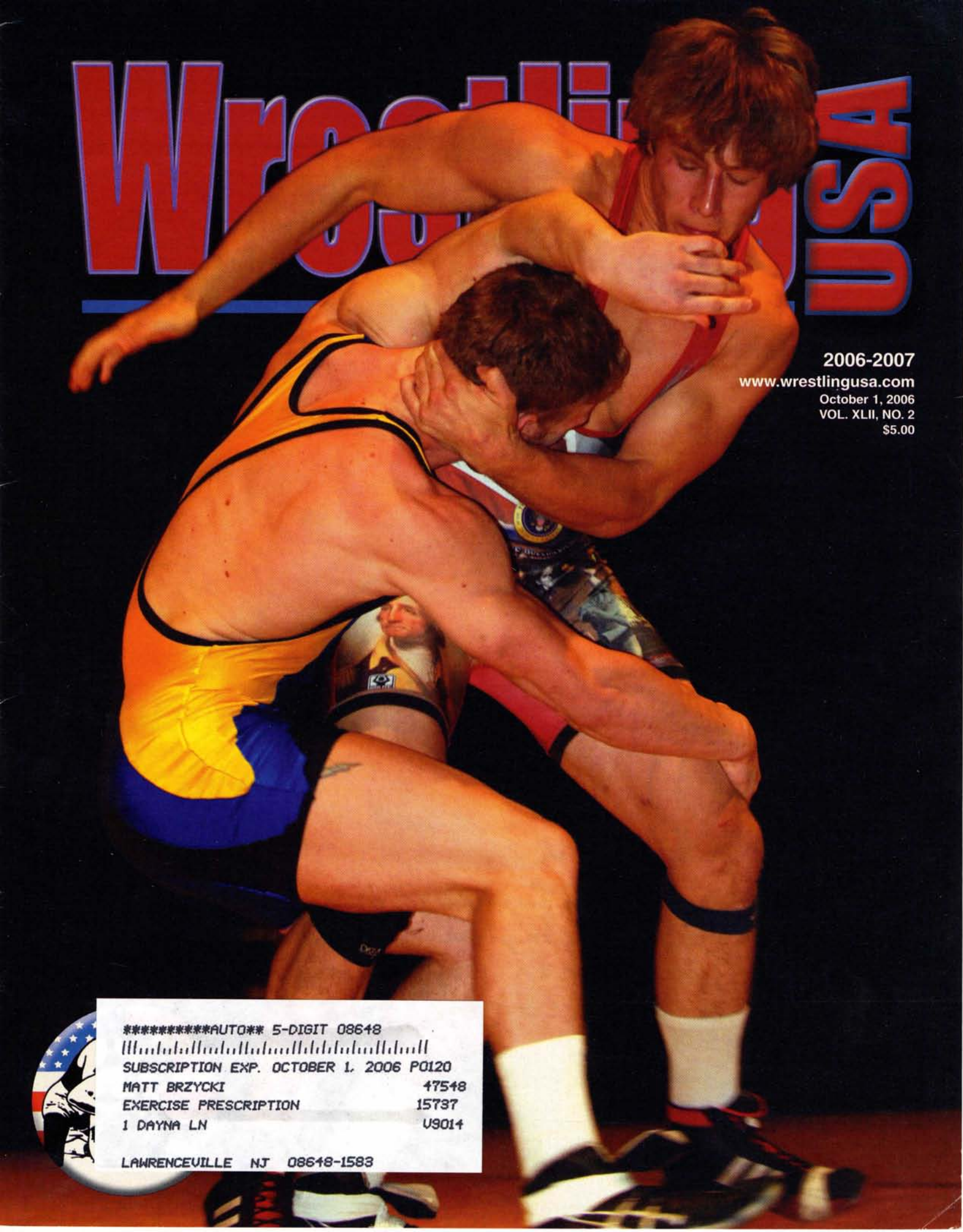

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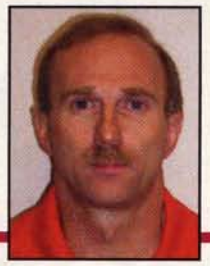
Caveat Emptor -
Let the Buyer Beware!

By Matt Brzycki



Translated from Latin, caveat emptor means "Let (or may) the buyer beware!" Watch enough television or read enough magazines and you will surely get a sales pitch from someone trying to sell you the latest and greatest product.

PRODUCTS

Here is a look at some of the products that are being promoted to consumers. Specifically, the products are abdominal equipment, bottled water, glucosamine and chondroitin, electrical muscle stimulation, energy bars, sauna belts and stability balls.

Abdominal Equipment

No other bodypart receives as much attention in those annoying infomercials as the abdominals. A partial list of abdominal equipment for home use includes the Ab Away Pro, Ab Blaster, Ab Dolly, Ab Force, Ab Isolator, Ab Rocker, Ab Roller, Ab Sculptor, Ab Slider, Ab Trainer, Ab Works, EZ Crunch and PerfectAbs.

