

## **About Functional Strength Training**

### **Antoni Luke-Akagi, Equinox Fitness Clubs**

Responsible for personal training programs at several Equinox Fitness Clubs in Manhattan, Antoni Luke-Akagi has 16 years of experience in fitness facilities and resort spas throughout the world. He holds USAW, NASM, ACE and AFFA certifications, as well as Equinox Fitness Training Institute certification in conjunction with NSCA – which Antoni describes as “arguably the leading personal training certification in the country.”

In the traditional definition, functional strength training is the practice of motion against resistance, with an objective of improving a participant’s ability to perform a specific athletic activity.

However, in top clubs and fitness facilities throughout the country, functional strength training has taken a different course – today, functional strength training is a range of total-body activities that build strength, balance and coordination for general fitness, and improve your ability to perform general, day-to-day activities.

Although functional strength training commonly is perceived as a form of core training, core training could be considered a subset of functional strength training. Here’s why -- core training is the practice of unrestricted motion against resistance, focusing on stabilizer muscles of your back, abdomen and sides. Functional strength training extends the same discipline to the entire body.

In any case, functional strength training involves unrestricted movement against resistance, in which the exerciser defines the exercise motion.

Two terms key to functional strength training are “user defined” motion, which means you aren’t limited to a specific motion path in your exercises, and “planes of motion.”

While the differences between machine-defined exercise and user-defined motion are fairly clear-cut – basically, traditional “selectorized” machines we all are familiar with limit your motion to a single, specific path, while free weights or functional training equipment allow you to choose your motion.

#### **Planes and paths of movement**

The topic of planes of motion is more complex, dealing with how you move through conceptual lines and divisions of the space around you. A movement forward or

## 2 Functional Strength Training Background

backward defines, or exists in, one plane of motion. Side-to-side motion involves another plane, as does rotation. There also are vertical planes defining your left and right sides, and others defined horizontally at the waist and shoulders.

Depending on your motion, equipment like the Precor S3.23 allows you to perform upper- or lower-body exercises involving virtually all planes of motion. Through a system of weight stacks, cables and adjustable pulleys, you can safely move against resistance through multiple planes simultaneously.

A simple cross-pull exercise provides good example of complex, multi-plane motion in functional strength training. Standing directly in front of an S3.23, you bend at the waist and knees, reach across your body with your left hand, and grasp a handgrip situated at the right-side pulley track just below waist level. Working against resistance you've set, you pull the handgrip across your body, upward toward your left shoulder. You rotate as you continue the pulling motion above and beyond your shoulder.

Think of this simple cross-pull from a "planes of motion" perspective: The exercise begins on your right-side plane and ends on your left. You've rotated laterally and moved against resistance through several vertical and horizontal planes -- it's a sharp contrast from a traditional strength-equipment exercise, such as the fore-and-aft motion of an arm curl.

### **Building balance and coordination**

Although you expect to become stronger through functional strength training, most people find they also build balance and coordination, and feel more stable and sure in daily activities when they follow a user-defined, multiple-plane resistance exercise regimen.

A good deal of improved balance and coordination results from a complex physiological function known as proprioception, which basically is a process of your body teaching itself better balance and coordination at a neuromuscular level. Through unstabilized motion against resistance, your nervous system and muscles "learn" to operate more efficiently, you increase the integrity of your joints and connecting tissues, and improve the overall performance of your nervous system.

### **Safety and proper form in training**

### 3 Functional Strength Training Background

Strength training has many positives. However, safety issues can arise whether you're using fixed-path or user-defined equipment.

In fact, while user-defined motion is one of functional strength training's greatest assets, it also can constitute a safety issue when the motion is biomechanically unsound.

That's why anyone beginning a functional strength training program -- whether in the club or their home -- should find a qualified trainer who, at a minimum, can validate the integrity and safety of your exercise and motion-path choices.

In addition to assessing motion choices, a trainer also can help establish an appropriate level of stability for your functional-strength training regimen.

For example, when exercising on a Precor S3.23, a trainer can help you establish whether it is most appropriate that you perform in a more stabilized position while seated on a stable bench. Or, are your capabilities more advanced, so you can safely exercise while standing, without external support or stability? Or, is your fitness and conditioning sufficient that you can exercise from the less stable platform of an exercise ball?

If you exercise at the club as well as at home, you're likely to stay in touch with your trainer, and make sure your functional strength workout is safe and appropriate. However, if you exclusively work out at home -- which is becoming a less common approach -- it's a good idea to maintain contact with a trainer, to ensure that you don't develop harmful or unsafe exercise habits.

#### **“Traditional” strength exercises remain a viable option**

Although we've contrasted the benefits of unrestricted functional strength training against traditional machine-defined equipment, there are a number of reasons why traditional equipment might be recommended for your workout program.

Most notably, fixed-path machines allow you to train individual muscles or small muscle groups that may be weak or under-developed. For example, fixed-path curl, press and crunch machines each can play a key role in safely building strength for unrestricted functional-training motions.

Also, it's important to remember that although they are fixed, the motion paths of traditional equipment are biomechanically sound and proven over time. While functional strength training with unrestricted motion offers an infinite range of motion choices, manufacturers like Precor recommend that people active in functional strength training

#### 4 Functional Strength Training Background

utilize time-proven motions – such as presses or curls -- commonly seen in traditional strength equipment.

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