

A new method to develop maximum power through charge contrast: the "Top & Down" method

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Abstract

Background. With very few exceptions (such as bodybuilding or sumo) one of the basic principles of developing explosive power involves *a maximum achievement of power with a minimum muscle mass increase*. This principle is a priority in sport disciplines, where competition requirements separate the athletes into weight categories (such as weightlifting, judo, boxing, wrestling etc.). Coaches, nutritionists and doctors deal with well-known problems related to maintaining a certain weight category in order to achieve a medal in a high level competition (Olympic Games, World Championships, etc.). This principle is equally important in sports where the individual power index is related to the athlete's body weight (sprint or long jump or triple jump in athletics, gymnastics etc.).

Objectives. The purpose of our study was to investigate the evolution of the maximum individual power using a new method based on charge contrast – the *Top & Down* method. The research was performed on ten bodybuilders (n=10) who practice bodybuilding at a high level of performance.

Methods. We applied our new method, named *Top & Down*, in one experimental training session (three months length) containing two planned sessions (initial and final) for ordered testing. The training session involved completing sets of five power exercises (Barbell Bench Press, Barbell Deadlift, Barbell Half Squat, Barbell Preacher Curls and Barbell Shoulder Press).

Results. Our findings showed statistically significant differences in t-distribution ($p < 0.05$) between initial and final sessions.

Conclusions. It was concluded that the *Top & Down* method is an intensive and extremely useful method to increase power output for bodybuilders with relatively high strength levels. It can be used in combination with other specific extensive methods aimed at increasing muscle mass. The *Top & Down* method is an important and necessary precondition to increasing the power index for predominantly extensive training specific to muscle mass increasing. We also recommend that the *Top & Down* method should be applied in other sports in which explosive power is a determining factor of individual performance.

Key words: charge contrast method; intensive power training; extensive power training; maximum power; individual power index; bipolar cyclic system; motor unit recruitment-derecruitment.