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PREPARATION FOR BASIC TRAINING: PHYSICAL FITNESS GUIDE

FOR APPLICANTS TO THE CANADIAN FORCES

PREPARATION FOR BASIC TRAINING: PHYSICAL FITNESS GUIDE

Regardless of your occupation in the Canadian Forces (CF), you may be called to carry out difficult and dangerous tasks from defending an air base, boarding a ship at sea, to participating in a delicate peacekeeping operation. Your physical fitness level will ensure you are ready to perform in any possible situation. It will also serve you well in your day-to-day life in the Forces.

To ensure you get the physical activity you need, the CF provides trained professional staff, first-class facilities, and a wide range of exercise, sport and recreation programs. The Exercise Prescription or EXPRES Program includes a fitness test, exercise programs and resources to help you achieve your personal fitness goals.

This booklet is a guide to preparing you for Basic Training. It describes the demands of Basic Training, offers tips to help you get ready, and outlines the specific steps that will be taken to ensure you are physically fit. Following the advice will better prepare you but does not guarantee that you will pass the fitness test.

“Be prepared for a very physically and mentally exhausting experience. It’s well worth it though!” K.S.



Summary of Physical Fitness Goals

To better prepare yourself for Basic Training, your fitness training program should be geared towards meeting the Canadian Forces Minimum Physical Fitness Standard. Before starting Basic Training, it is recommended that you be able to:

- Run 5 km
- Run 2.4 km within an appropriate time (see page 7)
- Complete push-ups and sit-ups (see page 9)
- Complete a hand-grip test (see page 9)
- Tread water for at least 2 mins and swim 20 m without a life jacket

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THE DEMANDS OF BASIC TRAINING

Basic Training will teach you a new way of life. It may be the most demanding experience you have ever had. It will require hard work and perseverance. The more prepared you are, the better you will be able to meet the physical demands of Basic Training.



Daily Routine

Your day will start at about 5:00 a.m. and will not end until 11:00 p.m. Each training day consists of physical training, marching, classes and practical sessions on a variety of military subjects. Evenings are spent maintaining personal equipment and living quarters, in addition to preparing for the next day's classes.

Field Exercises

Field exercises focus on practical military skills such as weapons firing, map and compass use and "forced marches" of various lengths. You may also set up your own accommodations and do your own cooking.

Obstacle Course

Obstacle course training involves performing physical tasks like scaling 2 m and 4 m walls, climbing a 4 m netting apparatus and traversing a 4 m ditch while hanging from a set of monkey bars. Good upper body strength and power are necessary to successfully complete the obstacle course.

Swimming

The military swim standard is a key element of Basic Training. This test involves jumping into a pool wearing a life jacket, and then swimming 50 m. You must also somersault into the water without a life jacket, tread water for two minutes and then swim 20 metres. *If you cannot swim, you should take basic swimming courses before Basic Training.*

Physical Training

Regular physical training sessions will prepare you for field exercises, a 13 km forced march and help you meet the Canadian Forces Minimum Physical Fitness Standard. Passing the Canadian Forces Minimum Physical Fitness Standard is a requirement of Basic Training.

Training will include:

- » skill and strength development;
- » running progressively longer distances up to 6 km; and
- » completing forced marches of various lengths.

Forced march

A "forced march" is a training exercise where you are dressed in full combat gear and packs while marching for a longer distance and at a faster pace than normal. In real combat situations, troops may move to a strategic location for a particular objective under emergency conditions as a forced march.

GETTING READY

You should begin preparing right away to achieve as high a fitness level as you can before Basic Training. Don't put it off. The longer you wait, the more difficult it will be to meet the objectives in the Evaluation.



Assess Your Readiness

Regular physical activity is fun and healthy. Being more active is very safe for most people. Start by answering the seven questions below.^[1] Common sense is your best guide when you answer these questions. Please read the questions carefully and answer each one honestly.

YES NO

- Has your doctor ever said that you have a heart condition and that you should only do physical activity recommended by your doctor?
- Do you feel pain in your chest when you do physical activity?
- In the past month, have you had chest pain when you were not doing physical activity?
- Do you lose your balance because of dizziness or do you ever lose consciousness?
- Do you have a bone or joint problem that could be made worse by a change in your physical activity?
- Is your doctor currently prescribing drugs like water pills for a blood pressure or heart condition?
- Do you know of any other reason why you should not become physically active?

