

Working with the Freestyle Swimmer -- Your Opportunity to Excel

Carl H. Heigl, DC, CCSP

Today's swimmer works extremely hard, spending long hours practicing in the pool. The average high school swimmer will put in 6,000-7,000 yards per day, between the early morning and afternoon workouts, 5 days a week for approximately 15 weeks, depending on their level of dedication. A variety of neuromuscular problems will occur throughout the season. In this article we would like to specifically look at the freestyle swimmer.

Hundreds of articles have been written regarding the problems faced by the freestyle swimmer. The majority of articles focus in on the shoulder, which can be a common problem. Consider that the advanced swimmers take 13-17 strokes per length of a 25 yard pool. Intermediate swimmers take 18-24 strokes. Beginning, uncoached or poor technical form swimmers take 25 strokes and over. Calculating the math with these numbers, for an intermediate freestyle swimmer, means completing approximately 4,320 arm strokes per workout. As the team doctor for a local high school swim team, my observations indicate the involvement of one shoulder, not both. On examination I usually have no positive findings for the standard orthopedic and neurologic tests for the shoulder. There is often a weakness in the various muscles of the rotator cuff group, specifically the supraspinatus and the infraspinatus. Frequently there is some form of tendonitis associated with this condition, if the swimmer has waited too long to seek evaluation. Thinking about it, if this were truly an overuse problem of the shoulder, we should probably see the involvement of both shoulders.

The question that entered my mind was, what part does the cervical spine have in this scenario? Consider that for the freestyle swimmer, breathing is accomplished by turning the head to one side, where the breath is usually taken every third stroke. The swimmer will be turning the head approximately 1,440 times for a breath. If the freestyle swimmer is breathing to one side throughout the entire practice, think of what happens to the muscle balance and the biomechanical relationship in regards to the instantaneous axis of rotation. A literature search on the freestyle swimmer and cervical spine did not produce any articles of substance or significance. However, study and review of the biomechanics and muscular nature of the neck certainly indicated a possible relationship.

When considering the treatment of a suspected shoulder problem in a freestyle swimmer the doctor should look to a multi-faceted treatment plan. Look to evaluate the biomechanical and musculature alterations of the cervical and thoracic spine. It is necessary to have a comprehensive plan to influence the muscular and biomechanical aspects of the spine. You, the doctor, need to implement an adequate stretching program, which will include some type of proprioceptive neuromuscular facilitation (PNF) stretching. Key into stretches of the cervical spine and the shoulders. The stretching needs to ideally be done before and after each practice session. This stretching can be done by you or by others who are adequately trained. A good source for learning this particular type of stretch is the video tape by Drs. Brian Nook and Bill Moreau, available through Northwestern College of Chiropractic (NWCC). Add in stretch band/cord exercises for the

cervical spine and the shoulder. Follow proper rehab protocol when using the tubes/cords. The above along with the chiropractic adjustment, a real must and necessity, will make for a very happy swimmer. While everyone else is looking at the shoulder, where the exam is usually negative, you are the expert, the one with the answers and getting results.

As we are most keenly aware, the best treatment is to prevent the problem. Make the effort to talk to the swim coaches and their staff and develop the rapport. Talk to them about the stretches. Talk to them about having the swimmers start doing alternate breathing as they are practicing. This is where the swimmer will swim, breathing every third stroke on an alternate side. This will help maintain the proper balance between muscles. The key is to have the swimmer do this during the long practice sessions. Will this take some time for the athlete to accomplish? Absolutely. As a matter of fact the swimmers will think they are going to drown when they first start. Encourage them, as this will make a major difference. Remind the coaches that by having their swimmers do the stretches and the alternate breathing it will decrease the amount of injuries and as a result their swimmers will be better able to compete. They will appreciate your information and changes. In the meet, the events are short enough so that it doesn't matter which side they want to breathe on. It will be the side that is most comfortable for them. The problem is being developed during the practice yardage, not necessarily at the meets. Take the opportunity to make the difference for the athlete.

Sources:

Swim Magazine, March/April 1993 Vol IX, Number 2.

McAtee, Robert: Facilitated Stretching. Human Kinetics Publishers 1993.

Carl H. Heigl, DC, CCSP
Racine, Wisconsin

MAY 1994