

Training the Occupational Athlete

By Peter Twist

Be Ready™ for Emergency Services

Imagine it is 4:40 am in the morning. Asleep in your bunk at the station house, you are suddenly interrupted by the sharp tones of a fire alarm. You blast out of bed, get to the truck and start putting on your gear. As you roll to the scene the details of the magnitude of the fire come in – it's a big one and you realize that it is going to be a long night. All of a sudden you are going to have to perform very strenuous work for the next few hours. Are you physically prepared to win the fight, support your team, rescue others, and stay safe?

Occupational athletes chasing down a suspect fleeing on foot from an armed robbery, tactically approaching enemy lines in a dangerous country, leaping over a guardrail to reach a critically injured passenger or racing to the scene of a tornado to assist with victim rescue, require top physical performance. Firefighters, police, military, ambulance and paramedics alike all respond to emergencies and keep us safe. We expect that they are physically, mentally and intellectually prepared to provide their best possible performance in a time of urgent need.

Professional athletes make their living off of their physical assets. So do emergency services "occupational athletes". When an athlete loses, fans and media might panic but in reality they have lost a game. An Occupational Athlete has more on the line than an elimination game. Elimination in their world is much more severe. When their physical performance cannot match extreme demands, the victim, their partner or even they themselves can die.

There are similarities between emergency preparedness and how professional athletes prepare for sport competition, in particular multi directional combative sports. To be ready to fight fires, chase down criminals, rescue victims or battle in war, occupational athletes can peak their physical ability mirroring training regimes of modern athletes. Old traditional training methods by design improve fitness and appearance, falling short in the life and death world. Elite athletes fortunate to be exposed to sport conditioning specialists use a progressive, scientifically based program to improve whole body strength, mobility and reactivity. This prepares them for the demands of their 'job' by matching the urgency of the required response to each sport tactic. No time to think – reactions must be automatic and when your mind commands muscles, your body must respond immediately and precisely.

Physical Preparation

Emergency services is a physically demanding job – clearly evident by the physical evaluations that all recruits must complete. Candidates must possess several physical

attributes to be successful under extremely stressful circumstances – urgency to respond and precision in response means life or death for many involved. Success and safety hinge on:

- Strength
- Power
- Speed, Agility, Quickness
- Reaction
- Balance, Coordination
- Work Capacity

Strength

Having adequate strength will always be a highly desirable part of the recruit's physical attributes, but looking good is secondary to the ability to transfer the strength gains from the gym to fighting fires. The need for strength in this occupation occurs on a continuum of intensity from high intensity maximal strength and at times explosive power, to lower intensity muscular endurance. Dragging your partner or a 250 pound casualty requires maximal strength.

Exercise: Smart Gym™ Squat to Row

Set Up: Begin in an athletic ready position, core set, Smart Toner™ attached to the mid point of the doorway, wide grip on the Smart Stick™

Execution: Drop into a squat position using triple flexion of hips, knees and ankles. From the low squat position triple extend (hip, knee, ankle) the lower body while simultaneously performing a row with the upper body by pulling the Smart Stick™ to the chest.



Power

When every second counts, actions can require speed-strength, which is power expressing max force output explosively. When actions are influenced by a time demand, the concept of power can apply to strength (explosive strength to move an external object or body) or to strength-movement (propelling your own body) such as accelerating immediately to top speed. Power is a big output, best effort drawn upon instantly in the most critical emergency moments.

The Bullet™ Power Breakaways

Set Up: shoulder harness on with coach resistance on the release strap (10 feet long)

Execution: the athlete begins to run with coach resistance attempting to overcome the resistance using powerful strides. Once full stride and speed is reached the coach pulls the quick release strap to develop a powerful jump in acceleration using an explosive “let go” and the athlete explosively sprints away.



Whole Body Mobility

Though many think of linear speed (all out in a straight line), the type of ‘fast’ used more often on the job combines joint range of motion, agility and quickness. Joint mobility refers to the range of motion the muscles permit across each joint and, during whole body actions, a freedom of movement without restrictions. Agility involves changes in direction under control, while quickness adds rapid foot speed and instantaneous coupling between stopping and starting. A foundation of strength and power add explosive, controlled, skilled and fluid changes in direction to produce whole body mobility, a critical asset to emergency personnel reading unpredictable situations and reacting in and around that environment.

Micro Hurdle Weave

Set Up: low athletic position, core set, behind the first hurdle

Execution: the athlete performs an open step to shoot the lead leg through to finish in front of the second hurdle, match with the trail leg, shoot straight back with the outside leg, match with the trail leg, repeat down the line using the least number of steps possible without hitting the hurdles.



