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Fitness Management™

ISSUES AND SOLUTIONS FOR FITNESS FACILITIES

JANUARY 2004

Design Optimal Cardio Workouts

The Science Behind Warm-ups and Cool-downs

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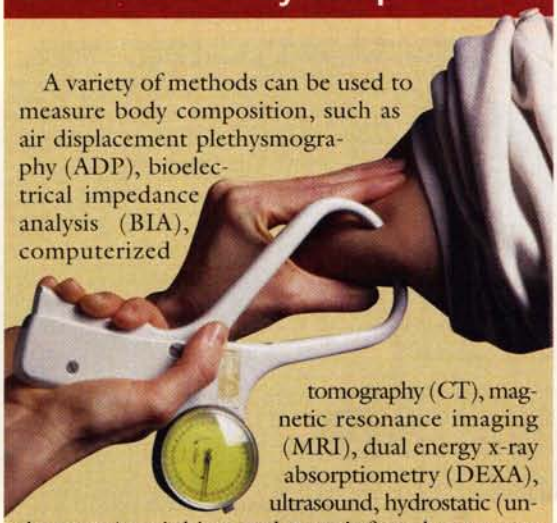
Take Advantage of New Tax Cuts

universityQ&A

By Matt Brzycki

What's the most accurate way to measure body composition?



A variety of methods can be used to measure body composition, such as air displacement plethysmography (ADP), bioelectrical impedance analysis (BIA), computerized tomography (CT), magnetic resonance imaging (MRI), dual energy x-ray absorptiometry (DEXA), ultrasound, hydrostatic (underwater) weighing and near infrared reactance (NIR). But, perhaps the most popular method of assessing body composition is to use a skinfold, or "fat-fold," caliper.

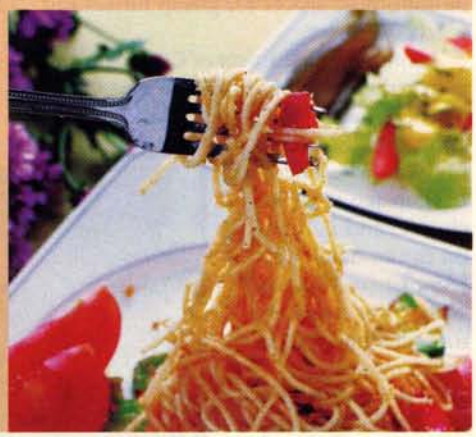
Understand that simply because a method is "high-tech" doesn't necessarily mean that it's "high-precision." With hydrostatic weighing, for example, individuals must exhale all air from their lungs, hold their breath, brush all air bubbles from the surface of their skin and sit motionless on a chair while completely submerged — no small feat for those who are uneasy about being underwater. These, and other, "checkpoints" determine the precision of the test. Remember, too, that any device that's used to measure body composition must be calibrated to ensure accuracy. If the device isn't calibrated correctly, its accuracy will be compromised. Also consider that some methods of testing may be quite expensive.

That said, using a skinfold caliper is generally the most practical and least expensive method of assessing body composition without sacrificing much in the way of accuracy. This assumes, of course, that the tester is reasonably skilled and the formula being used is reliable.

Do carbohydrates make people fat?

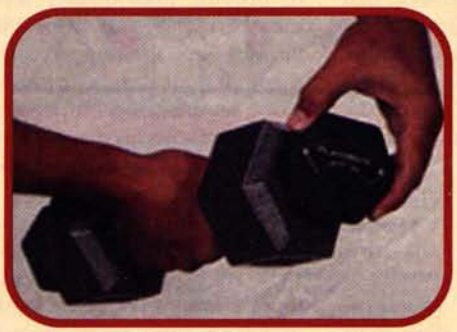
Carbohydrates do not make people fat; eating too much and exercising too little make people fat. If anything, it's important for active individuals to consume carbohydrates to fuel their lifestyles. The primary function of carbohydrates is to supply energy — especially during intense exertions. The other two macronutrients that are sources of energy — fat and protein — have major limitations for active individuals. Fat is an inefficient source of energy, so it's preferred during low-intensity efforts when there's no need to be efficient. Protein is actually a last resort for energy, since it's located in the muscles — if exercisers are in a situation where they must rely on protein as an energy source, then they're literally cannibalizing themselves.

There's no doubt that eliminating carbohydrates from the diet will inhibit stamina and endurance. In addition, it's important to note that consuming too much fat and protein is associated with a greater risk of heart disease. And if exercisers avoid carbohydrates, they also avoid foods with highly valuable nutrients, including fruits, vegetables and whole grains. This may lead to vitamin and mineral deficiencies. Clearly, carbohydrates are miscast villains.



How can exercisers make small progressions in resistance when using dumbbells?

To help members make small progressions in strength while using dumbbells, purchase dumbbells in smaller increments (7.5, 12.5, 17.5 and 22.5 pounds). If that option is cost- or space-prohibitive, you can purchase magnetic add-on weights that can be secured to the ends of dumbbells. These allow members to make increases in resistance that are much more desirable.



So instead of having to jump from 10 to 15 pounds — a 50 percent increase in resistance — lifters can create a pair of dumbbells that weigh 12.5 pounds. Some companies sell magnetic add-on weights that weigh as little as 1.25 pounds. These weights can be round or hex to match the shape of the dumbbells in your fitness center.

Another inexpensive way for your members to make smaller progressions with dumbbells is to wear ankle weights around their wrists. Using 20-pound dumbbells while wearing 2.5-pound weights on their wrists makes for 22.5 pounds of resistance.

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 nine books.

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