Hard Core Training for Hard Core Cops

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Law and Order 2009 #5
Tactical Response

Amateurs and beginners need not apply. This article is dedicated only to those who consider themselves serious, professional "Tactical Athletes"[1] as termed by the National Strength and Conditioning Association (NSCA). The Tactical Strength and Conditioning (TSAC) program was designed by the NSCA for just those police and military "athletes." Maybe you're not on the SRT team, a police cyclist or a K-9 officer, but simply put, you just like to "get after it" when it comes to physical training or competitive hobbies. Perhaps you drag race, parachute, mountain bike or road race, compete in water sports or anything else that draws those same adrenaline junkies that the SWAT team does. Whatever the case, this is for those who strive to go above and beyond that of the average Jane or Joe. It is for the solid human machine that jumps out of an assault vehicle wearing a Kevlar helmet and level IIIa tac vest, carrying a Halligan tool and rifle. It is for those who run with a lead and are pulled by a powerful canine on uneven terrain, lift that 75 pound dog over a fence, then continue on with the track. It is for those who sprint to a domestic in progress on a bicycle in extreme heat, powered only by the rock solid, lactic acid-filled quads and hams. It's for those who love to push themselves beyond that of a "normal" citizen, and for those who will someday save - or necessarily take someone's life, because they were able to achieve and maintain a superior level of functional fitness and foster a powerful, winning mindset.

Functional, specific, hard core training will be addressed to improve performance, strength, power, and mental toughness in those who dare venture into this arena. This next statement is serious: It is assumed that prior to attempting these suggested drills, a solid cardiovascular, strength, and power base has already been built. Just like other extreme programs such as Crossfit, P90X, "Kettlebell Challenge" and 300s are not for beginners, "extreme" training if not implemented prudently can be hazardous to those who are of mediocre fitness levels or just starting out. And although using the word "extreme" because of its popularity, this really shouldn't even be termed "extreme" at all, since it is assumed that the body has gradually and appropriately been prepared for such activity under proper and professional supervision.

In addition to some practical functional training exercises that will apply directly to the specialty positions mentioned above, the differences between "Olympic Lifts," "power lifting," training for power, and weight lifting will be clarified. This is mentioned because there are common misnomers that exist about these much different types of training. Proper rest and recovery, appropriate protein and carbohydrate intake, and the question of whether to include legal performance-enhancing supplements in an elite fitness program will be addressed.

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[1] National Strength and Conditioning Association, Colorado Springs, CO. www.nsca-lift.org

Terms Defined

"Weightlifting is an actual sport in which athletes attempt to lift as much weight as possible in the snatch, and clean and jerk (exercises)."[2] Just lifting weights is termed "resistance training" and is what comes to mind when you hear the word "weightlifting." "Olympic lifting" is the term that should be reserved for athletes who are competing in the exercises mentioned above at the Olympics. "Olympic lifting" is commonly but incorrectly generalized to those who are doing those exercises but not competing in the Olympics. "Powerlifting" is a sport in which the most possible weight is lifted in the squat, deadlift, and bench press, and because of the sheer weight moved, these exercises are usually done at relatively slow speeds. Powerlifters require maximal force production at slow velocities.[3] The term "powerlifting" is misleading because "power" involves an element of time: Power = Work / Time. To obtain optimal power you must obtain maximal work in the least amount of time. Very light loads move very quickly but do not require much work (Force x Distance), so resistance that is too light, such as a chest pass with a one pound medicine ball, will not achieve maximum "power." Conversely, extremely heavy loads are very difficult to move quickly so the "time" element of the equation reduces power. As a result of simple physics, developing power in the human body is a finely tuned balance between the amount of weight moved and the speed of that movement.

Training for Power

For those who wish to maximally improve power, such as the tactical or bicycle officer, both the force and velocity components must be trained. Just as you wouldn't train on a bicycle to improve your running speed, the more specific the movements to that which will be done in the field (the more "functional"), the better the transfer to improved performance. An example of power specificity would be a police cyclist doing interval sprints on a bicycle with a 1:1 work-to-rest ratio. Another would be a K-9 officer performing a clean with a weight similar or slightly greater than the dog, to simulate lifting the dog over a fence.

