

Physical Fitness Guide

for Applicants
to the Canadian Forces

PRE-ENROLLMENT INFORMATION
AND GUIDE TO SELF-PREPARATION
FOR BASIC TRAINING



2005



CANADIAN FORCES
FORCES CANADIENNES
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Canada 

A Message

from Commander

Physical fitness is fundamental to being an effective member of the Canadian Forces. Being active and fit will help you carry out your many duties and responsibilities with vigour, alertness, and stamina. Fit individuals also make strong team members – ensuring operational readiness of the Forces at all times.

A high level of physical fitness is essential for success in Basic training and throughout your military life. The information in this booklet will help you prepare for the challenges of Basic Training and the rewards that will follow as you progress through your career in the Canadian Forces.

Use it wisely.

A handwritten signature in black ink, appearing to read 'KR Cotten', with a long, sweeping horizontal line extending from the end of the signature.

Colonel K. R. Cotten

Commander Canadian Forces Recruiting Group

Physical Fitness Guide

for Applicants to the Canadian Forces

Regardless of your occupation in the CF, you can be called upon to carry out difficult and dangerous tasks. These can range from defending an air base, or boarding a ship at sea, to participating in a delicate peacekeeping operation overseas.

Physical fitness is essential to be ready for these possibilities. 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 EXPRES (EXERCISE PRESCRIPTION) Programme is a key part of this. EXPRES includes a fitness evaluation, exercise programs and resources to help you achieve your personal fitness goals.

Once you are a CF member, you will have access to fitness facilities and programs. But first, you must prepare for – and successfully complete – Basic Training. The information in this booklet will help you achieve this goal.

THE BOOKLET:

- describes briefly the demands of Basic Training;
- offers tips and advice to help you get ready; and
- outlines the specific steps that will be taken to ensure you are physically fit.

These steps are as follows:

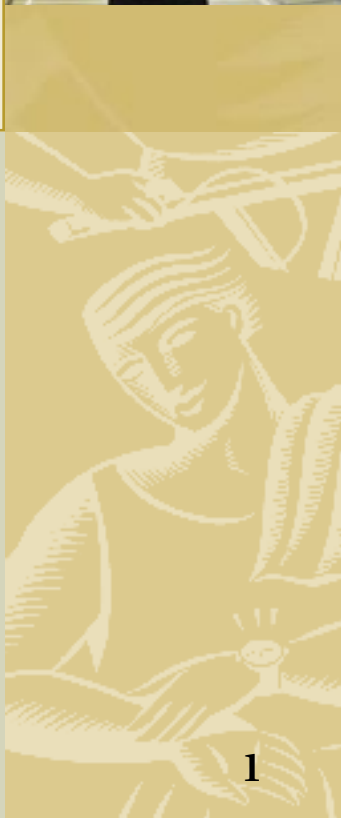
1. SELF-ASSESSMENT OF YOUR PHYSICAL FITNESS.

The minimum objectives are listed on page 10. Since they are just minimum objectives, you should strive to be as fit as you can and not limit yourself to them. The Self-Assessment is described on pages 10 and 11.

2. PRE-ENROLLMENT PHYSICAL FITNESS EVALUATION.

This is described on page 10. You will be required to complete this Evaluation as a part of the recruiting process.

Please read this booklet carefully – cover to cover. Then refer to it regularly as you prepare for the excitement and adventures that await you.



The Demands of Basic Training

Basic Training - lasting either 10 or 14 weeks - will teach you a new way of life. It may prove to be the most demanding experience you have ever had. It will require hard work and perseverance, so you will find it easier if you are prepared. Here are some of the things you can look forward to during Basic Training.

DAILY ROUTINE

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

FIELD EXERCISES

Field exercises focus on weapons firing, map and compass use, confidence (obstacle) course training, and forced marches of various lengths. You may also set up your own accommodations and do your own cooking. These exercises allow you to put into practice the theory you have learned up to that point in your training.

