Valley Area Swim Team
Swimming and The Art of Recovery

Cool Down – Eat – Stretch – Sleep

Cool Down and Recovery:

Swimming at high intensities, such as during racing and tough sets, can cause metabolites like inorganic phosphate, ADP, hydrogen ions, and of course, *lactate,* to accumulate in the muscles. A build-up of these metabolites is associated with conditions that can compromise the next swimming performance.

Cool down (active recovery) facilitates the removal/utilization of lactate after a race or tough set. The *intensity* of the cool down influences how quickly the removal/utilization of lactate occurs. Too high an intensity may produce additional lactate, while too low may not create enough circulation to remove/utilize the lactate any faster than standing around would (passive recovery).

At meets where a warm down pool is not available swimmers should complete their active recovery on land. This should include active stretching, arm rotations and/or other land-based exercises that engage the same muscle groups used during the swim. Even on land, this type of activity increases the blood circulation and removes/utilizes metabolites faster than passive recovery alone.

Nutrition and Recovery:

The primary fuel source for most swimmers during training is carbohydrates.

Effective nutritional recovery maintains energy and limits tissue breakdown, especially during periods of high volume/high intensity training, and both carbohydrate and protein are essential to the plan.

These tips are the most effective things you can do to make the most of your recovery time and maximize your training adaptation:

- **Start the replenishment process during practice if workout is longer than an hour.**
- **Eat a substantial carbohydrate snack with some protein *immediately* after practice or within 20-30 min of finishing a workout.**
- **During *hard* training, add another post-workout snack 45 minutes to 1 hour later.**
- **Eat a main meal within 2 hours of finishing workout.**

- **Include *all* sources of carbohydrates, such as colorful fruits and juices, milks, yogurts, breads, cereals, etc.**
- **Include various sources of protein, such as meat, peanut butter, milks, yogurt, cereals, legumes, etc.**
- **Include liquids to replenish lost fluids.**

During its time off, the body will adapt, but only if provided with the *right fuels at the right times.* For many swimmers, ensuring good nutrition is like a *full time eating job!*

Stretching and Recovery

Stretching is a key component of the daily training plan for athletes. It plays an important role in the recovery process and in preparing for the next training session.

Stretching helps the muscles repair themselves and improve the body's ability to recover in time for subsequent practices or competitions. Stretching as part of recovery can also reduce the chance of injury and enhance stroke technique during subsequent swims.

When stretching remember to:

- **Stretch major muscle groups (lower leg, upper leg, back, shoulders, neck).**
- **Hold each stretch for 20-30 seconds.**
- **Do not bounce.**
- **Do not stretch to the point of feeling pain. If you stretch and feel pain, you may be at risk of tearing a muscle.**
- **Do not hold your breath. Breathe freely and stay relaxed.**

Sleep and Recovery

Getting too little sleep can hinder recovery from exercise by impairing glucose metabolism, increasing cortisol levels and compromising immune function. Not only is protein breakdown reduced during sleep, growth hormone is released during this time. Sleep also helps maintain optimal emotional and social function during the day.

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What you do with your recovery time can and *will* affect your next swimming performance. Incorporate recovery into your training plan. Understand it. Believe in it. DO IT! Train smart…Swim Fast!