

Cross Fit in the cross hairs

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An extreme form of training known as "CrossFit," is being marketed heavily toward the law enforcement and military communities.

Several anecdotes of individuals who do CrossFit were mentioned in a recent New York Times article. The first one told the tale of a member of a SWAT team from Tacoma, Washington. During a workout, the 38-yearold police officer swung a 44pound kettlebell rapidly and repeatedly over his head and

between his legs. After 30 minutes, he left the gym "with back pain so excruciating that he had to lie in the driveway to collect himself." That night, he went to the emergency room. The police officer - a former Army Ranger - was diagnosed with rhabdomyolysis and spent six days in intensive care.

WHAT IT IS

A CrossFit workout is basically a series or circuit of a few exercises/activities. This can include calesthenic-type exercises (such as the pull-up and dip), Olympic-style lifts and their variants (such as the clean and jerk and push press) and aerobic activities (such as running and rowing). CrossFit workouts often incorporate equipment such as a medicine ball, stability ball, plyometric box, climbing rope, kettlebells or dumbbells and gymnastic rings.

In general, the idea is to do the exercises/activities in the shortest amount of time or to do as many repetitions of the exercises/activities as possible in a given amount of time. As you might imagine, a CrossFit workout can take an infinite number of forms. The main website that promotes CrossFit offers a "Workout of the Day" (WOD). As an example, this is the WOD that was posted on December 28, 2005:

- 50 Wall-Ball Shots
- 50 Pull-Ups
- 35 Wall-Ball Shots
- 35 Pull-Ups
- 20 Wall-Ball Shots
- 20 Pull-Ups

In this particular workout, the goal

is to complete the sequence of exercises/activities as quickly as possible. As you can see, the simple but challenging workout consists of two move-

ments: the wall-ball shot and pull-up. (According to the website, a wall-ball shot is "launching" - their word, not mine - a 20-pound medicine ball at a target that's 10 feet above the ground.)

The WOD is viewed by many individuals from around the world and some often post their results on the main website for others to see. As a result, the workouts can

become quite competitive.



A CLOSER LOOK

The article that appeared in The New York Times fanned the flames of an already fiery debate about CrossFit. Similar to many other types of training, it has a cult-like following of devotees. But CrossFit also has its share of critics in the scientific and medical communities who have it lined up in their crosshairs.

There are many advantages of CrossFit. For example, it . . .

- 1. encourages participants to work hard
- 2. keeps the workouts brief
 - 3. makes the workouts simple
- 4. offers a great deal of variety and has a competitive aspect

Considering these seemingly wonderful benefits, what makes CrossFit so controversial? Let's take a closer look at a few areas.

As a rule of thumb, CrossFit workouts don't involve many exercises/ activities. This can be a big plus for time-conscious individuals. But the workouts do involve plenty of repetitions of the exercises/activities. The sample WOD that was noted earlier consists of 105 repetitions for each of the exercises/activities. Having to do such a high volume of repetitions increases the risk of overuse injuries.

In addition, many of the recommended exercises/activities are inherently dangerous.

The menu of exercises/activities that's listed on the main website includes the power clean, snatch, push jerk, push press and kettlebell swing. And even the exercises/activities that are otherwise safe become dangerous when they're performed as rapidly as possible in a ballistic or explosive manner.

Just look at the wall-ball shot and pull-up. The wall-ball shot places an enormous load on the structural components of the shoulders and lower back. (Remember the "excruciating" back pain that was incurred by the police officer from Washington when he swung a kettlebell in a similar motion?) There's nothing inherently wrong or dangerous with doing pull-ups. When done in a strict fashion, the pull-up is a very productive exercise for increasing the strength of the upper back, biceps and lower arms. But since this workout is to be completed in the shortest amount of time and is somewhat competitive, the emphasis is on doing the repetitions quickly not strictly.

When repetitions are done quickly, it involves an excessive amount of momentum. Using an excessive amount of momentum to perform the repetitions does two things, neither of which is good. First, it decreases the involvement of muscular force; second, it increases the potential for injury. In addition, trying to complete the workout as quickly as possible also increases the likelihood that the repetitions won't be done through a full range of motion which makes the exercise/activity less productive.

And to state what, hopefully, is obvious: Any type of training that causes an individual to spend six days in intensive care isn't good. No comfort comes from the founder of CrossFit who was quoted as saying that the training "can kill you." He has also admitted that as many as six participants have suffered from rhabdomyolysis. For the record, 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.

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The most common risk factors for rhabdomyolysis are alcohol abuse and soft tissue compression but it can also be 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. There have also been reports of exerinvolving rhabdomyolysis healthy, experienced individuals who were pushed to the extreme 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 isn't encouraging odds, especially if you end up being the one in 20.

Equally disturbing is the main website that promotes CrossFit. Among other things, the website boasts a cartoon of a clown - supposedly named "Pukey" (or "Pukie") - who's shown vomiting. Another cartoon clown dubbed "Uncle Rhabdo" - presumably named after "rhabdomyolysis" - is shown with one of his kidneys lying on the floor beneath his feet in a pool of blood. Perhaps even more alarming is the Internet disciples who jockey for a T-shirt that depicts the gory cartoon. Rest assured that renal failure is no laughing matter.

THE BOTTOM LINE

Can CrossFit be effective? Absolutely. Any form of training that encourages a high level of effort, is progressively more challenging over time and provides adequate recovery can be effective. However, training shouldn't be done if it carries a high level of risk. Yes, law enforcement is a dangerous business. But that doesn't mean that as a police officer, you have to prepare in a dangerous manner. You wouldn't prepare for a concussion by banging your head against the wall. And you wouldn't prepare for a gunfight by getting shot at with real bullets. In short, you wouldn't prepare for a dangerous line of work by performing a dangerous type of training.

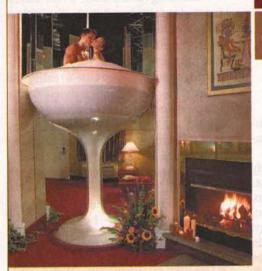
The purpose of physical training is

to prepare your muscles, bones and connective tissues for the demands of physical activity. The idea is to strengthen those structures so that they're more resilient to injury. It makes no sense, then, to injure yourself in the process of training to reduce your risk of injury. Getting injured while doing your job may be heroic but getting injured while doing physical training is horrific.

This isn't a criticism of training with a high level of effort nor is it a criticism of those who train with a high level of effort. As a matter of fact, training with a high level of effort is a requirement for increasing strength and fitness. But the training should be safe as well as sensible. Clearly, there's no need for you to do training in which you "get fit, even if it kills you."

Matt Brzycki is the coordinator of Recreational Fitness and Wellness at Princeton University. A former Marine Drill Instructor, he has authored, coauthored or edited 14 books on strength and fitness, including SWAT Fitness (available at www.operationaltactics.org).

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