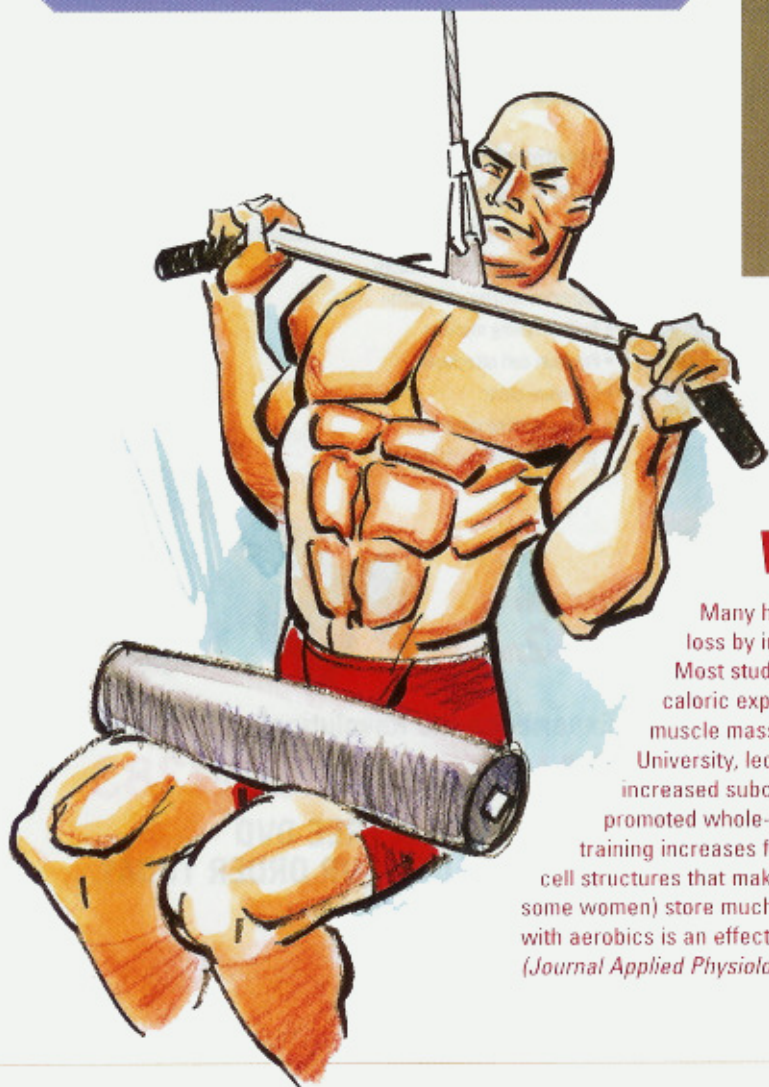


Ice Doesn't Reduce Post-Exercise Muscle Soreness

Post-exercise ice treatments are rituals among some pitchers, bodybuilders and other athletes who push individual muscle groups to the max. Delayed onset muscle soreness (DOMS) is caused by muscle damage during exercise that's compounded by inflammation during recovery. Post-exercise ice treatments, so the theory goes, reduce inflammation and speed recovery. British researchers found that ice had no effect on post-exercise muscle soreness or on markers of muscle inflammation. They created thigh muscle soreness using high-intensity eccentric exercise (i.e., negatives) and immersed the leg in cold (33.8°F) or tepid (75.2°F) water for three 1-minute sessions. The ice therapy had no effect on muscle pain, swelling, leg power (one-legged hop for distance), maximal isometric strength or creatine kinase (a blood test used to estimate muscle damage). The authors concluded that icing after intense exercise might not promote recovery. However, three 1-minute ice treatments might not have been enough time to reduce post-exercise inflammation. (*British Journal of Sports Medicine*, in press; published online Jan. 29, 2007)

Use Progressive Overload for Consistent Gains

The overload principle—ramping up the training intensity consistently as you get stronger and bigger—is the basis for weight training. Yet, too many people do the same program month after month and wonder why they don't make gains. As governor Arnold said in his first mainstream movie "Stay Hungry," "You must burn to grow!" Ashley Kavanaugh, from the University of Dayton in Dayton, OH summarized the role of progressive overload in conditioning programs. Muscle hypertrophy depends on muscle tension, time under tension, anabolic hormones (i.e., testosterone, growth hormone, IGF-1 and insulin), calories, amino acids and rest. Successful programs balance training intensity and rest so the muscles can adapt and get stronger. Inadequate rest means you can't recover enough to progressively overload the muscles. Varying the exercises from time to time keeps the body off balance and ensures more continuous adaptation. Exercise frequency, duration, intensity, age, gender and physical limitations determine the capacity to adapt and recover from exercise. Genetic studies show that some people respond to exercise and recover faster than others. Program design must be tailored to your body, and no single training program is right for everyone. (*NSCA Performance Training Journal*, 6: 15-17, 2007)



Losing Ab Fat with Weight Training

Many health experts claim that weight training promotes fat loss by increasing muscle mass, which boosts metabolic rate. Most studies show that weight training doesn't increase 24-hour caloric expenditure, but improves body composition (i.e., increases muscle mass and cuts fat). Researchers from East Carolina University, led by **Michael Ormsbee**, showed that weight training increased subcutaneous (under the skin) abdominal fat oxidation and promoted whole-body fat burning during and after exercise. Strength training increases fat metabolism by stimulating beta-adrenergic receptors—cell structures that make adrenaline increase metabolism and fat use. Men (and some women) store much of their fat in their abdomens. Weight training combined with aerobics is an effective way to reduce ugly and dangerous abdominal fat. (*Journal Applied Physiology*, in press; published online Jan. 18, 2007).