What is a Tactical Athlete?
Tactical Athletes put themselves in harms way to assist and protect others in the course of their jobs, duties, or profession.

What is an Occupational Athlete?
Occupational Athletes use their bodies in the course of their daily duties, job, or profession.

At what level of performance do your athletes need to operate?

What do you want your training program produce?

- 80% of our team at 100% capacity 80% of the time?
- 90% of our team at 90% capacity 90% of the time?
- 100% of our team at 80% capacity 100% of the time?
Tactical Decision Making

**Risk** - What are the risks associated with the various options available to you? Given the nature of the mission, are the risks acceptable and manageable? Is the risk worth the benefit? In general, the default is the lowest risk option that meets the needs of the mission. Liability risks are also part of this area.

**Need** - What are the needs of the mission/situation that you are in? Why are you there? Is it an arrest, public safety issue, warrant service, military exercise, prisoner snatch, drug raid, etc.? What needs to be accomplished?

**Time** - Is time on your side or working against you? In general, the shorter the time available to you to accomplish the mission, the higher the risk factors on the available options left.

**Resources Available** - What resources can you access during the mission/situation with the time available to you?

**Decision** - Needs of the mission, available options, associated risks, resources available in the time constraints and is time working for you or against you?

Risk vs. Need + Time + Resources Available = Decision *

Working with any athlete is about Resource Allocation and Risk Management!

The earlier we can identify who is at risk, the better it is for everyone!

Who is at risk for injury?

Typical Performance and Conditioning

The Dysfunctional Performance Pyramid

- Plyometric Power
- Speed
- Movement
- Performance
- Agility
- Strength
- Skill
We Need to Rebuild the Pyramid - How?

Bring FUNCTIONAL MOVEMENT to the masses using a simple system of screening, evaluation, and data analysis.

- to target movement dysfunction by restoring functional movement patterns
- to minimize work related injuries that could adversely impact the business, organization, and individual.

The Kinetic Chain

Tactical Athletes: Looking at injuries from a different perspective

FIRE
POLICE
MILITARY
Cost of Firefighter Injuries

In 2002, the National Institute of Standards and Technology (NIST) released a study* that estimated the cost of addressing firefighter injuries and efforts to prevent them are between $2.8 billion and $7.8 billion per year.

(Current costs estimated to be much higher.)
Cost Per Body Part

Cost Per Claim

Military

Musculoskeletal Injuries

1st leading cause of MEDEVACs 2002-2012
2nd leading cause of hospitalization
10 million limited duty days
$548 million in health care cost
73% of all VA disability cases are musculoskeletal
Leading Causes of Deployment Non-Battle Injuries
Army OIF Medical Evacuations, 2003-2008

Source: USACHPPM Deployment Injury Surveillance System

70,855 Injuries
(Active Duty Marines, Excluding Recruits)

Types of Injuries
N=70,083

Top Ten Outpatient Injury Types
N=65,974

Injury Rates in Active Duty US Marines FY 2011, Navy and Marine Corps Public Health Center, EPIDate Center Department Report
USACHPPM Top 10 Injury Prevention Priorities

<table>
<thead>
<tr>
<th>Rank</th>
<th>Injury Problem</th>
<th>Prioritization Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Physical Training</td>
<td>34.0</td>
</tr>
<tr>
<td>2</td>
<td>Parachuting</td>
<td>31.8</td>
</tr>
<tr>
<td>3</td>
<td>Falls</td>
<td>30.6</td>
</tr>
<tr>
<td>4</td>
<td>Athletic Sports</td>
<td>28.4</td>
</tr>
<tr>
<td>5</td>
<td>Privately-owned vehicle accidents</td>
<td>27.2</td>
</tr>
<tr>
<td>6</td>
<td>Military vehicle accidents</td>
<td>26.2</td>
</tr>
<tr>
<td>7</td>
<td>Guns/explosives handling</td>
<td>26.2</td>
</tr>
<tr>
<td>8</td>
<td>Slip/twist/turn (near fall)</td>
<td>24.6</td>
</tr>
<tr>
<td>9</td>
<td>Tools/machinery</td>
<td>21.0</td>
</tr>
<tr>
<td>10</td>
<td>Non-traffic vehicle accidents</td>
<td>19.4</td>
</tr>
</tbody>
</table>

Results of a prioritization process conducted by Army members of the DoD Health Affairs Military Injury Prevention Priorities Working Group, 2006.

Military Injuries

Injuries in general have a greater impact on the health and readiness of the US military than any other category of medical complaint, and training injuries treated on an outpatient basis may have the biggest single impact on readiness.

50% of Army Medical Examination Board reviews of personnel assigned to an Army infantry division were directly related to injury.

Musculoskeletal Injuries in the Military Training Environment, DAVID N. COWAN, PHD, MPH; BRUCE H. JONES, MD, MPH; RICHARD A. SHAFFER, PHD, MPH

Musculoskeletal Injuries

The most common injuries among men and women in the same Army Basic Combat Training Program

<table>
<thead>
<tr>
<th>Rank</th>
<th>Among Men</th>
<th>Among Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>Tendinitis</td>
<td>Muscle Strain</td>
</tr>
<tr>
<td>Two</td>
<td>Sprain</td>
<td>Stress Fracture</td>
</tr>
<tr>
<td>Three</td>
<td>Sprain</td>
<td>Sprain</td>
</tr>
<tr>
<td>Four</td>
<td>Muscle Strain</td>
<td>Tendinitis</td>
</tr>
<tr>
<td>Five</td>
<td>Stress Fracture</td>
<td>Overuse Knee</td>
</tr>
</tbody>
</table>

*The top ten injuries resulted in an estimated 25 million days of limited duty.

