breast cancer genes, BRCA1 and BRCA2. The research revealed that a substantial percentage of women with “triple negative” breast cancer have the BRCA mutations. This research contributed data to support a recommendation by the National Comprehensive Cancer Network to revise its guidelines to expand genetic testing up to age 60 for women with triple negative breast cancer. The new guidelines also recommend that people with multiple family members with pancreatic cancer should be tested. Recent studies show that men with the BRCA gene mutation, in particular BRCA2, have an increased risk of prostate cancer.

As new discoveries like these are made, the benefits of genetic testing will expand to help even more patients prevent cancer.

## Advances in Radiation Therapy

Radiation therapy is one of the most sophisticated and rapidly advancing aspects of cancer care. Today's radiation therapies deliver more powerful treatments with greater accuracy and precision.

**“Advancements in radiation therapy have made treatments safer and more precise than ever before.”**

**– Scott Cheek, M.D.**

**Radiation Oncologist, Texas Oncology–Baylor Charles A. Sammons Cancer Center**

For example, for head and neck cancer patients, the targeted approach of intensity modulated radiation therapy (IMRT) has improved effectiveness of chemotherapy by reducing dry mouth, a common side effect for those patients. The addition of image guided radiation therapy (IGRT) enables treatments to be more precisely targeted, reducing the risk to healthy tissue nearby. Proton therapy, which provides even greater targeting for certain hard-to-treat cancers, is another advanced radiation technology that will soon be added to the Texas Oncology arsenal through a new facility under way to be located in North Texas.

Through its affiliation with the US Oncology Research Network and the Radiation Therapy Oncology Group®, Texas Oncology patients have the opportunity to participate in the most innovative radiation clinical trials, such as exploring the use of radiation therapy in new tumor sites or ways to reduce side effects resulting from the combination of radiation with other treatments such as chemotherapy or immunotherapy.



As new research is explored, new standards of treatment are discovered and adopted. Read more about the advances in our radiation therapy newsletter, [www.TexasOncology.com/newsletter](http://www.TexasOncology.com/newsletter).