

**CLOUD-BASED KINESIOLOGY
THE NEXT GENERATION IN LAW ENFORCEMENT FITNESS**

by

**Troy Broddrick
Stockton Police Department**

July, 2012

COMMAND COLLEGE CLASS 51

The Command College Futures Study Project is a FUTURES study of a particular emerging issue of relevance to law enforcement. Its purpose is NOT to predict the future; rather, to project a variety of possible scenarios useful for strategic planning in anticipation of the emerging landscape facing policing organizations.

This journal article was created using the futures forecasting process of Command College and its outcomes. Defining the future differs from analyzing the past, because it has not yet happened. In this article, methodologies have been used to discern useful alternatives to enhance the success of planners and leaders in their response to a range of possible future environments.

Managing the future means influencing it—creating, constraining and adapting to emerging trends and events in a way that optimizes the opportunities and minimizes the threats of relevance to the profession.

The views and conclusions expressed in the professional article are those of the author, and are not necessarily those of the CA Commission on Peace Officer Standards and Training (POST).

CLOUD-BASED KINESIOLOGY THE NEXT GENERATION IN LAW ENFORCEMENT FITNESS

How May Cloud Based Kinesiology Benefit Law Enforcement?

There is very little ambient light available in the darkened alley where an officer wrestles with a suspect in an effort to get him in handcuffs. Just a couple hundred yard sprint was all it took for both the suspect and officer to get a bit winded, but when the dispatcher came back with the radio check of confidential information, the suspect knew right away that the “gig” was up; he was going to jail for the warrant so he figured he would try and outrun the cop a chance getting away. Even during the struggle, the cop smiles a little; he knows he has the strength, stamina, balance, and endurance to make this arrest thanks to his agency’s virtual trainer.

This brief chase and others like it are played out over and over again on our city streets. What, though, are we doing as a profession to ensure our officers are successful in these situations several years after academy training? Policing is unique in that it is the only line of work where we ask our people to get physical; to use force if necessary to take a suspect into custody. What physical skills are required of an officer, and how can we raise the human capital of our resources to a level of strength, stamina, balance, and agility to function at acceptable levels in these settings?

We often view fitness in Law Enforcement as a responsibility of the individual officer. Unfortunately, far too few seem to take this responsibility seriously. A random sample study conducted from 1983 to 1993 by the Cooper Institute for Aerobics Research of 1,700 officers from various law enforcement agencies throughout the country found

officers' average fitness level was below normal in areas of aerobic fitness, body fat, and abdominal strength (Collingwood, 1998). The data demonstrated that officers were less fit than at least half of the population of their citizenry.

In addition to the health and safety of the police and the public with whom they interact, physical training for the hands-on, officer safety, self-defense or assertive arrest situation is very important in light of our presently shrinking budgets. We must retain our trained personnel and avoid costly lost time or career shortening injuries. One way we can accomplish this is to ensure that our front line officers are prepared to meet the rigors of the job.

Home-based Solutions

Home-based workout programs are plentiful. The Internet has even spawned open source programming where trainers and athletes may work together to program and execute functional movements at high intensity to promote the kind of "tactical professional athletic" training necessary to succeed in our street scenario above. For example, programs offered such as P90X, CrossFit, and on-demand cable fitness programs offer workout routines that athletes can purchase or are open source programs designed to improve personal fitness with relatively low cost. In fact, there are advances in the delivery of such systems beginning to emerge over the horizon.

As biometric monitoring improves with handheld wireless smart phone technology, we may see a future with training through virtual trainers prescribing what one should do based on their individual needs monitoring feedback of respirations, rate of heart beat, and blood pressure. Individual online solutions are not enough; there is an emerging solution to create coordinated health programs for officers and agencies

coordinating the various applications in a cloud data management system. One way to coordinate and provide this kinesthetic data at an acceptable cost for public service is through cloud-based kinesiology.

What is Cloud Based Kinesiology?

Kinesiology is the study of human movement. Biometric monitoring is improving and becoming portable to the point where we may use it to assist in training movements to maximize our human potential in physical activities. Cloud based kinesiology is creating a mesh network of functional movements known to be required in police work and marrying them with biometric monitoring to provide the user with a program that is portable, available remotely, and sharing the information with workers compensation analysts, personal trainers, health professionals, and police management.

