



# How to Pre-PARE



Royal Canadian Mounted Police Gendarmerie royale du Canada

Canada 

## Before starting

Before starting your fitness program, you should answer the following Physical Activity Readiness Questionnaire (PAR-Q). Please read the questions carefully and answer each one honestly. Check YES or NO.



Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	1. Has your doctor ever said that you have a heart condition and that you should only do physical activity recommended by a doctor?
<input type="checkbox"/>	<input type="checkbox"/>	2. Do you feel pain in your chest when you do physical activity?
<input type="checkbox"/>	<input type="checkbox"/>	3. In the past month, have you had chest pain when you were not doing physical activity?
<input type="checkbox"/>	<input type="checkbox"/>	4. Do you lose your balance because of dizziness or do you ever lose consciousness?
<input type="checkbox"/>	<input type="checkbox"/>	5. Do you have a bone or joint problem that could be made worse by a change in your physical activity?
<input type="checkbox"/>	<input type="checkbox"/>	6. Is your doctor currently prescribing drugs (for example, water pills) for your blood pressure or heart condition?
<input type="checkbox"/>	<input type="checkbox"/>	7. Do you know of any other reason why you should not do physical activity?

*Source: Canadian Society for Exercise Physiology (1995)*

## YES to one or more questions

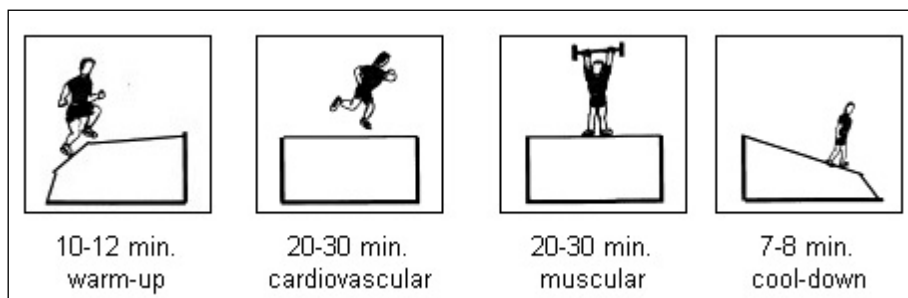
If you answered YES to one or more questions, you should talk with your doctor before starting this 12-week fitness program.

## NO to all questions

If you answered NO to all questions, you can start this program slowly and build up gradually.

## Becoming fit

Your fitness program has four components:



## Warm-up

Prior to taking PARE or any workout it is important to complete a warm-up. A warm-up is designed to prepare your body for an efficient and safe functioning of your heart, blood vessels, lungs and muscles during the more vigorous exercises that follow. A good warm-up will reduce any joint soreness that may be experienced during the early stages of an exercise regime. A warm-up will also reduce the risk of injury.

A proficient warm-up should include 8 to 10 minutes of low-intensity aerobic activity, such as brisk walking, slow jogging, or stationary cycling. Be sure to include stretching exercises prior to the training session. (See stretching routine under the Cool-down section). Add dynamic warm-up activities specific to the workout.

## Cardiovascular program

Training for the PARE requires a commitment from you! The first step is to become physically fit. Be able to work at an intensity equal to 80% of your maximum heart rate for 30 minutes of continuous, rhythmical activity. Activities that work the major muscle groups are ideal. Include activities such as running, cycling, swimming, paddling, cross-country skiing, skating or hiking. Work towards three to four 30-minute sessions per week.

### Know your heart rate

Structured cardiovascular workouts require monitoring of your heart rate. Here are two simple ways to take your pulse rate at rest and during your exercise period:



#### Radial pulse

Using your index and middle fingers, apply gentle pressure at the radial (wrist) artery, located just below the base of the thumb.

Using a stopwatch, count the number of heartbeats for 15 seconds.



#### Carotid pulse

Place the index and middle fingers of your right hand on your Adam's apple. Slide your fingers to the right approximately one inch and you should feel a pulse when applying gentle pressure with the tips of your fingers.

**Note:** Do not apply too much pressure on the carotid artery as this may cause a "reflex" which could slow the heart rate.

Using a stopwatch, count the number of heartbeats for 15 seconds.

To obtain your heart rate, count the number of beats during a 15-second period and then multiply by four for a one minute count.

e.g.: 35 beats (in 15 seconds) x4 equals 140 beats/minute.

