

Physiology Descriptions	Level One Minimums	Level Two Minimums	Level Three Minimums	Level Four Minimums
<p>A variety of physiological adaptations are required for optimal performance because events in competitive swimming range in duration from about 20 seconds up to a little less than 20 minutes. Elements of both speed and endurance have been shown to be important factors in competitive success. Thus, competitive swimmers spend a great deal of their training efforts on enhancing their physiological capacities to optimize their sprint and endurance abilities. The development of physiological systems for success must coincide with that athlete's responsiveness to the various forms of conditioning at different times during his or her growth and development. For example, it has been shown that children have a limited capacity to perform and adapt to high-intensity anaerobic work prior to puberty. Thus, a well-planned training program designed to maximize the swimmers' ultimate performance potential will avoid placing too much emphasis on this kind of physiological conditioning until the late adolescent phase of development. Instead, the focus in early childhood should be in developing the skills and aerobic endurance necessary to perform the higher-intensity training later in the swimmers' careers. The physiological progressions included in this booklet were designed to reflect this philosophy by introducing physiological capacities at the appropriate times of the swimmer's career.</p>	<p>Physical:</p> <ol style="list-style-type: none"> Coordinated movement patterns: The swimmer can swim freestyle and backstroke with legal form. Aerobic endurance: <ol style="list-style-type: none"> The swimmer can complete a 45 minute practice session without breaks. The swimmer can perform a continuous swim for 5 minutes. <p>Dryland:</p> <ol style="list-style-type: none"> The swimmer will participate in multiple sports / activities. <p>Nutrition:</p> <ol style="list-style-type: none"> The swimmer can name three sources of fruit, vegetables, grains, dairy, protein, and fat. Has a favorite healthy snack. Asks for healthy snacks/meals. 	<p>Physical:</p> <ol style="list-style-type: none"> Coordinated movement patterns: The swimmer can swim all four competitive strokes legally. Aerobic endurance: <ol style="list-style-type: none"> The swimmer can complete an hour practice session without breaks. The swimmer can perform a continuous swim for 10 minutes. <p>Cognitive:</p> <ol style="list-style-type: none"> The swimmer begins to understand maturation, physical development, and nutrition. <ol style="list-style-type: none"> Understands and accepts individual differences in physical size within an age group. Understands that energy for exercise is derived from nutrition. Understands and pinpoints where the power, recovery, and glide portions of all the strokes are. <p>Dryland:</p> <ol style="list-style-type: none"> The swimmer will participate in multiple sports / activities. <p>Nutrition:</p> <ol style="list-style-type: none"> Can independently pack healthy snacks for during school and before and after training. Able to choose quality calories from fruit, vegetables, whole grains and cereals, dairy, protein and fats. 	<p>Physical:</p> <ol style="list-style-type: none"> Coordinated movement patterns: The swimmer can swim all four strokes with legal forms. Aerobic Endurance: The swimmer performs a T30 swim in practice once per season. <p>Cognitive:</p> <ol style="list-style-type: none"> The swimmer understands maturation and physical development: Begins to understand the relationship between training programs, maturation, and physical development. The swimmer understands the purpose of heart rate measurement. The swimmer can measure his or her own resting and exercise heart rate. The swimmer understands the importance of muscular flexibility in swimming performance. The swimmer understands the importance of proper technique and its role in injury prevention. <p>Dryland:</p> <ol style="list-style-type: none"> The swimmer starts to learn athletic movements on land that they aren't getting playing other sports. The swimmer participates in multiple sports / activities. <p>Nutrition:</p> <ol style="list-style-type: none"> Understands that "food is fuel". Makes healthy food choices (despite teammates unhealthy choices while traveling, after training, ect.) Can put together a healthy meal with all macros. 	<p>Physical:</p> <p>Aerobic endurance:</p> <ol style="list-style-type: none"> The swimmer completes a T30 swim two times per season with improvement. The swimmer completes a T30 kick in practice at least once per season. The swimmer completes a 4 X 500 two times per season with improvement. <p>Cognitive:</p> <ol style="list-style-type: none"> The swimmer understands the concept of a balanced diet and basic fuels used during swimming training. The swimmer begins to understand the basics of different energy systems usage in sprinting versus distance swimming. The swimmer can use heart rate measurement to monitor exercise intensity and recovery. Introduction of broken swims to learn race strategy and pacing. Swimmer begins to train at known race paces. Swimmer follows prescribed race plan. <p>Dryland:</p> <ol style="list-style-type: none"> The swimmer starts to take ownership of the dryland activities. The swimmer emphasizes keeping the body healthy and injury free. The swimmer participates in dryland approximately three times per week. <p>Nutrition:</p> <ol style="list-style-type: none"> Reads and understands aspects of nutrition labels ex: calories to serving, fats (g), carb (g), protein (g). Can cook a healthy meal using kitchen equipment.
