AICR Research Grants 2015 (partial list)

**Women’s Interventional Nutrition Study (WINS)**
*long-term survival analysis*
Rowan Chlebowski, MD, PhD, Harbor-UCLA Medical Center

**Gene-environment interactions among circulating vitamin D levels, vitamin D pathway gene polymorphisms, BMI and esophageal adenocarcinoma prognosis**
David Christiani, MD, PhD, Harvard University

**Targeted disruption of cancer cell metabolism and growth through modification of diet quality**
Barbara Gower, PhD, The University of Alabama at Birmingham

**A mail- and video-based weight loss trial in breast cancer survivors**
Melinda L. Irwin, PhD, MPH, Yale University

**Effects of fish oil on lipid metabolites in breast cancer**
Greg Kucera, PhD, Wake Forest University Health Sciences

**Impact of physical activity on tumor gene expression in women with newly diagnosed breast cancer**
Jennifer Ligibel, MD, Dana-Farber Cancer Institute

**Impact of resistance training and protein supplementation on lean muscle mass among childhood cancer survivors**
Kirsten Ness, PhD, St. Jude Children’s Research Hospital

**Pilot study of a metabolic nutritional therapy for the management of primary brain tumors**
Kenneth Schwartz, MD, Michigan State University

**Diet composition and weight loss: effect on long term prognosis in breast cancer survivors**
Henry Thompson, PhD, Colorado State University

**Diet and insulin resistance in survivors of childhood leukemia**
Emily Tonorezos, MD, Sloan-Kettering Institute for Cancer Research

**Sugar sweetened beverages, fructose and sucrose, genetic susceptibility, molecular subtypes and colorectal cancer survival**
Kana Wu, MD, MPH, PhD, Harvard University School of Public Health
Recovering with Physical Activity

For years, cancer survivors were advised to just rest for recovery. But growing evidence strongly suggests that incorporating regular physical activity into a cancer recovery plan can benefit many cancer survivors.

WHAT DO WE MEAN BY REGULAR PHYSICAL ACTIVITY?

“Physical activity” is any movement using skeletal muscles. Light physical activity includes standing, walking around an office or home and shopping. Recreation time may involve moderate physical activity like a brisk walk or vigorous physical activity, such as running. “Exercise” and other forms of physical training are types of recreational physical activity.

Being active for at least 30 minutes a day, along with avoiding inactivity, is one of AICR’s recommendations.

“Active” can mean doing housework or yard work—things that keep you moving throughout your day. It’s also important to set aside time for daily exercise, such as walking, jogging, biking, hiking, swimming, weight training or other movement.

It can seem like a big challenge to begin moving more after cancer treatment and beyond. But if you start with light physical activity broken into a few short sessions (10 or 15 minutes) each day, you are more likely to improve your health than if you stay inactive.

Cancer and Physical Activity: What’s the Link?

Although physical activity has not been studied for every type of cancer, a growing number of studies have observed and measured the impact of physical activity on cancer recurrence and mortality among survivors.

To date, research has primarily focused on survivors of breast and colorectal cancers, but other studies are investigating physical activity and prostate, ovarian and other cancers.

Evidence shows some encouraging results that physical activity may improve the odds of surviving these and other cancers, although more research is needed.
Study results are conclusive that physical activity helps to prevent heart disease, type 2 diabetes and bone weakening (osteoporosis) in the general population. Since cancer survivors are even more prone to these diseases, scientists believe that cancer survivors should be encouraged to adopt a physically active lifestyle—cautiously.

Some precautions may include:

- delaying activity if you’re anemic or have neuropathy;
- avoiding public gyms and pools if your immune system is weak;
- not swimming in chlorinated pools, which may irritate irradiated skin; and
- avoiding risk of falling, especially for people who have weakened bones. (Seated exercise, such as pedaling a stationary bike, could be a safer alternative to standing activities, such as using a treadmill.)

