Safety Chair Report
House of Delegates Meeting
October 8, 2016

I recently attended the Operational Risk Committee Workshop "Swimming with Sharks: Managing Risk in Swimming" and the Sports Medicine/Science Presentation at USA Swimming Convention in Atlanta, Georgia.

Topics that were covered included:

1. Online Report of Occurrence
2. Diving Safety and Race Start Certification
3. Warm-up Guidelines and Safety
4. Hypoxic Training
5. Recognizing Concussion and Concussion Management
6. Sports Medicine Presentation on Dryland, Stretching and Injury

Attached you will find a discussion/description of each topic. Please let me know if you have any questions, ideas or concerns regarding any of these topics.

Thank you,.

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1. Online Report of Occurrence:

- "**The Report of Occurrence shall be submitted by the coach, official or someone affiliated with the club/facility** any time there is an accident or injury during any USA Swimming activities….."
- **The parent or injured party should NOT submit the form**.
- Once submitted, you will receive an automated email indicating that USA Swimming has received the form. This email can be printed or saved to a file for record keeping. **Please forward a copy of this email report to New Jersey's Safety Chair at NJSwimSafetyChair@gmail.com**
- If you are unable to submit the online form at the meet, you may print a *draft* paper copy, document the necessary details and then you, or someone from your club, will enter the report online as soon as possible.
- If you have any questions, please contact NJS Safety Chair or the Director of Risk Management, George Ward at (719) 866-4578 or email, *gward@usaswimming.org*."

2. Diving Safety:

Diving from a running start, Diving over an object (for example, the start blocks) and diving head first (such as Sailor/Penguin Dives) should be avoided due to the unnecessary risk and high probability of injury.

Racing Start Certification:

In the USA Swimming newsletter Volume 37, September 12, 2014 they stressed the importance of making sure all swimmers have been certified.

"All clubs must ensure that all team members are certified and that coaches understand and comply with the certification process. Failure to do so could jeopardize club and coach insurance coverage. Effective May 1, 2009, USA Swimming Board of Directors modified the racing start rule, 103.2.2 (which already provides that racing starts should only be taught in at least six feet of water) to further clarify that racing starts should only be taught under the direct supervision of a USA Swimming member coach, and to expand the definition of teaching racing starts to make clear that no swimmer who has not been certified as proficient by his or her coach should be performing racing starts into less than 6 feet of water."

3. Operational Risk Committee: Warm-Up Guidelines and Safety:

New Jersey Swimming of one of few LSCs that have guidelines in place for warm-up safety management. To address this, The Operational Risk Committee has developed a proposed warm-up guideline for LSCs to follow. There are a few difference in the proposed guidelines when compared to NJS's document. The proposed guideline offers an expanded definition of the Meet Marshal's role and responsibilities and includes a set of guidelines for pool capacity and control specifications that differs from the current guidelines set forth by New Jersey Swimming's Warm-Up Procedures and General Safety Guidelines. If you would like a copy of the Operational Risk Committees proposed guidelines, please e-mail NJSwimSafetyChair@gmail.com

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4. USAS Operational Risk Committee: Hypoxic Training Recommendations

If hypoxic training is utilized by coaches in the development of advanced competitive swimmers, it must be conducted only when following appropriate principles and under the direct supervision of an experienced coach. These principles are:

1. Coaches should stress to athletes that they should never ignore the urge to breathe.
2. Hypoxic training should involve progressive overload, in line with the athlete's physical and skill development - for example, beginning with efforts over 5m, 10m, 15m etc. - as the swimmer develops the appropriate skills and physiological capacity.
3. Coaches should ensure adequate rest between hypoxic efforts to ensure full recovery.
4. Athletes should not hyperventilate (take multiple, deep breaths) prior to any underwater or other hypoxic efforts.
5. Hypoxic training should not involve competitive efforts of maximum duration or distance covered.

Meg's additional take aways from meeting: Hypoxic training should be done at the beginning of practice (NOT at the end.) This is due to the athlete being less fatigued and possessing increased lung capacity and strength when compared to the athlete's condition at the end of practice.

Hypoxic Training - On the Surface and/or Underwater

Drills may be conducted as part of on top of the water training or underwater training. Extreme care must be undertaken by the coach when underwater training is being conducted. The risk of a swimmer losing consciousness when on the surface is lower than during underwater swimming drills. While on the surface, swimmers are more likely to take a breath when needed whereas underwater they may resist the urge to breathe. In addition, any loss of consciousness while swimming on the surface is more likely to be noticed by coaches or aquatic supervisors allowing for a faster rescue response. If a swimmer loses consciousness underwater, that swimmers may go unnoticed for a period of time thereby increasing the likelihood of injury.