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 machines are not significantly better than good, old-fashioned crunches (done by raising the head and shoulders off the floor).

The portable equipment that is the most effective are the ones that have a movement pattern that is 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 is 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 is not a significant factor in the performance of the exercise.

Bottled Water

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 of all places. 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% of the samples of tap water were in the recommended range. In terms of bacterial count, 15 samples (26%) of bottled water had significantly more bacteria than tap water. Compared to the average bacterial count of the tap water, 6 samples (11%) 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!

But what about taste? Surely bottled water must taste better. In a survey of 2,800 people in England, 60% could not tell the difference between bottled water and tap water. It is 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."

But that is nothing, get this: In his column in *Scientific American*, Michael Shermer once wrote about a television show that went to California and filmed patrons at a trendy restaurant. The patrons were given "water menus." All bottles were filled out of the same hose in the back of the restaurant. The people shelled out seven bucks per bottle for items such as L'eau Du Robinet (French for "faucet water"). The patrons declared them all to be far superior to tap water.

Glucosamine and Chondroitin

This discussion will be of interest to the older readers who have arthritic joints. Glucosamine and chondroitin are natural substances that are found in cartilage. It is believed that glucosamine inhibits inflammation and stimulates the growth of cartilage while chondroitin gives cartilage strength and resilience. As a result, these two substances have been promoted as viable treatments for osteoarthritis.

Research has found that glucosamine and chondroitin decrease pain more than a placebo. However, most of the studies have been of very short duration (less than about four weeks). Also, numerous studies have been of low quality; many were sponsored in some manner by a product manufacturer. Indeed, the two longest studies to date were both funded by a pharmaceutical company and had employees from the company listed as co-authors.

Many studies have reported a very high percentage of side effects from glucosamine. In most of the studies, however, the rate of side effects in those who used glucosamine was not significantly greater than those who used a placebo. The most prevalent side effects were abdominal pain, diarrhea, headaches and increased blood pressure.

In a nutshell, glucosamine and chondroitin have shown some promise in combating osteoarthritis and appear to be relatively safe. But at this point in time, the research on these two substances needs to be more convincing.

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 are not 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 did not transmit any electrical current. (The latter group was told that they would 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 is 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.

Energy Bars

One of the latest attempts to snatch your money is the promotion of energy bars that taste like candy bars. As they say, if something smells like a fish it is probably a fish. So if an "energy bar" tastes like a candy bar, it is probably a candy bar. Or at best, a glorified one.

Check the ingredients on the nutrition facts panel. Is chocolate one of the first ingredients? Remember, the ingredients are listed in order from highest quantity to lowest quantity. Some energy bars are literally coated with chocolate, just like many candy bars. Also check the total fat, especially saturated fat. The bar should be low in saturated fat. In addition, the bar should be low in sugar. Be advised that sugar can take several forms. Words that end in "ose" – such as dextrose, fructose, galactose, glucose, lactose, levulose, maltose and sucrose – indicate that the ingredient is a sugar but not all sugars end in these letters. Two examples are corn syrup and honey. The ingredients may also include "fractionated palm kernel oil" which makes the coating less likely to melt but is high in saturated fat. Finally, look at the total calories that are in the bar.

