



Use It or Lose It:

The Importance of Exercise in the Elderly

Katherine Kilpatrick, MD, CCFP

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The importance of exercise in maintaining and promoting optimal health has become so pronounced and comprehensive, it is frequently referred to as the “perfect pill”. Exercise is equally important to our elderly population. In fact, since chronic disease processes are more common in the elderly, the older population may derive even more benefits from exercise than younger people.

Furthermore, evidence suggests beginning exercise even later in life can provide morbidity and mortality benefits similar to people who have been life-long exercisers.¹

What percentage of older people are already active?

Fifty percent of Canadian seniors over the age of 65 report engaging in “regular physical activity”, with a further 12% reporting “occasional” physical activity.² These numbers are relatively constant across age groups.³ In comparison, Canadians over 60 watch an average of nearly five hours of television/day.²

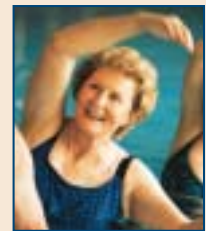
What is the evidence for promoting exercise?

Exercise has been shown to decrease acute and chronic illness through improved body composition, effects on metabolism, and cardiorespiratory fitness. It decreases disability by improving endurance, muscle mass and strength, and flexibility. It also helps prevent and treat other com-

Leila's Presentation

Leila, 76, is overweight (BMI = 28). She has a past history of:

- mild angina, for which she uses nitroglycerin spray once or twice a month,
- osteoarthritis of the hands, hips, and knees, and
- chronic constipation.



Screening bloodwork reveals she has impaired glucose tolerance and hyperlipidemia. Her ECG is normal.

Leila's main activity is playing bridge, as she does not exercise beyond walking from her car to the mall.

What do you suggest for Leila?

For more on Leila, go to page 67.

mon, and often difficult-to-treat, geriatric problems, including:

- depression,
- cognitive impairment,
- insomnia,
- anorexia,
- constipation,
- falls, and
- polypharmacy.

Regular exercise is felt to compress the period of morbidity and disability at the end of life by extending life two to three years, and postponing disability by 15 years. Inactive patients who begin to engage in even small amounts of regular exercise achieve the greatest benefits.

What forms of exercise are important?

Table 1 outlines the three basic forms of exercise all people, including the elderly, should engage in. An optimal exercise program incorporates all three of these exercises.

How much exercise should physicians recommend?

Health Canada guidelines recommend 30 to 60 minutes of moderately intense exercise most days of the week.⁴

The risks of not exercising far outweigh the risks of a well-balanced and sensible exercise program.

Exercise should be assigned in the same way physicians prescribe drugs. As with all prescriptions for the elderly, exercise should be prescribed by “starting low and going slow” to work up to recommended doses.



Dr. Kilpatrick is a lecturer, division of geriatric medicine, Queen's University, and attending staff, Providence Continuing Care Centre, Kingston, Ontario. She is currently working on an MSc in exercise physiology.

Table 1

Three types of exercise for the elderly

Type of exercise	Activities recommended for the elderly	Potential benefits
Aerobic/endurance	Walking Cycling Aquafit or swimming Low-impact aerobics	Cardio-respiratory Weight loss/control Glycemic control Pain control Mood and cognition Bowels Sleep
Resistance/strength	Free weights Weight machines Elastic bands/tubing Body weight against gravity	Muscle strength Bone mass Physical functioning Mobility
Balance and Flexibility	Stretching Yoga Tai-Chi Stair-climbing Balance boards, balls, and elastic bands	Balance Fall prevention Mobility Reaction time

What are the risks?

The elderly are at inherently higher risk of cardiovascular and musculoskeletal injury, and are more susceptible to the adverse effects of exercising in extreme cold or heat conditions. Therefore, lower intensity programs, exercising at low-impact, and being mindful of environmental conditions is recommended for elderly patients who are moving from a sedentary to an active lifestyle. As well, the importance of sufficient hydration and a balanced, nutritious diet should be stressed.

