Firefighting is one of the most physically demanding occupations there is. You must be in top physical condition to perform the tasks required of a Firefighter, such as rescuing victims, carrying equipment, raising ladders and performing automobile extractions. You must also be in top physical condition to be trained to do these tasks. Therefore, you must ensure that you are in the best possible physical condition by the time your eligibility for appointment as a Los Angeles Firefighter is determined.

This brochure has been designed to assist candidates who want to work out on their own to develop strength and fitness levels that will help them be successful in the Firefighter training program and on the job. And even if you do not ultimately become a Los Angeles Firefighter, the program can be the start of a commitment to fitness that will benefit you throughout your life.

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

Before participating in any exercise program of moderate to high intensity, the American College of Sports Medicine (ACSM) and the City of Los Angeles recommend 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, stairclimbing, 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 cardio-respiratory 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. Always eat before and after a workout. Food to humans is like gas to a car; without gas the car doesn't run.

9. 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.
Flexibility

Flexibility, or range of joint motion, is specific to each joint of the body. Muscles, ligaments, and tendons influence the amount of movement possible at each joint. The American College of Sports Medicine recommends that static stretching exercises (i.e., stretched positions that are held) be sustained for 10 to 30 seconds and then be repeated three to five times for each major joint of the body. At a minimum, three sessions per week are recommended to develop flexibility. As a matter of safety and effectiveness, an active aerobic warm-up should precede vigorous stretching sessions. Muscles that are warm from jogging, cycling, or other aerobic exercise can stretch further and more safely. Many claims have been made for health-related benefits of flexibility. These include good joint mobility, increased resistance to muscle injury and soreness, lowered risk of low-back pain and other spinal column aches and pains, improved posture, enhanced development of sport skills, and reduced tension and stress.

A stretch is provided for each major muscle group. Review the exercises and include each of them in your daily workout. Remember to hold each stretch for 10 to 30 seconds and repeat three to five times.

**Stretches**

**Neck Stretch**

From a standing or sitting position tilt head to right side, place right hand on top of head, and gently pull head toward shoulder. Repeat to left side.

**Chest Stretch**

Stand facing a wall or doorframe and raise elbow to shoulder height at your side. Place hand on the wall, step forward, then rotate your trunk away from the wall and lean forward slightly. Repeat using other arm.

**Hamstring Stretch**

Sit on floor with a straight back and extend left leg straight out. Right foot should be tucked into the inner thigh of the left leg. Reach for the left foot, exhale slowly and bend from the hips, not the back. Repeat with right leg straight out.

**Quadricep Stretch**

Lying on your side, flex the right knee and grab the right ankle with your right hand. Exhale slowly as you tuck the right heel in to the buttocks. Inner thighs of both legs should be in contact with each other through out the entire stretch. Repeat with other leg.
Preparatory Fitness Program for LAFD Applicants

Stretches (continued)

**Lower Back Stretch**

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

**Groin Stretch**

Sit with the heels and soles of your feet flat against each other. Grab your feet or ankles and push gently down on your knees with your elbows as you exhale. Lean forward with your trunk, remembering not to arch your back.

**Gluteal Stretch**

Sit on the floor, flex your right leg, and place the heel of your right foot by your inner left thigh. Grab your right leg with your right hand and pull upwards, grabbing the heel with your left hand. As you exhale, pull leg closer to your chest and shoulder. Repeat with other leg.
Cardio-respiratory Training

Cardio-respiratory 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 cardio-respiratory endurance means you are able to run, carry equipment, or perform other physically strenuous activities for prolonged periods of time.

The cardio-respiratory fitness program in this brochure has been designed to accommodate people of all fitness levels. If you have not been doing cardio-respiratory 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 cardio-respiratory 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 and maximum 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 cardio-respiratory fitness program. Use the workout card to record and monitor your progress.