Patients who are already physically active and are receiving chemotherapy and radiation therapy may need to do so at a lower intensity and/or shorter duration than they did before their diagnosis. If a person was inactive (“sedentary”) before the cancer diagnosis, light intensity activities (like walking short distances) should be adopted and gradually increased.

Experts advise that it’s best to be as physically active as possible during treatment and to increase your physical activity after completing your treatment.

What the Science Says So Far

AICR’s expert report and Continuous Update Project determined that physical activity seems to protect against cancer both directly and indirectly.

Physical activity reduces risk of weight gain when combined with a sensible diet. (Visit www.aicr.org/new-american-plate/ for more information about eating a healthy diet.)

A healthy weight is important because carrying excess fat is itself a risk factor for the following cancers: post-menopausal breast, colorectal, esophageal, endometrial, gallbladder, kidney, liver and pancreatic.

Other benefits of physical activity include:

- strengthened muscles, which in turn help strengthen your bones and improve your balance;
- increased flexibility and range of motion;
- increased endurance;
- decreased risk of heart disease, diabetes and falls; and
- reduced stress and anxiety.

Getting regular physical activity on most days of the week can help you have a better quality of life. It also can provide support from peers and instructors when you take physical activity classes.
Physical Activity and Treatment Side Effects

Early studies show that breast cancer survivors who begin carefully supervised physical activity programs feel less fatigued. Fortunately, exercise does not seem to increase lymphedema (swelling that occurs due to lymph node removal or radiation), according to several studies.

During therapy, you may not feel like being active because of fatigue and other side effects like nausea and pain. But gradually becoming physically active can improve your stamina and mood.

If you don’t already exercise regularly, start slowly with 10 minutes of walking daily and gradually increase to at least 30 minutes a day of moderately paced walking or other exercise. Moderate-intensity exercise means that your breathing rate has increased but you can still carry on a conversation.

The good news is: it’s never too late to begin incorporating more exercise and general physical activity into your daily routine. Doing something is better than doing nothing.

Avoiding Inactivity

The U.S. Department of Health and Human Services’ Physical Activity Guidelines for Americans say that inactivity can increase your risk of developing numerous health conditions—including cancer, diabetes, heart disease and high blood pressure.

What’s more, AICR’s expert report concluded that sedentary lifestyles can cause weight gain and obesity, which can increase a person’s risk of cancer. That’s why AICR recommends that everyone—including survivors—should be moderately physically active for at least 30 minutes every day.
How To Begin Doing Physical Activity

1) Check your physical activity plan with an oncology professional or care team.

2) Make sure you have exercise shoes that are comfortable, have arch support and fit you well.

3) Start very slowly. A few minutes of walking or riding a stationary bike each day are good ways to get started.

4) Take short walks in a safe, low-stress environment.

5) If you need encouragement, find a class with a certified fitness instructor, personal trainer or physical therapist.

Certified fitness professionals or cancer exercise specialists are trained to have proper techniques and are familiar with exercises that help different parts of the body. They can help you customize activities to your needs. They are also trained in first aid. If your insurance does not cover a certified fitness professional or physical therapist, call the local hospital, YMCA or county recreation department to find a class that is gentle or welcomes exercisers of all abilities.

6) Start where you are individually, even if it is light exercise. For example, start arm strengthening by lifting half-pound weights three times a week for the first week or two, and then move up to one-pound weights, then 1½ pounds and more over time. Rent, borrow or buy a reputable exercise video of strengthening exercises for beginners.

7) As you get stronger, think about adding different types of physical activity. Doing some activity is better than doing nothing.

Your weekly menu of exercise can be aerobic activity that slightly increases your heart rate and strength (“resistance”) training for your muscles. Warm up before you exercise with easy movements for your legs, arms, neck, waist and hips for 5 minutes; then cool down and do a few slow static stretches for each muscle group after exercising. Plenty of instructional DVDs and online programs exist for warming up, doing easy aerobic moves, strengthening and stretching (see pages 11-12).

