

Professional Swimming Training Preparation Guide

Key Components of Swimming Training

Aerobic Endurance (A1, A2)

Definition: Aerobic endurance training involves swimming at a moderate, sustained pace where the oxygen supply meets the body's energy demands. This type of training enhances cardiovascular endurance and improves the swimmer's capacity to maintain a steady pace over extended distances.

Objective: To build a strong aerobic base, improve overall endurance, and enhance the efficiency of the cardiovascular and respiratory systems.

Approach:

- **Intensity:** Low to moderate (120-150 bpm for A1, <150 bpm for A2)
- **Total Time:** Variable for A1, 45-60 min for A2
- **Total Mileage Load:** 2,500-3,500m for both
- **Fractional Distances:** 100-150-200-300-400m for A1, 100-150-200-300m for A2
- **Rest Time Between Repetitions:** 10-25 sec
- **Blood Lactate Level:** ≤ 2 mmol/L for A1, ≤ 3 mmol/L for A2
- **RPE:** 3-4

Aerobic Capacity (B1, B2)

Definition: Aerobic capacity training focuses on swimming at higher intensities within the aerobic zone, approaching the anaerobic threshold. This training improves the swimmer's ability to sustain faster paces without accumulating excessive lactate.

Objective: To enhance the upper limit of aerobic endurance and delay the onset of fatigue.

Approach:

- **Intensity:** Moderate to high (160-170 bpm for B1, >180 bpm for B2)
- **Total Time:** 20-35 min for B1, 10-20 min for B2
- **Total Mileage Load:** 1,500-2,500m for B1, 800-1,600m for B2
- **Fractional Distances:** 100-150-200-250m for B1, 200-400m split into 25-50-100m for B2

- **Rest Time Between Repetitions:** 10-30 sec for B1, 3-5 min between 200 and 400 blocks, 3-5-10 sec between fractions for B2
- **Blood Lactate Level:** 3-5 mmol/L for B1, 4-8 mmol/L for B2
- **RPE:** 5-6

Anaerobic Capacity (C1, C2, C3)

Definition: Anaerobic capacity training involves high-intensity efforts where the body's demand for oxygen exceeds supply, leading to significant lactate accumulation. This type of training is crucial for improving speed and power in short-duration efforts.

Objective: To increase the ability to perform at high intensities, enhance lactate tolerance, and improve sprinting capabilities.

Approach:

- **Intensity:** Maximum effort (C1 and C2)
- **Total Time:** ≤8 min for C1, 3-4 min for C2, 2-3 min for C3
- **Total Mileage Load:** ≤600m for C1, ≤300m for C2, 200-300m for C3
- **Fractional Distances:** 50-100-150m for C1, 50-75m for C2, 10-15-20m for C3
- **Rest Time Between Repetitions:** 45-120 sec for C1, 2-4 min or active recovery in A1 pace for C2, 3 min or active recovery in A1 pace for C3
- **Blood Lactate Level:** 8-10 mmol/L for C1, Maximum for C2, ≤3 mmol/L for C3
- **RPE:** 8-10