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# *It's Taper Time*

Compiled by Coach Bob Steele

**Editor's Note:** *The following short article compiled by Coach Bob Steele first appeared in USA-Swimming's COACHES QUARTERLY in March of 1995. It's a great summary of a complex topic.*

## Tapering Research

The following ideas are provided for coaches to utilize as situations and philosophies permit. Results may vary depending on the individual athlete. The ICAR Annuals (1989-1991) provide these research concepts for coaches to apply:

### Diet and Taper Training

1. It is important to maintain caloric intake that matches caloric cost in order to avoid rapid weight loss.
2. During taper periods, an adjustment in caloric intake should be made that matches the reduced caloric cost as a result of decreased training volume.
3. Calories are important in the provision of proper nutrient intake and maintenance of energy storage. If disrupted, training response may be compromised.

### 4. Reduced Workload/Improvement

These results depend upon the training, athlete and his/her events.

1. The purpose of the taper is to allow the swimmer to adapt to (or supercompensate for) the level of work achieved in the training program.
2. A decrease in volume of work during the taper will not result in a decreased work or performance capacity; all performance factors can be maintained in spite of reduced training yardage.
3. The length of taper appears to be less important than the degree training/taper volume is decreased. These studies suggest once a decrease of 60 percent of training volume occurs, supercompensation is achieved. (This is an individual preference based upon coach-athlete experience).
4. Based upon the information above, 2-4 weeks of taper could result in the same improvements in performance and work capacity, depending on the individual.

- 5. Pre-taper training volume will affect the level of performance more than different taper programs.

### • **Shaving and Performance**

- 1. Shaving body hair prior to swimming performance results in faster swims, independent of training.
- 2. The benefits of shaving are related to a decrease in drag to be overcome while moving through the water. The net result is less power application in the pull pattern required to overcome the drag.
- 3. Shaving does not improve "feel" for the water as no changes in pull patterns or forces were seen.
- 4. A relative improvement in propelling efficiency is observed with shaving since less force is required to move the body through the water at a given speed. This is a result of a decrease in frictional drag due to removal of body hair.

### • **Weights and Endurance on Power and Performance**

- 1. In early season, swimming endurance only with accompanying weight training decreased performance in both the 50 and 200 meter performance measurements. This is a result of a loss of explosiveness in muscle fibers.
- 2. Increase in strength and power due to a combination of swimming and weight training should help athletes be more prepared for mid- and end-of-season training and performance.

### • **Power During Taper**

• Although representing only a small group of swimmers (n=5), the following applications may be considered:

- 1. Power output as measured on the swim bench continued to increase up to four weeks into the taper.
- 2. Efficiency of the muscles (neuromuscular efficiency) peaked three weeks into the taper.
- 3. Use of muscle fiber types shifted to higher usage of fast twitch after three weeks of taper.
- 4. The anaerobic contribution to swimming increased from the beginning of the taper until the fourth week. After the fourth week, the anaerobic contribution dropped dramatically.
- 5. Hand forces and mechanical efficiency increased up to week three. Propelling efficiency did not change throughout the first three weeks of the taper and then dropped slightly during the fourth week.
- 6. These data suggest a 3-4 week taper can effectively lead to optimal performance.

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**Tapering Games and Gimmicks**

**Celebrations:** Put swimmers in lanes and behind the backstroke flags. One at a time, sprint the five yards to the wall practicing breath control and finish, followed by a celebration. Do 10 celebrations on the minute.

**One Better:** Have the swimmers lineup on the deck in speed order (slowest to fastest) for a 50 of a selected stroke. Everyone then swims a 50 of that stroke, one at a time with the coach timing each swim. If a swimmer goes slower than the fastest preceding time he/she must do something custodial or give the fastest person, so far, 10 cents. Make certain they are in proper order and don't shift. Select different strokes each time and you'll have some great "Surprise" swims and maybe find a breastroker, backroker or flyer for that medley relay.