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. (This is one reason push-ups; chin-ups and other resistance exercises are emphasised in your pre-enrollment training program).

SWIMMING

During Basic Training, you must also meet the military swim standard. This test involves jumping into a Canadian Forces 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, then swim 20 m. If you cannot swim now, you are advised to take a basic swimming course before proceeding to training.

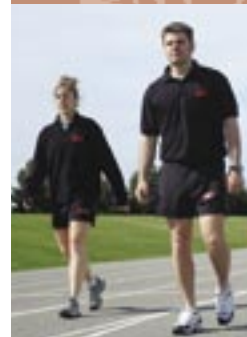
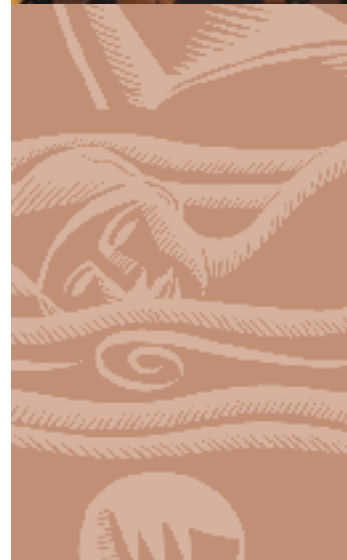
PHYSICAL TRAINING

Regular physical training sessions will prepare you for field exercises, the 13 km forced march, and help you meet the *Canadian Forces Minimum Physical Fitness Standard*, a prerequisite for graduation.

Training will include:

- skill and strength development to help you complete the obstacle course;
- running progressively longer distances (starting at 3 km and building up to 6 km) to improve your fitness level; and
- conducting forced marches in combat clothing and equipment (beginning with a 3 km march early in the course).





You will also continue physical fitness activities during Basic Training. If remedial work is required, classes will be held at the end of the normal training day.

Success at all times during Basic Training will depend on making a team effort and on the contribution of every member. If you are constantly tired during training because you are out of shape, you will not learn much, you will not do well on the field exercises, and you will not be a strong team member. So when you come to Basic Training, it is important for you to **be as fit as you can**.

Getting Ready

You should *begin your preparation NOW* to achieve as high a level of physical fitness as you can *before* Basic Training. Don't put it off. The longer you wait, the more difficult it will be to meet or surpass the objectives in the *Evaluation*. Remember, your enrollment in the Canadian Forces will be delayed unless you are sufficiently fit.

To Start off Right

ASSESS YOUR READINESS

Before you begin, complete the *Physical Activity Readiness Questionnaire* on page 4. Read it carefully and answer the questions. Then follow the Yes or No advice, whichever applies to you.

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.

Also if you think you may be pregnant, you are pregnant, or you become pregnant, speak to your doctor about your plans to join the CF and about your ability to do the activities required during Basic Training.

CHECK YOUR WEIGHT

If you are carrying excess (fat) weight, you will have more difficulty meeting the fitness objectives and completing the various tasks in Basic Training. This is especially true if your training is in the summer – your extra weight could contribute to heat stress.

Use the *Body Mass Index* information on page 6 to determine if excessive weight might be a problem for you. If it is, you should see your doctor or a public health nutritionist for advice. Weight loss is best achieved through a change in diet and regular physical activity, aiming for about half-a-kilo-gram loss per week.

WATCH YOUR DIET

A nutritious diet will give you the fuel you need for regular physical activity. Junk food won't do it! Your best bet is to follow the suggestions in *Canada's Food Guide to Healthy Eating*. You can get a copy of the guide from the recruiting Centre or from this web site: www.hc-sc.gc.ca.

PAR-Q

& You

Physical Activity Readiness Questionnaire

A questionnaire for people aged 15 to 69*

Regular physical activity is fun and healthy, and increasingly more people are starting to become more active every day. Being more active is very safe for most people. However, some people should check with their doctor before they start becoming much more physically active.