“The target goals are extremely high. Don't wait until the last couple of days before you enroll to start working out.” S.M.

If you answered...

YES TO ONE OR MORE QUESTIONS

Talk with your doctor BEFORE you start a fitness routine or a fitness appraisal. Tell your doctor about the questions where you answered YES. You may be able to start a fitness program as long as you start slowly and build up gradually. However, your doctor may advise you to restrict your activities to those that are safe for you. Tell your doctor about the kinds of activities you want to do and follow his/her advice.

Basic Training will require you to do a lot of marching and running, so you should talk to your doctor if you have any back, knee, ankle or foot problems that could be aggravated by this activity. You should not start a fitness program if you are not feeling well because of a cold or fever. Wait until you feel better. If you are or may be pregnant, talk to your doctor before you start becoming more active.

NO TO ALL QUESTIONS

You can be reasonably sure that you can start becoming much more physically active, but you should begin slowly and build up gradually. This is the safest and easiest way to go. A fitness appraisal is an excellent way to determine your basic fitness level so that you can plan the best way for you to live actively.

[1] The Canadian Forces, the Department of National Defence and their agents assume no liability for persons who undertake physical activity, and if in doubt after completing this questionnaire, consult your doctor prior to physical activity.



Check Your Weight

If you are carrying excess weight, you will have more difficulty meeting the fitness requirements and completing Basic Training, especially if your training is in the summer when extra weight could contribute to heat stress.

The Body Mass Index (BMI) considers your weight in relation to your height to determine if yours is a healthy weight or if you may be overly fat or too lean. Use the BMI to see if excessive weight might be a problem for you. If it is, you should talk to your doctor or a nutritionist for advice. Weight loss is best achieved through a change in diet and regular physical activity, aiming for about half-a-kilogram loss per week.

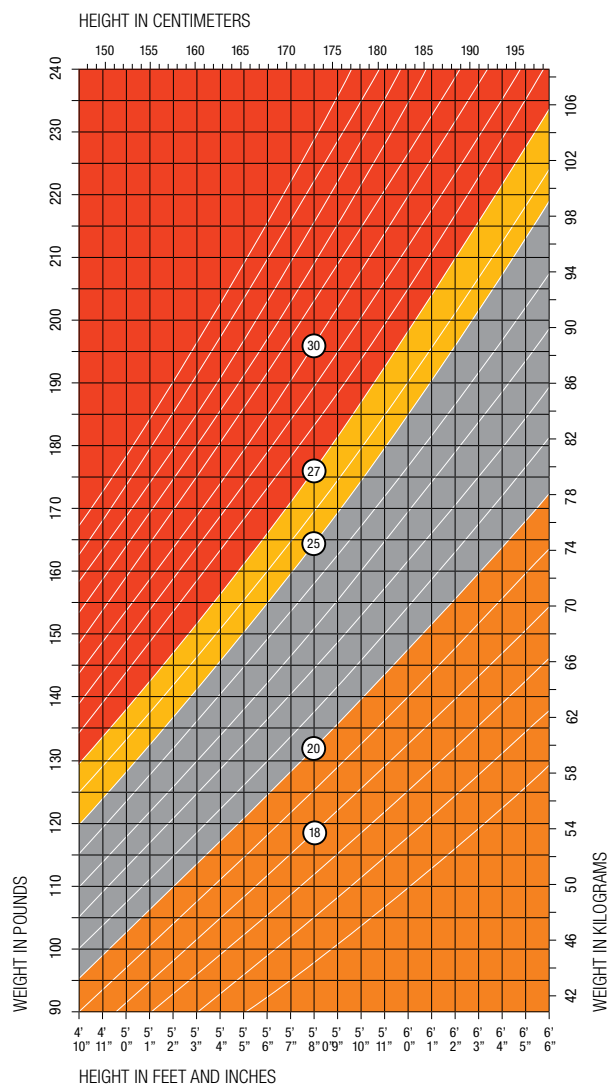
TO DETERMINE YOUR WEIGHT STATUS:

- » select your height – in feet and inches (across the bottom of the chart) or in centimetres (across the top);
- » follow the line until it crosses the horizontal line of your body weight in pounds (on the left side of the chart) or in kilograms (on the right side);
- » establish your Weight Zone:
 - If you score in between 25 and 27, you may be carrying too much fat.
 - If you score above 27 or below 20, your weight may be associated with increased health risks. You should talk to your doctor to find out if it is safe to participate in either a physical fitness regime or Basic Training.

