### Making Exercise Matter

Exercise can be an amazing tool. It can be used to make difficult tasks easier and more enjoyable, prevent musculoskeletal injuries and help us to perform at levels that far exceed our expectations — that is, if an emphasis is placed on the transfer to non-exercise related activities.

Enhancing a fire fighter's capacity to meet the demands of the job (or life) cannot be accomplished by simply recommending a particular exercise, intensity or training volume. It is not about the exercise. An appreciation for movement is essential to guarantee that the motion strategies used are safe, effective and suited to training objectives.

It is this type of training that serves as the framework for the IAFF Peer Fitness Trainer (PFT) program and provides the best possible opportunity to change a fire fighter's health, performance and quality of life.

The information below offers a brief summary of the 2015 study conducted by Frost and colleagues titled: Exercise-based performance enhancement and injury prevention for firefighters: Contrasting the fitness- and movement-related adaptations to two training methodologies. This work was originally published in the Journal of Strength and Conditioning Research (J Strength Cond Res 29(9): 2441—2459, 2015).

### **Study Design**

The study involved 52 fire fighters from the Pensacola Fire Department who completed a comprehensive fitness test — the Functional Movement Screen (FMS) — and a laboratory-based biomechanical assessment that asked them to perform five general movement patterns (i.e., squat, lunge, hinge, push and pull) with varying loads and speeds.

Following these baseline tests, individuals were assigned to one of three groups:

- 1) Movement-centered intervention
- 2) Fitness-centered intervention
- 3) Control

### **Key Findings**

Following 12 weeks of training, both intervention groups exhibited substantial changes in body composition, aerobic capacity, muscular strength and endurance, and upper and lower body power. However, only those participants in the movement-centered group demonstrated a positive change to their habitual movement patterns. In each instance, fire fighters exhibited less spine and frontal plane knee motion while squatting, lungeing, lifting, pushing and pulling. In contrast, fire fighters who participated in the fitness-centered intervention moved with more spine and frontal plane knee motion while performing the transfer tasks and exhibited a higher risk for injury.

#### Implications

1. Exercise can be used to change fire fighters' habitual movement patterns. Exercise programs can (and should) be used to improve fire fighters' capacity. This was the first study to show that an exercise-based intervention can significantly alter the movement patterns used to perform a series of distinct tasks with varying demands that are relevant to every fire fighter. The findings provide a tremendous framework to build exercise programs for every fire department.

2. Placing an emphasis on fitness alone may increase fire fighters' risk of injury.

Fire fighters in the fitness-centered group exhibited exceptional improvements in aerobic

AMERICAN

FIREHOUSE

URNITURE



capacity, strength and endurance, but may have actually increased their risk of injury given their propensity to increase spine flexion and frontal plane knee motion when performing each of the transfer tasks.

# REQUEST A QUOTE 1-855-545-6203

## 5% OFF 3 OR MORE RECLINERS for IAFF departments and locals!

# THE ORIGINAL Fire Tough Recliner

Ultimate comfort never felt so tough!

# Don't be fooled by internet companies who sell lower-quality recliners to fire stations.

- Get free delivery on three (3) or more recliners
- Designed and built for commercial use with a 5 year limited warranty
- All fire retardant carcinogens have been removed from the foam and surfaces can be disinfected per NFPA Standards

### Request a Quote @ firehousechairs.com