If you are planning to become much more physically active than you are now, start by answering the seven questions below. If you are between the ages of 15 and 69, the PAR-Q will tell you if you should check with your doctor before you start. If you are over 69 years of age, and you are not used to being very active, check with your doctor.

Common sense is your best guide when you answer these questions. 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 your 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?

* The CF recruits applicants from the 17 to 55-age pool.

IF YOU ANSWERED...

YES to one or more questions

Talk with your doctor by phone or in person BEFORE you start becoming much more physically active or BEFORE you have a fitness appraisal. Tell your doctor about the PAR-Q and which questions you answered YES.

- You may be able to do any activity you want as long as you start slowly and build up gradually. Or, you may need to restrict your activities to those that are safe for you. Talk with your doctor about the kinds of activities you wish to participate in and follow his/her advice.
- Find out which community programs are safe and helpful for you.



NO to all questions

If you answered NO honestly to all PAR-Q questions, you can be reasonably sure that you can:

- start becoming much more physically active, begin slowly and build up gradually. This is the safest and easiest way to go; and
- take part in a fitness appraisal, this is an excellent way to determine your basic fitness so that you can plan the best way for you to live actively.

Delay becoming much more active:

- if you are not feeling well because of a temporary illness such as a cold or a fever, wait until you feel better; or
- if you are or may be pregnant, talk to your doctor before you start becoming more active.

Canadian Society for Exercise Physiology - (Informed use of the PAR-Q)
The Canadian Society for Exercise Physiology, Health Canada 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.

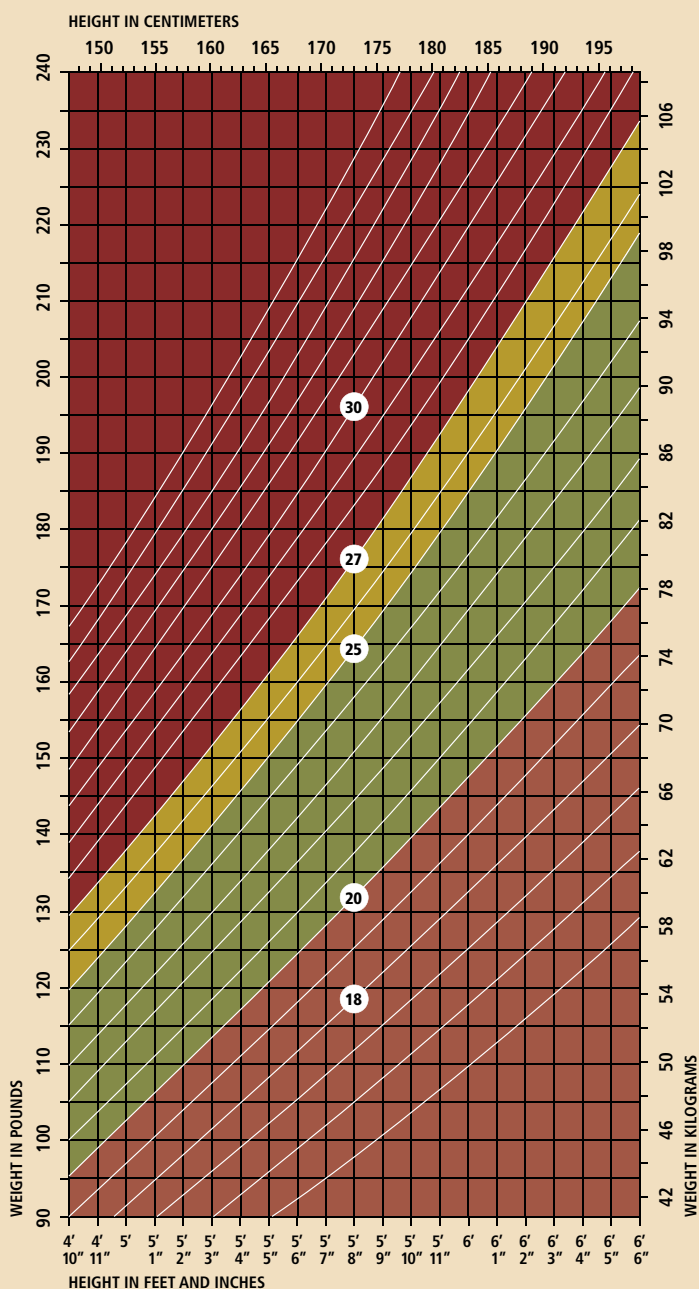


Body Mass Index






Body Mass Index 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. This is a simple measurement and should be considered an estimate.

