



American  
Institute for  
Cancer  
Research®

# AICR

the newsletter

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**LOOK INSIDE ▶ FOR YOUR FREE BROCHURES**



From Marilyn Gentry

As cancer research continues to evolve, AICR remains at the forefront. We fund cutting-edge research and explore new prevention and treatment options. Read how your support is helping fund AICR Grantee Dr. Erik Nelson's research (page 8).

In this newsletter, you will also learn more about targeted cancer therapies and how these precise techniques help fight cancer (page 3). Plus, we explore the future use for plants in cancer treatment and prevention (page 7).

If you want to be more active but have a difficult time with long workouts, you will love the idea of "movement snacks" (pages 4 and 5). A movement snack is an exercise that lasts 30-seconds to several minutes. Add a few movement snacks to your day to break up long periods of sitting.

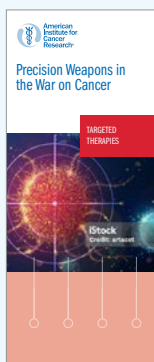
I hope you enjoy this newsletter and continue to support AICR on its mission to fund research that examines cancer prevention and survivorship.



# FREE Publications from AICR

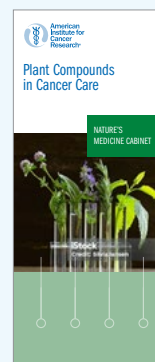
## TARGETED THERAPIES: PRECISION WEAPONS IN THE WAR ON CANCER

► This brochure explains the latest advancements in targeted therapy drugs in cancer treatment.



## NATURE'S MEDICINE CABINET: PLANT COMPOUNDS IN CANCER CARE

► This brochure looks at plant compounds that are being used for cancer prevention and treatment.



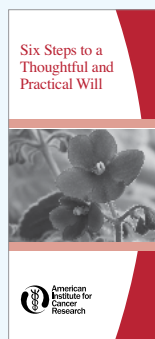
## THE FACTS ABOUT PHYSICAL ACTIVITY AND YOUR CANCER RISK

► This brochure describes how scientific evidence links being more physically active with lower cancer risk.



## SIX STEPS TO A THOUGHTFUL AND PRACTICAL WILL

► With this brochure, you can find out how to create a properly executed will.



### Limited Quantities—ORDER TODAY!

These free materials help you put AICR's science-based advice to work every day in making healthier choices. Your support makes AICR's life-saving research and education possible, so any gift will be greatly appreciated.

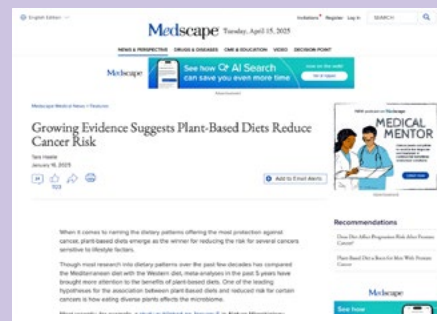
1. Fill out the enclosed Free Information Request card.
2. Return it in the envelope provided to: AICR, PO Box 97167, Washington, DC 20090-7167

## AICR IN THE NEWS

### PLANT-BASED DIETS REDUCE CANCER RISK

Nigel Brockton, PhD, vice president of research at AICR, spoke with journalist Tata Haelle at Medscape. Dr. Brockton shared his expertise for a comprehensive article about the benefits of plant-based diets for cancer prevention.

The article recommends following AICR's New American Plate, which is an example of a plant-based diet. You can read the full article here: <https://rb.gy/gwpa27>.



# Targeted Therapies: Precision Weapons in the War on Cancer

**Learn how targeted therapies specifically attack cancer cells, rather than attacking all cells.**

In the ongoing fight against cancer, researchers have developed a new class of weapons: targeted therapies. These innovative treatments are designed to strike at the heart of cancer cells while leaving healthy cells unharmed. These approaches are revolutionizing cancer treatment as we know it.

