

Well-rounded fitness — part 2

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Note: This is the second of a two-part article. Part One was published in the Spring 2009 issue of ITOA News, and can be found in the ITOA's online fitness library at itoa.org/fitness.htm

With the unpredictability of police work, police officers must be well-suited to perform tasks within a wide spectrum. This requires them to draw from a broad and general foundation of fitness. While a competitive athlete can predict what skills and abilities are required to be successful in his/her sport, police officers can not. Some of those unknown tasks asked of officers are of dire importance; failure can cost life or limb.

The below list of eleven concepts and principles is a checklist for a broad, inclusive, and well-rounded approach to physical readiness. Each will be examined within this article. While there may be a catalog of for-profit fitness companies vying for your support, participation, and of course your money, this list should be compared against claims made by any of those organizations.

- Performance-based
- Focus on anaerobics within various metabolic pathways
- In all primary movement patterns
- Include strength, power, and stamina drills
- Practiced at maximums of ranges of motion
- Contain variety of workout formats
- Conditions the mind and emotions
- Sufficiently simple to learn
- Fit into a busy lifestyle
- Cost-effective
- Not equipment-centric

Performance-based

The most important aspect of a workout program is whether or not it produces measureable results. For some, results are seen in a mirror, on a scale, or in a smaller pants size. While weight loss and changes in body composition are generally healthy, these are not the primary goals of a performance-based workout system. (While weight or fat loss is not directly performance-related, dropping body weight

might translate into performance increases in certain movements such as pull-ups.) Obstacles in police work have little regard for your belt size or body composition. Goals and results need to be measured against performance changes. Performance might be gauged in terms of pounds lifted, repetitions completed, or time duration. In the case of a deadlift, a maximum lift increase from 275 pounds to 300 pounds equates to a performance increase. If one's maximum number of pull-ups increases from three to six, that too is a positive change. Thirdly, a 300 meter sprint time that drops from 55 to 50 seconds shows a faster execution of a task.

Time components of performance can be measured in several ways. A method growing in popularity is the Power Output formula. "Work" is defined as an amount of weight moved a specific distance. "Power" is the amount of work within a time period. Increases in power might be MORE WORK IN SAME TIME,



Photo courtesy of CrossFit Naperville

An instructor demonstrates and tests for proper execution using weightless PVC pipe and broomsticks before using any weights or load. Differences between sloppy and unsafe form need to be identified, distinguished, and corrected.

or SAME WORK IN LESS TIME. If a participant can do 50 burpees in five minutes, increases in power output require those same 50 burpees to be done in less time, or more burpees completed in five minutes. Both equate to positive changes in performance, and more power!

Functional fitness systems often use repeated “benchmark workouts” as a method to gauge results. Times, poundage, and repetition numbers are recorded and compared to previous results. This periodic “testing” ensures efforts are not in vain.

Focus on anaerobics within various metabolic pathways

The human body (at the cellular level) uses different metabolic “engines” to move. One of those engines, the Phosphogen, lasts for only a few seconds. It is the prime example of an anaerobic energy pathway. Another anaerobic pathway is the Glycolytic. It can last up to two minutes. A third pathway is the Oxidative. The Oxidative path is aerobic and lasts from two minutes up through hours and hours. While there are dominant engines in use for any specific task, it’s nearly impossible to say that any one task relies solely on one of them.

Part One discussed two studied tasks of police officers: the foot pursuit and the physical fight. Both of those tasks were deemed as relatively short in duration, yet high in intensity. If a police officer were told in advance that s/he would be in a foot chase after a serious violent criminal, AND that chase would last less a few city blocks (sometimes less than a few hundred feet), and traverse over and around obstacles, how should that officer prepare? The answer is not: by running two to three miles, three times per week. The officer should workout within the time durations and intensity levels of the Phosphogen and Glycolytic realms. Interval training including fast 200, 400, and 800 meter runs likely serve this officer much better than the aerobics of a two or three mile run.

At the pinnacle of anaerobic tasking is jumping, weight-throwing, and Olympic lifting. Marathon running is the quintessential aerobic event. Those life-and-limb tasks within police work more closely resemble tall box jumps, medicine ball throws, heavy barbell hang cleans, or push jerks than even a half-mile run.

In all primary movement patterns

Part One included Everett Aaberg’s list of seven primary movement patterns: squatting, lunging, pulling, pushing, trunk extension, trunk flexion, and trunk rotation. This list can be extrapolated to include all sorts of movements within functional fitness systems. See the box for examples. The examples do not necessarily reflect a certain muscle group, but rather a category of MOVEMENT. Poorly proportioning or neglecting movement pattern categories increases the chances for muscular imbalances, opening the door to poor performance and injury.

Include strength, power, and stamina drills

Strength is the body’s ability to provide a force. A strong person can lift a lot of weight. Professional powerlifters can deadlift and back squat over 800 pounds. Pure strength has no time or speed component. Power (as discussed above) DOES have a time/speed component. If two men of equal height both lift 100 pounds from the ground to overhead 20 times,

they both perform the same “work.” However, the man who does it faster produces more “power.” Stamina reflects the ability to sustain work over an extended time period. A person with high stamina levels can “keep their steam.” An example might be a man who can clean and press a kettlebell (switching hands at times) from ground to overhead continuously for ten minutes, or repeatedly back squat 75% of his body weight many times without stopping.

