

# *The Swimming Warm~up and Cool~down*

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If you are a swimmer who rushes through warm-ups or skips cool-downs this is for you.

## ***Why You need to Warm up***

Before you engage in hard, physical training or step up to the starting block for a race, you want to be sure your body is ready for the challenge. Warming up is what gets you ready. During a warm-up you gradually increase the intensity of your activity until your body is prepared for maximum exertion. This preparation is essential if you intend to perform at your highest level.

## ***What the Warm-up Does for You***

For starters, the warm-up creates body heat. Even a slight rise in body temperature brings greater efficiency to many of the body's systems. Muscles move with less resistance and with greater force. Nerve signals travel faster. Joints are able to move through their full range of motion without a hitch. Oxygen is transported to the cells with less effort. Enzymes become more active to enhance all cellular functions.

As warm-up eases you body into action mode, deep breathing expands your lungs enabling you to take in more oxygen. Throughout your body, small blood vessels dilate and blood begins to flow. The warm-up also gives your nervous system and your muscles the opportunity to start communicating. This helps to bring refinement to your movements. You might say it helps you get the kinks out.

A proper warm-up has a calming effect on the body and the mind. And when all systems are primed and ready to go, you are less likely to sustain a joint or muscle injury when your workload increases.

Of course, you probably still want to know if you could plunge right into a race without first warming up. The answer is yes, you could. But your body wouldn't like it. Your heart, lungs and circulatory system would struggle and then fall behind in providing the oxygen you needed. You would feel the pain of this struggle and you would quickly become fatigued. In short, this would probably not be your best swim. You would also risk injuring yourself by making extreme demands on a body that wasn't ready to respond.

## ***Warm-Up Considerations***

On any given day, your warm-up should have the proper mix of distance and intensity. The mix will depend on a variety of factors, such as: your current level of conditioning, the time of day, how you feel, the temperature of the air and water, and what you are preparing to do. For instance, you will need a longer warm-up in the morning when you haven't been active for a while. You will also need to warm up longer if the air or water is cold. And you will usually need to reach a greater intensity in a pre-competition warm-up that you would in a pre-practice warm-up.

When preparing for competition, a warm-up that leaves you fatigued for your race is either too long or too intense. On the other hand, if your second race of the day is better than your first, your initial warm-up was probably inadequate and you used your first race as a warm-up for your second event. Recognize any mistakes you make in warming up and then make adjustments the next time out.

## ***Warm-Up Guidelines***

Don't try to rush through a warm-up. The benefits of a warm-up are only realized if you start out slowly and gradually build intensity.

Static stretching is not appropriate for warming up. It leaves muscles in a temporarily weakened condition. It is usually best to begin a warm-up by swimming freestyle. The freestyle stroke puts you in a natural and comfortable position in the water while avoiding the greater intensity of the short-axis strokes (breaststroke and butterfly) until you are at least partially warmed up.

A pre-practice warm-up should take at least 15 – 20 minutes, assuming that your first swimming set after the warm-up won't be a high intensity set. If it is, you may need an even longer warm-up.

A pre-competition warm-up should take 30 minutes or more, since your body has to be revved up to its highest level of readiness, and starts, turns, and stroke technique must be rehearsed. But every day is different. You may only need 30 minutes of warm-up one occasion, and 40 minutes on another occasion. Warming up is somewhat of an art, and you are the artist. Isolated flutter kicking is a luxury in a warm-up since the leg muscles can be warmed up as part of freestyle or backstroke swimming. Warming up the arms and legs simultaneously can save time – this is particularly important in a pre-practice warm-up, when time is at a premium. Before competition, rehearse some underwater dolphin kicking to adjust the speed and amplitude of your kick and to warm up your core muscles. Always rehearse the stroke you will be swimming in a race. You want to find your timing and your pace before you start racing, not during your race.

If you will be racing breaststroke you should spend as much time as necessary warming up your kick. Beginning with your first racing stroke, you want your kick ready to provide full power without the risk of injuring your knees.

Near the end of the warm-up do some fast swimming to prepare your body for what is to come – but don't overdo it. You don't want to leave your best race in the warm-up pool.

While rehearsing starts and turns at an unfamiliar pool, take note of any peculiar features of the facility. Pay particular attention to starting block differences and walls that might be slippery. Backstrokers should take notice of what they will be looking at overhead. Don't sit around after a warm-up – your body will start to cool down. Do additional, shorter warm-ups if necessary. If there is an unexpected delay prior to a race, jump up and down or do some arm swinging to maintain an elevated heart rate.

### ***Why You Need To Cool Down***

Just as need to gradually increase your activity level during the warm-up, you need to step-down your activity level during the cool-down. This is the least stressful way for your body to return to normal and it leads to the most rapid recovery from the hard work of swimming.

During the cool-down process your body literally cools down from being overheated. Body functions that were revved up during intense activity begin to slow down on their way back to resting levels. Continued activity during the cool-down period encourages deep and rapid breathing so that oxygen keeps coming in and carbon dioxide can be transported out. Muscles that have been stressed and stretched during exercise need a period of reduced activity to return to their normal state. Properly cooling down after a race – or after training – may help prevent the onset of future muscle soreness that can hinder your ability to practice.

### ***What the Cool-down Does for You***

When you are swimming, your working muscles squeeze blood vessels, and this squeezing action assists your heart in pumping blood throughout your body. If you remove this assistance by abruptly stopping all activity, all the work of pumping your blood must then be handled by your heart. Since your oxygen requirements are in high gear after intense swimming, your heart may not be able to keep up with circulatory demand. In this case, blood may pool in your muscles when it should be circulating back to vital organs. This can result in lightheadedness or fainting. A controlled cool-down allows your body to gradually get back to normal without experiencing any negative or dangerous repercussions.

### ***Cool-down Considerations***

After intense swimming, your body is not in its normal state. Among other things, your heart rate is up, your blood pressure is elevated, and the pH level in your muscles is altered. The cool-down aids your body in

its effort to get back to normal. And although you cannot visually observe all that a cool-down does, some studies show that you will recover twice as fast with a proper cool-down than you will without one.

Your ability to race or practice the day after intense swimming depends on how fast your body can recover. Avoiding or shortening the cool-down may lengthen recovery time.

### ***Cool-down Guidelines***

The cool-down should consist of mostly freestyle, backstroke, and simple drills. Breaststroke and butterfly are too stressful. Continuous, rhythmic movement is ideal for cooling down.

Swimmers can usually sense the proper intensity level for returning their heart rate to normal. This might start at about 65% of maximum effort and decrease in intensity as the cool-down progresses.

At a minimum, you need to cool down for at least as long as it takes for your breathing to feel easy and your heart to stop pounding. Much to the surprise of many swimmers, the shorter the race, the more time you need to spend cooling down. This is because shorter races require greater intensity, and the harder you push your body, the longer it takes to recover.

After a 500 yard race you need about 15 minutes of cool-down activity.

Following a 200 yard race you need about 20 minutes of cooling down.

Races of 50 or 100 yards are so intense that you need 25 to 30 minutes of cooling down to adequately recuperate.

### ***Tools of the Trade***

Many swimmers believe that warm-ups and cool-downs are simply a waste of time. But nothing could be further from the truth. Warm-ups and cool-downs enable your body to efficiently transition from energy-saving mode to high-intensity mode and back again. Good warm-ups usually precede best performances, and controlled cool-downs encourage rapid recovery. For the serious swimmer, both practices are indispensable tools of the trade.