Think “F.I.T.T.”
Using these four letters, you can remember the key components of a physical activity program: frequency, intensity, time and type.

| F | Frequency refers to how often you are physically active and is usually measured in days per week. |
| I | Intensity describes how hard your body is working during physical activity and often is described as light, moderate or vigorous. |
| T | Time measures how long you spend being physically active during your daily routine. |
| T | Type describes what kind of activity you choose, such as walking, gardening, biking, hiking, weight training, household chores or playing golf. |
What about Yoga or Tai Chi?

Slow yoga stretches and tai chi’s slow balancing movements are being studied for their potential to benefit cancer survivors. Although these preliminary results are promising, the evidence of health benefits has mostly been seen in studies of aerobic exercise (like walking, swimming, cycling and rowing). If you are considering yoga or tai chi, check the background of the instructor to find one who is certified to work with cancer survivors.

Where to Find Help

To find a trainer certified in cancer exercise, contact:

- **The American College of Sports Medicine**
  www.acsm.org
  1. In the top menu bar, select “Find a Pro” and click the text link;
  2. Under Certification/Registry Level, choose “ACSM/ACS Certified Cancer Exercise Trainer,” then type in the other information requested.

  P.O. Box 1440
  Indianapolis, IN 46206-1440
  Telephone: 317-637-9200 Monday-Friday, 8 a.m.-4:30 p.m. Eastern Time

To find a rehabilitation center or program run by a health professional who has training in treating lymphedema patients, visit:

- **National Lymphedema Network**
  www.lymphnet.org
  116 New Montgomery Street, Suite 235
  San Francisco, CA 94105
  1-800-541-3259
  locally: 415-908-3681

- **University of Pennsylvania**
  www.penncancer.org/physical-activity-and-lymphedema

- **American Physical Therapy Association**
  www.moveforwardpt.com
  1111 North Fairfax Street
  Alexandria, VA 22314-1488
  1-800-999-2782
For general information, contact:

- **America On the Move**
  www.americaonthemove.org

An organization founded by physical activity professionals to help people become active through regular emails with eating and physical activity tips, tools and resources, plus a blog.

- **Growing Stronger: Strength Training for Older Adults**
  http://growingstronger.nutrition.tufts.edu/

Developed by Tufts University and the Centers for Disease Control and Prevention, this website provides an exercise program focusing on older adults.

- **The Walking Site: 10,000 Steps a Day**
  www.thewalkingsite.com

Tells how to use a pedometer and calculate your steps.

- **National Institute on Aging, National Institutes of Health “Go4Life®” program**
  go4life.nia.nih.gov
  1-800-222-2225

This site features easy warm-up, strengthening, stretching and other exercises plus tips for safe and effective physical activity. A free print publication, *Exercise & Physical Activity: Your Everyday Guide*, from the National Institute on Aging is also available.

Contact your cancer center, yoga centers with certified instructors, tai chi centers, YMCA or county department of recreation to find classes for cancer survivors.

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**NEED MORE HELP?**

For more information about diet, weight management and cancer prevention, contact:

- **American Institute for Cancer Research**
  1759 R Street, NW
  Washington, DC 20009
  1-800-843-8114 or 202-328-7744
  www.aicr.org

Call the Nutrition Hotline toll-free at 1-800-843-8114. Leave a message for a registered dietitian (who will return your call), Monday-Friday, 9 a.m.-5 p.m. Eastern Time. Or visit the Nutrition Hotline online at www.aicr.org.

Request additional brochures (up to 3 individual copies free):
- *Nutrition and the Cancer Survivor*
- *The New American Plate*
- *More Food, Fewer Calories*
- *The Cancer Fighters in Your Food*

**Food for the Fight DVD**

This two-part DVD for cancer survivors features experts and practical strategies to help patients through diagnosis, treatment and living for good health after cancer. It features advice from experts, plus cooking demonstrations and testimonials from patients and survivors.