With the variety of unknown tasks asked of police officers, a program that includes strength, power, and stamina best prepares that officer. An example of such is: bench pressing for maximum weight pressed (strength), plyometric or clapping pushups (power), and maximum gymnastics ring pushup repetitions (stamina). These three exercises all target the same musculature and movement, but in different ways. Most movement patterns have exercises that can be modified or adjusted to address strength, power, and stamina for more complete preparedness.

Practiced at maximums of ranges of motion

Range of Motion (ROM) is another often-neglected aspect of fitness programs. Flexibility and ROM must be tailored to the abilities and physical build of each participant. The “maximum” ROM cannot be interpreted as the absolute angle a

Exercises for the seven primary movement patterns

Pulling: pullups, inverted rows, high pulls, power cleans.

Pushing: pushups, overhead presses, dips.

Squatting: unweighted or with weights held in front, on the back, or held overhead.

Gait: lunges, stairclimbing, running/sprinting, box step-ups.

Trunk extension: back extensions, bird dogs, supermans, deadlifts.

Trunk flexion: situps, hanging knees to elbows, planking.

Trunk rotation: medicine ball twisting exercises, punching, overhead squats.

particular joint is capable of moving. It must be that degree which is safe and limits the chance for injury. Unweighted walking lunges are an exercise that makes this point. During walking lunges, the musculature of the lower body is asked to move the legs through wide ROM. Since most humans are weakest at those degrees (and are most painful or sore afterwards), most humans ignore them in their workout routines. Squatting is another exercise that can be examined for ROM issues. Many people who squat (whether weighted or unweighted) do not descend enough in their ROM. While there is a safety concern for untrained athletes with this, many humans' legs, knees, and backs can be conditioned to operate in a maximum squat ROM. The last exercise to be addressed here is dips. Athletes should strive to dip down as low as possible to maximize the effects of the exercise.

Wide ROMs are critical for several reasons. First, by striving for and practicing in wide ROMs, one can increase operational and real-world capabilities should the body be forced into a twisted, manipulated, or tight position. Secondly, practicing getting into and out of wide ROMs increases flexibility, which decreases the potential for injury.

There is likely debate as to which is better: more repetitions and/or heavier weight – OR – wider ROM. Valid points can be made of both. Including both strategies might provide the highest degree of readiness. But do not go too far to quickly. Flexibility takes time to develop, and previously injured areas must be protected. Reaching maximum ROM is a long-term goal and should not be forced too early.

Contain variety of workout formats

Any worthy company or organization promoting tactical fitness models uses a variety of methods, formats, and modalities to reach that peak fitness. This variety not only builds a fitness that is broad, inclu-

sive, and well-rounded, it keeps the participants' interest levels up. Popular programs and organizations use the following modalities: sprinting, kettlebelling, Olympic lifting, powerlifting, medicine balling, gymnastics, plyometrics/jumping, job-simulation tasks, suspension strapping, mixed martial arts (heavy bag) techniques, throwing, and high school gym class calisthenics.

A week's worth of functional fitness sessions might include:

- heavy deadlifts
- a circuit of pull-ups, pushups, situps, air squats
- skill dedication work to improve weak movements
- a circuit of medicine ball throws, box jumps, push presses
- cardio machine interval training

This variety can be programmed or scheduled into a routine that is not "routine." By increasing the variety of modalities, one increases the broadness and generality of this fitness. On the flip side, by being so inclusive of modalities and methods, the chances of being most excellent in any one of them decreases. For example, if one's goal was to be an Olympic weightlifter (or an Ironman triathlete), this broad approach is not the proper path. However, a "jack-of-all-trades" attack is arguably one that develops a readiness to overcome any unknown obstacle, at any unknown time or place. A police officer might have to hurdle a fence, push a stalled car, wear heavy armor all day, move a fallen tree limb, drag a downed partner, wrestle with a drunk driver, or pull him/herself over a wall. A variety of modalities or formats is best for this goal.

Conditions the mind and emotions

This is unique statement for a physical fitness program. Over and over again I listen to functional fitness athletes talk about how their program has increased their self-confidence

and nurtured a win-at-all-costs mindset. The high intensity levels of anaerobic intervals and circuits bring about a decent amount of suffering. Heart rates soar into near-max levels, breathing is categorized more as "sucking wind," and muscles are pushed to failure through the burn. But continuing through this agony is perfect practice for The Fight. There is little doubt that experiencing the stress and discomfort of exertion in the safety of a gym better prepares police officers for that same feeling on the street.