Remember that this is just an estimate – the BMI may misclassify some people. For example, the index does not distinguish between muscle and fat, yet muscle actually weighs more. So, someone who is quite muscular might score above 27 without the increased risk of health problems. If you have any concerns about the accuracy of your score, talk to your doctor, a registered nutritionist or a fitness specialist.

WATCH YOUR DIET

A nutritious and balanced diet will give you the fuel you need for regular physical activity. Junk food won't do it! Canada's Food Guide to Healthy Eating is available from the Recruiting Centre or on Health Canada's web site: www.hc-sc.gc.ca.



- >27 Increased risk of health problems due to excess weight
- 20 - 27 Acceptable weight for most people
- 25 - 27 Precautionary area
- 20 - 25 Healthy weight for most people
- <20 Increased risk of health problems due to underweight

PHYSICAL FITNESS TRAINING

Starting a physical fitness program before Basic Training will allow you to improve your level of fitness gradually, without the risk of injury. Your fitness program should start at a level that's right for you now and progress gradually as your strength and endurance improves.

Training Tips

A good training program is effective, safe and enjoyable! Be sure to:

- » wear comfortable clothing that doesn't restrict your movement;
- » choose running shoes that provide good support and traction;
- » start at a level that's right for you now and progress gradually from there;
- » take rest days when you need them;
- » don't overdo it.

SAMPLE TRAINING SESSION

When starting a fitness program you should follow the FITT (frequency, intensity, time and type) principle to ensure that you are getting the necessary and appropriate training for achieve your fitness goals:

Frequency is a balance between exercising often enough to challenge your body and resting enough to allow your body to recover from the workout.

Intensity is measured using your heart rate during aerobic activity and workload during muscular strength training. Gradually increase the intensity of your workouts to increase your overall endurance.

Time of your workout generally increases as you become more fit. However, more than 60 minutes of exercise you may risk overtraining and injury.

Type refers to the kind of exercise you choose to achieve particular fitness goals: aerobic exercise for cardio fitness and resistance training for muscular strength.

When starting your workout session, take into consideration the frequency, intensity, time and type of activity and your goals. A rule of thumb is that you should ease into your activity and gradually increase each element of the FITT principle.



Warm-Up (5 – 10 min.)

A warm-up helps to prepare both your body and mind for exercise. Light walking, biking, or a slow jog will increase blood flow to the muscles and lightly increase your heart rate. Follow-up with some light stretching of the muscles you will be using in your workout.

Aerobic Fitness / Strength Training Session (20 – 60 min.)

Improving your overall fitness is most effectively done through a combination of Aerobic and Strength exercise. The following sample fitness sessions are based on the Canadian Society of Exercise Physiology guidelines.

“My advice? Be in the best possible shape you can be. Be ready for teamwork. Train now and quit smoking.” D.V.



AEROBIC FITNESS SESSION

Frequency: 3 to 5 times a week.

Initially, exercising 3 times a week on non-consecutive days is best. After a few weeks you can increase your frequency to 4 to 5 times a week.

Intensity: 65 – 90% of your max heart rate.

To figure out the intensity of your aerobic exercise, first calculate your maximum heart rate by subtracting your age from 220. Next, count the number of times your heart beats in 15 seconds, then multiply by 4 to figure out the average beats per minute. Divide the beats per minute by the maximum rate, then multiply by 100. The resulting number is the percentage of intensity.

Eg. 30 year old with 33 beats over 15 seconds:

$$220 - 30 = 190 \text{ maximum (heart rate)}$$

$$33 \text{ beats} \times 4 = 128 \text{ beats per minute}$$

$$128 \text{ beats per minute} \div 190 \text{ maximum heart rate} \times 100 = 67\% \text{ intensity}$$

Time: 20 – 60 Minutes

For first few weeks of your workout, your sessions should last about 20 minutes. Once you are comfortable with that time you can gradually increase your time 2 to 3 minutes each week. The frequency and duration should not be increased in the same week; increase them one at a time.

