Treatment of Swimmer’s Shoulder: A Physician’s Biomechanical Approach

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Objectives

• Discuss the What, Who, Why, and How of “Swimmer’s Shoulder”
• Break down some of the mechanics behind all of these...
• Discuss an approach for treatment and prevention
Who is this lady and how did she get up there?

- I began swimming at age 10...
- And swam through college
- I trained in Emergency Medicine and then did a Sports Medicine Fellowship
- Have been with Summit Orthopedics for 10 years
- Team Physician for USA Swimming National Team since 2006

BIG DISCLAIMER!

I am not a coach, nor do I pretend to know what a coach knows.
WHAT is Swimmer’s Shoulder?

- It is poorly defined as...
- any pain really anywhere in the shoulder area...
- Really between the neck and the elbow.
- Usually there is a common root cause, that can result in any presentation

Part of why it is so “poorly defined”, is because we are dealing with a young population, AND...
they are TERRIBLE historians.
Really it is like dealing with puppies.

WHY?

• They have no language for this kind of pain
• It’s like a toddler saying they are nauseous.
• Doesn’t happen
• As a result, it scares them...
• So they change their answers, go mute, or panic
A typical conversation....

- Coach/Parent: “Does your shoulder hurt today?”
- Swimmer: “Huh?”
- C/P: “You said your shoulder hurt yesterday. You were crying.”
- S: “I was? I did? Um, well, kinda sorta it does. I think.”

WHO gets Swimmer’s Shoulder?

- Girls more than boys typically
- Swimmers who grow
- Swimmers who go up a level of difficulty within their team
- Swimmers who are awful kickers
- Transitioning from yards to meters
- Seasonal swimmers
WHEN do they get pain?

- Early on, it usually comes mid practice...
- Typically on a “distance” type day of training
- Can be exacerbated by doing dryland training with inappropriate technique
- Based on fatigue
- Later can come anytime, even out of water with daily activities

WHY do they get pain?

- Let’s talk about ideal situation...
- Good body position in water
- Kick
- Body roll
- High elbow
But it’s NOT always ideal...

- Poor body position in water
- Poor kick
- Some combo there of...
- They get tired...
- Drop the elbow. SO much easier.

Which leads to HOW they get it...

- NOW they are stuck.
- Can only use trap and neck
- And they can also get pinching
- The more fatigued they are, the more they compound the problem
- Butterfly = TWO arms out of water at same time, AND they must breathe
- Bad scene
The HOW...

- Backstroke usually not as irritating
- Breaststroke rarely causes the problem
- BUT if irritated enough, will be sore with everything

How many people here are parents of teenage girls?
What is the number 1 social rule from middle school on?

- Do not stick out.
- Do not stick out.
- Do not stick out.
- Oh, and....
- Be very very cool.

I call it....
High School Girl Stance
This is also popular...
And so is this...
This is a problem for swimmers because...

- They are shutting off the muscles they actually need
- Scapular stabilizers
- Lats
- Core muscles/abdominal wall stabilizers
- They are left with their traps

What they don’t know is that...

you can be tall, strong, COOL, and beautiful at the same time.
Look at this awesome scapula control!

Even just hanging out and chatting....
So what do we do about it?

First, I try to figure out their knowledge base...

Tell me...

- What are your FAVORITE events?
- What are your BEST events?
- Tells me if they are a sprinter or distance...
- Sprinters are more at risk?
- Are you a good kicker, medium kicker or not such a good kicker?
Tell me....

• Swimming “flat” vs. good body/shoulder “roll”
• High underwater elbow?
• I show them this...and start a discussion
If I had more time in clinic, and resources, I would show them these....

Conor Dwyer

- Great catch
- His head is a little high
- Kick
- Really nice roll
Katie Ledecky

• Great catch
• High elbow
• Kick
• Have side and front videos

Missy Franklin

• Roll
• High elbow
• Kick
Rachel Bootsma
- Awesome catch
- Body position

Kathleen Hersey
- Not the best catch BUT
- Flat body position and very forward
And I really study their posture, gait, and stance.

I cheat and watch them get roomed...

Can they...

- Let go of their traps?
- Fire their interscapular muscles, or do they cheat?
- Fire their lats?
May I have a volunteer “patient”?

It’s easier to show how I assess this stuff...

What flavor ARE they?

Back/Free/Fly
Or
Breast?
It matters...

- It separates the kind of kicker they are...
- Most workouts are more freestyle based.
- Breaststroke rarely causes the pain...

So now what?

What do I order for them?
First,

Stay in the water, stay in the water, stay in the water.

Second,

I teach them not to be afraid of this pain. INTERPRET IT. It will change.
AND some pain is GOOD pain.

Third, 2 “arms” to treatment...

IN pool
OUT of pool
IN Pool: VERY important!

- Not causing “damage”
- Everything is irritated, inflamed
- Must dispel the fear
- When they are sore, kick...EMBRACE IT!
  - Everybody can get better at it
  - Breaststrokers are challenged with flutter kick
  - Hands at their sides, fins.
  - 4 strokes, 4 kicks

Also,

- I rarely order an MRI
- Only if they don’t improve with PT and instruction
- It won’t tell me anything new
- It is almost always, normal
- This leads to more frustration
- It is a mechanical issue
In Pool:

- Hold dryland for now
- Because they are doing it incorrectly
- Learn where they are in the water
- Learn what changes when they get tired
- Do you swim flat?
- Do you drop their elbow?

In Pool:

- They must learn this...and understand it
- They must articulate these concepts
- AND be able to engage the adult/coach regarding it
- It is a two way street...
- BIG new concept for this age group
- I address this developmental issue
In Pool:

- They gotta own it...
- VIDEO.
- By club, at a camp...
- Best effects if done when they are tired.
- I send them to USA Swimming website to watch event videos
- Go to a BIG meet and watch

Out of Pool:

- Physical Therapy for our USA Swimming Shoulder Protocol
- Kinesiotape
- Scapular isolation
- Trapezius inhibition
- Iontophoresis as needed
- Deep tissue work
Out of Pool:

- Loosen pectoralis muscles
- They pull shoulders forward
- LOOK at themselves in mirror
- OWN their exercises and the work

1. Door Frame Stretch for the Pectoral Group
   - Stand at doorway with forearm on doorframe.
   - Elbow bent to 60-90 degrees.
   - Step through the door.
   - Complete 3 x 30 seconds on each side.

2. Latissimus Dorsi Stretch
   - Any position will work and keep your toes on the floor.
   - Keep your body straight and your core engaged.
   - Gently pull your shoulder down and out.
   - Hold for 30 seconds and repeat 3 times交替。

3. Upper Trapezius/Levator Scapulae Stretch
   - Sit on chair and keep one hand down at side or behind back.
   - Place other hand on your head as in picture and gently pull down.
   - Hold for 30 seconds and repeat 3 times, alternating sides.

On-Deck Active Warm-up
- Complete 2 sets of 15.
What if they don’t get better?

- Unstable shoulder?
- MRI, referral.
- Do they want to get better?
- Do they want to swim?
- Are there parental/coach/adult issues?
- “What if my pain goes away and I am still slow?”
- Sports psychologist
Take Home Points

• “Swimmer’s shoulder” is poorly defined and vague
• Try to sort out the why with your swimmer
• Address posture and swimming IQ
• Engage them. Video tape them tired.
• They need to be accountable
• 2 arms to treatment, in and out of pool
• It almost always gets better

Any Questions?