There are a multitude of web-based fitness applications, but few offer coordination between medical professionals, personal trainers, physical therapists, workers compensation administrators and the client employees. Ann Bernarz, an associate on-line editor of Network World especially interested in technology, start-ups, design, architecture, and telework envisions using Internet connected exercise equipment that supplies biometric feedback. Using cloud-based technology allows a greater scale than one-on-one doctor, training, or therapy visits. (Bernarz, 2011). The challenge is to maintain consistency as the group grows too fast to manage. In the ever-expanding world of smartphone apps, there are emerging means by which to make this task relatively easy.

Law Enforcement Technology magazine recently highlighted twenty ways to use your smart phone. One deals specifically with fitness. Using the iFitness app, you can meet your new personal trainer via iFitness with a database of instruction, exercise

photographs and a method to track your data and record progress. (Schreiber, 2012).

This type of application may enable the smallest law enforcement agency the ability to access best practice information. These solutions still fall short with regard to reducing officer injuries and improving their health.

CrossFit founder and physical fitness trainer Greg Glassman believes police officers should be considered combat athletes as at any time an officer may be forced into a fight, arrest, or disturbance situation that quickly can turn to a ground fight for their lives. According to Glassman, “The physical demands on law enforcement officers require broad based general adaptation” (Glassman, 2003). This runs contrary to most training modalities of weight lifting in the gym two days a week and cardio exercises the other three. Although individual training enhances health, it does not yet do enough to lower the number of officers hurt on the job.

RAND Corporation Researcher Tom LaTourrette estimates officers are injured at a rate two to three times higher than the national average of other occupations and believes further study is needed (LaTourrette, 2011). LaTourrette suggests police safety and health could be improved through national-scale initiatives. The fire service already coordinates national campaigns to improve awareness and provide guidance to firefighter health and safety. (LaTourrette, 2011). In 2009, the Commission on Accreditation for Law Enforcement Agencies (CALEA) also adopted a standard requiring all CALEA agencies have in place a *fitness and wellness program (23.3.3)*. For CALEA certified agencies they must have a written directive which offers mandatory or voluntary participation by agency personnel, a trained program coordinator, individual health

screening and fitness assessment, individual education and goal setting, followed up with ongoing support and evaluation. (CALEA, 2009).

Imagine a shift in the police culture where peer pressure to perform encourages a culture of proper rest, nutrition and exercise rather than valuing the status quo. Imagine our future generations of officers training with a virtual trainer something like Apple's "Siri" in an interactive dialog and monitoring of effort. The information is shared with a team of professionals that guide, monitor and evaluate progress to maximize individual potential and reduce the risk of injury.

Law Enforcement Uses

The State of California does require recruit academy graduates to pass a fitness proficiency test, however there is no standard or mandate for in-service personnel. Our ability to encourage and engage officers in healthy lifestyles with adequate potential of benefits when it comes to fitness of police officers is becoming more apparent. We should focus on varied movements rather than specific muscle groups. Functional movements are the tasks that officers are asked to perform. Some Law Enforcement tasks are exceptionally strenuous such as sprinting or a lengthy foot chase, pulling/dragging, lifting and carrying, jumping or vaulting, climbing or crawling, dodging or evading. We may also be called to use force, whether by hands and feet or with mechanical devices such as a police baton (Van Vorst, 2012). The notion is to take the movements we know are likely to cause injuries, then train our officers to move in a manner so as to limit some of those risky movements.

The Federal Bureau of Investigations new agent training instructors program incorporates varied tasks to develop general physical preparedness. Many people tend to gravitate to what they are good at. Runners prefer to stick to running, while power lifters prefer to stick to their strengths. When setting the training program for “tactical athletes” it is important to train the movements, and not just the muscles (VanVorst, 2012).

Were it not for the proliferation of smart phones, I-pads, and various other wireless devices, the seemingly boundless nature of computing would be much different. However, with the virtually wide-open spaces of network coverage, it is now feasible to take a virtual trainer anywhere. This is significant for cloud kinesiology and potential positive impact in law enforcement. The cost of using the technology is small however, the cost of the individualized health and fitness assessment of the employee which would vary depending on the size of the organization and could be a significant factor in this challenging budgetary time. In fact, one California agency is already beginning to consolidate their training programs and assess their relation to officer safety and injuries.

