



Preparatory Fitness Program

for Portland Fire & Rescue Applicants

Portland Fire & Rescue (PF&R) is committed to assisting firefighter candidates with fitness information and pre-hire training recommendations to increase the likelihood that job candidates will be able to successfully complete training, perform the job, and experience fewer accidents and injuries. To do this effectively, it is necessary for applicants to understand that firefighting is one of the most physically demanding jobs in the world. You must be in top physical condition to perform the tasks required of a firefighter. You may be rescuing victims, carrying equipment, raising ladders and extinguishing fires. Therefore, you must be in the best possible condition by the time you are eligible to be hired.

FITNESS PROGRAM FOR APPLICANTS

The program has been divided into three categories: flexibility, cardiovascular fitness, and strength training. Each component is equally important and needs to be included in your fitness program. Use the workout log at the end of this document to keep track of your progress. Keeping an exercise log will help you to monitor and continually improve your fitness. Make copies of the log and use it each week to track your progress.

Before participating in any exercise program of moderate to high intensity, it is recommended that you have a medical examination. Also, familiarize yourself with the general fitness facts listed below. Following these guidelines will help you obtain the maximum benefit from the program.

1. Warm up for at least 5 minutes before each workout. This allows the body to get prepared for the demands that you will be placing on it. Fatigue will be reduced along with the risk of injury. Walking, cycling, stair climbing, etc. are all good warm ups. After you have warmed up, stretch all major body parts. It is important that you do not stretch until you are warmed up.
2. For improvement in your fitness, you must overload the system, which means that a higher than normal demand must be placed on the muscle or system. In lifting weights, you want to be able to barely complete the last repetition in a set. In improving the cardiovascular system you want to work within your target heart rate zone.
3. Always pay attention to how you feel when exercising. If you become faint, dizzy, nauseous, etc., you should stop exercising until the feeling goes away.
4. Increase your workload gradually. Increase your distance or time spent exercising by no more than 10% each week. Increase either intensity or duration, but don't do both on the same day.
5. With all exercises, use proper form and learn the proper way to use equipment.
6. Always cool down gradually after a workout. Walking for 5 to 10 minutes allows your body to recover from the exercise state that it was in and return to equilibrium.

7. Rest is crucial in allowing your body to recover. It also keeps you feeling fresh and motivated. In general, take one day off a week from cardio training and rest each muscle group at least 48 hours between workouts for strength training. Stretching can be done on a daily basis.
8. Nutrition is a huge part of fitness. Choose to be a healthy eater by following the food guide pyramid to help improve your health and fitness level.

Cardiovascular Training

Cardiovascular endurance, or aerobic fitness, is enhanced when large muscle groups of the body are involved in continuous and rhythmic activity for sustained periods of time, performed most days of the week. This activity strengthens the heart and lungs. Having good cardiovascular endurance means you are able to run, carry equipment, or perform other physically strenuous activities for prolonged periods of time.

This cardiovascular fitness program has been designed for people of all fitness levels. If you have not been doing cardiovascular exercise, your mode of exercise should be walking for at least the first 2-3 weeks (Beginner). Once comfortable with walking for at least 30 minutes, progress to jogging (Intermediate). Then progress to running (Advanced). An interval-training program has been included once you have mastered the running program.

To maximize the benefits of any cardiovascular workout you must exercise at the proper intensity, which is determined by your target heart rate zone. Calculate your target heart rate zone as follows:

- Determine your maximum heart rate by subtracting your age from 220.
- Multiply your maximum heart rate by the percentages for your training level of the cardio-respiratory program.
- The numbers you obtain are the minimum levels within which your heart rate should fall to ensure that you are working at the proper intensity and maximizing the benefits of your workout.

To measure your heart rate during exercise to ensure you are working at the proper intensity:

- Take a 15-second pulse count on your wrist or neck and multiply by four. This is your heart rate.
- Check your heart rate periodically to ensure that you stay within your target heart rate.

Make sure you exercise at the appropriate target heart rate zone for each level of the cardiovascular fitness program. Use the workout card to record and monitor your progress.