## What Are Targeted Therapies?

Targeted therapies are drugs that interfere with specific molecules involved in tumor growth and progression. Traditional chemotherapy can damage both cancerous and healthy cells. These new drugs are made to go after cancer-specific targets. This precision approach leads to improved results and fewer side effects for patients.

Recent studies show how effective targeted therapies can be. For instance, a targeted treatment regimen helps some people with aggressive B-cell lymphoma achieve full remission. The treatment was tested in 50 patients. The treatment shrank tumors substantially in 54 percent of patients. Amazingly, 38 percent of patients had their tumors disappear entirely.

In breast cancer, targeted therapies have led to significant improvements in survival rates for patients with HER2-positive tumors. There is immense interest in the future of targeted therapy for breast cancer, as evidenced by almost 2000 clinical trials for HER2+ breast cancer currently listed on ClinicalTrials.gov.

## Here are some benefits of targeted therapies:

- **Improved quality of life:** With fewer side effects than traditional chemotherapy, patients may experience less disruption to their daily lives.
- **Extended survival:** Some targeted therapies have shown the ability to prolong life in patients with advanced cancers.
- **Impeded drug resistance:** Targeted therapies may help combat the development of resistance to treatment by attacking cancer cells through multiple pathways.
- **Personalized treatment:** These therapies can be tailored to a patient's specific cancer profile, which may lead to more effective outcomes.

## Research Is Ongoing

While targeted therapies show great promise, it's important to note that research is ongoing. Scientists are working to identify new targets, improve existing therapies and understand why some patients respond better than others.

At AICR, we're committed to exploring innovative approaches to cancer care. We've prepared a special publication, *Targeted Therapies: Precision Weapons in the War on Cancer*. It explores the science behind targeted therapies and outlines how these treatments may change the landscape of cancer treatment.



**YOU CAN RECEIVE A FREE COPY OF TARGETED THERAPIES: PRECISION WEAPONS IN THE WAR ON CANCER BY CHECKING THE BOX ON THE ENCLOSED FREE INFORMATION REQUEST CARD AND RETURNING IT TODAY.**



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Office of Charities Registration, Albany, NY 12231. MICS 9632. Pennsylvania residents may obtain a copy of the official registration and financial information from the Pennsylvania Department of State by calling 1-800-732-0999. AICR maintains its own mailing list.

Occasionally we rent this list or exchange lists with other organizations in order to maintain an active donor file to support AICR's services. If you do not wish to participate in this program, please let us know.

**Director:** Marilyn Gentry  
**Editor:** Cara Rosenbloom, RD  
**Contributors:** Nigel Brockton, PhD; Cara Rosenbloom, RD; Sami Mansfield, ACSM-CET; Erik Nelson, PhD  
**Designer:** Jennifer Paul Design  
**Editorial Review Committee:** Elisa V. Bandera, MD, PhD, Rutgers Cancer Institute of New Jersey; Karen Collins, MS, RDN, CDN, FAND, Nutrition Consultant; AICR staff

For article sources, call or write AICR headquarters.



# Sit Less, Move More

*Movement snacks are a smart way to reduce sedentary time and improve your health.*

Most healthy lifestyle advice encourages people to exercise more. However, the impact of prolonged sitting on our overall health can be easily overlooked. Even if you exercise, spending long hours seated can still harm your health.

For cancer survivors, less sedentary time helps enhance energy, physical function and overall well-being. The best part? You don't need intense workouts to experience benefits. Short, easy "movement snacks" are a fantastic way to help lower disease risk and improve overall health.

A movement snack is a short, planned exercise that lasts 30-seconds to several minutes. It helps activate your muscles, move your joints or get your heart pumping.

## Why Sitting Less Matters

Sedentary behavior, which means prolonged sitting or lying down with little physical activity, has become a modern epidemic. The average adult sits for over nine hours per day. Activities like watching TV, working on a computer or reading a book are examples of sedentary behavior.

