

Exploring exercise benefits for breast cancer patients

August 28 2012

Researchers in Edmonton and Calgary want to recruit 1,500 breast cancer patients over the next decade to find out how exercise and fitness affects cancer survival and recovery.

The Alberta Moving Beyond Breast Cancer, or AMBER, study will see a multidisciplinary team of researchers from the University of Alberta, Alberta Health Services, University of Calgary and Athabasca University spend the next 10 to 15 years investigating how [breast cancer patients](#) might benefit from exercise and physical fitness.

"This is the first study of a group of [breast cancer survivors](#) that's focused specifically on [physical activity](#) and fitness—how much exercise, the type of exercise, the pattern of exercise—that might be linked to risk of recurrence and survival," said team co-leader Kerry Courneya, Canada Research Chair in Physical Activity and Cancer in the Faculty of Physical Education and Recreation.

"That will give us much better clues on the optimal exercise prescription for fighting breast cancer."

Though previous research has shown that physical activity improves a breast cancer patient's chances of survival, Courneya notes that such studies have relied on self-reported data, which is not always reliable. The AMBER study will include objective measures of health-related fitness and physical activity.

Courneya will lead efforts in Edmonton, where his team will recruit newly diagnosed breast [cancer patients](#) and assess their physical fitness, activity levels and [body composition](#), in addition to blood and lymphedema tests. Testing will be done soon after surgery and again after one year and three years.

A similar group of patients will be assessed in Calgary by a team led by Christine Friedenreich, team co-leader, senior research scientist at Alberta Health Services, and adjunct professor and Alberta Cancer Foundation Weekend to End Women's Cancers Breast Cancer Chair at the University of Calgary.

Patients will wear accelerometers to measure their physical activity, with researchers looking at whether workout intensity, duration and even sedentary behaviour influence survival and recurrence, Friedenreich said.

"Right now, we don't know how much exercise or what type or what pattern might be linked to disease recurrence and survival," she said.

Researchers will also look at cancer treatment completion rates, such as whether fit patients are better able to tolerate the toxic side-effects of chemotherapy and hormone therapy treatments, and at biomarkers such as immune function and insulin levels that might explain how physical activity is related to survival after breast cancer.

They will also examine quality-of-life factors like depression, anxiety and fatigue, and assess what factors influence survivors to [exercise](#), such as treatments, symptoms and age.

Carol Graham, 60, had a mastectomy after discovering a lump in her breast last February and is now receiving chemotherapy. The retired cook from Minburn, Alta., volunteered to join the AMBER study partly

as a motivational tool to become more physically active.

"I need to improve my cardiovascular fitness," recognized Graham, noting a body scan of her muscle, bone and fat composition revealed "a number that was not too good."

But more important, she views her participation in AMBER in the same light as courageous women who volunteered for clinical trials that ultimately improved the care and treatment of breast cancer.

"People who went before me volunteered so I could have anti-nausea medication for chemotherapy, so I could have medications to fight infections. That happened because someone was willing to try," she said. "The more we know about fitness and cancer, the more handles we get on it, I want to be part of that."

Recruiting patients will take five years, and following the entire group through treatment and beyond will take 10 to 15 years, Courneya said.

"It's a long-term study but we will have a very comprehensive database that we will use to investigate many questions related to physical activity, fitness and [breast cancer](#) survivorship."

Provided by University of Alberta

Citation: Exploring exercise benefits for breast cancer patients (2012, August 28) retrieved 19 April 2024 from

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