Cardiovascular Program and Exercise Intensity Chart

	Beginner	Intermediate	Advanced	Athlete
Frequency	Walk 3 to 5 days per week	Jog 3 to 5 days per week	Run 5 or more days per week	5 or more days per week of interval training
Target Heart Rate	60% to 70% of max heart rate	70% to 80% of max heart rate	70% to 90% of max heart rate	See Interval Training Guidelines
Duration	30 minutes or more	30 minutes or more	30 minutes or more	See Interval Training Guidelines

Interval Training Guidelines

Week 1 - Jog 5 times this week at an intensity of 75% - 80% of your maximum heart rate. Each workout this week should be 30 minutes in duration.

Week 2 - Jog 5 times this week at an intensity of 75% - 80% of your maximum heart rate. During two non-consecutive workouts this week perform intervals as follows: 1 minute intervals at 90% - 95% of your maximum heart rate for every 9 minutes of exercise at 75% - 80% of your maximum heart rate. Do 3 sets of 9:1. Each workout this week should be 30 minutes in duration.

Week 3 - Run 5 times this week at an intensity of 80% - 85% of your maximum heart rate. During two non-consecutive workouts this week perform intervals as follows: 1 minute intervals at 90% - 95% of your maximum heart rate for every 7 minutes of exercise at 80% - 85% of your maximum heart rate. Do 4 sets of 7:1. Each workout this week should be 32 minutes in duration.

Week 4 - Run 5 times this week at an intensity of 80% - 85% of your maximum heart rate. During two non-consecutive workouts this week perform intervals as follows: 1 minute intervals at 90% - 95% of your maximum heart rate for every 6 minutes of exercise at 80% - 85% of your maximum heart rate. Do 4 sets of 6:1. Each workout this week should be 28 minutes in duration.

Week 5 - Run 5 times this week at an intensity of 80% - 85% of your maximum heart rate. During two non-consecutive workouts this week perform intervals as follows: 1 minute intervals at 90% - 95% of your maximum heart rate for every 5 minutes of exercise at 80% - 85% of your maximum heart rate. Do 5 sets of 5:1. Each workout this week should be 30 minutes in duration.

Week 6 - Run 5 times this week at an intensity of 80% - 85% of your maximum heart rate. During two non-consecutive workouts this week perform intervals as follows: 2 minute intervals at 90% - 95% of your maximum heart rate for every 6 minutes of exercise at 80% - 85% of your maximum heart rate. Do 4 sets of 6:2. Each workout this week should be 32 minutes in duration.

Succeeding Weeks – Continue to work out at the Week 6 level.

Other Cardiovascular Exercises

Once you are performing comfortably at the Advanced or Athlete levels of the cardio-respiratory fitness program, you may wish to incorporate other forms of cardio-respiratory exercise into your program. This will add variety to your program, vary the muscular demands that you place upon your cardio-respiratory system, and reduce the chance of injury. Other types of exercise you may choose to incorporate into your program include:

Treadmill, Rowing Machine, Stationary Bike, Elliptical Trainer, Stair climber, Cross Country Ski Machine
Swimming

Strength Training Program

The duties performed by a Firefighter often require the use of multiple muscle groups. This training program has been designed to assist candidates who want to workout on their own to develop a level of strength that will assist them in becoming successful Firefighters. The exercises have been categorized according to muscle groups. Each workout should consist of one exercise from each group to be done at the designated number of repetitions for that week. Workouts should be done **every other day** to allow muscles to recover from fatigue. The weight used for each exercise should allow you to barely complete the set while maintaining proper form. If you do not know how much weight to use, start light and add weight each day you exercise until you can barely complete the last repetition in the last set. Below is a chart that lists the exercises to be done.