Research shows higher physical activity levels are linked to better quality of life, while prolonged sitting is associated with poorer outcomes. This is especially the case for people with multiple chronic conditions.

Sitting too much is linked to an increased risk for developing heart disease, type 2 diabetes and some cancers.

## Four Movement Snacks to Reduce Inactivity

New to exercise? Start by incorporating small movements into your day. Try any of these four movements, or try the options illustrated on the infographic (page 5).



1. **March in Place:** Turn your TV time into active time. During commercials or every 30 minutes, march in place for 1-2 minutes. You can do this seated or standing. Lift your knees as high as comfortably possible and swing your arms to get your blood flowing.
2. **Step It Up:** Use a sturdy step or a flight of stairs and step one leg up, then back down, alternating legs for 1-2 minutes. Or try climbing full flights of stairs at your own pace. For added safety, make sure to have a railing or wall nearby for support.
3. **Ankle Alphabet:** This simple exercise helps loosen up stiff ankles and feet while reducing fluid buildup. While sitting or lying down, point your toes and imagine drawing each letter of the alphabet in the air. Use big, flowing motions for maximum effect. Once you've finished one foot, switch to the other.
4. **Countertop Push-Ups:** This exercise works your upper body and core. Place your arms slightly wider than shoulder width, step one or both feet back, and lower the middle of your chest to the counter as close to touching as possible. Keep your body in a straight line and press away from the countertop. Do this while waiting for your coffee to brew or your lunch to heat up.

Sitting less does not mean you must make drastic lifestyle changes. It's about making small, intentional choices that add up over time.

## Sit Less, Move More

### THE POWER OF MOVEMENT SNACKS

Long periods of sitting are not good for your health. Break up the time you spend sitting by adding in movement snacks, which are short bursts of physical activity that last from 30 seconds to five minutes. Movement snacks help get your heart pumping, reduce joint stiffness and boost energy levels.

**Sitting less and moving more are powerful steps in a healthy direction. Start with a few movement snacks that fit into your daily routine. Try any of these:**

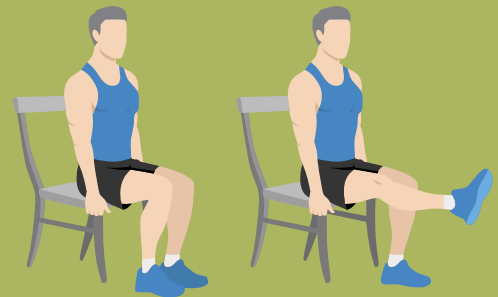
### March in place

Stand up and march in place for a few minutes. Or walk around the room. Try to move your arms too.



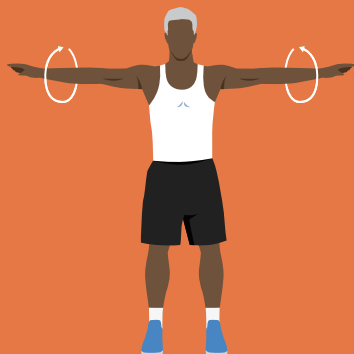
### Seated leg lifts

While seated, straighten one leg at a time. Hold each leg up for a few seconds. Repeat 10–15 times.



### Arm circles

Extend your arms out at your sides. Make small circles forward and backward for a few minutes. Make large circles too.



### Wall push-ups

Place your palms flat against a wall. Bend your elbows and lean toward the wall, then straighten your arms. Return to starting position. Repeat 10–15 times.



## DONOR SPOTLIGHT:

# Honoring Rosa M. Steele

AICR lost one of its longstanding donors when Rosa M. Steele passed away on Sunday, May 17, 2020, at the age of 101. Rosa must have intuitively known that generously supporting AICR during her lifetime would exponentially increase her longevity—as it truly did.