TO DETERMINE YOUR WEIGHT STATUS:

- select your height – in feet and inches (across the bottom of chart) or in centimetres (across the top);
- follow its vertical (up & down) 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); and
- establish in which *Weight Zone* you are.





-  **> 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

If you score in the *Caution* zone, you may be carrying too much fat. If you score in the top dark/solid (*Overfat*) zone or in the bottom (*Too Lean*) zone, your weight may be associated with increased health risks.

Remember that this is just an estimate – the procedure can misclassify some people. The chart can't tell the difference between muscle and fat. For example, someone who is quite muscular might score in the top (dark) zone. But they aren't overly fat and (muscle) weight doesn't put them at increased risk of health problems like excess (fat) weight does.

If you have any concerns about the accuracy of your score, talk to your doctor, to a registered dietitian or fitness specialist. You should also talk to your doctor if you scored in the *Overfat* or *Too Lean* zone to determine if there are any concerns about your safe participation in Basic Training.

Adapted from materials developed by Nutrition Services of Ottawa-Carleton Health Department.



Training Tips

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

- wear comfortable clothing that doesn't restrict your movement and 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 so you don't overdo it; and
- 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).

Sample Training Session

When starting a fitness program you should follow the **FITT** principle on page 9. This will ensure that you are getting the necessary training and recovery time for optimal gain.

WARM-UP (5 – 10 MIN.)

Typically a warm-up is used to increase blood flow to the muscles and prepare you for the activity that you have chosen to do as a workout. Light walking, biking, or a slow jog can be done to achieve these results. This should be followed by some light static stretching, stretching the muscles that you will be using in your training session.

AEROBIC FITNESS/MUSCULAR STRENGTH SESSION (20 – 60 MIN.)

When starting your session, take into consideration the frequency, intensity, type of activity and your goals. A rule of thumb is that you should ease into your activity and gradually increase the intensity. For example 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.

COOL-DOWN (5 – 10 MIN.)

Your cool-down can be similar to your warm-up. Walking, biking or a slow jog will bring your heart rate down gradually to allow your body to repair itself and help 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.

Warm-up and cool-down should be a regular part of your workout. Duration of these should be 5 – 10 min. This time is not counted as part of your 20 – 60 min workout time. Stretching can also be included in your cool-down.



AEROBIC FITNESS SESSION FOLLOWING CANADIAN SOCIETY OF EXERCISE PHYSIOLOGY GUIDELINES:

FREQUENCY: 3 – 5 times a week

- At the start of your program, exercising 3 times a week on non-consecutive days is best. After a few weeks you can increase your frequency to 4 – 5 times a week.

INTENSITY: 65 – 90% of your max Heart Rate*

$220 - \text{age} \times (\text{intensity } \%)$

*Ex: 30 years old working at 70% of max HR
 $220 - 30 \times (70\%) \rightarrow 190 \times (70\%) \rightarrow 133 \text{ BPM}$*

TIME: 20 – 60 Minutes

- The first few weeks of your workout, the duration of your sessions should be closer to 20 minutes. Once you are comfortable with that time you can gradually increase your time by 2 – 3 min/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 for the duration of your workout is a good activity. You should however work towards running, as this is a major component of Basic Training. Sample activities: Walking, running, biking, rope skipping, stair climber, aerobic classes, swimming etc.