Common risk reduction strategies include:

1. Hypoxic training should involve progressive overload, in line with the athlete's physical and skill development - for example, beginning with efforts over 5m, 10m, 15m etc. - as the swimmer develops the appropriate skills and physiological capacity.
2. Adequate aquatic supervision is provided. Swimmers should never swim alone.
3. Never hyperventilate (take multiple, deep breaths) prior to any hypoxic training or efforts or before any underwater swim.
4. Structuring sessions to minimize involuntary hyperventilation immediately prior to hypoxic set.
5. Encouraging swimmers to breath as needed and to stay within their comfort zone.
6. Ensuring adequate rest for full recovery between hypoxic efforts. Recovery time will vary from swimmer to swimmer.
7. Hypoxic training should not involve competitive efforts of maximum duration, or distance covered. Coaches and swimmers must not engage in breath holding games or challenges.

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Underwater Drills:

Common underwater activities that can lead to blackout include repeated underwater swims or underwater kicking drills as well as stationary breath holding competitions for time. In all instances, the nature of the risk can be high. Even with successful resuscitation, complications including hypoxic brain damage and respiratory infection can occur.

The following considerations must be factored into hypoxic underwater training:

1. Coaches should be aware of the dangers and understand the risks of hypoxic training.
2. Swimmers should be instructed to surface and breathe when they feel it necessary when swimming underwater. **Never resist the urge to breathe.**
3. Stationary breath holding should never be used as a training method.
4. Only one deep breath should be allowed prior to submersion. Hypoxic blackout is closely linked to hyperventilation
5. Underwater drills should be at the start of a workout when swimmers are not close to their maximum aerobic capacity (VO2 max)
6. In general, the drill distance should not exceed 25 yards for a one time attempt. No immediate repeat attempts or challenges should be undertaken. More experienced, elite athletes may attempt longer distances but should only do so under direct supervision of an experience coach.
7. Allow adequate time for recovery, which will vary from swimmer to swimmer. Some guidelines suggest at least a 2-minute recovery time should be allowed before attempting another underwater swim, depending on age and experience.
8. No competitions or challenges: i.e. see who can swim the greatest distance underwater or hold their breath for the longest time will be conducted by coaches or swimmers.
9. There will be no pressure of penalties for swimmers who are unable to hold their breath as long as other swimmers.

Meg's additional take aways from meeting: If you see a swimmer attempt to hyperventilate prior to a set - pull the athlete OUT of the water. Hyperventilation reduces the ability for the body to identify when it needs more air.

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5. Recognizing Concussions and Concussion Management

Identifying and managing concussions was discussed in both of the workshops presented by the Operational Risk Management and Sport Medicine/Science. I expect that an official policy is being developed for teams to use. However, as was pointed out during both meetings, we may be required by law to have a concussion policy.

From USA Swimming's "Concussion Laws by State" Document":

Definition of terms as used in this document.
Student Athletes: means athletes participating in interscholastic sports/activites
Interscholastic Athletic Activites: Organized school athletic activity (practice, competition, etc)

NEW JERSEY: AFFECTED PARTY: Student Athletes ACTIVITY: Interscholastic athletic activities ACTION TAKEN: Immediate removal TRAINING/EDUCATION: Athlete and parent or legal guardian must annually sign a form acknowledging receipt and understanding of information on concussions. Coaches and trainers must annually review concussion policy. RELEASE AUTHORIZATION: A physician or other licensed healthcare provider who has received training specifically dealing with brain injury and/or concussions.

Information below is from the Operational Risk Management document "Concussion Information Sheet for Parents and Swimmers.", "Possible Concussion At The Pool" and from the Sports Medicine Presentation on Concussions

What is a Concussion?

A concussion, as defined by the 4th International Conference on Concussions in Sports (Zurich 2012) is a subset of traumatic brain injuries. It is an injury to the brain that may be caused by a blow, bump, or jolt to the head. Concussions may also happen after a fall or hit that jars the brain. A blow elsewhere on the body can cause a concussion even if the athlete does not hit his/her head directly. Concussions can range from milt to severe.

A concussion can affect school, work and sports….During the recovery time after a concussion, physical and mental rest is required. A concussion upsets the way the brain normally works and causes it to work longer and harder to complete even simple tasks. Activities that require concentration and focus may make symptoms worse and cause the brain to heal slower. Studies show that children's brains take several weeks to heal following a concussion.

Signs and Symptoms of a Concussion:

Athletes do not have to be "knocked out" to have a concussion. In fact, less than 1 out of 10 concussions result in a loss of consciousness. Concussion symptoms can develop right away or up to 48 hours after the injury. Ignoring any signs or symptoms of a concussion puts the swimmer at risk. These symptoms may include, but are not limited to:

- Headaches, nausea/vomiting, dizziness, blurred vision
- Pressure in head , feeling of fog, don't feel right
- Feeling slowed down, low energy, more emotional , irritability
- Sadness, confusion

Please remember: WHEN IN DOUBT, THEIR OUT!

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Symptoms Requiring Immediate Medical Attention::

- Unconscious (Not waking up, not able to talk)
- Seizure
- Was awake, now is not
- Slow to talk
- Confused
- Not breathing well.