Heart Rate Monitors

Appropriate intensity is a must if specific goals are to be reached. Using a heart rate monitor is a great way to achieve your intensity goals at a glance. Models such as the Polar RS800cx are no longer referred to as "heart rate monitors" but are now called training computers because they do much more than just display heart rate and calories burned. They can download to a computer, print graphs, are easily programmed for entire training routine to ensure proper intensity levels, duration, work-to-rest ratios, and recovery. They are equipped with GPS technology, determine altitude, figure cycling power output, route mapping, and more. They can help control stress levels through biofeedback whether during Reality Based Training (RBT) or on duty. Using recovery heart rate, these specialized training computers can be used in functional competitions, such as a timed obstacle/firearms course in full gear: Using time and shot placement as

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[2] Hedrick, A., Wada, H. "Weightlifting Movements: Do the benefits outweight the risks?" National Strength and Conditioning Journal, V. 3 No. 6, December 2008. Pp. 26-34

[3] Ibid.

the marker, competitors drive through the obstacle course, shoot 6 rounds, then the heart rate must recover to 100 bpm or less - then and only then - are the last shots allowed to be fired. A time penalty should be assessed for shots missed because accuracy is important when unleashing with a .223 round. Those whose heart rates recover faster will have the least amount of time (more fit) will win, provided all shots are in.

SWAT

With all of the equipment that special response teams employ, it makes sense to train with added weight. Any combination of the tac vest, rifle, ammo, shield, helmet, SL6 or other less lethal option, battering ram, fire extinguisher, bolt cutters, Halligan tool, self-contained breathing apparatus, hydration system, or miscellaneous tool pack… well, you get the point. A tactical team member can easily weigh 50 or 60 pounds heavier with the added gear which could cause muscles, tendons and ligaments to be injured if the prior physical training didn't include additional weight. On top of this, temperature extremes in various climates, rain, snow, fog, and desert sun can add discomfort and danger in the form of heat-related sickness and death. Care should be taken to properly hydrate and replace electrolytes during training as well as in real world incidents.

Here are some examples of applicable exercises that can help a tactical team member physiologically and mentally prepare for duty. Remember, it is assumed that a solid base has already been built prior to implementing a more functional training program with added weight. Even so, initiate all new activities with body weight only, then gradually progress to full duty gear and more if possible.

Basic

- Hill training both up and down (short distances). This can also be achieved on treadmills using the incline option.
- Short sprints with full tactical gear with proper rest period in between (1:8)
- Add over and under obstacles to the course
- Torso rotational training, Russian Twist, 3-D Dumbbell Matrix, multi-directional woodchops (as described in previous article on Functional Fitness for LE)
- Pull ups: assisted, free weight, and with added resistance for fast and furious improvements. Pull yourself up and over that backyard fence in full tactical gear with no problem.

Functional

- Quickness drills: Get up, get down, get up as quickly as possible. Incorporating team competition to a simple T-drill and using various starting positions such as single and double-knee kneeling, seated, prone and supine, can add camaraderie and fun to intense training.
- Agility ball or tennis ball supine toss: Throw the ball directly above the body and into the air high enough to get up and catch it before it hits the ground. Team competition can bring forth remarkable results and effort. There are obvious differences with the agility ball versus the tennis ball because of the unpredictability of the bounce.

- Stairway ups and downs for not only simple weighted activity with additional work through elevation change, but for agility, hand-eye-foot coordination skill development and improvement - and again, team competition can even make it fun. Start by wearing a variable weight belt made specifically for physical activity while on the stairclimber, and progress from there.
- Multi-directional lunges: Forward, lateral, and transverse. Among other things these apply to the field action of dropping to a knee, taking a cover position, getting up again and moving to the next position to repeat.
- One-legged training: Use much less weight and perform exercises while standing on one leg. Include the squat, snatch, clean and jerk, deadlift, standing reach, even upper body resistance training such as military press, shoulder raises, and bicep curls while standing on one leg. This will not only improve balance but will help when you have to "make yourself small" then get up quickly and repeat, as these motions are almost always done from one foot. Even pushing off to walk is done with one foot, as is getting up from a kneeling position and jumping up to climb over a barrier.
- Agility ladder drills: footwork in the form of hops, diagonal movements, side-to-side, backwards, single-leg, double-leg, alternating, etc: Hopscotch, straight on foot speed work, "Icky shuffle," and more.
- Plyos for power and metabolic demands (see previous article on Functional Training for LE)
- Flexibility training post-workout for reduced chance of injury (see previous article "To Stretch or Not to Stretch")
- Reactive, fast, power sports such as racquetball, volleyball, kickboxing, martial arts sparring, and others. Ladies if comfortable with skill levels, play with the guys for improved performance, response time, and power.
- Once per month perform your workout in a gas mask for inoculation and adaptation effects.
- "911 Challenge" (workout) by Thinner Blue Line[4]

Each exercise and program must be personalized appropriately. Just as in real life, in a group larger than two, not everyone can do the same number of push ups, sit ups, or run the same pace. In order to achieve proper progression, the programs must be similarly challenging for each person, which usually takes different physiological requirements.

