

FIVE THINGS TO KNOW ABOUT ...

Exercise training in patients with paroxysmal, persistent or permanent atrial fibrillation

Jennifer L. Reed PhD MEd CS, David H. Birnie MB ChB MD, Andrew L. Pipe CM MD

Consensus guidelines for exercise training are lacking for persons with paroxysmal, persistent or permanent atrial fibrillation

Atrial fibrillation is the most common sustained cardiac arrhythmia worldwide. The lifetime risk is 26% among people aged 40 years or older.¹ No consensus guidelines comment on the prescription of exercise to address the exercise intolerance, increased weight and associated decline in overall health and well-being that occur in those affected.

Beneficial effects seen with exercise training may be due to improvement in risk factors for cardiovascular disease

In studies of exercise in atrial fibrillation, improvements in cardiovascular risk factors, such as hypertension, obesity and diabetes mellitus, may contribute to the observed benefits. However, many investigations have excluded patients with atrial fibrillation who also have high-risk cardiovascular conditions (e.g., ongoing angina, moderate or severe mitral or aortic stenosis, recent thromboembolic event, recent cardiac surgery or intervention).^{2,3}

CMAJ invites submissions to “Five things to know about ...” Submit manuscripts online at <http://mc.manuscriptcentral.com/cmaj>

Continuous, moderate- to vigorous-intensity exercise training improves cardiovascular and behavioural outcomes in those with atrial fibrillation

Two systematic reviews reported improvements in rate control (lower resting heart and ventricular rates), exercise performance (increased distance in six-minute walk test; increased muscular strength, power and work), ability to carry out activities of daily living and quality of life in response to moderate- to vigorous-intensity exercise training in persons with atrial fibrillation.^{2,3} Benefits of exercise training have been reported during, shortly after and several days after an episode of atrial fibrillation.^{2,3}

Exercise training appears to be safe and well tolerated among those without high-risk cardiovascular conditions

The reported overall adverse event rate associated with exercise among persons with atrial fibrillation is small (i.e., 1 per 302 exercise sessions or 1 per 11 542 exercise minutes³). Adverse events are driven by underlying cardiovascular disease, not atrial fibrillation with adequate rate control. Risk factors for atrial fibrillation (e.g., structural heart disease, hyperthyroidism, diabetes mellitus, sleep apnea and obesity) should be under control and adequately treated.

Box 1: FITT approach to exercise training in atrial fibrillation²⁻⁵

- **Frequency:** ≥ 3 d/wk
- **Intensity:** moderate (heart rate 90–115 beats/min, 64%–76% of peak oxygen consumption)*
- **Time:** ≥ 60 min/session
- **Type:** activities that use large muscle groups (e.g., walking, jogging, rowing, cycling)

*Talk test for moderate-intensity exercise: patients should exercise at an intensity that permits simple conversation. Moderate-intensity exercise confers the most health benefits.

Exercise training for persons with atrial fibrillation should be undertaken in cardiac rehabilitation or other supervised exercise facilities

An exercise program should be designed with the goal of improving fitness and ability to perform activities of daily living (Box 1).²⁻⁵ Those with lower levels of fitness may start with 10- to 15-minute sessions and gradually increase as endurance and fitness levels improve.

For references, please see Appendix 1, available at www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.131778/-/DC1

Competing interests: None declared.

This article has been peer reviewed.

Affiliations: University of Ottawa Heart Institute (Reed, Birnie, Pipe), Ottawa, Ont.

Correspondence to: Jennifer Reed, jreed@ottawaheart.ca

CMAJ 2014. DOI:10.1503/cmaj.131778