*Part I: During Treatment* (Running Time 32:14)
*Part II: After Treatment* (Running Time 24:55)
$9.95 includes shipping.

**A Dietitian’s Cancer Story: Information and Inspiration for Recovery and Healing from a 3-Time Cancer Survivor**

Diana Dyer, MS, RD
www.CancerRD.com

This book offers practical, carefully researched nutrition advice and guidelines for evaluating complementary and alternative therapies. Proceeds go to The Diana Dyer Cancer Survivors’
Nutrition and Cancer Research Endowment, which Dyer established at AICR to raise money for research studies relevant to survivor issues.

Each book costs $12.25 plus $4.00 for shipping.

To order, call AICR at 1-800-843-8114 or mail a check payable to AICR. When ordering by mail, write to Attn: DCS book.

**Facing Forward: A Guide for Cancer Survivors**

National Institutes of Health
National Cancer Institute
1-800-4-CANCER (1-800-422-6237)

This booklet gives a concise overview of some of the most important survivor issues and practical ideas to help cancer survivors look ahead. If you are just finishing cancer treatment, the information may prepare you for situations you have not yet experienced. Call for a free copy.

**ABOUT AICR**

**OUR VISION:** We want to live in a world where no one develops a preventable cancer.

**OUR MISSION:** We champion the latest and most authoritative scientific research from around the world on cancer prevention and survival through diet, weight and physical activity, so that we can help people make informed lifestyle choices to reduce their cancer risk.

We have contributed over $105 million for innovative research conducted at universities, hospitals and research centers across the country. Find evidence-based tools and information for lowering cancer risk, including AICR’s Recommendations for Cancer Prevention, at www.aicr.org.

**ABOUT THE CONTINUOUS UPDATE PROJECT**

As the U.S. charity in the World Cancer Research Fund network, we contribute to the Continuous Update Project (CUP), an ongoing analysis of global scientific research into the link between diet, physical activity, weight and cancer.

The CUP produces periodic reports on the state of the evidence linking various lifestyle factors to risk of specific cancers. These reports will inform a major update of our Recommendations for Cancer Prevention scheduled for 2017.
AICR Recommendations for Cancer Prevention

1. Be as lean as possible without becoming underweight.
2. Be physically active for at least 30 minutes every day. Limit sedentary habits, like watching television.
3. Avoid sugary drinks. Limit consumption of energy-dense foods (particularly processed foods high in added sugar, or low in fiber, or high in fat).
4. Eat more of a variety of vegetables, fruits, whole grains and legumes such as beans.
5. Limit consumption of red meats (such as beef, pork and lamb) and avoid processed meats.
6. If consumed at all, limit alcoholic drinks to two for men and one for women a day.
7. Limit consumption of salty foods and foods processed with salt (sodium).
8. Don’t use supplements to protect against cancer.

Special Population Recommendations

9. It is best for mothers to breastfeed exclusively for up to six months and then add other liquids and foods.
10. After treatment, cancer survivors should follow the recommendations for cancer prevention.

And always remember—do not smoke or chew tobacco.

HOW YOU CAN HELP

You can support AICR’s life-saving research and education efforts in a variety of ways:

- make a donation online at www.aicr.org;
- write to AICR, 1759 R Street, NW, P.O. Box 97167, Washington, DC 20090-7167; or
- include a bequest in your will.

For more information, contact our Gift Planning Department at 1-800-843-8114.

Editorial Review Committee

Elisa V. Bandera, MD, PhD, The Cancer Institute of New Jersey; Karen Collins, MS, RDN, CDN, Nutrition Consultant; John W. Erdman, Jr., PhD, University of Illinois; Catherine Jankowski, PhD, University of Colorado-Anschutz; Lee Jones, PhD, Memorial Sloan Kettering Cancer Center; Shannon L. Mihalko, PhD, Wake Forest University; AICR executive staff.

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