She chose AICR to be the recipient of her philanthropy after her father died from throat cancer. Rosa found AICR's mission to be very exciting. Years earlier, Rosa had realized that her food choices and exercise greatly impacted her overall health. She found it meaningful to assist AICR and fund cancer research that focused on healthy lifestyle choices.

Rosa was truly a trailblazer. She was a proud and happy military wife for 25 years, during and following World War II, and she used that time to achieve her PhD in accounting. At the age of 41, she moved to Albuquerque, NM, where she spent the next 25 years working as one of the pioneering women in the field of computer programming. After her retirement at age 70 and until she celebrated her 100th birthday, Rosa pursued another passion as an amateur champion ballroom dancer.

Rosa's financial acumen led her, at age 79, to fund three charitable gift annuities with AICR. She knew that the AICR annuities would provide her with an income for the rest of her life, while contributing to the charity she most valued.

Rosa relied on the fixed payments that she received from her AICR gift annuities. The additional income from her gift annuities allowed her to travel internationally with her family and with her ballroom dancing friends. Her last cruise was to celebrate her 100th birthday. AICR is very thankful that Rosa M. Steele chose to give generously to us for over 22 years.

## ASK THE FINANCIAL EXPERT...

**Q:** I have been providing modest financial support to my younger brother who is estranged from the rest of my family. I would like to somehow continue that support through my estate, but I do not know how to accomplish that without other family members knowing about it. Is there a way to privately combine a gift to AICR with ongoing support for my brother?

**A:** A will is a public document that can alert others of a bequest to your brother. A living trust, on the other hand, is private, but presumably family members will learn the contents of your trust. One option might be to arrange charitable gift annuities with AICR. You can make the gifts during your lifetime in amounts that fall below the annual exclusion amount (consult your financial advisor). Payment to your brother can start in the year of the gift or can be postponed, to begin at some later date. Nothing would be included in your estate to alert family members of your gifts or the continuing support for your brother.

# Nature's Hidden Treasures

*Learn how plant compounds are paving the way for cancer treatment and prevention.*



Once upon a time, researchers discovered that a compound from willow bark was great for relieving pain. Fast forward, and now aspirin is a household word. The active ingredient in aspirin is salicylic acid, a compound that was originally isolated from willow bark.

Similarly, researchers discovered the Pacific yew tree has the potential to treat cancer and developed paclitaxel (Taxol) as a result. Taxol kills cancer cells and is used to treat breast, ovarian and non-small cell lung cancer.

Researchers continue to explore plant compounds for their potential medicinal uses, especially in cancer treatment and prevention. Let's explore some plants that show promise.

## The Power of Plants

Plants contain many bioactive components that are noted for their potential anti-cancer activities. These common plants are used as culinary ingredients, supplements or medications due to their high antioxidant content or other potential therapeutic effects.

*Note:* For education only. Some plant components can interact with medications including chemotherapy agents. Work with your healthcare team to make decisions about your personal medical needs.

**Curcumin from turmeric:** This deep yellow spice can be used in curry recipes or to make turmeric tea. Its anti-cancer effects have been studied in breast and lung cancer. Plus, results from early-phase trials show promise for using curcumin to help prevent colorectal, oral and liver cancer. However, the findings from these early trials must be confirmed in larger studies.

**Apigenin from parsley:** More than a garnish, the antioxidants in parsley have shown cytotoxic activities against breast and colon cancer cells. Laboratory studies suggest that apigenin may also help prevent cancer from developing by triggering an internal "cell clean-up" process called autophagy.

**EGCG from green tea:** Epigallocatechin gallate (EGCG) is an antioxidant in green tea. Some studies have shown that green tea intake is associated with a moderate reduction in the risk of developing colorectal, stomach, esophageal and prostate cancers.

**Gingerol from ginger:** Gingerol has been studied for its anti-tumor effect for colorectal, breast, ovarian and pancreatic cancers. It has antioxidant and anti-inflammatory properties and can help reduce nausea associated with chemotherapy.

