

# Prevention C+olumn

WORKOUTS – MAY 2020

## How to get the most out of your workout

In 2017, on average, **61.7%** of Canadian adults aged 18 – 64 accumulated **150 minutes of physical activity per week**. In 2018, that figure went down to 58.9%. Yet...

Accumulating **90 minutes of moderate to vigorous physical activity per week** can reduce the risk of premature death **by about 20%**.

Accumulating **5 hours of physical activity per week** reduces the risk of premature death **by about 35%**.



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# How to get the most out of your workout

Physical activity and training are both effective ways of achieving goals with regard to illness prevention, performance or rehabilitation. They support **adaptive capacity**, which is one of our body's basic skills. Continuing to make progress hinges on understanding how this works.



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Adaptive capacity refers to our ability to adjust to factors in our environment. Three **mechanisms** carry out that function in the human body:

- 1- **The general adaptation syndrome** is the body's reaction to stress. For example, if you start to walk quickly, your energy producing systems will activate and make you breathe faster and increase your heart rate. Your body may subsequently become comfortable with the new, faster walking pace. Your body's response mobilizes the resources necessary for acute adaptation, i.e. involves more specific responses.
- 2- **Acute adaptation** refers to all the specific responses made by the body and its different systems to maintain the body's internal balance. These responses are triggered on the introduction of a stimulus. For example, if you start walking fast, your body temperature will rise, and that will cause you to perspire. Another example would be when your muscles are working hard during physical activity and need nutrients and energy. To meet that need, your blood vessels that supply these muscles dilate to increase the flow of blood.
- 3- **Chronic adaptation** is most relevant when referring to a training plateau. If you decide to do 5K runs and don't work out before your first run, you will undoubtedly experience pain in your feet and knees and body aches afterwards. Your body will react by reinforcing the affected muscles and tendons, to prepare them for future 5K runs. So, the next time you set out on a 5K run, the aches and pains you experience will be milder. However, if you continue doing three 5K runs per week at the same pace for a year, your body will stop adapting, and you will reach a plateau.

**To break through a training plateau and initiate a chronic adaptation, you need to make your workout more difficult. This is known as the overload principle. ■**

## **A NEW SESSION, A NEW CHALLENGE**

We always want to push a little past our limits when we work out, whether it's increasing distance, speed or weights. For that reason, it's important to start each workout with a new challenge in mind. In this regard, it is important to follow an **exercise prescription using the FITT-VP principle**. This principle features a personalized exercise plan that includes specification of the frequency (F), intensity (I), time (T), type (T), volume (V) and progression (P). The exact composition of FITT-VP will vary depending on the individual's characteristics and goals. It should be revised regularly according to the individual's needs, limitations and goals, and workout response. ■

## **COMPOSITION of a workout session**

### **WARM-UP**

At least 5 – 10 minutes of light-to-moderate intensity cardiorespiratory and muscular endurance activities.

### **CONDITIONING**

At least 20 – 60 minutes of aerobic, resistance, neuromotor, and/or sports activities (such as hockey, soccer, etc.).

### **COOL-DOWN**

At least 5 – 10 minutes of light-to-moderate intensity cardiorespiratory and muscular endurance activities.

### **STRETCHING**

At least 10 minutes of stretching exercises involving the major muscle groups. ■

# Physical activity recommendations for adults age 18 or more

| FITT-VP            | CARDIOVASCULAR  | STRENGTH TRAINING  | FLEXIBILITY  | NEUROMOTOR  |
|--------------------|---|--|--|---|
| <b>Frequency</b>   | 150 minutes per week  | ≥ 2 sessions per week  | ≥ 2 or 3 times per week                                    | ≥ 2 or 3 times per week   |
| <b>Intensity</b>   | Moderate to vigorous, and light to moderate intensity for deconditioned individuals | 20% to >80% of 1 RM (1 rep max) based on condition   | Discomfort and a pulling sensation                         | An effective intensity level has yet to be determined   |
| <b>Time</b>        | 30 to 60 minutes per workout session  | No specific duration has been identified as being more effective. The main thing is for the major muscle groups to be involved.  | Hold a stretch for 30 to 60 seconds                        | ≥ 20 to 30 minutes may be required  |
| <b>Type</b>        | Continuous and rhythmic, involving the major muscle groups                          | Multi-joint exercises, such as squats and push-ups<br>With resistance (weights, resistance bands, body weight)   | Static<br>Dynamic<br>Ballistic<br>Contract-relax           | Motor skill exercises (balance, agility, coordination, gait) and proprioception (tai chi, yoga) |
| <b>Volume</b>      | ≥7,000 steps per day or the equivalent  | Reps: 8 to 12 (strength and power), 10 to 15 (muscle mass), 15 to 20 (endurance)<br>Sets: 2 to 4<br>Rest: 1 to 3 minutes between sets<br>Rest: 24 to 48 hrs between sessions | 2 X 30 to 60 seconds per muscle or muscle group            | Optimal volume unknown  |
| <b>Progression</b> | Gradually increase the frequency, intensity or length of the activity               | Gradually increase the resistance (weight) or the number of reps or sets   | Try to go a little farther with each stretch, as tolerated | Optimal progress method unknown   |



## In conclusion

Your physical condition will improve if you push past your limits and activate all of these principles. To go farther than you've ever gone before, you have to use a technique you've never tried before!

Now that you've learned about these principles, you can apply them to your next workout. For better planning and injury prevention, it is recommended that you meet with a kinesiologist.

To find a kinesiologist near you, go to [cka.ca/en/find-a-kin](https://www.cka.ca/en/find-a-kin). ■

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