## How to determine your training zones

1. Determine your maximum heart rate (beats/minute) using the following formula:

$$220 - \text{age} = \text{Maximum estimated Heart Rate (MAX est. HR)}$$

$$220 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

e.g.: for a forty-year-old person, the MAX est. HR will be 180 (220-40).

2. Now find your target heart rates (THR) at different intensity levels using the Target Heart Rate Table and determine your training zones here:

60 - 70%:	_____	75 - 85%:	_____
65 - 75%:	_____	80 - 90%:	_____
70 - 80%:	_____	90 - 100%:	_____

e.g.: For a forty-year-old person, the target heart rate at the 65 - 75% intensity would be 117-135 beats/min (180 x .65 and 180 x .75).

You can also refer to the chart below.

Target Heart Rate (THR) Table corresponding to different intensity levels								
% max HR	60%	65%	70%	75%	80%	85%	90%	100%
<b>Age</b>	<b>Heart Rates</b>							
20	120	130	140	150	160	170	180	200
22	119	129	139	149	158	168	178	198
24	118	127	137	147	157	167	176	196
26	116	126	136	146	155	165	175	194
28	115	125	134	144	154	163	173	192
30	114	124	133	143	152	162	171	190
32	113	122	132	141	150	160	169	188
34	112	121	130	140	149	158	167	186
36	110	120	129	138	147	156	166	184
38	109	118	127	137	146	155	164	182
40	108	117	126	135	144	153	162	180
42	107	116	125	134	142	151	160	178
44	106	114	123	132	141	150	158	176
46	104	113	122	131	139	148	157	174
48	103	112	120	129	138	146	155	172
50	102	111	119	128	136	145	153	170
52	101	109	118	126	134	143	151	168
54	100	108	116	125	133	141	149	166
56	98	107	115	123	131	139	148	164
58	97	105	113	122	130	138	146	162
60	96	104	112	120	128	136	144	160

## Scale of perceived exertion

If you have difficulty taking your pulse at the wrist or the neck, and you wish to determine whether your intensity level is adequate, think of yourself as a car with a five-speed transmission and use the scale of perceived exertion.

<b>Speed/Gear</b>	<b>Intensity</b>	<b>Perceived Exertion</b>
1	60 - 75%	Light, it's easy
2	70 - 80%	Moderate, light breathing
3	75 - 85%	Slightly difficult, breathing more important
4	80 - 90%	Difficult, breathing becomes heavy
5	90 - 100%	Very difficult or maximal, very heavy breathing

## Basic principles of a cardiovascular training program

Training for PARE requires the use of both aerobic and anaerobic energy systems. It is important to train both systems to be successful at PARE.

When training for the PARE, include (at least):

- One steady state exercise session per week.
- One long easy exercise session per week.
- One or two interval workout session per week.

### *1. Steady state*

- Steady state exercise is the highest exercise intensity that can be obtained for prolonged periods of time. It is a balance between the energy required by the working muscles and the rate of energy production in the presence of oxygen. It should be easy enough for conversation to occur during the exercise session.
- Each session should last up to 30-45 minutes.

### *2. Long easy activity*

- Once a week, an exercise session should be longer and done at an easy pace. Work towards 45-60 minutes.

### 3. Intervals

- Once or twice a week an interval session is advised.
- Rest to work ratio should vary.
- Alternate high intensity exercise with low intensity recovery periods.
- Each interval should last 45-120 seconds and be performed at 80-90% max HR.
- Active rest or slow easy activities are preferred during the rest phase.

Different activities can be used for your cardiovascular program such as speed-walking, jogging, skipping rope or use of a stair climber or stationary bike. Choose one or two activities that you like and start your training program. Use the first 4-5 minutes of your workout at a lower intensity to warm yourself up and the last 3-4 minutes to progressively lower your heart rate.

Note that at least one of the two exercises that you choose should involve supporting your own body weight as they are more specific to the PARE which is done at a light jog.

#### 12-week cardiovascular training program

Here is an example of a 12-week cardiovascular training program that can be used to pre-PARE. Participating in this program will increase your ability to meet the PARE requirement, but is not a guarantee of success. Results will vary from one participant to another. Other programs can be developed by a fitness professional in your community to best meet your personal needs.

