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# Arms in Motion

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The body's lymph system maintains fluid balance, filters out waste and protects the body from bacteria. When lymph nodes are removed or destroyed, such as during surgery or radiation, it can cause excess lymphatic fluid in the tissues because normal flow of fluid is disrupted.

An increase in lymphatic activity, such as with an injury, infection or overuse, can lead to a backup of this fluid in the tissues, resulting in the affected area becoming swollen, a condition known as lymphedema.

Symptoms of lymphedema may include a full sensation in the limbs, tight-feeling skin, decreased flexibility and persistent swelling. Restricted blood flow from the swelling can gradually starve cells of oxygen, causing the lymph fluid to become a breeding ground for bacteria. If left untreated, lymphedema can lead to permanent tissue damage, scarring and disability. It can develop months or years after surgery.

Before the dragon boat study conducted by Donald McKenzie, MD, PhD, many physicians believed repetitive upper-body exercise could encourage or worsen lymphedema. Dr. McKenzie's study, and others in the past decade, have disproved this assumption; oncologists, rehabilitation specialists and sports therapists are now beginning to recommend upper-body exercise after breast cancer.

Physical therapist Jill Binkley, director of TurningPoint Women's Healthcare in Atlanta, says TurningPoint sponsors a dragon boat paddling team. She says some clients are immediately excited and inspired to get fit, but not everyone is so receptive. "Some are skeptical at first, since they may have been told by well-meaning healthcare providers not to lift anything over five pounds, don't play the piano or do gardening," Binkley says.

In fact, physiologically, exercise that is increased gradually to avoid risk of inflammatory conditions, such as tendonitis, should actually decrease lymphedema, and upper-body exercise has an important role in the recovery of breast cancer because it improves the range of motion and reverses muscle loss. It may also help pump lymph fluid and stimulate the immune system. Recent research has shown that a combination of exercise, manual lymph drainage, compression and protection of the affected area can decrease or manage lymphedema.

Binkley says that after her own diagnosis she was stunned at the lack of support services for women with breast cancer. "Breast cancer survivors often feel they have to live with symptoms, such as pain, fatigue and shoulder and trunk

problems, and are confused by the myths surrounding lymphedema. Dragon boat paddling is a perfect fit for our mission for two reasons—team members participate in a physical fitness activity and receive team support, both of which enhance wellness."