MUSCULAR STRENGTH SESSION FOLLOWING CANADIAN SOCIETY OF EXERCISE PHYSIOLOGY GUIDELINES:

FREQUENCY: 2 to 3 times per week

Major muscle groups

INTENSITY: The appropriate weight is that which you can lift the required number of times and not more.**

1 set

8 – 12 reps

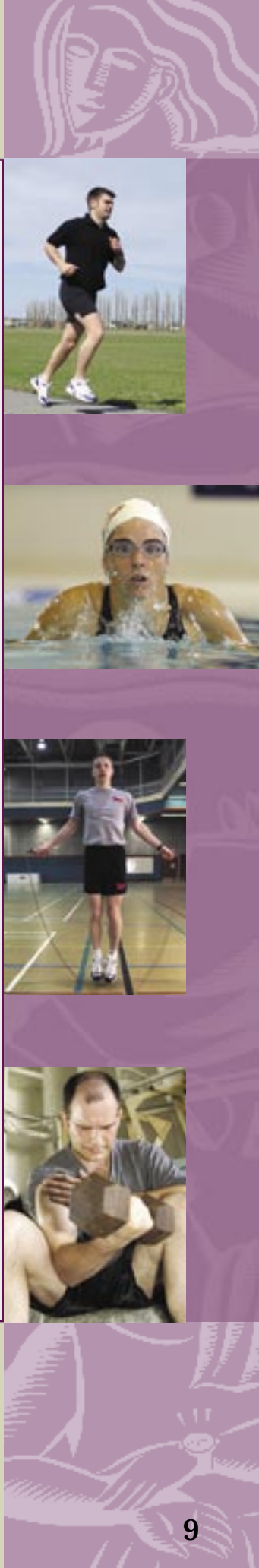
8 – 10 exercises

TIME: 15 – 60 min

Progressive

TYPE:

- Resistance training (Free weights/machines) Include push-ups, sit-ups and chin-ups in your program, as these are components of Basic Training.



* Estimated max heart rate = $(220 - \text{age})$. If these calculations are confusing consult a trained fitness specialist.

** For more information consult a trained fitness specialist.

Pre-enrollment

Physical Fitness Evaluation

To ensure that you are ready for the demands of Basic Training, you will be asked to undergo a *Physical Fitness Evaluation* as a part of the recruiting process. Successful completion of this *Evaluation* is a necessary step toward being accepted into the Canadian Forces.

There are four test items in the Evaluation: a **Step test** to measure your aerobic fitness, **push-up** and **sit-up** tests to measure your muscular endurance, and a **hand-grip** (squeeze) test to measure your muscular strength.

MINIMUM PERFORMANCE OBJECTIVES

The *minimum* performance objectives to be met are shown below. The minimum objective for the step test could normally be achieved if you attained an *acceptable* rating on the 2.4 km run as shown in the chart on page 11.

TEST ITEM	MEN	WOMEN
Push-Ups		
• Under 35 years of age	19	9
• 35 and older	14	7
Sit-Ups		
• Under 35 years of age	19	15
• 35 and older	17	12
Hand Grip (in kilograms) (Combination of your left and right hand scores)		
• Under 35 years of age	75	50
• 35 and older	73	48
Aerobic Fitness	Acceptable rating for 2.4 km run will prepare you to meet the aerobic fitness standard.	

SELF-ASSESSMENT OF PHYSICAL FITNESS

As you pursue your training you will want to assess your progress against the objectives in the *Pre-Enrollment Physical Fitness Evaluation*. You can assess yourself as often as you wish.

The techniques used for push-ups and sit-ups during the *Evaluation* are explained here. Use these techniques during training and self-assessment. You may not have access to a hand-grip measuring device. However, performing chin-ups (see page 11) will help you prepare for this test.