While a very small percentage of older people should not engage in exercise, generally due to severe, acute cardiopulmonary conditions, the risks inherent in not exercising are generally felt to far outweigh the risks of a well-balanced and sensible exercise program.

Patients may be asked to complete the PAR-Q questionnaire when signing up for an exercise program in the community. This tool (developed by the Canadian Society for

Followup on Leila

After discussing the implications of her glucose and lipid status, obesity, and sedentary lifestyle, you suggest starting a walking program (progressing from 10 minutes, twice a day, three days per week, to 30 minutes, six to seven days per week). You also give her information on healthy eating.

She is to see you every two weeks to monitor and guide her progress, paying attention to any increase in angina or arthritis pain. If need be, you can consider sending her for an exercise stress test.

Once her endurance is improved, you can begin to incorporate a twice-weekly seniors' strength training and stretching class at the local fitness centre.

After six months, you can reassess her weight, glucose, and lipids, and decide whether changes to her exercise program, or possible medications, are warranted.

Exercise Physiology for use by people aged 15 to 69) is considered applicable to the average elderly patient. Those who answer "yes" to any of the red flag questions—suggesting problems such as undiagnosed or uncontrolled cardiovascular disease—will be asked to see their physician to have the PARmed-X completed.

The PARmed-X is a companion tool designed to assist physicians in deciding if their patient has any contraindications to exercise or requires further assessment prior to beginning exercise.

Table 2

Common perceived barriers to exercise for older people

- Lack of time and motivation
- Poor weather conditions
- Transportation problems
- Financial costs
- Lack of knowledge
- Fear of injury
- Physical limitations
- Stereotyping (*i.e.*, the perception that older people don't exercise)

What resources are available?

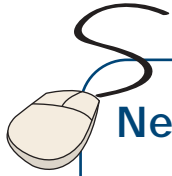
Most older patients can safely begin a moderate exercise program without a prescription or guidance from their family physician. Although few physicians have received instruction in prescribing exercise in medical school, patients frequently look to their physician for such information.

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Beginning exercise later in life can provide benefits similar to people who have been life-long exercisers.

What are the barriers?

There are many reasons why older people do not feel they can or should engage in physical activity or exercise. Table 2 presents the most common and difficult barriers.



Net Readings

1. Physical Activity Guide for Older Adults
<http://www.hc-sc.gc.ca/hppb/paguide/older/index.html>
2. Active Living Coalition for Older Adults
<http://www.alcoa.ca/e/index.htm>
3. PAR-Q and PARmed-X forms
<http://www.csep.ca/forms.asp>

Physicians may wish to refer patients to physiotherapists or recommend consultation with a personal trainer who can provide an appropriate exercise program, monitor adherence and progression, and advance the patient to more strenuous activity as appropriate.

Physiotherapists are the resource of choice when recommending exercise for the elderly with medical co-morbidities. For patients with cardiovascular disease, cardiac rehabilitation programs may be particularly helpful. **CME**

Take-home message



- Elderly patients look to their physicians for advice on all matters of health, including physical activity and exercise.
- Enquiring about a patient's physical activity level and recommending exercise should be part of routine office visits.
- Refer patients with co-morbidities to allied-health exercise specialists.

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References

1. Paffenbarger RS, Hyde, RT, Wing AL, et al: The association of changes in physical-activity level and other lifestyle characteristics with mortality among men. *N Engl J Med* 1993; 328(8):538-45.
2. Statistics Canada: A Portrait of Seniors in Canada. Ottawa: 1999.
3. Craig CL, Cameron C: Increasing physical activity: Assessing trends from 1998-2003. Ottawa: Canadian Fitness and Lifestyle Research Institute, 2004.
4. Health Canada: Canada's Physical Activity Guide to Healthy Active Living for Older Adults. Ottawa: 1999.