Achieving Success Through Functional Dryland Training

Markell Lyng, FAFS, FMR, PCM, CSCS

Who Am I?

• Fellow of Applied Functional Science
• Dryland Director for FCST
• Markell, L.L.C (Swim Performance )Owner
• Worked in rehab, injury prevention, sports performance in Physical Therapy Clinic and Orthopedic Surgeon’s office
• Former Swimmer
• Current Swimmer/Triathlete
Who Are You?

Coaches

Former/Current Swimmers

Formerly/Currently Injured

Who Are You?

Care about your swimmers

Want your swimmers to stay healthy

Want your swimmers to perform well
Why is it Personal to Me?

- Years of shoulder pain
- Large reason I didn’t swim in college
- Glenohumeral Joint Reconstruction

Goals

- Support Coaches
- Help Swimmers Stay Healthy and Swim Fast
- Educate Parents – assists “buy in”
Different Types of Dryland

No Dryland

Different Types of Dryland

General Strength
Different Types of Dryland

Specific Strength

Different Types of Dryland

Functional Dryland
What is Functional Strength?

Functional swimming strength is gained by doing exercises that enable a swimmer to have the strength, coordination, power, timing, balance and control that allows a swimmer to subconsciously engage the needed muscles in the correct sequence to produce the best body position, maximal force against the water, and propulsion through the water, while protecting the swimmer from injuries.

What is Functional Strength?

It is not just having this
What is Functional Flexibility?

It is not just having this

The Body Is a Chain Reaction
The Problem

**Body Position** - even if a swimmer is in freestyle (backstroke, breaststroke, or butterfly) body position on the ground, a ball, BOSU etc., it is quite different than floating on the surface of the water. When the swimmer is in the water they are fighting against the force of gravity while trying to move forward. This is very different than being supported by equipment or the ground.

The Problem

**Force** - you are applying force to a resistive force that is moving in a way un-like other surfaces on the land. You can not gain the same momentum against water like you can on land. **Ground Reaction Force** – the “ground” that a swimmer’s body is reacting to in the water is far different than any surface or equipment outside of the water.
The Problem

**Balance** - the balance required in the water is not the same as the balance required to do a similar movement on the land. A small change to gain this balance can decrease the efficiency of the stroke or the power the swimmer can generate.

Lunge
Lunge to Balance Matrix

Squat
Squat Matrix

Plank
Pelvic Driver Matrix

Side Plank/Side Bridge
Side Bridge Matrix

Push-up
Push-up Matrix

Single Leg Balance
Single Leg Balance Matrix

Implementation

Keep doing what you are doing... and add to it
Implementation

Education leads to “buy in”
Injury Prevention

Functional Strength
+
Functional Flexibility
=
Fewer Injuries

Questions???