Example of a 12-week cardiovascular training program:

Training Day				
Week	Monday Intensity / time	Wednesday Intensity / time	Friday Intensity / time	Saturday / Sunday <sup>1</sup> Intensity / time
1	65-75% / 15 min	65-75% / 15 min	65-75% / 15 min	----
2	65-75% / 16 min	65-75% / 16 min	65-75% / 16 min <sup>2</sup>	----
3	65-75% / 18 min	65-75% / 18 min	65-75% / 18 min	----
4	70-80% / 18 min	70-80% / 18 min	70-80% / 18 min	----
5	70-80% / 20min	70-80% / 20min	70-80% / 20min	60-70% / 25 min
6	70-80% / 22min	70-80% / 22min	70-80% / 22min	60-70% / 28 min
7	75-85% / 18 min	interval 1 <sup>3</sup>	75-85% / 18 min	60-70% / 30 min
8	75-85% / 20min	interval 2	75-85% / 20min	60-70% / 33 min
9	75-85% / 22min	interval 3	75-85% / 22min	60-70% / 35 min
10	75-85% / 24min	interval 4	75-85% / 24min	60-70% / 40 min
11	75-85% / 25 min	interval 5	75-85% / 25 min	60-70% / 45 min
12	75-85% / 25min	interval 6	75-85% / 25min	60-70% / 50 min

\*1. Saturday/Sunday training is optional and can be replaced by other sports or recreational activities such as cross-country skiing, walking, hockey, volleyball, etc. (These types of activities should last approximately one hour).

\*2. On the Friday of the second week of training your cardiovascular workout should last sixteen minutes at an intensity level of 65% - 75% of your maximum estimated heart rate or equal to level #1. Remember to take 4-5 minutes to warm yourself up and take 3-4 minutes at the end to progressively lower your heart rate.

\*3. The interval training program begins at the start of the seventh week and is outlined in the following table:

### Interval Training Program

Training (intensity at 80-90% or 4th gear)			
Interval	Sets	Repetitions	Work : Active Rest
1	1	5	45 sec : 1 min 30
2	1	5	1 min : 1 min 30
3	1	5	1 min 15 : 2 min
4	1	4	1 min 30 : 2 min
5	1	4	1 min 45 : 2 min
6	1	4	2 min : 2 min

#### Instructions:

— For each interval start moderately with six minutes of your chosen activity. This will enable you to warm-up gradually, all the while increasing your heart rate to the intensity level required to begin your first interval (80 - 90% of max).

— At the end of your last set, continue the activity at a moderate pace for a period of four minutes in order to gradually reduce your heart rate.

#### For example, at Interval #3:

Start with six minutes of the activity at a moderate pace. Next, accelerate to an intensity level of 80-90% and maintain it for one minute fifteen seconds. Once this short work phase is completed, continue the activity at a very slow pace for two minutes in order to return your heart rate to approximately 120 bpm.

Following this rest period, complete four new high-intensity sets, each followed by a two minute active rest period. Once you have completed the five sets, proceed with four minutes of the activity at a moderate pace. This will enable you to slowly lower your heart rate to a resting value.

## Basic principles of a resistance training program

### 1. Program Design

- Program should be appropriate for ability level.
- Incorporate exercises for all major muscle groups.
- Promote balanced development of body segments.
- Increase preparedness for and/or complement daily responsibilities.
- Meet personal goals.
- Consider available equipment, available time to exercise, and accessibility of training partner.

### 2. Number of exercises

- Beginners: 7-10 exercises.
- Advanced or experienced: Add exercises or variations to the initial program to meet your individual goals or job-specific needs.

### 3. Order of exercises

- Exercise large muscle groups before smaller muscle groups (e.g. chest before triceps).
- Alternate push with pull exercises (example: push-up/pull-up or abdominals/lower back).
- Complete multi-joint movements before single-joint movements (e.g. incline press before triceps press down).
- Beginners should try to perform at least one exercise for each major muscle group per workout.

### 4. Design variables

- Your program will be designed by choosing and progressively altering training variables such as number of repetitions/sets, number and choice of exercises, rest, frequency, intensity and amount of weight lifted, etc.

**Repetition** - One complete action of an exercise.

**Set** - A predetermined number of repetitions completed one right after the other.

**Resistance** - The weight or load that a muscle works against per repetition measured in pounds or kilograms.

**Rest/recovery** - The amount of rest taken between sets of an exercise, between different exercises, or between training sessions.

**Frequency** - The number of training sessions completed in a specified period of time.



## 5. Progression

Overload - A gradual and progressive increase in the difficulty of the program in some capacity, to continue to challenge the muscles.

