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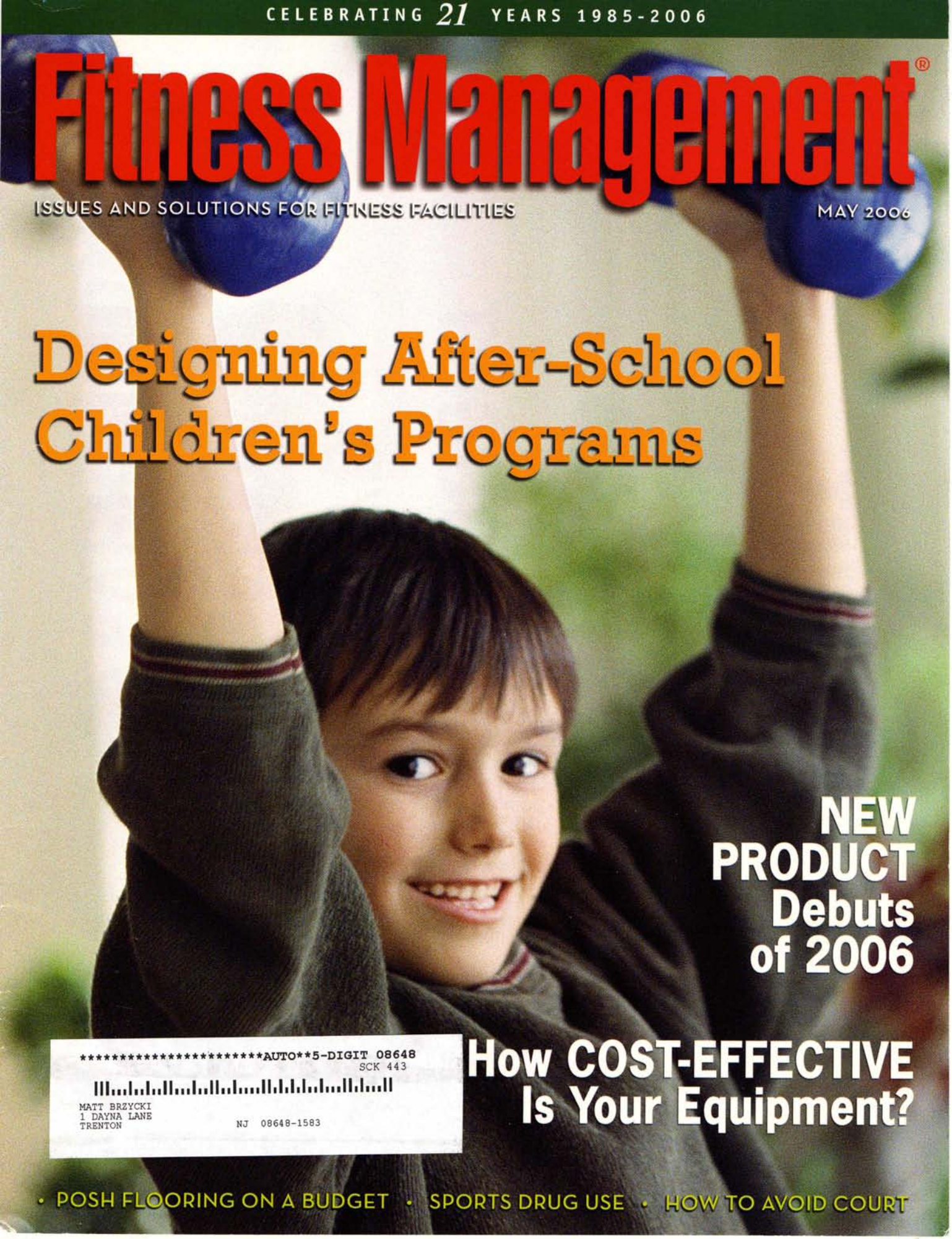
MAY 2006



