
Between **the Lane** Lines

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Spring is in the air! Remember to take time to enjoy the warm weather this May.

Keys to Hydration – from USA Swimming

There are 2 reasons to drink fluids: (1) to stay hydrated and (2) to provide the body with fuel.

During Workout

Regardless of age or length of workout, all athletes need fluids during practice to stay hydrated. This is easily accomplished with a couple of sips from the water bottle every 15-20 minutes. As athletes progress, workouts get longer and tougher. It's well established that exercise beyond 90 minutes benefits from a supplemental fuel source. The sports drink can provide it. But we still have hydration to think about. Drinks that are too strong, or "concentrated," can provide the fuel but also inhibit fluid absorption and often lead to cramping. Years of research tells us that drinks that are 6-8% carbohydrate by weight provide the perfect balance. Enough carbohydrate to provide a fuel source during long exercise, but not so much that will inhibit fluid absorption. A couple of sips every 15-20 minutes keep the body fueled, helps prevent unnecessary tissue breakdown, and maintains hydration. Today, only Gatorade and Powerade meet the 6-8% criteria. Most other drinks are too strong to be effective during workout.

After Workout

Water is an excellent choice to replenish fluids after practice. It's always wise to drink at least one cup. But after a tough workout, replenishing fuel stores is equally important. Athletes need a little over 1 gram of carbohydrate for every kilogram they weigh (lbs/2.2) each hour after workout. And they need it within the first hour.

A sports drink such as Gatorade or Powerade that is easily digested and quickly absorbed, can provide a convenient way to get some of the necessary fuel within the first 20 minutes. Accelerade, a newer drink on the market may also do the trick. Beware of the high protein drinks, as they often forgo the carbohydrate, and carbohydrate is what you are trying to replenish within that first hour after workout. A little protein won't hurt, in fact a little bit of protein may actually help by supporting tissue repair and re-building processes. But too much protein, especially when it comes in place of carbohydrate, may actually be detrimental to the postworkout recovery process.

Remember:

1. Carbohydrate is the primary fuel source during tough workouts. Protein is used as a fuel source during exercise only when carbohydrate and fat are not present in sufficient quantities. This can happen during long/tough workouts when the body uses much of its stored carbohydrate, and it must find an additional source. If an additional carbohydrate source (ex. Gatorade, PowerAde) is not supplied, the body taps into stored protein, a.k.a. your muscles. This is why we drink carbohydrate-electrolyte solutions during workout, to spare muscle protein. And this is also why it is important to replace carbohydrate stores lost during a workout: so you start the next workout with a full tank of gas!
2. Following exercise, the body is very sensitive to the hormone insulin. Insulin is that hormone that rises every time blood sugar rises. In other words, every time an athlete eats carbohydrate, which causes blood sugar to rise, insulin goes up. It's insulin's job to remove sugar from the bloodstream and it does so by facilitating its storage as glycogen. Glycogen, the storage form for carbohydrate, is what the body taps into for fuel when exercise is very intense. This can happen quite a bit during a tough workout, which is why it's important to see that glycogen is replenished before the next practice.

During the Day

Staying hydrated during the day is just as critical as hydrating during and after workouts. Most athletes can do this by incorporating a variety of fluids into their daily diet. Water, fruit juice, milk, soups, etc. Water is always an excellent choice, but other drinks, including sports drinks (defined as 6-8% carbohydrate by weight) are okay too. Just remember that variety is the key to a healthy diet. If you use a sports drink during and after practice, it may be better to drink water and juice during the day to stay hydrated. Juices are often healthier than sports drinks in that their sugars are natural. Always keep in mind that juices and sports drinks contribute to total caloric intake.

Swimmer's Mental Toughness

By Craig Townsend

I conducted a seminar this week to some young swimmers at Sydney's Olympic swim site, and (as usual) found myself being asked some unusual questions about the power of mental training in swimming. This is one of my favorite subjects, because regardless of whether the time is fast or slow, the mind plays a huge part in every swim, much more than most people think.

The fact is, if a swimmer is not mentally tough, it wouldn't matter if they had the perfect technique, a perfect body, perfect weight, plus all the know-how in the world - because it's only through the mind that a swimmer is allowed to use all these great advantages. If their mind is not 'programmed' for success, then nerves, intimidation or fear may stop them from swimming anywhere near the times their potential would suggest. So don't worry if you feel intimidated by other swimmers who may appear to have better strokes or physique, because as long as you are physically competitive, you can win the big meets anyway, through being mentally tougher than the opposition. Every day, swimmers are winning races when technically they are not as well-equipped as their competitors, and this is simply because they know how to win. This is proven in virtually every sport, it's not just restricted to swimming.

When you consider that as every decade passes, and we look back at the times set by the great Olympic champions ten and twenty years ago, you'll find that since then those record times have been smashed over and over again, almost to the point where they begin to appear 'slow'! Yet these unbelievable records were considered to be unbeatable at the time they were recorded, and now these times look much more achievable and 'beatable' 10 years later.

World records will continue to be broken for a long time, and so this means that most of the times which you may regard as 'impossible to achieve', may actually be regarded as quite slow in 10 year's time! Think about that for a moment. The great times being set today may actually be regarded as slow, in 10 year's time! Doesn't that make them seem a little more achievable than they were a minute ago?

All it takes is a little belief in yourself that your goal is possible. You see, as soon as we decide something is impossible, it becomes impossible - because our mind then firmly programmes our body not to achieve it. So think of your mental training as the ultimate secret weapon - an unfair advantage which many other swimmers do not have, and this will give you the edge.

The mind is so incredibly powerful that it even possesses the capability to overcome physical problems and achieve things which we would not normally consider possible. Many swimmers I have worked with over the years have actually won races whilst still recovering from severe illness or injury, and this will be the subject of your next tip. The mind is the world's most powerful computer system, which can help us to win swimming races and achieve our times very easily if we will just allow it.

Swimming Trivia:

- In the 1948 Olympics, the U.S. won every event in the swimming competition.
- Elephants are capable of swimming twenty miles a day, using their trunks as natural snorkles.
- The first woman to break the one-minute barrier in the 100y freestyle was Helene Madison of Seattle in 1932.
- Don Schollander was the first person to break two minutes in the 200m freestyle in 1963 with a 1:58.4.