



# The Research File

Information for professionals from the Canadian Fitness and Lifestyle Research Institute

## Walking for Older Women

**T**he incidence of heart disease increases dramatically in older women. Decreased estrogen levels after menopause have been linked to a rise in triglycerides, total cholesterol and low-density lipoprotein (LDL), all of which increase the risk of heart disease. In addition, there is no change and sometimes a decrease in high-density lipoprotein (HDL), which protects against heart disease. The weight gain often observed in middle-aged women is also accompanied by increases in total cholesterol and LDL.

With funding from the Canadian Fitness and Lifestyle Research Institute, Dr. Elizabeth Ready and her team from the University of Manitoba examined the potential of a walking program in modifying these risk factors in women past menopause.

### The Walking Study

To be included in the study, subjects were required to have mildly elevated serum cholesterol but could not be on medications to treat high cholesterol. They were at least one year past menopause (average age 61) and not on hormone replacement therapy. They did not smoke, consumed less than 30 mL of alcohol a day, and were sedentary or minimally active.

Participants were assigned at random to either a walking group or a control group. Those in the walking group were asked to walk for 60 minutes a day, five days a week,

for six months, at an intensity of 60% of  $VO_{2max}$ . They attended a session supervised by the investigators twice a week for the first two weeks, and once a week for the remainder of the study. Each participant recorded distance and duration walked as well as average exercise heart rates in a log book every day. Assessments of risk factors were made at the start and at the end of the study.

### Improved Heart Health

The six-month walking intervention reduced total serum cholesterol by 4.5%, which is equivalent to a reduction of approximately 10% in the risk for heart disease. Decreases were also detected in triglycerides, ratio of total cholesterol to HDL, weight, fat mass, and body mass index.

$VO_{2max}$ , a measure of cardiovascular fitness, increased by 11%. Change in fitness level was not related to change in any of the lipid and lipoprotein measures, however, suggesting that it is not fitness but some other adaptation that is responsible for the protective benefit of exercise against heart disease.

Conversely, changes in body fat were related to changes in blood lipids. Walkers lost a small but significant amount of weight and fat mass compared with the control group. Increases in HDL were related to weight loss and to decreases in several skinfolds. A decrease in the ratio of total cholesterol to HDL was also related to loss of weight and fat. These benefits of a walking

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program are therefore related more to the loss of body fat than to the increased fitness level that results from exercise.

The reduction in total cholesterol is an important finding because it demonstrates that an exercise program alone, without alteration in diet, can decrease the risk for heart disease among older women who have mildly elevated cholesterol. A program longer than six months, combined with dietary changes, would likely be even more effective for enhancing heart health. Some research indicates that an increase in HDL occurs in older men and women after 14 months, but not after four and eight months, of aerobic exercise.

A moderate exercise program is thus an effective and inexpensive intervention that can produce beneficial changes in lipoprotein pattern in women beyond menopause.

### For More Info...

Ready, A.E., Drinkwater, D.T., Ducas, J., Fitzpatrick, D.W., Brereton, D.G., & Oades, S.C. (1995). Walking program reduces elevated cholesterol in women postmenopause. *Canadian Journal of Cardiology*, 11 (10), 905-912.

## Walking Tips

- Select comfortable shoes, with good heel and arch support and ample toe room.
- Review your walking technique. You should hit the ground first with your heel, then roll on the ball of your foot all the way to your toes.
- Start slowly. How long would you be willing to walk right now? Five minutes? Ten? Fifteen? Start there and walk that amount every day.
- Add five minutes every week until you can walk at least 30 minutes every day. Health benefits start to really kick in at this level.
- Pace yourself so that you are breathing faster than normal but you are still able to talk.
- Join a group to keep you going. Groups offer the opportunity to socialize and provide structure and incentive to walk regularly.