Designing After-School Children's Programs

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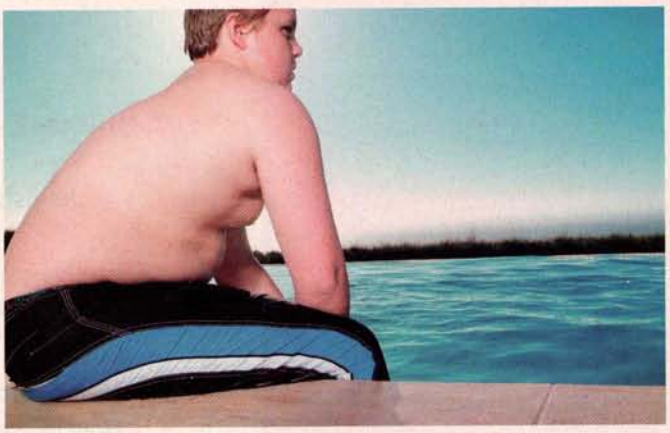
Q&A

[BY MATT BRZYCKI]

What can fitness professionals do to help combat childhood obesity?



Childhood obesity is a serious health problem. In fact, the Centers for Disease Control and Prevention have stated that childhood obesity is the fastest growing health crisis in the U.S. Over the past 30 years, the rate of obesity has more than tripled for children ages six to 11 (and more than doubled for adolescents ages 12 to 19). An estimated 9 million children over the age of six are obese.

According to the International Health, Racquet & Sportsclub Association, the second-fastest growing market for fitness centers is children's fitness; almost one-third of IHRSA-member clubs offer children's programming. In the U.S., more than 4.6 million children ages six through 17 have memberships at fitness facilities.

So, there is a need and there is an interest for children's fitness. But, as a fitness professional, what can you do to help? First, attend training programs that address obesity. Armed with this knowledge, you can take the lead in the community as the "resident authority." Offer to speak on childhood obesity at seminars and lectures. Your fitness center can host health fairs, seminars and lectures, or offer free workshops for local residents (even if they're non-members). You can also offer affordable programming and provide incentives for parents to exercise with their children. **FM**

What's the best way to stimulate fast-twitch fibers?

It's important to first understand how muscle fibers are recruited. The nervous system recruits muscle fibers in an orderly fashion according to the intensity or force requirements. Demands of low muscular intensity are met by slow-twitch fibers. Intermediate fibers are recruited when the slow-twitch fibers are no longer able to continue the task. Fast-twitch fibers are recruited only when the other fibers are fatigued to the point that they cannot meet the force requirements. This orderly recruitment pattern remains the same regardless of whether the repetition speed is fast or slow.

To stimulate as many fast-twitch fibers as possible, train to the point of muscular FATIGUE.

This pattern is consistent with the "size principle" of recruitment that was proposed by Dr. Elwood Henneman in the 1950s. According to this principle — which is widely regarded as one of the most important advances ever in the field of motor control — motoneurons are recruited based on increasing size: The motor unit with the smallest motoneuron is recruited first, and the motor unit with the largest motoneuron is recruited last. In general, the smallest motoneurons innervate slow-twitch fibers, and the largest motoneurons innervate fast-twitch fibers. Therefore, slow-twitch fibers are recruited first and fast-twitch fibers are recruited last.

Here's the take-home message: To stimulate as many fast-twitch fibers as possible in the weight room, it's critical to train to the point of muscular fatigue. **FM**

What is rhabdomyolysis?

Rhabdomyolysis is a condition in which muscle fibers are broken down in such an extreme manner that the cell membranes are destroyed. This releases excessive amounts of waste products into the bloodstream, and can result in serious consequences, including renal (kidney) failure and cardiac dysrhythmia.

The most common risk factors for rhabdomyolysis are alcohol abuse and soft tissue compression, but it can also result from severe exertion. In this case, it's referred to as "exertional rhabdomyolysis" or "exercise-induced rhabdomyolysis." Most reported cases of exertional rhabdomyolysis involve military personnel or law-enforcement and fire department trainees. But there have also been reports of exertional rhabdomyolysis involving members of fitness centers who have been pushed too hard by personal trainers.

Although rhabdomyolysis is a rare condition, it's potentially life-threatening; statistically, the overall mortality rate for patients with rhabdomyolysis is 5 percent. That may not sound like a high percentage, but having a one-in-20 chance of dying aren't encouraging odds, especially if one of your members ends up being the one in 20. **FM**

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

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