



Overview

- What is fitness?
- Health benefits of physical activity
- Measurements of human fitness
- Formal vs informal exercise
- Physical activity recommendations
- Precautions associated with exercise

What is fitness?

- Physical fitness is the ability to perform moderate to vigorous levels of physical activity on a regular basis without excessive fatigue



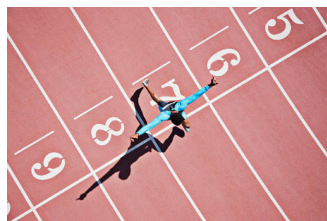
Physical Activity

“Physical activity plays an important role in the health, well-being and quality of life of Canadians. People who are physically active live longer, healthier lives. Active people are more productive, and more likely to avoid illness and injury.”¹

“Physical inactivity has been identified as the 4th leading risk factor for global mortality causing an estimated 3.2 million deaths globally.”²

Benefits of being physically active

- Improved respiratory and circulatory function
- Reduced risk of chronic disease²
- Weight control
- Improved mental health
- Increased energy
- Better sleep
- Growth and development
- Prolonged independence as we age



Benefits of being physically active

- Physical activity lowers **hypertension**³
 - Optimal range for blood pressure is 120/80 mmHg
 - Hypertension: 140/90 mmHg
- Strengthens the heart
- Lowers stress levels



Benefits of being physically active

- Physical activity reduces the risk of developing **Diabetes**⁴
 - Improved management of insulin, glucose and nutrients within the body

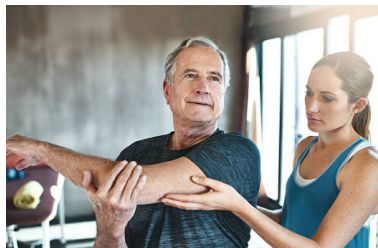
Regular physical activity, in conjunction with healthy eating and weight control, can reduce the incidence of type 2 diabetes by 60%.⁴

Benefits of being physically active

- There is substantial evidence that higher levels of physical activity are linked to lower risks of several **cancers**⁵
 - Specifically colon, breast & endometrial cancers
 - Physical activity lowers hormone levels
 - Reduces inflammation
 - Improves immune system function
 - Reducing the time required for food to travel through the digestive system

Benefits of being physically active

- Physical activity reduces the risk of developing **Osteoporosis**
 - Increased bone density
 - Prevents age-related degeneration
 - Maintains muscular fitness to prevent falls and fractures



Benefits of being physically active

- Physical activity reduces the risk of developing **back problems**
 - Physical activity maintains muscle fitness and strength



How do we measure fitness?

- Waist Circumference
- Waist-to-hip ratio
- Resting heart rate
- VO2 max
- Grip strength
- Sit and reach flexibility



Waist Circumference

- A lower measurement is associated with lower risk of disease (diabetes, hypertension, heart disease)
- Healthy ranges:
 - Male: Less than 102cm or 40 inches
 - Female: Less than 88 cm or 35 inches
- Waist to Hip Ratio

Resting heart rate

- A lower RHR can mean a higher degree of physical fitness
 - Desirable RHR between 60-100 beats per minute



VO2 max

- A measure of how efficiently oxygen is delivered to the muscles
- The higher the value, the higher the fitness level

Grip Strength

- A strong grip predicts overall body strength and fitness
- Maintaining whole body strength is important for doing everyday tasks and for decreasing risk of injury



Flexibility

- Sit and reach flexibility testing is the standard predictor of overall flexibility used in the fitness industry



Formal and Informal Exercise for Fitness

Formal Exercise for Fitness

- Flexibility training
- Muscular strength
- Cardiorespiratory training

Flexibility

- Regular stretching
 - Before and after workouts
 - Morning and evening stretches
 - Work stretch breaks
- Yoga



Strength Training

- Muscular strength and muscular endurance
- Resistance exercise using:
 - Weights
 - Machines
 - Exercise tubing
 - Body weight



Cardiorespiratory training

- Endurance training
- Use of large muscle groups
- Increased heart rate for 20+ minutes



Informal Exercise for Fitness

- Easy to fit this in throughout the day
- Can include tasks associated with daily living:
 - Walking the dog
 - Yard work
 - Shoveling snow
 - Playing catch with the kids
 - Climbing stairs
 - Carrying groceries
 - Shopping or running errands

Fitting in Fitness – Formal & Informal Exercise

- Incorporate fitness into your everyday life:
 - At the office:
 - Park far away from the building entrance
 - Regular stretch and water breaks
 - Map a 10 minute walking route and use it to take an “active” afternoon break
 - Taking the stairs
 - Walking to a co-worker’s work space
 - Exercise on lunch breaks

Fitting in Fitness – Formal & Informal Exercise

- Incorporate fitness into your everyday life:
 - At home:
 - Play sports with the kids
 - Exercise when watching TV
 - Clean the house or do yard work
 - Go for a walk after dinner

Canadian Physical Activity Guidelines

Canadian Physical Activity Guidelines

FOR ADULTS - 18 – 64 YEARS

Guidelines



To achieve health benefits, adults aged 18-64 years should accumulate at least 150 minutes of moderate- to vigorous-intensity aerobic physical activity per week, in bouts of 10 minutes or more.



It is also beneficial to add muscle and bone strengthening activities using major muscle groups, at least 2 days per week.



More physical activity provides greater health benefits.

How much is enough?

- The more physical activity the better!
 - More calories burned
 - Increased endurance to perform everyday work



Exercise burns calories

- Fat is burned more during longer and lower intensity exercise
- Carbohydrates are burned more at higher intensities
 - More free fatty acids are available at higher intensities

Exercise burns calories

- Target body fat is burned as a proportion of total body fat
- No spot reduction
- Can tone muscles of troubled areas
- Healthy weight loss is 1-2lbs/week



Tips for Fitting in Fitness

- Be active at least 2.5 hours/week⁶
- Focus on moderate to vigorous aerobic activity
- Add activities that target muscles and bones
- Choose a variety of physical activities you enjoy
- Make exercise a routine
- Move yourself
- Join a team



Exercise Warnings

- If inactive over the past 12 months, speak to a physician before beginning a new activity regime
- Check with your doctor if you have/are:
 - Dizziness
 - Chest pain
 - High blood pressure
 - Over 40 years old

Remember: Call 911 if you ever experience an emergency while exercising

Questions?



References

1. Government of Canada, Public Health Agency of Canada. "Institutional Links." *The Benefits of Physical Activity - Public Health Agency Canada*. 23 May 2011.
2. World Health Organization. *Health Topics – Physical Activity*. 2017.
3. American Heart Association. *Getting Active to Control High Blood Pressure*. October, 2016.
4. Canadian Diabetes Association. *Physical Activity & Diabetes*. 2017.
5. U.S. Department of Health and Human Services. *Physical Activity and Cancer – National Cancer Institute*. 27 Jan. 2017.
6. Government of Canada, Public Health Agency of Canada. "Institutional Links." *Physical Activity Tips for Adults - Public Health Agency Canada*. 25 Apr. 2012.