Muscle, Joint and Whole Body Reactivity

The ability to evaluate the imminent danger in a situation is an essential skill hence hours of tactical training for emergency preparation are invested to gain knowledge pertinent to understanding situational tendencies along with appropriate response strategies. The physical side of this equation is to have a body that is well trained so that once a response plan is initiated; the individual is able to react to a situation with precision under severe time constraints. Training the read – calculate – respond spectrum creates muscles which comply with the mind's commands (SMART Muscles™) providing a performance edge.

BOSU 1 Leg Squat to Medicine Ball Chest Pass

Set Up: 2 athletes begin 6 feet apart, core set, athletic ready position. Both Coach and athlete on top of BOSU, single leg, foot placed in center of BOSU

Throw: Drop into a single leg balanced squat position (triple flex hip, knee, ankle) with the medicine ball at chest height followed by an explosive triple extension of the legs (hip, knee, ankle) sequentially linked through the core with triple extension of the arms

(shoulders, elbows, wrists) to press the ball to the partner. Body control with balance challenge is critical with force production

Catch: Begin with arms extended to give partner a target, upon catching the med ball, absorb the force using triple flexion of the arms (shoulders, elbows, wrists), brace the core and triple flex the legs teaching the whole body to disperse the force of the throw while maintaining balance on the BOSU.

Progression: vary the medicine ball throw to be 1 arm, 2 arm, shoulder to shoulder, contra - lateral (stand on R leg and throw with L arm) to increase both the throw / catch and balance complexity.



Balance

Body control to hold or recover balance is the foundation for execution of emergency response specific skills and a preventer of on the job injury. Having fun while your body (hard drive) and brain's control center (software) work together figuring out how to coordinate balance challenges develops smarter muscle and relates to skilled movement, max real life strength output and avoiding harm to the body. Dynamic balance is needed to be able to adjust to ever changing environments, debris in less obvious circumstances and severe visual limitations at times leading to critical demands on both balance and coordination.

Smart Board™ Tuck and Hold

Set Up: Begin in an athletic ready position, core set, feet placed shoulder width apart on the Smart Board™.

Execution: Slowly lower into a squat and hold position while keeping both edges of the Smart Board™ from touching the floor. Pause – hold – control and then return to start position.



Anaerobic Work Capacity

Long hours fighting fires or extended search and rescues on undulated terrain require high levels of work capacity. Many believe that endurance (aerobic capacity) is key to success on the job and arguably having an efficient heart and lung circulatory system is very valuable for performing repeated and sustained tasks as well as protect against a common threat on the job (heart attacks). But emergency response is not a long slow continuous pace common of aerobic fitness and the key attribute for sports like marathon running. Once the energy demands increase through fast response times and adrenaline rushes in oxygen needed soon exceeds supply and the anaerobic energy system is called upon. This is your best effort fuel tank – a more rapid fuel supply permitting intense output but a small fuel tank that, without training, is quickly depleted leaving the muscles tight with lactate. Moreover, an under-trained anaerobic fuel tank does not replenish as quickly, taking longer before you are able to repeat top output. Failing to train using high intensity strength and movement skills (like those required on the job) creates a very dangerous situation. We coach to net power capacity energy needed in the field to sustain sharp reactions, coordinated balance, high speed mobility and explosive strength. This high intensity energy supply system is best produced

adopting the pace and effort of old wind sprints in whole body movement integrated strength bouts.



Richmond BC Firefighters train at the Twist Sport Conditioning Centre in Vancouver for anaerobic work capacity to gain an emergency response edge.

Train Like an Athlete!

Occupational athletes can spend hours with on the job training of their skills and response strategies but are not always as committed to developing the physical attributes required to perform their roles in extreme emergency conditions. This is magnified for veteran workers who have more wisdom but fall off their training and even those still active most remember old original body building influenced exercise which reduces mobility and quickness, amplifying effects of aging.

A professional athlete trains their human machine in pursuit of every competitive edge. Every detail of their training is well planned and executed. To guarantee on the job success and safety, every emergency services professional should focus on developing a physical machine that matches their emergency response expertise. Time to start training like an athlete!

Peter Twist, MSc BPE CSCS TSCC PTS is President of Twist Conditioning's 3 divisions: franchised Sport Conditioning Centers, product wholesale and the globally accredited Twist Sport Conditioning Coach Education Program. To learn more about the Twist training methodologies, education and equipment available in Canada contact www.twistconditioning.com