Type:

Any activity that raises your heart rate is a good activity. However, you should work towards running, which is a major component of Basic Training.

MUSCULAR STRENGTH SESSION^[2]

Frequency: 2 to 3 times per week. All major muscle groups.

Intensity:

The appropriate weight is that which you can lift the required number of times and not more. The first set of exercises in a weight program is a warm-up set despite the fact that you have done a structured warm-up.

1 set

8 – 12 reps

8 – 10 exercises

Time: 15 – 60 min.

For first few weeks of your workout, your sessions should last about 15 minutes. Once you are comfortable, gradually increase your time 2 to 3 minutes each week. The frequency and duration should not be increased in the same week; increase them one at a time.

Type:

Resistance training can include both free weights and resistance machines. Include push-ups, sit-ups and chin-ups in your program, as these are major components of the EXPRES test and Basic Training.

Cool-Down (5 – 10 min.)

The cool-down, which is similar to your warm-up, helps to return to your body to its normal, pre-exercise condition. Suddenly stopping an intense workout can make you dizzy, nauseous, even faint. Walking, biking or a slow jog will gradually bring down your heart rate and relieve muscle soreness. A helpful hint for your stretching exercises is to progress methodically from head to toe so that no major joints or muscles are forgotten.

^[2] For more detailed information consult a trained fitness specialist.

Running

If you decide to run as your Aerobic activity, be sure to run with a natural and comfortable stride length. Use a soft heel or flat-foot landing, rock forward, and gently push off your toes. Maintain an erect but relaxed posture, and move your arms forward and back (not sideways across your chest).

TECHNIQUE

As you train, you will want to check your progress against the performance objectives of the EXPRES test from time to time. The techniques used for push-ups and sit-ups during the EXPRES test are explained here. You may not have access to a hand-grip measuring device, but performing chin-ups will help you prepare for this test.

1. Push-Ups

- » Lie flat on your stomach, legs together.
- » Hands, pointing forward, should be positioned comfortably under the shoulders: someone standing over you should be able to see part of your hand but not all of it. Elbows should be along your sides.
- » Using your toes as the pivot point, push up by straightening and locking your elbows. The body must be kept in a straight line.
- » When returning to the starting position, the back of the upper arms will be parallel to the mat. Your chin, stomach, thighs, and knees are not to touch the mat.
- » Push-ups are to be performed continuously and without a time limit. Repetitions that do not conform to the push-up test technique should not be counted. Perform this motion in a continuous manner. Do as many repetitions as you can. Stop when the movement becomes forcibly strained.

2. Sit-Ups

- » Lie on your back, with your knees bent at a 90-degree angle and feet flat on the floor about 30 cm apart. You may want to ask someone hold your ankles to ensure that your heels are in constant contact with the floor.
- » Place your hands on the side of your head and keep them there through the entire sit-up.
- » Keep your lower back flat against the floor, curl up and touch your knees with your elbows and return to the starting position. Ensure that your shoulder blades return to their initial position each time. This counts as one full sit-up.
- » Perform as many as possible within one minute. You may pause whenever necessary. Stop when the movement becomes forcibly strained or when you start to lift your buttocks off the floor at the beginning of a repetition.

3. Hand Grip

Although you may not have access to a hand grip dynamometer, you can practice using athletic hand grippers.



- » Starting with your left hand, hold the gripper between the fingers and the palm at the base of the thumb.
- » Hold the gripper away from your body and squeeze vigorously with maximum force.
- » Switch hands and repeat the exercise.
- » In the EXPRES test, your final score is calculated using the best score for both hands.

4. Aerobic Fitness 2.4 km Run

The EXPRES test includes a 20 m Shuttle Run to measure your aerobic fitness. You can practice by starting with a 2.4 km run (six laps of a 400 m track) and gradually increasing to 5 km (12.5 laps of a 400 m track) over several weeks. You should be able to run 5 km before you attempt the EXPRES test.

The chart below lists the acceptable time ranges for completing a 2.4 km run. Remember that achieving these times will help you meet the performance objective of the EXPRES test.