Muscle Group	Weeks 1-2	Weeks 3-4	Weeks 5-6	Weeks 7-8
Chest	Bench Press	Incline Press	Dumbbell Flys	Bench Press
Shoulders	Military Press	Lateral Raises	Front Raises	Military Press

Mid-Back	Lat Pull Down	Seated Row	One Arm Row	Lat Pull Down
Upper back	Shrugs	Upright Row	Bent Over Row	Shrugs
Triceps	Push Down	Overhead Extension	Skull Crushers	Push Downs
Biceps	Arm Curls	Reverse Curls	Hammer Curls	Arm Curls
Complex Leg	Lunges	Leg Press	Squats	Lunges
*Abdominals	Curl Ups / Superman 30 seconds each	Crunches / Superman 45 seconds each	Obliq. Curl / Superman 60 seconds each	Curl Ups / Superman 75 seconds each

*Do as many as you can in the time given

Weekly Breakdown:

Weeks 1-2: Do exercise for each muscle group, complete 3 sets with 12-15 reps per set, with 30-60 seconds rest between sets.

Weeks 3-4: Do exercise for each muscle group, complete 3 sets with 10-12 reps per set, with 30-60 seconds rest between sets.

Weeks 5-6: Do exercise for each muscle group, complete 3 sets with 8-10 reps per set, with 1-2 minutes rest between sets.

Weeks 7-8: Do exercise for each muscle group, complete 3 sets with 6-8 reps per set, with 1-2 minutes rest between sets.

After the initial 8 weeks, begin to rotate through exercises at higher intensity (weight) following same progression, starting with the first exercise. Remember, the last repetition should be very difficult. At some point a plateau may be reached which may affect the pace of improvement, but by that time you will have made significant progress. Once you have become proficient, you may also alter the combination of exercises as long as each muscle groups has been targeted.

Flexibility

Flexibility or range of motion is specific to each joint of the body. Muscles, ligaments, and tendons influence the amount of movement at each joint. Fitness experts recommend static stretching exercises (stretches that are held) be held for 10-30 seconds and repeated three to five times for each major joint of the body. Before you stretch, it is recommended you do an active aerobic warm-up. Muscles should be warm so they can stretch further and safer. Improved flexibility can have the following benefits; good joint mobility, increased resistance to muscle injury and soreness, lower risk of back pain, improved posture, enhanced sports performance, and reduced tension and stress.

A stretch is provided for each major muscle group.

Stretches



Neck Stretch

Place hand on top of head and gently pull head toward shoulder. Repeat on other side.



Chest/Shoulder Stretch

Stand and place your left palm against a wall and rotate the torso away from the hand until the stretch is felt across the chest and shoulder. Repeat on other side.



Hamstring Stretch

Stand up facing chair or table. Place foot on chair or table. Gently lean over keeping your back straight. Repeat on other side.



Quadriceps Stretch

Place left hand on stationary object. Reach back with right hand and grab ankle. Pull ankle and foot into body Repeat on other side



Lower Back Stretch

Lie on your back with lower back flat on the floor. Bring both Knees to your chest. Exhale and pull the knees to the chest.



Groin Stretch

Sit erect with soles of feet together. Gently pull heels toward groin and press inside of Knees down towards the floor.



Outer Hip Stretch

Lie on your back and flex left knee up across your body and pull toward right shoulder. Repeat on other side.



Calf Stretch

Place arms against a wall and put one foot several inches in front of the other. Slowly bend your front knee keeping both feet on the floor. Repeat on other side.



Side Stretch

Stand with feet shoulder width apart. Place hands behind your head with hands clasped. Slowly bend one side, hold then return to starting position. Repeat on other side.



Hip Flexor Stretch

Assume lunge position. Front knee should be directly over foot. Press hips toward the floor.



EXERCISE LOG

Week of: _____

Strength Training Workout days: M T W T F S S

Muscle Group	WEIGHT	SETS	REPS
1)			
2)			
3)			
4)			
5)			
6)			
7)			
8)			

Cardio Exercise Type 5-6 d/wk	Time	Distance	Heart Rate
M)			
T)			
W)			
T)			
F)			
S)			
S)			

Remember to Stretch

Make copies of this page and use it to record your workout levels and monitor your progress.