Sufficiently simple to learn

Movements and exercises must be simple. "Simple" does not mean "easy." Simple means that exercises cannot be so complicated that they turn away participants. Two such complicated kettlebell exercises are the Turkish GetUp (TGU) and Figure Eight to a Hold (F8H). With enough



Photo courtesy of Louis Hayes

Using a partly water-filled keg makes extra demands on balance and coordination. Keg lifts and throws require a solid foundation the movements before attempting.



Hill running is intense, but the intervals include a short rest and recovery time on the way down.

practice most anyone can safely perform TGUs and F8Hs. However, it takes plenty of practice at more fundamental motions. Beginning with these advanced techniques will not only dissuade participation, but multiply injury rates.

A good deal of practical fitness systems are rooted in complex, multi-joint, multi-planar movements. An advantageous way to graduate into them is by first isolating some of those movements. One way to prepare for thrusters (front squat/push press combo) is by first mastering the front squat and the push press individually. Each is simple to learn. The combination of those two simple movements into the thruster makes extra (sometimes dangerous) demands on coordination and balance. The same can be said for Sumo Deadlift High-Pulls (sumo deadlift and high-pull combo). Each of the two movements can be learned, practiced, and mastered before integrating into one complex exercise.

The goal of functional fitness is to get good at lots and lots of physical tasks and skills. The more complicated the tasks and skills, the more agile, coordinated, and better prepared, or fit, the athlete is. But a solid foundation is required before one graduates into the world of Olympic snatching, TGUs, and F8Hs.

Fit into a busy lifestyle

Police officers live busy lives. Between shift work, long hours, court appearances, side jobs, family, social

commitments, and house chores, not much time is left for personal endeavors. With a focus on high intensity anaerobic routines, these sessions do not last very long. Many of the workouts can be completed in less than 20 minutes. With a few minutes tacked on to warm up, stretch, and cool down, a session can be cut down to 30-45 minutes.

Bodybuilding and isolation workouts can last 45, 60, or 90 minutes alone. Running three miles can take between 20-35 minutes. Each of these two approaches is convincingly less effective at reaching tactical fitness goals. So not only do bodybuilding sessions take more time, they have statistically produced less performance results.

Cost-effective

Price matters. In "Building a Functional Gym," (ITOA News, Winter 2009, available online at ITOA fitness library), it was contended that reaching elite fitness does not require fancy high-technology contraptions. In fact, for what many families spend gym memberships for a year or two, they can outfit a fully functioning home gym.

Additional expenses of personal training quickly add up. The value of functional fitness trainers in group settings is hard to argue against. Lastly, FREE online support for tactical fitness organizations is widely available. That's the best deal. Simply put: No one can buy physical fitness!

Not equipment-centric

Shiny, fancy equipment does look pretty. While some equipment concerns are listed above in the “Cost-effective” section, sometimes the limitations of equipment is not based on money, but sheer access. There are inspiring stories of soldiers and Marines on the front lines of war who find the most rudimentary supplies to furnish workout stations: sandbags, ammo cans, rocks, pullup bars, gym rings, cinderblocks, truck tires, picnic tables. There are also complaints of lacking fitness equipment while athletes are on vacation or out of town. Hotel gyms are frequently ill-fitted by all standards. Creativity is required to keep active without equipment.

There are plenty of resources for “prison” or “travel” workouts and other non-equipment-based systems. Such workouts might only ask athletes to have a single kettlebell, or set of suspension straps. Many participants testify that a newly-adopted workout program requiring only a pullup bar has put them into the best shape of their lives. Likewise, a famous and somewhat unconventional fitness trainer works out in a jungle (yes, a real jungle); using tree limbs and rocks as his “equipment.” The sheer number of positive responses leads one to believe these are not merely anecdotal results. This is not

information fitness manufacturers (or run-of-the-mill personal trainers) want leaking out. If a system is rooted so deeply into a piece of equipment, one must challenge whether the gear is really all that great, or just another profit-making vehicle. Few pieces of equipment are that impressive. There is no item one cannot live without.

Summary

These eleven concepts and principles serve as a checklist and a guide for athletes’ current physical fitness programs. There is no current organization or system that is so great, perfect, safe, powerful, or elite without shortcomings in one of those eleven categories. It is impossible to develop any single one-size-fits-all program that does not have a deficiency. Those shortcomings need to be fixed by the individual participants and trainers through both trial and error, and fervent education. All programs can be tailored to an individual athlete by examining certain personal goals and objectives. The same can be said for equipment. There is no piece of gear or apparatus that is so necessary to produce elite fitness. Pick up something heavy and lift it. Then find something else, and lift it too. Then find something to jump on or climb over. Repeat.

Whether one is a barefoot jungle trainer, or an elite soldier in some austere location, the principles they adhere to are identical: high intensity workouts, addressing all seven primary movement patterns, at various ranges of motion, against previous performance standards/ results, and with plenty of variety. Any program worth its weight will not argue against these eleven fundamental ideals of what is needed in the world of total fitness. And above all else, as if it needs to be said again, be safe.

About the author

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Photo courtesy of FIAT SWAT Taskforce

Job task simulations can highlight shortcomings in an Operator's fitness. Goal-driven programs take into account the demands of those job tasks.