According to Fremont CA Police Lieutenant John Liu, their City has begun to coordinate physical trainers and physical therapists with workers compensation claim information to develop programming better suited to reduce or avoid costly lost time and potentially career ending injuries. The true cost is measured by the loss of an experienced officer.

Extending on the Fremont model, imagine taking the individual programs to leap out into agency-based programs that prevent certain injuries from occurring in the first place. Reducing workers compensation injuries is certainly one area that individual agencies data can demonstrate fiscal responsibility through cloud based data management

and software applications supported in a cloud environment. As networks develop, programs with positive results can be replicated and shared between agencies. Constant individual personal improvement may be obtained over time through inter- and intra-department competition and good old fashioned peer pressure to perform rather than an extrinsic generic standard one size fits all approach. This may offer a better way to encourage our officer's career viability as well as addressing the issues of hypertension, heart problems, and other health issues identified as plaguing police officers today.

Next steps

The possibilities are exciting, and the need to improve our most precious assets, our people, is second to no other value. Cloud kinesiology is on the horizon and will likely be adopted in the private sector first as applications are created and shared. We should prepare to leverage this technology and assume a leadership role in implementing a positive culture change. Perhaps the most important issue for administration to deal with is allowing officers the time to work out as a part of their duty day.

Local law enforcement, as in Fremont's example, should strongly consider using this technology to share and monitor individual performance. Fremont's program could be replicated in the approach of partnering the agency with medical resources, personal training, and internet monitoring and feedback to build a comprehensive program that addresses the specific needs of the agency.

To make the cultural shift an agency would need trained leadership that models the values we expect of line personnel. A trained program coordinator should be assigned to facilitate assessments of fitness, current health, milestones and goals,

education and ongoing support. According to CALEA a program may be mandatory or voluntary, but if an officer wants to let him-or herself go physically, they should choose another career path. The program should be designed in conjunction with labor representatives and bargaining groups with incentives that encourage people want to participate.

Leaders may start to make a cultural shift in their organization by modeling the behavior we expect. This is not easy task, as it involves getting out there and training our bodies at a level commensurate with our abilities. Next we may recognize our people through certificates, awards or even pins or medals that officers could wear to denote their level of fitness.

Cloud based kinesiology is on the horizon and emerging as a viable resource for the future of law enforcement in the encouragement of police officer's wellness and physical fitness for duty. We should be developing programs today in our agencies that promote vigorous activity with functional movements that are fun and enjoyable for staff to willingly participate. Leaders should understand that these changes involve changing behaviors that will require resources, time, planning, and support. Leadership can support and promote credibility to the effort by making physical fitness a priority themselves as well.

References

- Bernarz, Ann (2011). Cloud Computing Technology Harnessed by New Fitness Application, *News.Techworld.Com*, Retrieved on May 25, 2011 from <http://news.techworld.com/applications/3268238/cloud-computing-technology-harnessed-by-new-fitness-application/>
- Commission on Accreditation for Law Enforcement Agencies (CALEA), Standards Review and Interpretation Committee (SRIC), Retrieved on July 2, 2012 from <http://www.calea.org/calea-update-magazine/issue-100/sric-notes>
- Collingwood, Thomas R. et al., Why Officers Need to Be Fit, *FitForce Administrators Guide*, Champaign, Illinois. 1998.
- Glassman, Greg (2003) The Crossfit Journal, Retrieved on May 30, 2011 from www.crossfit.com
- Hoover, Nicholas, (2012). *Cyber Attacks Becoming Top Terror Threat, FBI Says*. Retrieved February 3, 2012 from Information Week: <http://informationweek.com/news/government/security/232600046>
- LaTourrette, Tom, PhD. (2011). Safety and Health Protection Efforts in the Police Service, *Police Chief Magazine*.
- Schreiber, Sara, (2012) 20 Ways to Use Your Smartphone, Law Enforcement Technology, June 2012.
- Van Vorst, John, (2012) *Monday is Not Chest Day*, National Academy Associate, Volume 14, Number 1.