Special Report: **New Horizons**

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JULY 2007

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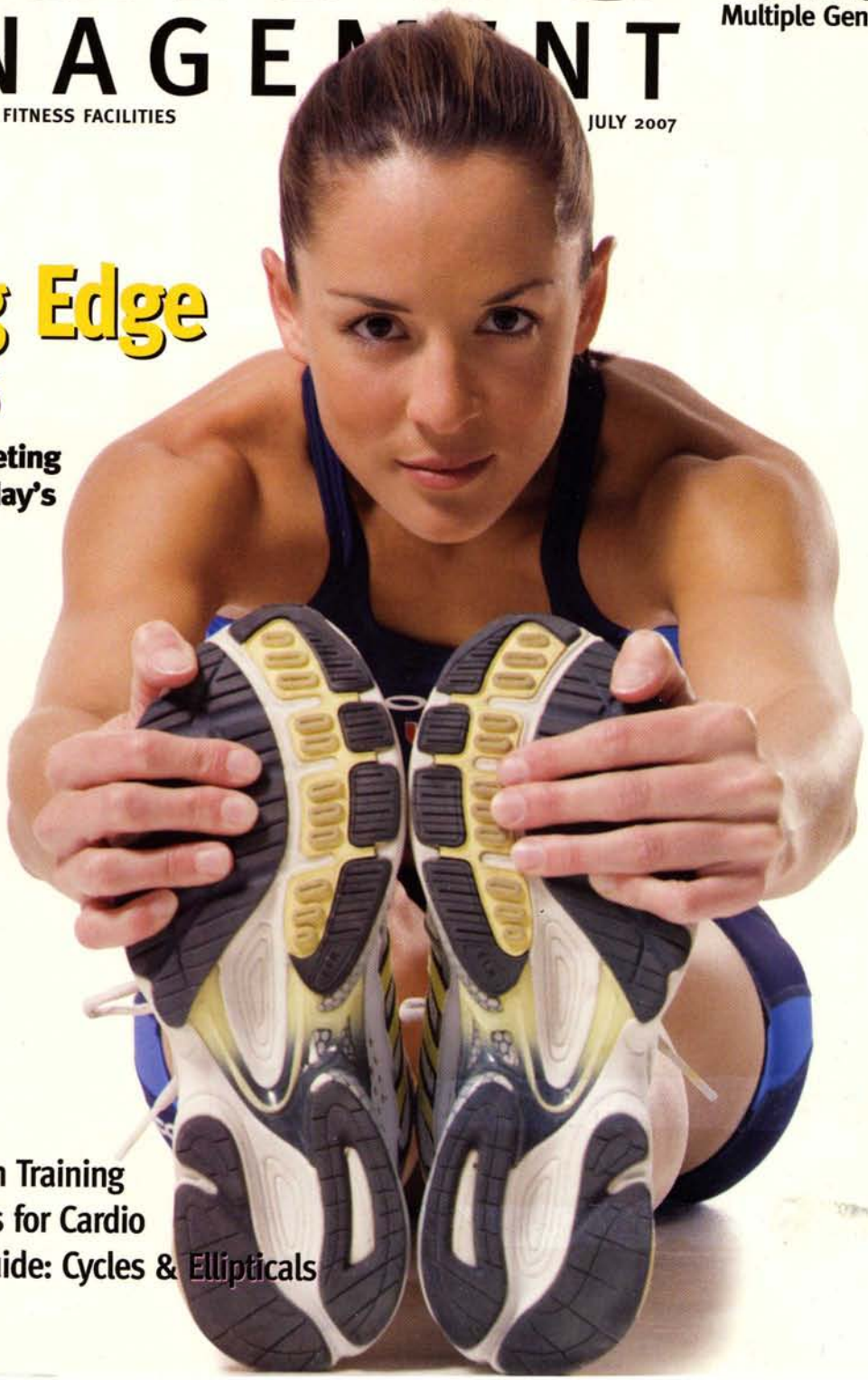

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- Cable Strength Training
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- Purchasing Guide: Cycles & Ellipticals

