

# Resistance Training Recommendations by The American College of Sports Medicine 2009

The American College of Sports Medicine (ACSM) Position Statement titled Progression Models in Resistance Training for Healthy Adults in (Medicine & Science in Sports & Exercise, March 2009 - Volume 41 - Issue 3 - pp 687-708) outlines evidence-based recommendations for resistance training.

The following is a re-formatted and highlighted quote of the abstract:

In order to stimulate further adaptation toward specific training goals, progressive resistance training (RT) protocols are necessary. The optimal characteristics of strength-specific programs include the use of concentric (CON), eccentric (ECC), and isometric muscle actions and the performance of bilateral and unilateral single- and multiple-joint exercises. In addition, it is recommended that strength programs sequence exercises to optimize the preservation of exercise intensity (large before small muscle group exercises, multiple-joint exercises before single-joint exercises, and higher-intensity before lower-intensity exercises).

- For **novice** (untrained individuals with no RT experience or who have not trained for several years) training, it is recommended that loads correspond to a repetition range of an 8-12 repetition maximum (RM).
- For **intermediate** (individuals with approximately 6 months of consistent RT experience) to advanced (individuals with years of RT experience) training, it is recommended that individuals use a wider loading range from 1 to 12 RM in a periodized fashion with eventual emphasis on heavy loading (1-6 RM) using 3- to 5-min rest periods between sets performed at a moderate contraction velocity (1-2 s CON; 1-2 s ECC).
- **Progression:** When training at a specific RM load, it is recommended that 2-10% increase in load be applied when the individual can perform the current workload for one to two repetitions over the desired number.
- The recommendation for **training frequency** is 2-3 d-wk-1 for novice training, 3-4 d-wk-1 for intermediate training, and 4-5 d-wk-1 for advanced training. Similar program designs are recommended for hypertrophy training with respect to exercise selection and frequency.
- For loading, it is recommended that loads corresponding to 1-12 RM be used in periodized fashion with emphasis on the 6-12 RM zone using 1- to 2-min rest periods between sets at a moderate velocity.
- Higher volume, multiple-set programs are recommended for maximizing hypertrophy. Progression in power training entails two general loading strategies: 1) strength training and 2) use of light loads (0-60% of 1 RM for lower body exercises; 30-60% of 1 RM for upper body exercises) performed at a fast contraction velocity with 3-5 min of rest between sets for multiple sets per exercise (three to five sets).

It is also recommended that emphasis be placed on multiple-joint exercises especially those involving the total body. For local muscular endurance training, it is recommended that light to moderate loads (40-60% of 1 RM) be performed for high repetitions (>15) using short rest periods (<90 s). In the interpretation of this position stand as with prior ones, recommendations should be applied in context and should be contingent upon an individual's target goals, physical capacity, and training status.