Date Achieved				

Level Five Minimums	Level Six Minimums	Level Seven Minimums	Level Eight Minimums
<p>Physical:</p> <ol style="list-style-type: none"> Aerobic Endurance <ol style="list-style-type: none"> The swimmer completes a T30 swim three times per season with improvement. The swimmer completes a T30 kick two times per season with improvement. The swimmer completes 4 X 500 three times per season with improvement. Sprint Capacity: <ol style="list-style-type: none"> The swimmer swims 12 X 25 doing 3 of each stroke at maximum velocity at least 3 times per season. <p>Cognitive:</p> <ol style="list-style-type: none"> The swimmer understands the difference in aerobic and anaerobic energy systems. The swimmer understands nutritional requirements of training and competition and demonstrates an understanding of basic nutrition principles, fuels for swimming performance, training diets, hydration, RDA's for swimmers, and the importance of eating a balanced diet. The swimmer demonstrates an understanding of the relationship between training programs and maturation and development as well as their effects on competitive and training performance. Understands how to use heart rate measurement to monitor training progress. The swimmer knows race plans for each event and the appropriate training paces to achieve goal times. <p>Dryland</p> <ol style="list-style-type: none"> Participates in dryland 3-5 times per week. Introduced to foam rolling/dynamic stretching. Performs the following with good form. <ol style="list-style-type: none"> 20 Pushups :30 Flutter Kick :30 Wall Sit :30 Plank :30 Right Plank :30 Left Plank <p>Nutrition</p> <ol style="list-style-type: none"> Can determine calorie needs considering activity level. Can read and understand aspects of nutrition labels ex: Fat/ Carb/ Protein % and electrolytes. Can set personal goals to help achieve healthier lifestyle and diet. 	<p>Physical:</p> <ol style="list-style-type: none"> Aerobic Endurance <ol style="list-style-type: none"> The swimmer completes a T30 swim three times per season with improvement. The swimmer completes a T30 kick three times per season with improvement. The swimmer completes 4 X 500 three times per season with improvement. Sprint Capacity: <ol style="list-style-type: none"> The swimmer performs 12 X 25 at maximum velocity at least three times per season with improvement. Lactate Tolerance: <ol style="list-style-type: none"> The swimmer performs the following set three times per season: 12 X 100 @3:30 holding goal 200 time. The swimmer performs the following set three times per season: 7 X 100 @ best time plus :03 on all. <p>Cognitive:</p> <ol style="list-style-type: none"> The swimmer demonstrates knowledge of energy systems. <ol style="list-style-type: none"> Can describe the relationship between training sets and energy systems. Demonstrates an understanding of training periodization. The swimmer understands nutritional requirements of training and competition. <p>Dryland</p> <ol style="list-style-type: none"> The swimmer is introduced to strength training. The swimmer is introduced to light jump training with emphasis on landing mechanics first and progressing to double, single and reactionary. The swimmer participates in dryland 4-5 times per week. The swimmer can perform the following with good form: <ol style="list-style-type: none"> 30 Push ups 1:00 Flutter Kick 1:00 Wall Sit 1:00 Plank 1:00 Right Plank 1:00 Left Plank <p>Nutrition:</p> <ol style="list-style-type: none"> Has a healthy meal/ snack routine throughout the week that is time efficient. Can meal prep when needed. Makes smart decisions at the grocery store. Can compare nutrition labels for healthier options. 	<p>Physical:</p> <ol style="list-style-type: none"> Aerobic Endurance <ol style="list-style-type: none"> The swimmer performs a T30 swim four times per season with improvement. The swimmer performs a T30 kick four times per season with improvement. The swimmer completes 4 X 500 four times per season with improvement. Sprint Capacity: <ol style="list-style-type: none"> The swimmer performs 12 X 25 at maximum velocity four times per season with improvement. Lactate Tolerance: <ol style="list-style-type: none"> The swimmer performs the following set four times per season: 12 X 100 @ 3:00 holding goal 200 time. The swimmer performs the following set four times per season: 7 X 10 @ best time plus :03 on all, making all 100's. <p>Cognitive:</p> <ol style="list-style-type: none"> The swimmer demonstrates knowledge of energy systems. <ol style="list-style-type: none"> Demonstrates knowledge of personal training velocities for each training category. Can discuss training needs based on test set results. The swimmer develops and understands nutritional plan for training and competition. <p>Dryland:</p> <ol style="list-style-type: none"> The swimmer continues with an athletic based strength program. The swimmer will do a plyometric program which will emphasize landing properly and jumping as quickly and as high as possible. The swimmer can perform the following with good form: <ol style="list-style-type: none"> 40 Pushups 1:30 Flutter Kicks 1:30 Plank 1:30 Right Side Plank 1:30 Left Side Plank 1:30 Wall Sit 	<p>Physical:</p> <ol style="list-style-type: none"> Aerobic Endurance: <ol style="list-style-type: none"> The swimmer performs a T30 swim five times per season with improvement. The swimmer performs a T30 kick five times per season with improvement. The swimmer completes 4 X 500 five times per season with improvement. Sprint Capacity: <ol style="list-style-type: none"> The swimmer performs 12 X 25 at maximum velocity five times per season with Improvement. Lactate Tolerance: <ol style="list-style-type: none"> The swimmer performs the following set five times per season: 12 X 100 @2:30 holding goal 200 time. The swimmer performs the following set five times per season: 7 X 100 @ best time plus :03 on all, making all 100's. <p>Cognitive:</p> <ol style="list-style-type: none"> The swimmer understands the nutritional requirements of training and competition; he or she demonstrates the ability to apply nutritional information to daily living. <p>Dryland</p> <ol style="list-style-type: none"> The swimmer can perform the following with good form: <ol style="list-style-type: none"> 50 Pushups 2:00 Flutter Kick 2:00 Plank 2:00 Right Side Plank 2:00 Left Side Plank 2:00 Wall Sit