

## NorCal Feds FitTip: A well-rounded Fitness Program (Part 3)

My last FitTip discussed Muscular Strength. Continuing with this series – I will address another Muscular component, Muscular Endurance.

The content of FitTips is for informational purposes only. This information is not intended to be a substitute for professional medical advice. You should always seek the advice of a physician or other qualified health provider before beginning any exercise program or weight loss program.

**Muscular Endurance** is the ability of a muscle, or group of muscles, to sustain repeated contractions against a resistance for an extended period of time.

**So – how is this different than Muscular Strength, and how does that change the training approach?**

**Remember that Muscular Strength** is the maximum amount of force a muscle or muscle group can develop during a single contraction, so training is focused on higher resistance and lower repetitions than workouts focused on Muscular Endurance. So – it follows that Muscular Endurance uses lower resistance and higher repetitions.

The basic reference for resistance training is 1RM, or **One Repetition Maximum**. Muscular Strength workouts should be performed at 50-70% 1RM and Muscular Endurance between 30-60% 1RM. Example: On average, a 180 lb. male should have a 1RM of - Beginner: 163 lbs.; Intermediate: 200 lbs.; Advanced: 270 lbs.

**Given this** – to perform Endurance training, resistance should be 30-60% of the average 1RM, or – Beginner: 50-98 lbs.; Intermediate: 60-120 lbs.; Advanced: 80-162 lbs. See the chart below to cross-walk recommended repetitions and %1RM.

Yellow = Endurance zone – Blue = Strength zone

% 1RM	Reps								
30	30	45	24	60	17	75	10	90	5
35	28	50	22	65	14	80	8	95	3
40	26	55	20	70	12	85	6	100	1

**Too much of one thing is usually too little:** It is best to balance muscular strength and endurance training for two reasons. 1) it provides a well-balanced approach to muscle development and maintenance, 2) it breaks up the monotony of the same workouts, day-in and day-out. The same advice holds true that I presented in FitTips #3 – Learn proper technique, start slowly, take time to rest, and you don't have to belong to a gym.

### Muscular Endurance exercise ideas:

1. **Resistance band or tube training:** They are inexpensive and can be easily used at home or while on travel. Click here for exercise specifics: [Ace Fitness](#)

2. **Circuit training:** A circuit may combine aerobic intervals with resistance training, or it may involve a series of resistance workouts with little rest between stations. The idea is to build muscular endurance by performing continual muscle contractions over a period of time.

**Example 1: 20 minute workout – beginner through advanced (use light weights for endurance)**

Exercise	Time (min)	Exercise	Time (min)
Bench press	1	Bike or jog	3
Squats	1	Tricep extensions	1
Pull ups	1	Leg extensions	1
Bike or jog	3	Leg curls	1
Military press	1	Situps	2
Lunges	1 each leg	Crunches	2
Stretch after circuit completed			

Note: This workout can be made longer for the more advanced by repeating the circuit.

## **Example 2: Spartacus workout (Intermediate to Advanced)**

Click here for details – [Military Fitness](#)

It's easy to put together a circuit routine – just use your imagination and remember, the point is to provide continuous use of your muscles over a period of time. The key is lower resistance and higher repetitions.

**3. Aerobic Exercise:** Because exercise in the aerobic heart rate zone (See FitTip #2) can be sustained for a relatively long period of time, this type of training also provides for muscular endurance training. So – whether walking, jogging, swimming, playing tennis, soccer, basketball, etc. If sustained for 30 to 60 minutes, there will be a double benefit – building your Cardiovascular Endurance, as well as Muscular Endurance. How can you beat that!

My next FitTips is the last in this series and will cover Flexibility. Following that, I will touch on basic nutrition and balancing calorie intake and burn rate.

### **Sources:**

[Military Fitness](#)

[Ace Fitness](#)

[LiveStrong.com](#)

[Health and Human Services](#)

[MIT - MDWeb](#)

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