

# TURTLE TRAINING

The effects of slow training on mechanical force, muscle growth, strength, and power



**Original Research**  
Schilling, B.K., et al.  
Force-velocity,  
impulse-  
momentum  
relationships:  
Implications for  
efficacy of  
purposefully slow  
resistance training.  
*Journal of Sports  
Science and  
Medicine* 7:299-304,  
2008.

AN OLYMPIC LIFT IS VERY QUICK, IN FACT, MUCH QUICKER THAN A POWERLIFT SUCH AS THE SQUAT. HOWEVER, YOU WOULD BE ABSOLUTELY WRONG IN ASSUMING THAT BECAUSE THE POWERLIFT IS SLOW, YOUR BODY IS NOT CRANKING AT ITS MAXIMUM.

In working through your strength training program, you can change the variables in many ways to affect the outcome. You can change the weight, the number of repetitions, the rest intervals, the training frequency, the exercises, and more. The possibilities are nearly limitless. Another variable that you can change is the speed of movement. In fact, one training system has been built entirely around using extremely slow movement speeds—10 seconds on the concentric, or positive, portion of the lift, and 4 to 10 seconds on the eccentric, or negative, portion. While many vocal supporters advocate this method, there has been little science to support their claims. Past studies of this system have focused on the system's effects on physiology (the body's systems, like the muscular system and circulatory system). No one has focused on the mechanical effects of this system (the forces placed on the body). A recent article in the *Journal of Sports Science and Medicine* examined these effects because the mechanical aspect is critically important to athletic success. And if slow training slows down your gains, why waste your time?

**Power Key:** strength, speed, momentum, power