How to warm down after your race properly

Whenever we race or have a set in practice that involves us swimming fast we produce lactic acid or what is more commonly referred to as, “Lactate.” Rather than listing a big long scientific explanation of the process of producing lactic acid I’m going to do my best to explain it in simpler terms. Whenever you exhibit a certain amount of energy while swimming (pretty much any time you are trying to go fast) your body begins to burn off oxygen from your muscles. Because you are burning oxygen faster than your body can clear the lactic acid you start to feel that “burn” in your muscles. It is because of this physiological process that people cannot maintain maximum speed for long periods of time. For example the world record for the Men’s 50 meter Freestyle is :20.84 held by Fred Bousquet of France. Now, if not for the creation of lactic acid and that burning feeling in your muscles it would seem logical that the world record in the 100 meter Freestyle could be as fast as :41.68; in reality the record is a :46.91 held by Cesar Cielo of Brazil. As the record books show, as swimming distances get longer times get slower because of the production of lactic acid.

Now that we have talked about what lactic acid is let’s talk about how to get rid of it or “clear” it as you will probably here it talked about. Once you have completed your race it is extremely important that you head directly to the warm down pool and begin warming down to help clear lactate. The time you spend hanging around talking to your coach, friends, family, or whomever is valuable recovery time that you are losing. By losing this warm down time you are robbing yourself of the chance to perform at the highest level possible. The following are conclusions of studies on lactate clearing down by USA Swimming Director of Physiology, Genadijus Sokolovas, Ph. D. :

- Lactate clearance is elevated in trained compared to untrained persons.
- Endurance training lowers lactate production and increases lactate removal/utilization, especially at high intensities
- It is important to clear the lactate immediately post race and high-intensity swimming sets in training.
- For sprinters (50-100 m/y events) post-race intensity should be at an easy pace, which corresponds to heart rate of 120-130 bpm.
- For middle distance swimmers (200-500 m/y events) post-race intensity should be at an easy to moderate pace, which corresponds to heart rate of 130-140 bpm.
- For distance swimmers (500-1650 m/y events) post-race intensity should be at a moderate pace, which corresponds to heart rate of 140-150 bpm.
- Duration of post-race recovery for sprinters should be - 25-30 minutes, for middle distance swimmers – 15-20 minutes, and for distance swimmers - 15-20 minutes.
- If there is no warm-up pool at the competition, swimmers can substitute stretching/jogging after the race. HR during stretching/jogging should be below anaerobic threshold (120-140 bpm or 20-23 b/10 sec).
- If there is a very short time between races (i.e. 5 min.), immediate post race recovery swimming will still affect a reduction in lactate prior to the next race.
- Athletes accumulate fatigue after several races during an ongoing meet. This results in a reduced lactate clearance rate, and requires the athlete to swim a longer cool-down at the end of the meet.
So what does all that mean? Pretty much the following:

- Those who train more will recover faster than those who do not.
- Practicing helps you slow down the creation of lactate.
- Go straight to the warm down pool after races.
- Sprinters should swim easy for 25-30 minutes at an easy speed.
- Middle Distance should swim at an easy to moderate pace for 15-20 minutes.
- Distance Swimmers should swim at moderate pace for 10-15 minutes.
- If no warm down pool available keep moving around.
- If you have events back to back it’s still important to warm down right up until you absolutely have to get behind the blocks for your next race.
- The more swims you have at a meet the longer you need to warm down to clear lactate.