



STRENGTH TRAINING

Firefighters and Paramedics have very strenuous jobs that require high levels of muscular strength and endurance in order to perform successfully and avoid injuries. There are several factors that affect an individual's ability to increase strength. It is important to know how these factors affect the response to a strength-training program. The key factors are:

- Gender -- in general, women have less lean body mass than men, which can affect overall strength.
- Age -- age has a significant effect on hormonal responses. Advancing age is associated with a loss of muscle mass, which results in a loss of strength and power. The greatest impact is the effect of age on recovery.
- Heredity -- certain genetic factors have an impact on strength potential. These factors include muscle density, muscle attachments, limb length, and testosterone levels.

You should consult your physician before beginning any exercise program.

BENEFITS OF STRENGTH TRAINING

There are numerous benefits of strength training, including an improved ability to perform Firefighter and Paramedic tasks, as well as enhanced physical and mental health. Some of the benefits include the following:

- Increased muscular strength and endurance -- it is generally accepted by exercise professionals that by gradually increasing the amount of resistance lifted, muscular strength will be improved.
- Improved body composition -- resistance exercise can increase lean body mass and, therefore, reduce the percentage of body fat.
- Lower risk of injury -- sprains and strains, the most common injuries among Firefighters and Paramedics, are caused when external forces exceed the ability of the muscles or joints to resist those forces.
- Improved cardiac profile -- while resistance training alone may not improve maximal oxygen consumption, it has been shown to improve the ability of the heart, lungs, and circulatory system to function under conditions of high pressure and force production.

DESIGN FOR SUCCESS

- Set realistic goals
- Set up a reward system
- Avoid pain
- Keep it simple

Strength training workout: Designed for the Firefighter/Paramedic who has approximately 1 hour, 4 times per week. For example:

Squats	8 to 10 repetitions
Leg Press	8 to 10 repetitions
Leg Extensions	8 to 10 repetitions
Leg Curls	8 to 10 repetitions
Calf Raises	8 to 10 repetitions

Superset workout: Designed for the Firefighter/Paramedic with limited time. Alternate between your choice of 2 or 3 exercises for the recommended repetitions done in succession. Can be performed 3 times a week. For example:

Abdominal Crunches	10 repetitions
Seated Pulley Rows	10 repetitions
Bench Press	10 repetitions
Leg Press	10 repetitions
Back Hyperextensions	10 repetitions

Circuit training: A method of resistance training designed to increase muscular strength, muscular endurance, and cardiovascular endurance. Perform each exercise for the recommended time/repetitions in succession to complete one circuit. For example:

Treadmill	60% maximum heart rate for 2 minutes
Bench Press	10 repetitions
Lat Pull-Down	10 repetitions
Stationary Bike	70% maximum heart rate for 2 minutes
Push-Ups	25 repetitions
Standing Triceps Extensions	15 repetitions
Military Press	10 repetitions
Treadmill	70% maximum heart rate for 2 minutes

Most research involving the general public recommends 8 to 12 repetitions per set. Firefighters/Paramedics wishing to improve their **muscular endurance** should perform **15 or more repetitions** per set.

Firefighters/Paramedics wishing to improve their **muscular strength** should perform **6 or less repetitions** per set with increased loads.

Firefighters/Paramedics wishing to train specifically for **power** should perform **3 to 5 repetitions** per set of any explosive exercise.

Firefighters/Paramedics wishing to improve **muscular size** should perform **6 to 12 repetitions** per set to muscle failure.