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ISSUES AND SOLUTIONS FOR FITNESS FACILITIES

SEPTEMBER 2004

DESIGN THE BEST STRENGTH WORKOUT

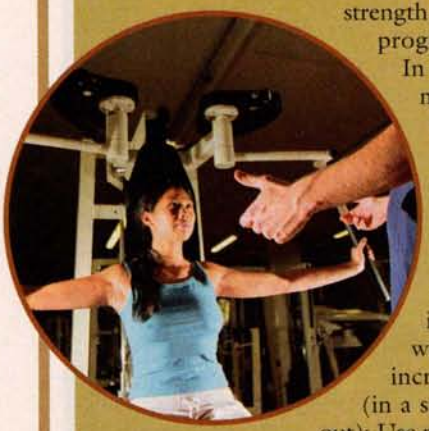
ASSESSING THE OLDER ADULT

ND CERTIFICATION?

universityQ&A

By Matt Brzycki

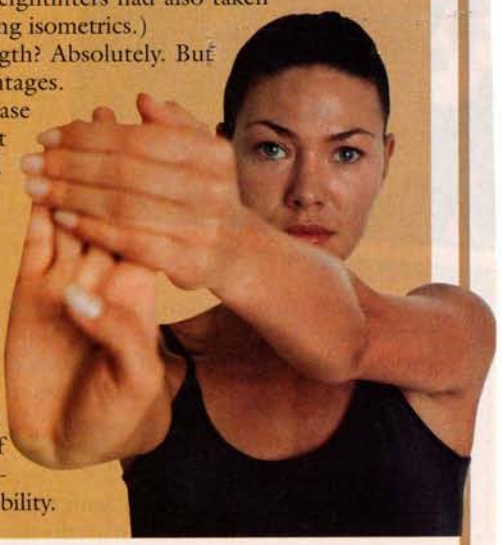
Is it better to increase resistance or repetitions during weight training?



Regardless of the program being implemented, one of the key tenets in strength training is that of progressive overload. In brief, the muscles must experience a workload that is increased steadily and systematically throughout the course of a strength-training program. The workload can be increased two ways (in a subsequent workout): Use more resistance or perform more repetitions. Either way, a "load" is placed on the muscles that's "over" what they're accustomed to using — thus the term "overload." There's one caveat, however: The number of repetitions performed with a given weight can be increased as long as the duration of the set is kept within an anaerobic window of time (which is less than about two minutes).

Can isometrics increase strength?

Basically, isometrics are exercises in which an individual pushes or pulls against an immovable resistance. The popularity of isometrics increased in the 1950s primarily because of two events. First, Erich Müeller and Theodor Hettinger of Germany released their research findings in the 1950s that showed the benefits of isometrics. Second, Bob Hoffman — who was president of York Barbell Company and coach of the United States Olympic Weightlifting Team — authored an article in which he claimed isometrics were largely responsible for the outstanding performances by two of his weightlifters. (His claims were later discredited when it was determined that the two weightlifters had also taken anabolic steroids while performing isometrics.)



Can isometrics increase strength? Absolutely. But isometrics have several disadvantages. For one thing, isometrics increase blood pressure beyond what would normally be encountered when strength training with conventional methods. In addition, isometrics don't involve full-range repetitions. As a result, any increases in strength are specific to the joint angle being worked. And, since isometrics don't involve full-range repetitions, the muscles don't receive any stretch. So, after a while of performing a program of isometrics, a person will likely lose flexibility.

Does a person start using fat as an energy source after 20 minutes of exercise?

The main source of energy used during an activity depends on the level of effort, not the time of the effort. At rest, the body primarily uses fat as an energy source. As the level of effort increases, there's a greater reliance on carbohydrates to provide energy. So, an individual doesn't have to exercise for 20 minutes before using fat as a source of energy. In fact, as you read this column, your body is primarily using fat as an energy source. Besides, it's ridiculous to think that the body automatically switches to fat as an energy source at exactly the 20-minute mark.

Does whey protein increase muscle mass more than other proteins?

The supplement industry claims that whey protein promotes greater increases in muscle mass compared to other proteins. As support for this contention, it has referenced a study in which the subjects significantly increased their body weight. What the promoters failed to mention was that the subjects in this study were starved rats. In the study, rats that were fed a whey-protein formula regained their lost weight faster than other rats that were fed a free-amino acid mixture. Obviously, it's difficult to extrapolate the influence of whey protein on starved rats to that of healthy humans.

Matt Brzycki is coordinator of recreational fitness and wellness programs at Princeton University, Princeton, N.J. He has more than 20 years of experience at the collegiate level and has authored, co-authored or edited 11 books.

Do you have questions that you need answered? Email them to edit@fitnessmgmt.com.