Send for the Medical Evaluation if you answer any of the below with "YES":

- Person was "knocked out"
- They don't know their name
- They have vomited
- They feel like that might throw up
- They have a severe headache
- They can't walk straight
- THey just want to take a nap and its 10am
- They don't remember if they did warm-up or not and its midway through the session
- They don't remember the name of their school
- They don't remember their name
- They don't remember what team they are on
- They have trouble with their vision - hold up 3 fingers and ask the person how many they see

Questions to ask:

- Ask about their headache - is it an "owie" in one place (normal) OR does their head hurt all over, "worst headache of their life"
- Ask if the sun or bright light bothers them
- Ask if they feel like they might throw up
- They should want to eat (unless they just ate)
- They should walk normally
- They should answer questions clearly and fast.

Re-Evaluation:

- If the swimmer or injured person stays in the pool:
    - Have the coach report back to you on the swimmer's condition
    - Hourly, for a few hours
- If the person is an adult or driving teenager - find out who else may be with them:
    - Be sure another reliable adult can assist and observe
    - The injured person should not drive
    - Have them check back with you hourly

People with concussions may not be able to make the best decisions regarding their own heathcare. Their judgement may not be the best. Concussion symptoms can be subtle, variable and may not show up until hours after the initial injury.

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REMEMBER: WHEN IN DOUBT, THEIR OUT!

Returning to the pool

- Should only be allowed once the student is able to return to school full time.
- Should follow instructions and guidance provided by a healthcare professional who has received training specifically dealing with brain injuries and/or concussions
- Athlete should not show ANY symptoms during practice or outside the pool.
- The athlete should complete a step-by-step exercised-based progression, under the directions of a qualified healthcare professions. Gradually re-introducing them to full training.

Resources:

Insurance - USA Swimming provides an excess accident medical insurance policy through Mutual of Omaha for USA Swimming members while participating or volunteering in a USA Swimming sponsored or sanctioned event. Details of the insurance coverage are on the USA Swimming website under Insurance and Risk Management.

Centers for Disease Control and Prevention: www.cdc.gov/Concussion

Zurich Concussion Conference (2012) - Consensus statement on concussion in sport: The 4th international Conference on Concussion in Sport held in Zurich, November 2012.
http://bjsm.bmj.com/content/47/5/250.full

ODH Violence and Injury Prevention Program: www.healthyohioprogram.org/concussion

National Federation of State High School Associations: www.nfhs.org - index concussions and see “A Parent’s guide to concussions in sports.”

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6. Sports Medicine Presentation on Dryland, Stretching and Injury

Common Issues in Age Group Swimmers:

Shoulders	**Knees**	**Low Back**
Impingement (Upper Cross Syndrome)	IT Band Syndrome	Mechanical Low Back Pain (Rapid growth spurt)
Instability (Swimmers can Hypermobile)	Patella-femoral Pain Syndrome (Garbage term because SO MANY things can be going wrong)	Lower Cross syndrome
Tendonitis		Don't MISS IMPORTANT THINGS!

Why are Age Groupers Ripe for Issues?

1. Rapid growth spurts
2. Physical maturation
3. Outside activities
4. Poor nutritional habits
5. Increased socialization
6. Distorted sleep patterns
7. family/parental issues

Good Pain	**Bad Pain**
"The Burn	Pain increases in intensity as practice continues
	Does not subside with res
Short Duration	Impact the swimmers performance
Does not interfere with workouts	Constant Pain
May occur during or slightly after practice	Wakes the swimmer up at night
Does not wake up the athlete from sleep.	Swelling
	Impact swimmer outside of practice

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Moving Forward When There is Pain:

What We Can Do:	When to Refer Out!
Modify Strokes and/or Stroke Correction	Persistent Pain
Modify Intensity (and/or lane position)	Persistent Swelling
Modify Equipment (Kickboards, paddles)	Deformity
Modify Yardage	Loss of motion
Modify Dryland	Loss of strength and/or function

How to assess dryland needs and mobility:

Risk vs. Reward:

- Swimmers are generally uncoordinated. They/We trip. A Lot.
- Stress Level outside of the pool impact training
    - **HINT!** Injury rates may actually go up during finals. Stress on the system in any way will cause an increased overall load on the body. Perhaps place harder training cycle in respect to the school schedule.
    - "When you go too far with stress, you can't come back. Keep it simple."

Possible Design of Functional skills Program:

- Age 5-8: basic coordination and motor skills
- Age 8-10: balance activities, body weight exercises
- Age 10-13: body awareness and control, stretching exercises, plyometrics basics, general strengthening
- Age 13-14: advanced weight training, lift mechanics
- Progress to the next level ONLY after basic skill is mastered.

When you can do it - move on. Make it idiot proof. Boring works. Work wins.

"These kids dive into a box of water and go back and forth for hours. If they complain about doing squats again, ask them if that black line on the bottom of the pool has changed?" - Coach DeMayo