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Deadly weapon

More officers are being killed by car crashes than gun shots

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Let the buyer beware

BY MATT BRZYCKI

Surf through your television channels and it won't be too long before you run across a pesky infomercial trying to sell you some sort of miracle product from a modern-day snake-oil salesman. Do the products work?

Matt Brzycki

PRODUCTS

Here's a look at some of products being touted on those ubiquitous infomercials. Specifically, the products are abdominal equipment, bottled water, electrical muscle stimulation, sauna belts and shark cartilage.

Abdominal Equipment

If you purchased some type of abdominal equipment for your home and eventually stashed it in your garage or basement where it collects dust, you're not alone. No other body part receives as much attention in infomercials as the abdominals.

A number of studies have compared the electromyographic activity of the abdominal muscles during the use of "portable" abdominal equipment and traditional crunches (a.k.a. "curl-ups" or abbreviated sit-ups). With very few exceptions, the research has shown that these abdominal devices aren't significantly better than good, old-fashioned crunches (done by raising the head and shoulders off the floor).

The portable equipment that's the most effective are the ones that have a movement pattern that's similar to a traditional crunch and offer the ability to increase the resistance. This also would seem to apply to abdominal machines that are found in commercial gyms.

And here's a training tip: Regardless of whether you use some type of abdominal equipment or do a crunch, the repetitions must be executed with a controlled speed of movement. This way, momentum isn't a significant factor in the performance of the exercise.

Bottled Water

Though not sold directly via infomercials, bottled water is a product that's worth mentioning here. Everyone assumes that bottled water is more pure than tap water. After all, it costs much more. But is it really much better?

One study compared the fluoride levels and bacterial content of commercially bottled water to that of tap water in Cleveland. Researchers examined 57 samples of five categories of bottled water that were purchased from local stores. (The five categories were spring, artesian, purified, distilled and drinking.) They also examined 16 samples of tap water that were collected from four local water-processing plants. (Four samples were taken from each plant on unannounced visits.)

Only three samples (5%) of bottled water contained fluoride levels that were in the recommended range for drinking water as required by the state of Ohio. Meanwhile, 100 percent of the samples of tap water were in the recommended range. In terms of bacterial count, 15 samples (26 percent) of bottled water had significantly more bacteria than tap water. Compared to the average bacterial count of the tap water, 6 samples (11 percent) of bottled water had at least 1,000 times the bacteria of tap water. One sample of bottled water contained nearly 2,000 times that of the most contaminated sample of tap water. Whoa!

What about taste? Surely bottled water must taste better. In a survey of 2,800 people in England, 60 percent couldn't tell the difference between bottled water and tap water. It's also interesting to note that the Natural Resources Defense Council tested more than 1,000 samples of 103 brands of bottled water and found that "an estimated 25 percent or more of bottled water is really just tap water in a bottle."

Electrical Muscle Stimulation

Electrical muscle stimulation (EMS) has been used for years to rehabilitate muscles after injury or surgery. Because of its success in those applications, EMS has been proposed as an alternative or adjunct for healthy individuals who want to increase their muscular size and strength.

Understand that EMS devices aren't anything new. Introduced in 1949, the Relaxacisor was perhaps the first EMS device sold to the public. More than 400,000 of the devices were sold until the Food and Drug Administration stepped in and pulled the proverbial plug on the device in 1970 for being "ineffective and dangerous." Since then, not much has changed.

In one recent study, researchers examined an EMS device that was marketed to the general public and could be purchased over the counter. One group of subjects received stimulation from the device according to the manufacturer's recommendations. A second group of subjects received "sham" stimulation from a device that looked identical to the other but was modified by the researchers so that it didn't transmit any electrical current. (The latter group was told that they'd receive a lower current that "should be less noticeable.") After eight weeks, there were no differences between the two groups in terms of skinfold measurements, muscular size or muscular strength. And here's a real shocker: When piloting the procedure, the researchers received a small superficial burn from the electrode. Ouch!

While previous research found that EMS is effective for increasing muscular size and strength, the studies used high quality, medical-grade devices. Plus, the studies typically examined one or two muscles which is a far cry from a total-body regimen.

Be advised that over-the-counter EMS devices have several drawbacks. For one thing, the devices may be wildly inaccurate and of very poor quality. Also, the electrical current may be too uncomfortable for many individuals.

Sauna Belts

One of the latest products that has been popularized in the never-ending line of infomercials is the so-called "sauna belt." And like EMS devices, it's not a new idea. Sauna belts were introduced as early as the 1960s. Back then, it was simply a rubber wrap that secured around the waist. Today's high-tech version plugs into a wall socket and produces heat.

Promoters make many unsubstantiated claims about the sauna belt. One is that

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"melts fat." Can fat melt? Yes. But in order to do so, the body temperature would be so high that the brain would boil and the blood would probably coagulate. Remember, the only real method of using fat is physical exertion. And when consumers are told that they can "let the belt do all of the work," there's no physical exertion.

Other claims with no scientific basis are that the sauna belt can "flush out and eliminate toxins" and "enhance metabolism." But perhaps the most outrageous claim is that one particular belt uses "600 calories in 30 minutes." To obtain the same caloric expenditure, a 165-pound individual would have to run about 4.65 miles in 30 minutes – a pace of about 9.3 miles per hour. Considering that the only physical exertion with a sauna belt is to put it on and plug it in, a caloric expenditure that high is simply impossible.

A sauna belt will make a person sweat and, theoretically, this could produce a small amount of weight loss. But the weight loss is water loss and water has no calories. And when consumers are instructed to set the belt to as much as 176 degrees to supposedly promote fat loss, is anyone surprised that there are countless reports from consumers who burned their skin?

In short, a sauna belt is basically a glorified – and overpriced – heating pad.

Shark Cartilage

Public curiosity about shark cartilage as an anti-cancer agent dates back to at least the 1970s. Interest rose in 1993 when the eternally popular show 60 Minutes broadcast a segment called "Sharks Don't Get Cancer." The feature highlighted a Cuban study in which 20 percent of the cancer patients (3 of 15) had a positive response to shark cartilage. The study later came under severe criticism for design flaws. And, for the record, sharks do get cancer. But if they have a lower incidence, it probably has nothing to do with their cartilage; rather, it's more likely because sharks don't smoke cigarettes or expose themselves to harmful carcinogens!

In a study that was published in the journal Cancer in 2005, 83 patients with advanced cancer (breast or colorectal) received standard care along with either shark cartilage or a placebo that looked and smelled identical to the shark cartilage. There was no difference between the shark cartilage and the placebo in terms of improving the overall survival or quality of life of the cancer patients.

So, there's no scientific basis for the efficacy of shark cartilage in preventing, treating or curing cancer. The shark is a mystical creature but there's nothing mystical about shark cartilage.

THE BOTTOM LINE

Although the source of the quote is the subject of debate, a very bright person once said, "There's a sucker born every minute." Then the person added, "And two to take his money." Unfortunately, this is probably an underestimate on both counts. As they say, caveat emptor – let the buyer beware! Don't be a conned by infomercials that promise miracles.

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