### Overload Techniques

- Increase the amount of weight lifted.
- Increase the repetitions in a set.
- Increase the number of sets.
- Decrease the rest period between sets.

### Guidelines of progression

- Increase only one variable at a time.
- Training variables influence each other.
- It may be necessary to decrease repetitions when a set is added.
- Increase resistance when able to complete one additional repetition above the required number with only moderate exertion.
- Do not overload or lift to maximal ability at every workout.

### Change resistance training program

- For continued results, a program should be revised with changes to training variables every 6-10 weeks.
- Do not change more than 1-2 variables at a time.

### 12-week resistance training program

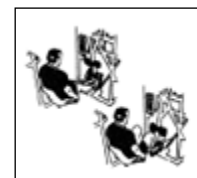
Here is an example of a 12-week resistance training program that can be used to pre-PARE. Participating in this program will increase your ability to meet the PARE requirement, but is not a guarantee of success. Results will vary from one participant to another. Other programs can be developed by a fitness professional in your community to best meet your personal needs.

The program includes 10 basic strength training exercises for the major muscle groups.

#### 1) Leg Press

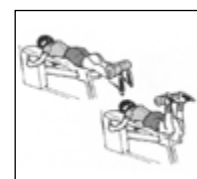
Adjust the seat so that your legs start at a ninety degree angle.

Push and extend your legs until they are almost straight but ensure that your knees remain slightly flexed. Return to the starting position and begin the second repetition. Exhale when pushing and inhale when coming back.



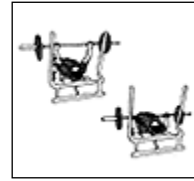
#### 2) Leg curl

Lie face down on the machine. Place your heels under top foot pad. Hold front of machine for support. Curl your legs up until calves touch leg biceps. Return to starting position. Exhale when you flex, inhale when you extend.



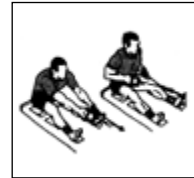
### 3) Bench Press

Grasp bar with hands positioned slightly wider than shoulder-width apart. Lower the bar to your chest (approximately one inch below the nipple line). Be careful not to arch your back and do not lift your hips off the surface of the bench. Exhale while lifting the bar and inhale when lowering it to the chest.



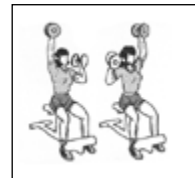
### 4) Seated Row

Position your feet on the supports provided and grasp the bar by the handles. Pull the handles towards yourself until they reach the sides of your body just below your pectoral muscles. Inhale while pulling the handles towards you and exhale while returning it to the starting position. Keep your back straight and avoid any forward movement.



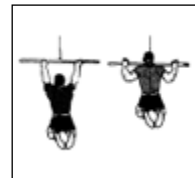
### 5) Alternate Dumbbell Press

Raise dumbbells to shoulder height. Press one dumbbell straight up to arm's length, palm in. Lower dumbbell to starting position and press other dumbbell up. Keep body rigid. Do all the work with your shoulders and arms; don't lean from side to side. Exhale up, inhale down.



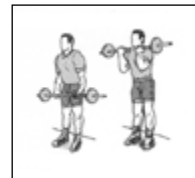
### 6) Front Lat Pull-down

Grasp the bar with hands slightly wider than shoulder-width apart. Pull the bar down to your chest. Exhale when pulling the bar down to your chest and inhale on the way up.



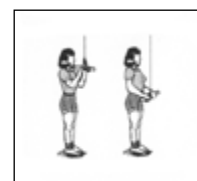
### 7) Standing biceps curl with barbell

Hold barbell with both hands, palm up at shoulder width. Stand erect, back straight, head up, feet about 16 inches apart. Start with bar at arm's length against upper thighs. Curl bar up in semi-circular motion until forearms touch biceps. Keep upper arms close to sides. Lower to starting position using same path. Do not swing back and forth to help lift bar. Exhale going up, inhale going down.



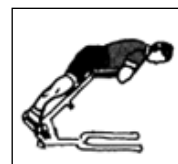
### 8) Standing close grip triceps press down

Stand erect, head up, in front of machine and feet apart about 16 inches. Hold the bar with hands 8 inches apart, palms down. Bring upper arms to side and keep them there. Start with biceps and forearms touching. Press bar down in semicircular motion to arms length. Return to starting position. Exhale going down, inhale coming back up.

