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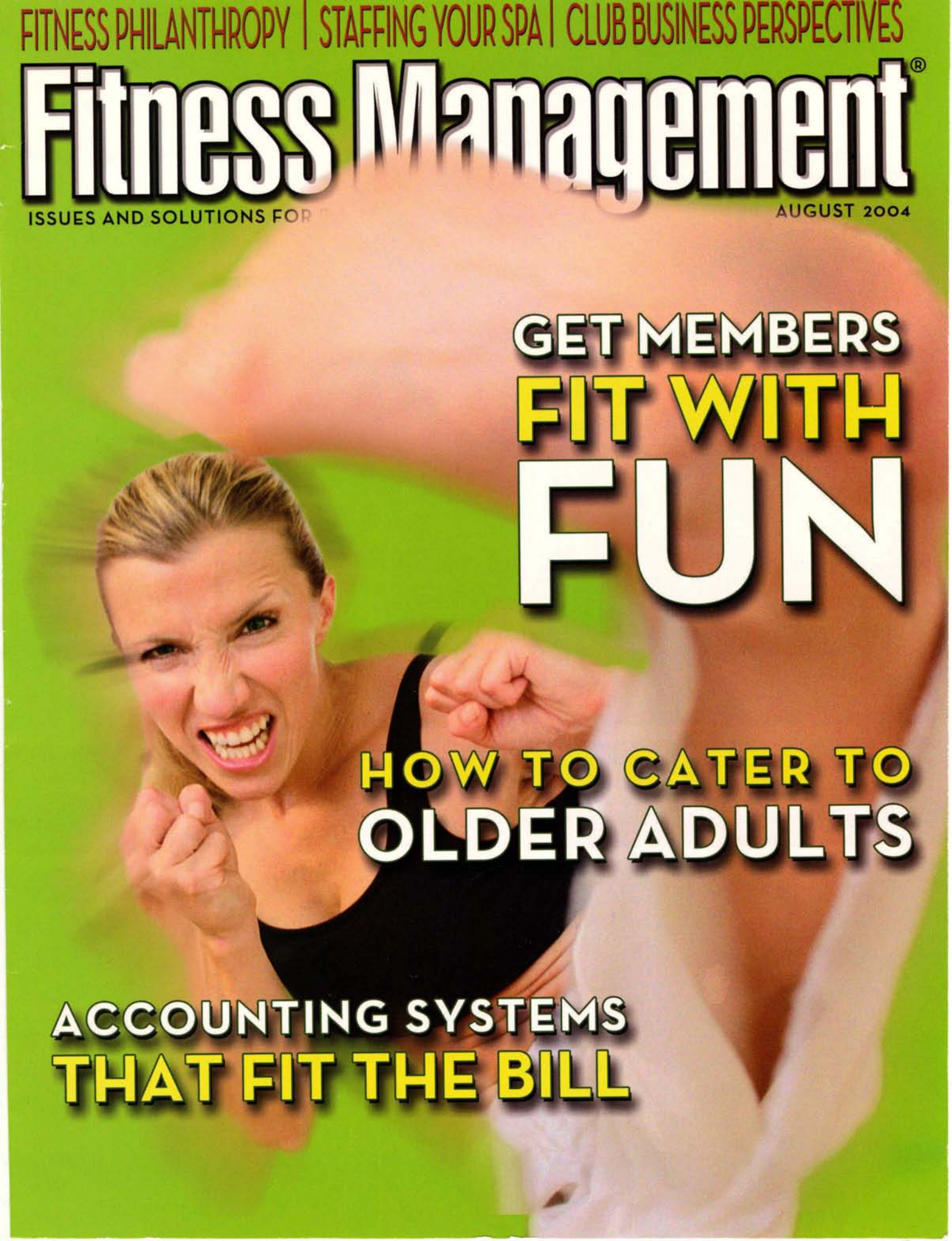
ISSUES AND SOLUTIONS FOR