## The Potential of Natural Products

These examples of beneficial plant compounds show the importance of preserving biodiversity and investing in research of natural products. As we face increasing cancer rates, natural products may hold solutions we've yet to imagine.

Some of these plants are being made into potent medications being used to treat cancer. Others are recommended as ingredients in a healthy cancer-fighting diet. Ongoing research into these and other plants offer hope for new treatment options.

At the American Institute of Cancer Research (AICR), we're committed to exploring innovative approaches to cancer care. We've prepared a special publication, *Nature's Medicine Cabinet: Plant Compounds in Cancer Care*. This publication explores the latest research on promising plant compounds and their potential applications in oncology.



**YOU CAN RECEIVE A FREE COPY OF NATURE'S MEDICINE CABINET: PLANT COMPOUNDS IN CANCER CARE BY CHECKING THE BOX ON THE ENCLOSED FREE INFORMATION REQUEST CARD AND RETURNING IT TODAY.**



# Breast Cancer Research Update

*AICR-funded researcher Dr. Erik Nelson explores how metabolism and the immune system interact to influence cancer progression.*

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Your support helps AICR fund cutting-edge research. One of AICR's 2025 grantees is Dr. Erik R. Nelson, PhD, associate professor of molecular and integrative physiology at the University of Illinois Urbana Champaign. His research looks at how the endocrine system and metabolism influence cancer progression. AICR spoke with Dr. Nelson to learn more about his background and research.

## A Passion Is Born

"I have always been interested in biology and chemistry. If you merge the two fields, you get endocrinology—the study of how your body uses chemicals to communicate and regulate its biology," says Dr. Nelson. He explains that his interest in cancer started in his teens. He had an older relative with recurrent breast cancer. The relative had undergone a radical mastectomy—a surgical approach that is rarely done today. The scarring and disfigurement made him think "surely we could do better." That led to his passion for studying cancer treatment and prevention.

## Cancer and the Immune System

"We are very interested in how the endocrine system and metabolism influence cancer progression, with a focus on how they regulate immune cells," says Dr. Nelson. He explains that your immune system has the capacity to attack and kill cancer. However, tumors have ways to fool your immune system into helping them rather than attacking them.

"We now have a new class of therapies that target or use the immune system to fight cancer, which is very exciting!" says Dr. Nelson. "The problem is that many tumors are resistant or quickly develop resistance. We believe that by fine-tuning them through the endocrine system

and metabolism, we will be able to overcome resistance and fully harness the power of the immune system."

## AICR-Funded Research

Dr. Nelson's team is interested in how cholesterol metabolism (breakdown) influences breast cancer progression. Their early work found that a product of cholesterol breakdown may behave as a hormone (estrogen) and promote the growth of hormone receptor positive breast cancer. Since then, they have focused on how cells regulate cholesterol breakdown and if there are any potential downsides.

The team has found that the immune system has the capacity to find and kill cancer cells, but tumors are really good at suppressing that response. One protein involved in regulating blood cholesterol levels helped relieve the immune suppression, allowing the immune system to kill cancer cells. Dr. Nelson's team is now focused on testing a way to target this cholesterol-regulating protein.

"We know that its activity can be modulated by different chemicals made by our gut microbiome," Dr. Nelson explains, "We are going to test whether using certain bacteria might lead to the activation of this protein thereby increasing anti-cancer immunity."

Using mouse models, they will see if they can inhibit cancer recurrence. Funding from AICR is critical for this work, which is the first step towards developing a novel approach to preventing the recurrence of breast cancer.

Currently, there are no clinical trials showing high cholesterol links to breast cancer recurrence or metastasis. For breast cancer survivors, the latest AICR nutrition and physical activity advice can be found here: [www.aicr.org/cancer-survival/cancer/breast-cancer/](http://www.aicr.org/cancer-survival/cancer/breast-cancer/).