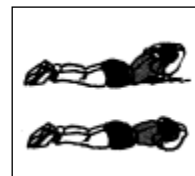


### 9)(a) Back Extensions

Position yourself so that the top of the bench is at hip-level. Flex your body forward as far as is comfortable, then lift your body to a position where it is in a straight line with your legs. Do not lift your body beyond this position. OR, you can do this exercise with your arms crossed in front of you, with your hands on your shoulders, or with your hands behind your neck. The level of difficulty increases with each different arm position. Exhale while you flex forward and inhale while returning your body to the starting position.

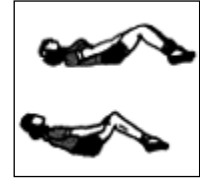


(b) The exercise can also be done lying face against the floor: hands at the forehead level, lift the trunk (4-5 inches from the floor), inhale going up, hold for one or two seconds and exhale coming back down.



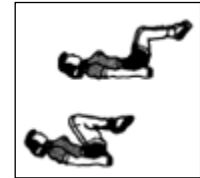
### 10)(a) Modified Sit-ups

Lie on your back with your knees bent at a 90-degree angle. Place your palms on your thighs. Slide your palms upwards along your thighs until you reach your kneecaps. Return to the starting position. Be sure to keep your lower back on the ground. Exhale while moving upwards and inhale while lowering yourself to the starting position. OR,



### b) Pelvic Lift (Abdominal)

Lie on your back with your knees bent at a 90-degree angle. Place your arms alongside your body with your palms on the floor. Perform a pelvic lift by bringing your knees towards your shoulders and rolling your pelvis up off the floor. Return to the starting position. Press your hands to the floor during the pelvic lift. Exhale during the pelvic lift and inhale while returning to the starting position.



Muscular Strength Training Program				
Exercises	Weeks			
	1-2-3	4-5-6	7-8-9	10-11-12
1	2 x 10-12	2 x 8-10	2 x 6-8	1 x 9-10 1 x 7-8
2	2 x 10-12	2 x 8-10	2 x 6-8	1 x 9-10 1 x 7-8
3	2 x 10-12	2 x 8-10	3 x 6-8	1 x 9-10 1 x 7-8 1 x 5-6
4	2 x 10-12	2 x 8-10	3 x 6-8	1 x 9-10 1 x 7-8 1 x 5-6
5	1 x 10-12	2 x 8-10	2 x 6-8	1 x 9-10 1 x 7-8
6	1 x 10-12	2 x 8-10	2 x 6-8	1 x 9-10 1 x 7-8
7	1 x 10-12	2 x 8-10	2 x 6-8	1 x 9-10 1 x 7-8
8	1 x 10-12	2 x 8-10	2 x 6-8	1 x 9-10 1 x 7-8
9	1 x 10-12	1 x 12-14	1 x 14-16	1 x 16-18 1 x 12-14
10	1 x 12-14	1 x 14-16	1 x 16-18	2 x 16-18
Rest for approximately one minute at the completion of each set				

### Example

During weeks 4-5-6, you should be doing two sets of 8 to 10 repetitions of exercises 1, 2, 3, 4 and 5. You should be using a weight amount that will allow you to complete the required number of repetitions in a safe and effective manner.

## Note

When you are able to complete the maximum number of repetitions of a particular exercise without much effort, you should slightly increase the amount of weight which you are using. Begin again with the minimum number of repetitions listed for the week in which you are working.

E.g : If you're supposed to do 2 x 10-12 repetitions and you can do 2 x 12, add some weight and try to do 2 x 10.

For those exercises which do not require weights, simply increase the number of repetitions.

## Cool-down and stretching

### Stretching Routine 5-6 minutes

All exercise sessions should conclude with a cool-down phase. Cooling down is best accomplished by slowly reducing the intensity of the exercise during the last several minutes of the workout. For example, after running, slow down to a jog or a walk for 10 minutes. Follow the cool-down phase with some stretching exercises.

- Stretch each body part 1-2 times.
- Hold each stretch 10-30 seconds.
- Stretch slowly and in control.
- Do not bounce or jerk.
- Go to the point of tension but not pain.
- Breathe normally.
- Avoid stretches that are uncomfortable or that hurt.



Upper back and rear shoulder



Triceps and latissimus dorsi



Anterior shoulder, chest, biceps



Obliques



Quadriceps



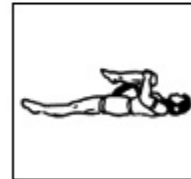
Hip flexor



Calf



Lower back A



Lower back B