Proper Rest, Recovery, and Nutrition Intake

When milliseconds matter, an operator must have all of the physical and mental capabilities. First and foremost, higher intensity training if implemented properly and incrementally, should not cause much discomfort in the form of delayed onset muscle soreness (DOMS). Training that causes vomiting and prolonged DOMS is improper, and not employed gradual enough over time. In extreme cases, a condition called rhabdomyolysis or "Rhabdo" can, and has occurred. Rhabdo, caused by extreme overexertion, is a potentially fatal condition caused when muscle fibers break down into

[4] Radloff, Tony. Thinner Blue Line, MN. tonyradloff@gmail.com

the bloodstream so severely that they clog the kidneys, making them unable to process urine properly.[5] As stated best by Matthew Domyancic MS:

> "Although it may have been fun when we were playing youth sports and perceived to be a 'good practice,' workouts that make you puke and have muscle and joint soreness for days… are not good indicators of a properly designed workout. This is especially true for law enforcement officers or fire personnel with the unpredictable schedules that go with the territory. We are always 'in season' in public service and cannot plan periods off for recovery. When lives could depend on being able to perform physically and mentally demanding skills under extreme life and death conditions, shortly after a workout or in the days following, people need to be ready to rock. Police, fire, and military personnel need to do performance based workouts to increase on-the-job skills. However they need to train smart and keep their nervous systems fresh and not overtrain their muscles so performance and reaction time do not suffer while operational on the job."[6]

In order for the body to adapt to the demands placed upon it, appropriate nutrition post-workout is absolutely required. Adequate sleep as well as appropriate water, electrolyte, carbohydrate, protein and fat intake, are a must. Whole food proteins such as lean meats, fish, egg whites, and milk are excellent options. Generally, the less processed or the closer to nature the better, as they are rich in most amino acids and micronutrients, are effective at creating the calorie surplus needed for rebuilding the damaged muscles after a tough workout, and take longer to process resulting in a lengthier feeling of being full.[7] If protein supplementation in the form of shakes, powder or bars is necessary, those that contain milk are better choices. A blend of whey and casein, which are both derived from milk, is considered the best option, as both slow and fast acting proteins are included.[8] Milk also has the necessary carbohydrates to replenish the glycogen stores within the muscle. Whatever the choice, the sooner it is ingested after a workout the more effective it will be.

Finally, just as a NASCAR team wouldn't accept spending $10,000 on reducing the weight of a race car by 6 pound only to have the driver show up 8 pounds heavier, performing in these specialty positions requires the ability to manage body weight - and then some. Carrying that 20 pound weight plate around the waist in the form of body fat hinders performance. The next time you're in the weight room, add a weight plate to your body and perform as many pull ups as you can, then drop the plate and continue. That's the difference that somatic muffin top makes, so get rid of it to improve speed and power, and to avoid injury later on.

Performance Enhancing Supplements

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[5] D.M. "Newest Health Threat?" Women's Health, March 2009, pp. 120 – 123.
[6] Domyancic, Matthew, MS. matt@zoneready.net , Website: www.zoneready.net
[7] Wells, G. Damon. Department of Physical Education, United States Military Academy, West Point, New York "The post-workout protein puzzle: Which protein packs the most punch?" Strength and Conditioning Journal, V. 31 No. 1 February 2009. Pp. 27-32
[8] Ibid

Should I or shouldn't I? My personal answer will always be the same, and some will disagree. "Just say no" to supplements unless it is food. This is a multi-million dollar industry driven by profit. They don't have to prove they do what they claim, they are not regulated by the FDA, and they don't have to prove that they are safe. In this profession, the risk will never outweigh the benefits. Studies have shown supplements tainted with illegal substances such as steroids and testosterone, [9] which an officer simply cannot afford to have in the system when his/her blood is drawn post-shooting (it is coming). Some studies have also shown supplements to contain less or none of the active ingredient advertised, and even animal feces was found in almost 25% of nutritional supplements in samples collected by the International Olympic Committee (IOC).[10]

Get out and get after it!

Do it properly and research everything for yourself. If you don't' have the time or desire to do this, find someone who does. It's a way of life that you have chosen, so get out there and get some! Train hard, train smart, and rest easy for maximal performance.

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[9] GSSI 2003 Scientific Conference. July 24-25, 2003. Chicago Ill. "Supplement Contamination: Is the Risk Real?" Ronald J. Maughan, PhD. Loughborough University.
Green et al, 2001 Clin J Sports Med 11, 254-259
Geyer et al (2000) Deutche Z Sportmed 51, 378-382
International Olympic Committee (IOC): Between October 2000 and Novcember 2001, 634 non-hormonal nutritional supplements were obtained in 13 countries from 215 different suppliers. www.dopinginfo.de

[10] Ibid