PUSH-UPS

Lie flat on your stomach, legs together. Hands, pointing forward, and positioned comfortably **under the shoulders**. To establish an acceptable hand position, an observer standing over top of you should be able to see part of your hand but not all of your hand. If they can see all of the hands the base is too wide. Conversely, if the hands are in under the chest then the position is too narrow. Elbows are comfortably back along sides. Push up from the mat by straightening and locking the elbows and using the toes as the pivotal point. 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. Normally, neither the chin, stomach, thighs, nor knees are 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 the test when the movement becomes forcibly strained.



Start position, Down position.



Top View, Up position.

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. Have 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 they must be maintained in this position throughout the test. By keeping the lower back flat against the ground, begin the movement, curl up and touch the knees with your elbows (count "one") and return to the starting position. Perform as many repetitions as possible within one minute. Ensure that your shoulder blades return to their initial position each time. You may pause whenever necessary. Stop the test when the movement becomes forcibly strained or when you start to lift your buttocks off the floor at the beginning of a repetition.

AEROBIC FITNESS 2.4 KM RUN

During your Pre-Enrollment Physical Fitness Evaluation, a qualified instructor will conduct a step test to measure your aerobic fitness. For the Self-Assessment, however, you will have to do a 2.4 km run to gauge your level. Be sure to pursue a gradual running program over several weeks prior to the test. You should be able to run 5 km before you attempt the test.

Complete the test on a regulation running track (six laps of a 400 m track) or over a measured course. (If necessary, you can measure out a course using the odometer on a car).

Use the chart below to assess your results. Remember that achieving an acceptable rating will prepare you to meet the required objective on the Step Test Evaluation.

2.4 KM RUN – FITNESS CATEGORIES (TIME IN MINUTES)

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

HAND GRIP

Although you may not have access to a hand grip dynamometer, the protocol is as follows: Starting with your left hand, hold the dynamometer between the fingers and the palm at the base of the thumb. Hold the instrument away from the body, squeeze vigorously exerting maximum force. Apply the same protocol to your right hand and repeat a second time. Combination of your best score for both hands will be calculated.

CHIN-UPS

Hang from a chinning 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.

Perform this motion in a continuous manner, without resting between repetitions. Count one every time a chin-up is completed. Do not count anywhere swinging occurs.

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

CHIN-UPS	MEN	WOMEN
Under 35 years of age	6	3
35 and over	4	2



Start - Down position.



Up position.



With arms straight.



Horizontal bar position.

Pre-Test

Information & Instructions for Participants

PRE-SCREENING:

You will complete a health appraisal questionnaire and a pre-test vital signs check consisting of resting blood pressure and resting heart rate measurements by your tester.

DRESS REQUIREMENT:

You should dress in running shoes, shorts, and a T-shirt or sweat shirt, with female applicants wearing a sports bra or a top part of a two-piece swim suit underneath.

PROOF OF IDENTIFICATION:

Bring Photo ID, such as: current drivers license, photo health card, Military ID, photo student cards etc.

PRE-TEST INSTRUCTIONS:

To ensure accurate test, please adhere to the following instructions:

- **Physical Exercise:**
No strenuous physical activity **minimum six hours (6hrs)** before the test.
- **Food and Beverages:**
 - Do not eat for at least **two hours (2hrs)** before your test.
 - Refrain from consuming alcohol for at least **six hours (6hrs)** before your test.
 - Refrain from drinking caffeine beverages for at least **two hours (2hrs)** before your test (tea, pop, coffee, etc.).
 - Refrain from smoking for at least **two hours (2hrs)** before your test.

NOTE: The results of your test may be negatively affected if the conditions concerning dress, food, smoking, beverages and exercise are not followed. If you clearly ignored these instructions, the evaluator may cancel your test.

POST TEST

You will remain in the test area until your post-exercise heart rate has decreased to less than 100 BPM.



Acknowledgements

The following individuals were instrumental in the development of this guide:

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Voices of Experience

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

D.V.

"Upper body strength is very important. You'll discover you have muscles you never knew you had."

K.D.A.

"Be prepared for a very physically and mentally exhausting experience. It's well worth it though!"

K.S.

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

S.M.



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Information