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Swollen limbs get a lift from exercise

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ONLY in her late 30s and with four children, Jan Skorich was diagnosed with aggressive breast cancer and was hit with every possible treatment to save her life.

"I was given a pretty bad diagnosis. I was told I wouldn't last for five years."

After radical surgery, radiation and then more radiation, Skorich survived. It was only after she had minor skin cancers removed from her arm eight years later that her arm swelled dramatically.

Skorich had suddenly developed lymphoedema, which commonly occurs after cancer surgery and radiotherapy and the subsequent damage to the lymphatic system, which circulates tissue fluids through the body. For about one-third of cancer survivors, lymphoedema is the permanent legacy of cancer.

"Depending on how you feel about appearance, it's ugly and lots of us try to hide it," says Skorich, now 60. Her treatment included laser therapy, lymph massage and wearing a specialised lymphoedema sleeve.

"I don't wear it consistently as it is so uncomfortable and so noticeable. I guess, like everyone, I want an instant cure, which is not going to happen."

Fortunately, new lymphoedema treatments are being trialled for a condition that affects roughly 30 per cent of cancer survivors, equating to about 8000 people a year, according to Sandi Hayes, an expert in public health and exercise from the Queensland University of Technology.

Rates can be as high as 60 per cent for people with cancers such as melanoma, or ovarian and prostate cancers, who develop lymphoedema in the lower body, which can remain untreated for longer than in the upper body, leading to a chronic condition that is difficult to manage.

"It's a condition that can be quite isolating because it's often difficult to find the right diagnosis, the right care and access to treatment," Australasian Lymphology Association president Penny Sanderson says.

The lower rate among breast cancer patients is mostly thanks to the increased practice of sentinel node biopsy rather than the more invasive surgical procedure of axillary dissection. As well, breast cancer is now managed in teams that often include lymphoedema therapists, says the Australasian Lymphology Association's medical adviser Helen Mackie.

"There's a recognition that this is a problem that needs to be dealt with rather than just ignored," Mackie says, adding there's a push towards research into early detection of lymphoedema.

"One of the big problems for management of lymphoedema is the diagnosis of it. When do we start saying people have lymphoedema? For a lot of people it's when you can visually see lymphoedema, but that's a very late situation for treatment."

Measuring the circumference of a limb to track lymphoedema can detect telltale changes in weight or muscle mass through time. Techniques such as bioimpedance spectroscopy give a more accurate measure of excessive fluid in the limb. They're used as the main form of measurement in clinical trials and are beginning to be used more widely in clinics.

At the Flinders Medical Centre Lymphoedema Assessment Clinic in Adelaide, researchers have trialled the electrical stimulation of lymph tissue, hoping to reduce swelling. Their study, published last year in the *Journal of Lymphoedema*, was the first to investigate such stimulation in patients with leg lymphoedema.

"The lymphatics in our bodies right now are pulsating about six times per minute," says Neil Piller, director of the Lymphoedema Assessment Clinic and professor of lymphology in the department of surgery at Flinders University's school of medicine. "If you hit them with a little bit of an external electrical current, you can make them pulsate quicker so they pump better."

The three-month, double-blind placebo-controlled trial involved patients with longstanding lymphoedema of varying severities. Participants had four weeks of self-maintenance, during which they were given daily advice on skin care, exercise and self-massage techniques.

The active and placebo groups then received daily treatment with a machine that uses a mild electrical current to stimulate the smooth muscles of the lymph vessels. There was no electrical stimulation of the muscles in the control group. After the treatment they wore compression garments.

Surprisingly, during the self-maintenance phase the patients' lymphoedema worsened, suggesting the present best practice of self-management worsens symptoms. But during the next stage, symptoms improved for both groups and in some instances the placebo group's outcomes were as good as those of the active group, suggesting simply using compression garments helped.

The Flinders team is also comparing manual lymphatic drainage with massage by a machine. They find the machines are more efficient and faster, but patients prefer the human contact.

"They can discuss things and there's something nice about the touch, especially for older people who don't get touched any more," Piller says.

Other research shows simple things can make a difference, such as diet, keeping the limb elevated and keeping compression garments on until in bed. A poorly fitting bra can worsen lymphoedema of the breast.

"There's all sorts of fancy and highfalutin treatments and it all works, but maybe it's also time to come back to the basics and concentrate on things like exercise, activity and breathing, and add these to the more fancy treatment regimes to get better results from both," Piller says.

Experts agree there's one thing that will improve the health of people with lymphoedema: exercise. There's overwhelming evidence exercise has huge benefits post-cancer, including reducing fatigue levels, improving mood and reducing stress and anxiety, QUT's Hayes says.

Traditionally, people with lymphoedema of the arm have been advised to avoid vigorous or repetitive upper-body exercise. But this advice is "not really based on any evidence", says Prue Cormie, a postdoctoral research fellow at Edith Cowan University's Health and Wellness Institute.

Studies in the past few years on the effect of upper-body exercises on lymphoedema show that, contrary to conventional wisdom, upper-body strength training doesn't make lymphoedema worse or raise the risk of developing it after breast cancer surgery.

Helen Zorbas, chief executive of the National Breast and Ovarian Cancer Centre and Cancer Australia, says: "Patients should be encouraged to resume normal activity after surgery and not restrict movement of their limb or body part".

A study last month in the *Journal of the American Medical Association* examined the safety of weight-lifting exercises for those at risk of lymphoedema. The randomised controlled trial involved 134 breast-cancer survivors at risk of lymphoedema and found women who did supervised weight training were less likely to suffer significant increases in arm swelling after one year than women in the control group.

Now University of Canberra and Edith Cowan University researchers will test whether weight training can maintain lymph function and minimise lymphoedema in women who've had breast cancer. Past studies looked at low-intensity exercise, but this will compare high-intensity with low-intensity exercise.

Participants will be divided into three groups: one will do high-volume, low-intensity resistance training, another will do low-volume, high-intensity training, while the control group will continue their usual treatment.

University of Canberra exercise physiologist Kate Pumpa says they should have results by June, paving the way for the development of clear guidelines regarding exercise and lymphoedema.

When Skorich's lymphoedema developed, contrary to advice to avoid heavy lifting, she joined a rowing club for breast cancer survivors after seeing a photo of women rowing at a 1999 cancer conference. "There were a few of us around who said, 'That's what we want to do'," she recalls.

They formed Dragons Abreast in Darwin, and today the floating support group runs in cities and towns across Australia.

During the years from Skorich's diagnosis until she began rowing, her lymphoedema gradually worsened. "[But] my lymphoedema hasn't become worse since starting dragonboating 11 years ago," she says.

"I'm lucky to be here after all these years, and lymphoedema is just one side effect. I certainly don't let it rule my life."

To find an accredited lymphoedema practitioner in Australia, search the National Lymphoedema Practitioners Register at www.nlpr.asn.au. March is Lymphoedema Awareness Month.