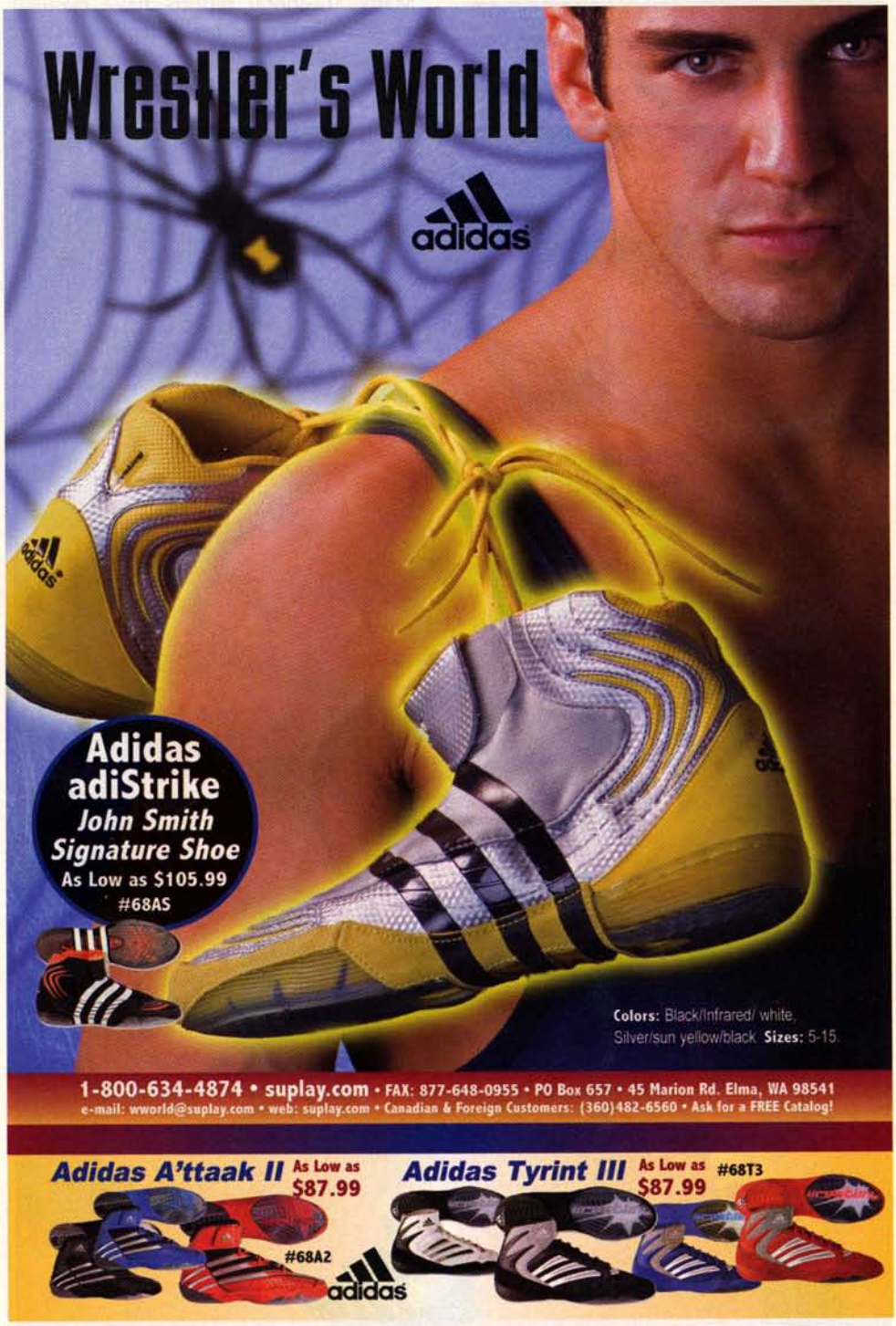
Understand that an energy bar does not make you more energetic. The truth is that calories provide you with "energy." So technically, any food that has calories provides you with "energy." Similarly, a bar (or other product) that has "power" in the name does not make you more powerful.

One of the advantages of energy bars is that they are very convenient. But whenever possible, it is always better to eat regular foods.

Sauna Belts

One of the latest products that has been popularized in a never-ending line of infomercials is the so-called "sauna belt." And like the EMS devices, it is 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 it "dissolves fat" or "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 is 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 a belt uses "600 calories in 30 minutes." To obtain the same caloric expenditure, a 165-pound wrestler 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 effort is to put it on and plug it in, a caloric expenditure that high is simply impossible.

A sauna belt will make an individual 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.

Stability Balls

Many anecdotal reports have claimed that doing exercises on a stability ball or other unstable equipment will increase the stability of the core (essentially, the muscles that affect the mid-section). It has also been claimed that increasing core stability improves things such as balance and athletic performance. But before you run out and purchase a stability ball, is there scientific support for any of these beliefs?

In a six-week study that involved collegiate swimmers, the researchers found that training on a stability ball did improve performance in tests of core stability but not performance in the vertical jump or swimming (two 100-yard time trials). In another six-week study that involved high-school athletes, researchers found that training on a stability ball did improve performance in tests of core stability but not maximum oxygen intake, running economy or running posture. So while the use of stability balls has been shown to improve performance in tests of core stability, their use appears to be ineffective for improving sports performance.

Here is another important consideration: Studies have shown that doing an exercise in an unstable condition produces significantly less force and less muscle activation than doing the same exercise in a stable condition. So, more instability correlated to less force production and less muscle activation. And that is the exact opposite of what you need to improve your strength.

One other point: With all this fairly recent emphasis on core training, you would think that athletes never trained their cores before. Of course, this simply is not true. Athletes have been training their mid-sections – their "cores" – for years prior to the current core-training craze. Done safely, exercising on stability balls can be used to provide variety to workouts. But when athletes start doing unsafe practices such as squatting while balancing on a stability ball or jumping from one stability ball to another, is not the use of stability balls getting just a bit out of hand?

The Last Rep

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! Do not be conned by products that promise miracles.

Matt Brzycki has authored, co-authored or edited 15 books on strength and fitness including Wrestling Strength: The Competitive Edge, Wrestling Strength: Prepare to Win and Wrestling Strength: Dare to Excel. These wrestling books are available at all major bookstores or through Cardinal Publishers Group (800-296-0481).

Colorado Springs, CO - 185 lbs. Brad Vering (New York AC) won by decision over Brad Ahearn (U.S. Army), 1-1, 1-1, 6-0. Photo by John Johnson.