*Injury-related musculoskeletal conditions were a leading contributor to days of limited duty.

*Sports and physical training were the leading cause, followed by falls.

Unintentional injuries lead all other medical conditions for number of medical encounters, individuals affected, and hospital bed days.
Our New Athletes

Movement capabilities have changed in all populations

Tactical, Occupational, Performance

Are your athletes ready and capable of meeting the daily demands of their role?
Total Workers’ Compensation payments for injured US workers in 2007 = $55.4 billion

($27.2 billion for medical care, $27.3 billion in wage replacement benefits)

Employers paid $85 billion for workers' compensation in 2007 - an average of 2.28% of their payrolls.

The Long Term Costs of Injured Employees

Unknown & unfunded short and long-term liabilities

- Increased medical benefit utilization
- Increased medical premiums
- Increased Workers’ Compensation costs
  (if self insured, reserves need to increase)
- Increased retirement costs
- Lost productivity and compromised readiness
- Filling vacated positions

Medical Costs

(Chart showing trends in medical costs over time)
Long Term Workers’ Compensation

Medical Utilization Costs
- Percentage of premium that is used towards the payment of medical benefits
- Medical care costs are usually 60%-70% (trend over three year period)
- The more utilization is over 60%-70%, the greater the increase in premiums.

Keep insurance use down with targeted MOVEMENT systems to stabilize premium increases.

Employee Retention Costs
1. Recruitment costs
2. Initial training costs
3. Ongoing training costs

What is the return on investment of above costs if an employee gets injured?
What if the injury is off-duty? Still plenty of associated costs.
What if injury is on-duty? Even more costs.
Who will take their place and at what cost?

Unfunded Liabilities

What are the long term costs of an injured employee?

The younger an employee is who gets injured early in their career, the longer they are a liability.
Do you think we need an injury prevention program?

OR

Do you think we need an injury prevention system?

We have a system!

What Does Our System Consist of?

- Evaluation
- Individual and Group Screening
- Ongoing Data Collection: Are we asking the right questions or are we assuming?
- Risk Identification and Stratification: Traditional safety programs are process focused, we are people focused
What Does Our System Consist of?

**Targeted Risk Management:** Are the athletes ready for and capable of doing the job?

- Relevant Data and Trend Analyses
- Establishing movement profiles
- Targeted movement programming
- Continual Reevaluation and Updates
- Continuing Education and Support

Group Screening

Group Screening is a large amount of people to screen within an allotted time.

*It’s all about the setup!*

- Familiarization
- Measurements
- Rotations
- Time Management

Group Screening In Action

2 Athletes, 1 Screener

2 x 6 FMS Board

Athlete 1

Athlete 2

Screener 1

Screener 2
10 Athletes, 1 Screener

300 Athletes, 7-9 Screeners

Academy Injuries

Group screening data collection
Group Performance vs. FMS

Where and How to Use the FMS in Tactical & Occupational Setting

Group Performance vs. FMS

Pre-employment Physical

Screens are performed during Pre-employment process

Pre-employment preparation:
Â Physical Exam
Â Blood Work
Â Blood Pressure and Biometrics
Â EKG and Stress Tests
Â Hearing, Vision, Respiratory Tests
Â FMS

Daily Warm-Up

Corrections can be used as part of warm-up; before activity, work, or exercise
Recruit Academy

Fitness or Wellness Program

Injury Prevention

Rehabilitation
Annual Physical

The FMS can be integrated into annual employee physical exams to establish baselines and track trends.

Bringing it All Together

FMS in the OCFA

Recruit Score Breakdown
(N=112)

<table>
<thead>
<tr>
<th>Recruits</th>
<th>FMS Score</th>
<th>14 or Less</th>
<th>15 or More</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>53</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>Percentage</td>
<td>47%</td>
<td>53%</td>
<td></td>
</tr>
</tbody>
</table>

Injuries per Group
(cutoff is score of 14)

| Results From 112 Recruits That Make Up Each Group of Injuries Analyzed |
|-------------------------------------------------------------|-----------------|
| FMS Score         | 14 or Less | 15 or More |
| Number            | 31 of 53    | 12 of 59    |
| Percentage        | 59%         | 20%         |
Claim Comparison (cutoff is score of 14)

<table>
<thead>
<tr>
<th>FMS score of 14 or Less</th>
<th>FMS score of 15 or More</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Claims</td>
<td>Claims</td>
<td>Claims</td>
</tr>
<tr>
<td>Total Injury Claims</td>
<td>79</td>
<td>56</td>
</tr>
<tr>
<td>Not S/S</td>
<td>19</td>
<td>18</td>
</tr>
<tr>
<td>S/S Claims &lt;$500</td>
<td>29</td>
<td>26</td>
</tr>
<tr>
<td>Injuries Analyzed</td>
<td>21</td>
<td>15</td>
</tr>
</tbody>
</table>

The Cost of Hiring Poor Movers

Academy 33-36 Injury Costs for S/S Claims Over $500

14 and Below: $889,263 (54%)
15 and Above: $132,425 (46%)

Average Cost Per Injury

Academy 33-36 Average Claim Cost Incurred Per Strain and Sprain Related Injury

- 14 and Below: $20,655.91
- 15 and Above: $11,077.93

Accounting for Statistical Abnormalities

Cost Per FMS Group After Largest and Smallest Claims are Thrown Out

- 14 and Below: $545,169
- 15 and Above: $132,425
Who can benefit from the FMS System?

Tactical Athletes
Occupational Athletes
Recreational Athletes
Performance Athletes
Geriatric Athletes
EVERYONE!

FMS Occupational Wellness
coming soon....

Mikecontreras5@gmail.com