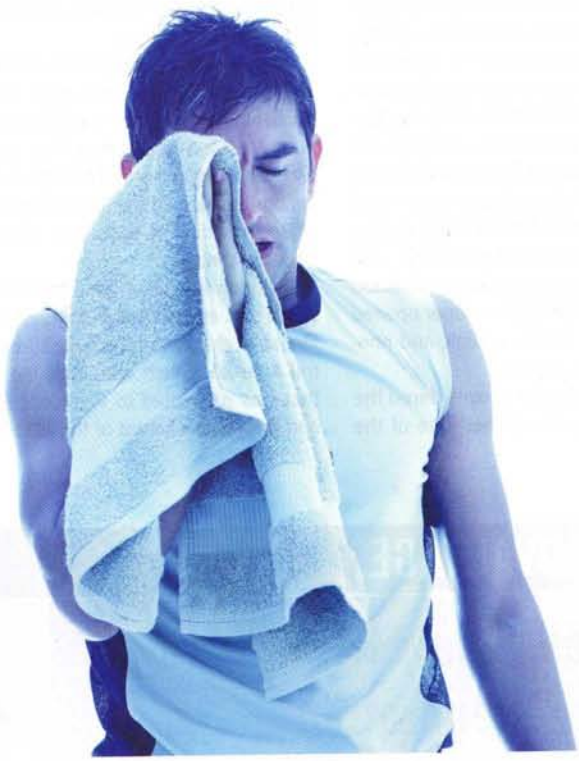
Fitness Q&A

BY MATT BRZYCKI

Does clothing aid in the evaporation of sweat from the skin?

ATHLETIC APPAREL made of unique fabrics and blends has become popular. But does this clothing live up to the claims of its manufacturers? In one study, eight men exercised on a treadmill in an environmental chamber under three conditions: wearing clothing made from an evaporative polyester fabric, wearing clothing made from a traditional cotton fabric and dressed semi-nude. The semi-nude attire consisted of a Lycra racing swimsuit and polyester anklet socks; the other two attires consisted of a short-sleeved T-shirt, form-fitting cycling shorts that extended to mid-thigh and anklet socks.

The men ran for 30 minutes at 70 percent of their maximum oxygen intake, and walked for 15 minutes at 40 percent of their maximum oxygen intake. The chamber was set at 86 degrees Fahrenheit and 35 percent humidity (which equates to a heat index of 84.5 degrees). The cotton attire retained significantly more sweat than the other two attires. However, the synthetic attire wasn't better than the cotton or semi-nude attire with respect to thermoregulation and oxygen intake. In addition, there were no perceived differences between the three types of attire in "thermal comfort" or "sweating sensations." It's unclear whether synthetic fabric is more effective in evaporating sweat during environmental conditions that are more severe.



How does fraudulent research get published in scientific journals?

IT SEEMS as if, every few months, there are news reports of a scientist who authored fraudulent research that was published in a peer-reviewed journal. This includes several recent, high-profile cases regarding topics such as stem-cell research and cloning. But let's not be naive enough to think that it cannot occur in the fitness profession.

Fraudulent research has many faces: leaving out data if it doesn't fit the conclusions; altering or fabricating data to support claims; ignoring research that doesn't support claims; or choosing a certain statistical method to interpret data in a favorable way. So, we're left to wonder, "Did the doctor 'doctor' the data?"

Why doesn't the peer-review process identify fraudulent research? Well, the system isn't meant to detect fraud; it's used to evaluate a manuscript and determine whether it should be published. According to Marcel LaFollette, author of *Stealing Into Print: Fraud, plagiarism and misconduct in scientific publishing*, "Peer review is neither uniform nor totally reliable nor intended as a fraud-detection mechanism. Its principal goal — and perhaps what should be its only goal — is to evaluate manuscripts according to whether they should be accepted or rejected, not to determine their authenticity."

Is pickle juice good for muscle cramps?

PICKLE JUICE garnered national attention in September 2000 during a televised broadcast of a professional football game in Texas. The announcers noted that some of the players on the visiting team drank pickle juice to combat muscle cramps from the heat. Adding to the mystique was a running back who rushed for 201 yards — the most by a player for that particular team since 1949. Today, the belief that pickle juice can prevent muscle cramps is still in vogue.

Unfortunately, there's no scientific support for this practice. Yes, pickle juice is high in sodium, and one of the reasons for muscle cramps is thought to be a loss of sodium via the sweating mechanism. But the sodium content of pickle juice is extremely high. It's so high, in fact, that, according to the Professional Football Athletic Trainers Society, sipping pickle juice is like sipping seawater.

Bottom line: Pickle potions probably won't promote improved performance in perspiring participants. If there's a concern about replacing sodium, stick to sports drinks. FM

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