AUGUST 2004



GET MEMBERS FIT WITH FUN

HOW TO CATER TO OLDER ADULTS

ACCOUNTING SYSTEMS THAT FIT THE BILL

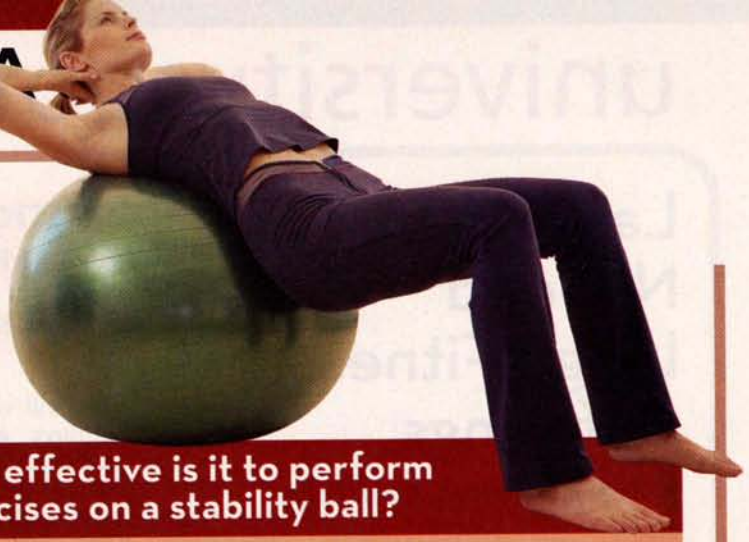
universityQ&A

By Matt Brzycki

What exactly are "net carbs"?

In response to the current carbohydrate paranoia, many manufacturers have been using the term "net carbs" (as well as "effective carbs" or "impact carbs") on the packaging of their food products (though not on nutrition labels). The food industry calculates net carbs by taking the total grams of carbohydrates per serving, and then subtracting the grams of fiber and sugar alcohols (which are neither sugar nor alcohol; rather, they're sweeteners). Food manufacturers claim that because fiber isn't digested and sugar alcohols have a negligible effect on blood glucose, they "don't count." It's true that fiber passes through the digestive system largely intact, and the effect of sugar alcohols (such as sorbitol and maltitol) on blood glucose is minimal; however, sugar alcohols have calories and, thus, "do count."

Understand that "net carbs" is an unscientific term that's calculated in a subjective way. Clearly, it was invented and implemented by the food industry to capitalize on the current low-carb frenzy. At the present time, net carbs — and other popular terms that are used on product packaging such as "low-carb" — haven't been defined or even recognized by the Food and Drug Administration.



How effective is it to perform exercises on a stability ball?

Supposedly, the instability of an exercise ball provides greater neuromuscular stimulation and promotes "core stability." That certainly sounds intriguing, but what does the research say about exercising on a ball?

In a recent study that involved eight physically active men, researchers examined the effects of performing isometric contractions under conditions that were unstable (sitting on a stability ball) and stable (sitting on a bench). In the unstable condition, the force output during a leg extension was 70.5 percent less than in the stable condition. Stated differently, the force output while performing a leg extension on an unstable ball was only 29.5 percent of the force output while performing a leg extension on a stable bench. And, in the unstable condition, the activation of the quadriceps during a leg extension was 44.3 percent less than in the stable condition. So, more instability correlated to less force production and less muscle activation.

Needless to say, this isn't desirable when it comes to strength training. And, to date, there's no scientific evidence to support the contention that instability training — on balls or other unstable objects (such as "balance discs" and "wobble boards") — improves neuromuscular coordination or balance. What about the practice of performing unassisted squats while balancing on a ball? To quote the researchers in the aforementioned study, "Whether some of these circus-type maneuvers provide specific crossover training adaptations to sport is still under debate and demands further investigation." As for core stability, it's a somewhat ambiguous term that is difficult to measure.

Any support for the use of stability balls appears to be entirely anecdotal and without scientific support. That said, exercising on stability balls can be used to provide variety to workouts. Just be aware that their use is relatively ineffective for improving muscular strength, and any purported advantages are purely speculative.

Does stretching prior to physical activity reduce the risk of injury?

There's very little research that has investigated the effects of pre-exercise/activity stretching on the risk of injury. But two studies that involved a total of 2,630 military recruits (men ages 17 to 35) who were going through basic training found that stretching prior to an activity reduced the risk of injury by 5 percent (which wasn't statistically significant). Over the same period of time, the expected risk of injury was 20 percent. This suggests that a 5 percent reduction in the risk of injury would translate into a reduction in absolute risk by a mere 1 percent. Stretching would seem to be most beneficial when done prior to dynamic, short-duration activities that involve rapid muscular contractions such as sprinting. **FM**

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

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