Cardio-respiratory Program and Exercise Intensity Chart

<table>
<thead>
<tr>
<th></th>
<th>Beginner</th>
<th>Intermediate</th>
<th>Advanced</th>
<th>Athlete</th>
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<tbody>
<tr>
<td><strong>Frequency</strong></td>
<td>walk 3 to 5 days per week</td>
<td>jog 3 to 5 days per week</td>
<td>run 5 or more days per week</td>
<td>5 or more days per week of interval training</td>
</tr>
<tr>
<td><strong>Target Heart Rate</strong></td>
<td>60% to 70% of max heart rate</td>
<td>70% to 80% of max heart rate</td>
<td>70% to 90% of max heart rate</td>
<td>See Interval Training Guidelines</td>
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<tr>
<td><strong>Duration</strong></td>
<td>30 minutes or more</td>
<td>30 minutes or more</td>
<td>30 minutes or more</td>
<td>See Interval Training Guidelines</td>
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Preparatory Fitness Program for LAFD Applicants

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 nonconsecutive 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 nonconsecutive 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 nonconsecutive 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 Cardio-respiratory 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
- Stairclimber
- Cross Country Ski Machine
- Swimming
Preparatory Fitness Program for LAFD Applicants

**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 last repetition in the last 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. Instruction on proper form is found on the following pages.

<table>
<thead>
<tr>
<th>Muscle Group</th>
<th>Weeks 1-2</th>
<th>Weeks 3-4</th>
<th>Weeks 5-6</th>
<th>Weeks 7-8</th>
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<tbody>
<tr>
<td>Chest</td>
<td>Bench Press</td>
<td>Incline Press</td>
<td>Dumbbell Flys</td>
<td>Bench Press</td>
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<tr>
<td>Shoulders</td>
<td>Military Press</td>
<td>Lateral Raises</td>
<td>Front Raises</td>
<td>Military Press</td>
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<td>Mid-back</td>
<td>Lat Pull Down</td>
<td>Seated Row</td>
<td>One Arm Row</td>
<td>Lat Pull Down</td>
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<tr>
<td>Upper back</td>
<td>Shrugs</td>
<td>Upright Row</td>
<td>Bent Over Row</td>
<td>Shrugs</td>
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<tr>
<td>Triceps</td>
<td>Push Downs</td>
<td>Overhead Extension</td>
<td>Skull Crushers</td>
<td>Push Downs</td>
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<tr>
<td>Biceps</td>
<td>Arm Curls</td>
<td>Reverse Curls</td>
<td>Hammer Curls</td>
<td>Arm Curls</td>
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<tr>
<td>Complex Leg</td>
<td>Lunge</td>
<td>Leg Press</td>
<td>Squats</td>
<td>Lunge</td>
</tr>
<tr>
<td>*Abdominals</td>
<td>Curl Ups/Superman 30 seconds each</td>
<td>Crunches/Superman 45 seconds each</td>
<td>Obliq/Superman 60 seconds each</td>
<td>Curl Ups/Superman 75 seconds each</td>
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* 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 group has been targeted.
Preparatory Fitness Program for LAFD Applicants

Chest Exercises

Bench Press
Begin by lying on back on flat bench. Hold dumbbells above your shoulders, feet flat on floor and back flat against bench. Inhale and lower weights to chest level. Exhale and press weight back to starting position. Exercise can also be done with a barbell.

Incline Press
Begin with back flat against incline bench. Hold dumbbells directly above your shoulders with both arms straight and both feet flat on the floor. Inhale while lowering weights towards chest. Exhale as you press the weights back up to the starting position. This exercise can also be done with barbell and angle of bench can be adjusted for variation.

Dumbbell Flys
Begin with back on flat exercise bench. Hold dumbbell in each hand above the shoulders with arms slightly bent. Inhale as you move dumbbells away from the midline of the body and lower arms until they are almost parallel to the floor. Be sure to keep elbows slightly bent throughout the motion, and exhale as you return to the starting position.
Shoulder Exercises

**Military Press**
Begin with hands slightly wider than shoulder width apart. Barbell should be supported at shoulder level in front of body. Exhale while pressing the bar to a straight arm position. Inhale while lowering the bar back to starting position.

**Lateral Shoulder Raises**
Start with a dumbbell in each hand positioned next to body. Lift weights away from body, keeping arms fairly straight, and raise the weights to shoulder level. Exhale while lifting weights and inhale while lowering back to starting position.

**Front Shoulder Raises**
Begin by holding dumbbells at side or in front of body. Slowly raise the dumbbells to shoulder level, keeping arms straight. Exhale as you raise the weights, inhale when returning to starting position.
Lateral Pull Down
Start by holding bar with overhand grip with hands slightly wider than shoulder width apart. Maintain a comfortable seated position with arms extended. Pull bar down to chest, and squeeze shoulder blades together. Be sure to exhale while bar is being lowered and inhale while returning to starting position.

