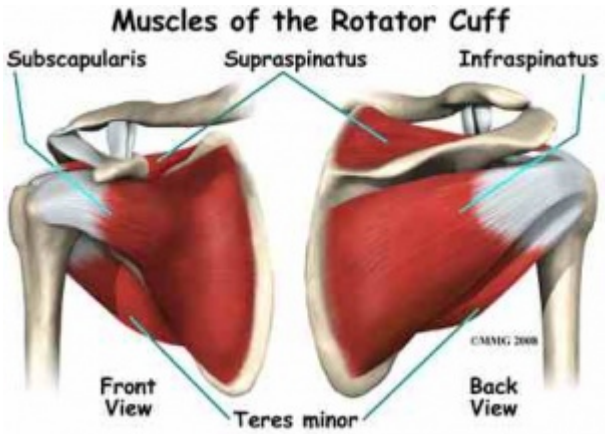
Swimmers Shoulder

Swimming is somewhat unusual in that it is one of the few activities which rely on the muscles of the trunk and arm to propel you. Generally thought of as quite a safe and gentle form of exercise, due to the low joint compression forces, it does involve quite high cycles of repetition of movement. A kilometre of swimming will involve approximately 500 repetitions of rotation on each shoulder! Shoulder pain is the most common complaints among regular swimmers, with 40-60% of regular swimmers experiencing shoulder pain at some point that prevents them from training.

Swimmers shoulder is an umbrella term describing a range of painful shoulder conditions that may occur as a result of regular swimming. The most commonly involved structures are the rotator cuff tendons and subacromial bursa, however a range of structures may be involved. Often identification of the mechanism of injury is of more clinical relevance in guiding an appropriate intervention than focusing primarily on the source of the pain.



The shoulder is extremely mobile and has more degrees of freedom than any other joint. Due to the degree of mobility, it relies far more heavily on the muscular system for stability and control than other joints of the body. The rotator cuff muscles are often referred to as the core muscles of the shoulder and play a pivotal role in controlling the position of the humeral head in the shoulder socket.

Poor rotator cuff strength and endurance is often a big contributor to the onset of injury, with poor external rotation strength being a common feature. Typically, you should have at least as much strength in external rotation (turning out) as internal rotation (turning in). If the rotator cuff fatigues before the larger movement muscles of the trunk and arm, this results in poorly controlled humeral head motion, overload and injury.

E: admin@ibphysio.com.au | T: 02 9976 3540 | F: 02 9976 3290 | Suite 14, Level 2, 22 Darley Road, Manly, NSW 2095 Australia

https://vimeo.com/366170879

Poorly controlled, floppy shoulder blades are another common problem seen. This may be related to weakness of the stabilising muscles of the blade, or simply be a result of poor/lazy technique. Often poor shoulder blade control causes additional compression of tissue in the top of the shoulder joint, resulting in overload and injury.

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As the shoulder is so mobile and relies on many moving parts, it can be particularly susceptible to stiffness restricting its normal patterns of movement. Regular swimming often results in a build up of muscular tightness in the shoulder girdle and thorax, restricting shoulder mobility and leading to overload and injury. Typically, the more you swim and the stiffer you feel, the more you need to work on maintaining the muscles with stretch, release or massage.

Below are some of the common problem areas and some suggestions for a few great exercises to maintain mobility.

E: admin@ibphysio.com.au | T: 02 9976 3540 | F: 02 9976 3290 | Suite 14, Level 2, 22 Darley Road, Manly, NSW 2095 Australia

Pec/Chest Stretch

E: admin@ibphysio.com.au | T: 02 9976 3540 | F: 02 9976 3290 | Suite 14, Level 2, 22 Darley Road, Manly, NSW 2095 Australia

- Place the forearms on the doorframe.
- Lean the trunk forward into the door until you feel a gentle stretch in the front of the chest.
- There should be no pain in the shoulder.
- Hold 30 sec and repeat x 6

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Lat Stretch

- Hold onto the door frame with the arm that you are looking to stretch.
- Hang your weight back off your arm and rotate

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the body slightly away from the side that is being stretched.

- You should feel a comfortable stretch through the back of the shoulder and down the side of the trunk.
- There shoulder be no pain in the shoulder.
- Hold 30 sec and repeat x 6

Posterior Cuff Stretch

- Lay on your side with the lower arm out in front and elbow bent to 90 degrees.
- Let the lower hand drop towards the floor and gently rest the weight of the upper hand on top.
- Do not force with the upper hand, let gravity do the work.
- You should be able to make an angle of 50-60

E: admin@ibphysio.com.au | T: 02 9976 3540 | F: 02 9976 3290 | Suite 14, Level 2, 22 Darley Road, Manly, NSW 2095 Australia

degrees to the vertical.

- Hold 3-5 mins

https://vimeo.com/366170002

Thoracic Extension Stretch

- Roll up a towel tightly and place across the bottom of the shoulder blades.
- Lay back over the towel and brings hands up over the head as far as is comfortable.
- Your head and hands should be supported.
- You should feel a good stretch through the midback and across the chest.
- Hold 3-5 mins.

E: admin@ibphysio.com.au | T: 02 9976 3540 | F: 02 9976 3290 | Suite 14, Level 2, 22 Darley Road, Manly, NSW 2095 Australia

Research shows that performing static stretching, where the muscle is held in a lengthened position for a period of time (usually 20-30 seconds), while effective at increasing the length of the muscle, will for a short period immediately after stretch, decrease the strength and function of the muscle. As such this is not the best thing to do immediately before sport or exercise. A dynamic stretch, which generally involves taking the muscles and body through some of the movements that it is about to perform tends to be the best way to warm up the muscle and wake up the brain and nervous system and prepare the muscles for action. Below is a good example of a dynamic stretch routine for swimming.

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Poor swimming technique generally results in increased drag in the water and increased load to the shoulder joint. There is an extremely long list of potential technique errors. Some common issues seen include;

- Swimming too flat- not rotating enough in the water.
- Arms crossing the midline.
- Head too high.
- Short fast stroke rate.

An assessment with a good swimming coach is often a good idea to identify any possible technique errors and improve your swimming efficiency.

Final Thoughts

Prevention is ALWAYS better than the cure. Undertaking a program of strength and control exercises as well as some regular stretch and mobility work is the best way to ensure that you don't end up injured and out of the water. Listen to your symptoms and do something to make a change. The initial symptom will usually be overloaded, irritated tissue, not tissue damage. Poorly managed tissue overload however will almost certainly result in tissue damage and much longer periods out of the water.

Appropriate management of training loads is a big

E: admin@ibphysio.com.au | T: 02 9976 3540 | F: 02 9976 3290 | Suite 14, Level 2, 22 Darley Road, Manly, NSW 2095 Australia

factor. Gradually ramp up your training loads to give the muscles and tissues time to respond. A break out of the water will result in deconditioning of the tissue and often require a ramp back up to your regular training load on returning to swimming.

If you are struggling to manage your pain and injury yourself, get some help from a trained professional!

Article by Jim Burke

E: admin@ibphysio.com.au | T: 02 9976 3540 | F: 02 9976 3290 | Suite 14, Level 2, 22 Darley Road, Manly, NSW 2095 Australia