**Relay Run Downs:** To have swimmers emphasize overcoming opponents, have them pair off opposite the finish end of the pool. Swimmer A will get a 2-3 second lead depending on ability. The coach says "Go" for A, counts 2 to 3 seconds, and swimmer B leaves on the 2 or 3. Points are then given to swimmer B depending upon effort and success. Five points for outtouching A. Three points for tying A. One point for each half-second gained.

**Turn Eliminations:** Set up partners to race each other on turns. Start together. The winner stays to race others and the loser goes to the opposite end to practice with others.

**Timed Turns:** Start a stopwatch when the swimmer's head passes below the flags. Get the split when the hands or feet touch and the final time when the head passes the flags again. Also, time the period on the wall in the breast and fly hand touch until feet leave the wall, and on backstroke and freestyle when the head drops below the surface until the feet push off.

**Texas 25's:** (35 yards with no breath) Give them gold time like freestylers under 17.5. Swimmers should breathe if they have a problem.

**Rhode Island 25's:** (15 yards with no breath) Have them remember their best and compare with others. Videotape starts.

**Ideals:** Establish a season-ending goal time and develop a race pace. Do 5 x 50 on 1:00 once a week trying to hit the goal pace and as the taper progresses drop five seconds from the send-off each week.

North Thornton, University of California (Berkeley, Calif.)

**Broken Swims:** Using three watches on a swimmer, have them go a broken swim 10 seconds rest/50 or whatever you like. Start the watch on the dive, stop on the foot-touch, start on the push-off and continue until finished. Keep record times on a bulletin board etc. This is great when tapering. Do this

• one week before big meets for a hype. For relays, have each  
• swimmer go a broken swim with relay take-offs. The total time  
• hypes all four swimmers.

• **Warm-Up/Sprints:** During meet sprints, give all the loose  
• change in your pocket to the swimmer guessing his 25 to the  
• one-hundredth. This gets them involved in knowing what they  
• swim and caring about it.

### • **Dryland Tapering**

• Depending upon the type of dryland program used in season,  
• dryland workload can be done several ways. Basically they  
• begin reductions 4-to-6 weeks out by cutting: 1) the number of  
• sessions per week; 2) the amount of weight used; 3) the  
• number of repetitions per exercise; or 4) the amount of time  
• per exercise. To maintain a specific feel for power during the  
• taper, some coaches switch to a limited number of repetitions  
• with surgical tubing, power rack, or swim benches for their  
• more stroke-specific nature.

• Repetitions may be six sets of 15 seconds alternating with two  
• to three partners. Diminishing the dryland program should be  
• gradual and coordinated with reductions in yardage. Bigger  
• athletes and sprinters generally start earlier than those who are  
• less mature physically. Tapering is a very individual thing and  
• while one swimmer may taper dryland, others may want or  
• need to continue with some dryland routine.

### • **Length of the Taper**

• In an effort to teach swimmers about the length of taper they  
• can handle and for the coach to learn about individuals, try  
• this. Following the swimmer's shave meet of the season have  
• him/her come in once a week for a 100 time trial with no  
• training.

• See how many weeks they can hold or even improve times.  
• Years ago I did this and had a 100 fly swimmer on successive  
• taper go from a 1:02 in the sophomore championship meet to a  
• 1:01, 1:00, :59 and a 1:20. We knew a taper would last three  
• more weeks.

### • **After the Taper**

• During a 3-4 week period the training was tapered down to 5-  
• 10 percent of the season content, don't just stop. After the  
• championship and prior to taking a break continue to practice  
• moving the aerobic yardage back up to 30-50 percent pre-  
• taper yardage. Or, come in 2-3 days a week and swim a 30-  
• minute short rest set. This helps make re-starting training after  
• the break much easier since the swimmers are not re-starting  
• training following a six week reduction, four weeks of tapering,  
• and two weeks off. ■