ACCEPTABLE TIME RANGES FOR COMPLETING A 2.4 KM RUN

| AGE RANGE | ACCEPTABLE RANGE | |
|----------------|------------------|---------------|
| | MEN | WOMEN |
| Under 30 years | 10:13 - 11:56 | 12:36 - 14:26 |
| 30 – 34 | 10:35 - 12:26 | 12:57 - 14:55 |
| 35 – 39 | 10:58 - 12:56 | 13:27 - 15:25 |
| 40 – 44 | 11:12 - 13:25 | 13:57 - 15:55 |
| 45 – 49 | 11:27 - 13:56 | 14:26 - 16:25 |
| 50 – 54 | 11:57 - 14:25 | 14:56 - 16:54 |
| 55 & over | 12:27 - 14:56 | 15:27 - 17:24 |



5. Chin-Ups

Chin-ups are not part of your official evaluation. However, minimum objectives for chin-ups are included, because they are an important part of your Basic Training.

- » Hang from a chin bar with the palms of your hands facing you (thumbs to the outside) and your arms fully extended.
- » Without swinging your legs, pull up by bending your elbows until your chin is just above the bar, then lower yourself slowly to the starting position. Exhale as you pull up, inhale on the way back down.
- » Continue this motion without resting until the movement becomes forcibly strained or you can't stop your legs from swinging. Count one every time you return to the starting position. Do not count if your legs swing.

“Upper body strength is very important. You’ll discover you have muscles you never knew you had.” K.D.A

1. Push-Ups



Start position, Down position.



Top view, Up position.

2. Sit-Ups



Start - Down position.



Up position.

3. Hand Grip



4. Aerobic Fitness 2.4 km Run



5. Chin-Ups



With arms straight.



Horizontal bar position.

Fit for Duty

Basic Training is designed to take physically fit individuals and prepare them to perform the various physical tasks expected of a member of the Canadian Forces. By the time you complete Basic Training you will be able to:

- Complete a 13 km forced march in full combat gear
- Complete push-up and sit-up tests
- Run up to 6 km
- Complete swimming tests
- Scale walls and cross ditches as part of obstacle courses

PHYSICAL FITNESS EVALUATION

Your overall success in Basic Training depends on your contribution to the team effort. If you are out of shape, you will not do well on the field exercises and you will not be a strong team member. It is important for you to be as fit as possible before Basic Training.



During the first week of Basic Training you will take the EXPRES test to assess your basic level of physical fitness. Passing the EXPRES test is required for you to continue with Basic Training. The entire test is made up of four activities: a 20 m Shuttle Run to measure aerobic fitness, push-up and sit-up tests to measure muscular endurance and a hand-grip test to measure strength.

If the fitness staff determines that you would benefit from additional training, you may take part in extra physical fitness classes at the end of the day or incorporate additional training on your own.

IF YOU DON'T MEET THE CF EXPRES OBJECTIVES?

Candidates who do not meet the EXPRES fitness objectives but are able to meet a minimum threshold may continue with additional physical fitness training as part of the Warrior Preparation Company at the Leadership School.

Should you fail to meet the Minimum Threshold Fitness Test Standard during the initial CF EXPRES test or fail the CF EXPRES test after 90 days of additional training, you will be released from the CF.

EXPRES Test Performance Objectives

| TEST ITEM | MEN | | WOMEN | |
|--|----------|---------|----------|---------|
| | Under 35 | Over 35 | Under 35 | Over 35 |
| 1 - Aerobic Fitness (Shuttle Run Stage) | 6.0 | 5.0 | 4.0 | 3.0 |
| 2 - Push-Ups | 19 | 14 | 9 | 7 |
| 3 - Sit-Ups | 19 | 17 | 15 | 12 |
| 4 - Hand Grip (Combination of left and right hand scores) | 75 kg | 73 kg | 50 kg | 48 kg |

MINIMUM THRESHOLD

| TEST ITEM | MEN | WOMEN |
|--|-----|-------|
| Aerobic Fitness (Shuttle Run Stage) | 3.5 | 2.5 |
| Push-Ups | 4 | 2 |

The Warrior Preparation Company

The Warrior Preparation Company provides additional training and three opportunities to pass the EXPRES test: after 30, 60 or 90 days. Once you pass the EXPRES test, you will join the next available Basic Training session.