One Arm Rows
Start by placing one knee on flat bench, using arm for support. Back should be relatively flat and chest parallel to the floor. Bring dumbbell from hanging position and pull upward towards chest, pause briefly and then return to starting position. Be sure to exhale while lifting dumbbell and inhale when lowering dumbbell. Alternate arms for complete workout.

Seated Rows
Be sure seat is adjusted so that handles can be reached with arms fully extended. Exhale as you pull handles towards chest, pause briefly while fully contracted. Inhale as you extend arms back to starting position.
Upper Back Exercises

**Shoulder Shrug**
Start with barbell hanging at arms length in front of body. Hold the bar with overhand grip. Exhale as you shrug shoulders to highest position, then inhale while lowering bar to starting position.

**Upright Row**
Start with barbell hanging at arms length in front of body. Hold bar with overhand grip. Using your arms, raise bar as high as possible, making sure to exhale as you raise the barbell. Inhale while lowering bar to starting position.

**Bent Over Row**
Bend over with knees bent slightly and hold barbell with overhand grip with arms straight so that barbell is hanging directly below shoulders. Exhale as you pull the weight towards your chest, inhale as weight is lowered to the starting position.
Triceps Exercises

Triceps Pushdowns
Place both hands on high pulley bar with palms down and thumbs in. Exhale while pushing down on bar until arms are straight. Be sure to keep upper arms at your side, moving only your hands and forearms. Inhale while slowly returning to starting position.

Standing Overhead Extension
Hold dumbbell overhead with arms fully extended. Slowly lower dumbbell behind head, moving only at the elbow joint and inhaling at the same time. Exhale as you extend arms back to the starting position.

Skull Crushers
Lay on flat bench with barbell extended above chest. Slowly lower barbell towards head, inhaling while you go down and bending only at the elbows. Slowly extend arms and exhale while returning to starting position.
**Arm Curls**
Stand with barbell in front of body, with palms facing forward at shoulder width. Lift barbell to shoulders, exhaling as you lift and moving only at the elbow joint. Inhale while lowering the weight back to the starting position.

**Hammer Curls**
Begin by holding barbell with overhand grip (palms down) at shoulder width. Raise barbell to shoulders, bending only at the elbow joint and exhaling while lifting. Inhale while lowering bar to starting position.

**Reverse Barbell Curls**
Begin by holding barbell with overhand grip (palms down) at shoulder width. Raise barbell to shoulders, bending only at the elbow joint and exhale while lifting. Inhale while lowering bar to starting position.
Complex Leg Exercises

Squats
Start by holding a barbell across your shoulders and upper back. Inhale as you bend your knees and hips while keeping head level and back flat. Continue this motion until thighs are parallel to the floor. Exhale as you straighten your legs and hips while returning to the starting position.

Lunge
Start in a standing position with a dumbbell in each hand. Inhale as you take one large step forward with one leg. Bend the knee of your forward leg and continue to lower your body until thigh of front leg is parallel to the floor. Exhale as you extend the forward leg, pushing yourself into original starting position.

Leg Press
Start on your back with shoulders against the pads. Feet should be shoulder width apart and knees bent. Exhale as you push with your legs until they are straight. Inhale as you return to starting position.
Abdominal and Back Exercises

Curl Ups
Exhale as you curl up slowly, lifting head, neck, shoulders, and upper back off the floor in that order. Keep lower back on floor throughout exercise. Hold for 3 seconds and then inhale while returning to starting position. To target obliques (sides), alternate bringing elbow to opposite knee at top of curl.

Crunches
Exhale while raising head, neck, shoulders, and upper back off of floor in that order. Be sure not to use hands to pull yourself up. Squeeze and hold abdominal muscles and then inhale while returning to start position.

Superman
Lie flat on stomach with arms and legs extended. Slowly lift arms and legs off of the floor, hold for 3 seconds and return to the starting position.
Preparatory Fitness Program for LAFD Applicants

Workout Card

Week of: _____________________________

Strength Training

Workout days: MTWTFSS

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<th>WEIGHT</th>
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Stretching

Workout Days

MTWTFSS

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Cardio Exercise Type

5-6 d/wk

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