Static Stretching & Dynamic Warm-ups

WHEN TO APPLY BOTH

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The Shoulder

Unique – allows multiple planes of motion
Inherently unstable
Stability is provided by
- Ligamentous Structures
- Surrounding Musculature
- Neuromuscular Feedback Mechanisms

Swimmers Want Stable Shoulders!

The Swimmer

Tend to be naturally selected to their sport
Can possess loose connective tissue
The Stroke

Underwater Videography Confirms: Not One of the 4 competitive strokes requires excessive range of motion
Hence, there is no reason to stretch beyond physiological means

Static Stretching

Has been found to negatively impact performance when completed before activity
In other words...it may cause performance deficits!
Static Stretching Before Activity

Decreases Muscle Strength
Reduces Power
Impacts Balance
Impacts Reaction
Impacts Sprint Performance

Let’s put it together!

Inherently loose jointed
We want to maintain shoulder stability
Static Stretching before activity negatively impacts performance
Some static stretches may negatively impact shoulder stability
Discontinue Dynamic Warm-Up

An Excellent Alternative!
Prepares the Body for Performance
Dynamic Warm-Up

Improves Muscle Temperature
Enhances Nervous System Function
Improves Power and Agility
Improves Sprinting Performance
Improves Vertical Jump

Shoulder Dynamic Warm-Up

The following dynamic warm-up is excellent:
- Before workout
- Before competition
- Between races when no warm-up pool is available

A handout is offered to share with the team
Shoulder Dynamic Warm-Up

#1
Show Video

Shoulder Dynamic Warm-Up

#2
Show Video
Shoulder Dynamic Warm-Up #3
Show Video

Shoulder Dynamic Warm-Up #4
Show Video
Shoulder Dynamic Warm-Up
#5
Show Video

There is a Role for Static Stretching

In the course of a swim season, observationally, the following muscle groups tend to shorten:
- Upper Trapezius / Levator Scapula
- Pectoralis Group
- Latissimus Dorsi
When to Apply Static Stretching

At a time unrelated to workout and competition

Not after practice!
- Fatigued muscles do not like to be stretched
- Stretching fatigued muscles tends to facilitate muscle spindle and inhibit GTO firing

General guidelines for stretching include completing a specific static stretch that targets muscle tissue 1-3 times for 15-30 seconds each, approximately 5 days a week

Static Stretching Suggestions
Pectoralis Group
Static Stretching Suggestions
Latissimus Dori

Static Stretching Suggestions
Upper Trapezius / Levator Scapulae
On-Deck Shoulder Screen

To help coaches identify members on the team that may be inherently tight.

Please review handout.

½ Sit Wall Screen

Assesses mobility of the Scapulo-thoracic joint as well as the Glenohumeral Joint

Assess length of the Latissimus Dorsi
½ Sit Wall Screen

90/90 Screen
Assesses mobility of the inferior and anterior glenohumeral joint capsule as well as the blended anterior band of the inferior glenohumeral and the middle glenohumeral ligaments
Assesses length of the Pectoralis Group
90/90 Screen

This position specifically assesses the length of the subscapularis.

A competitive swimmer needs to be able to achieve this position with 45° of external rotation while keeping the humerus in an adducted position.
45 Screen

Summary

Discontinue Static Stretches that Negatively Impact the Stabilizing Structures of the Shoulder

Incorporate a Dynamic Warm-Up before Workout, Competition, and Between Events

Apply Static Stretching, When Applicable, at a time unrelated to Workout or Competition

Do Not Static Stretch Fatigued Muscles
The Mechanics of Swimming: Treating Swimmers with Painful Shoulders

New on-line course for healthcare providers, coaches, swimmers and parents.

Proceeds from the course are donated to the USA Swimming Foundation.

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Questions?

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References


References


References


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