EST BLUEPRINT · PREMIUM TRAINING GUIDE

STROKE TECHNIQUE · SENIOR / COLLEGIATE TRACK

+3 BONUSES INCLUDED



REFERENCE GUIDE

# 100-DRILL SWIMMING DEVELOPMENT LIBRARY

Complete drill reference manual

BONUS · STROKE RATE TRACKER

BONUS · FAULT-FIX FLOWCHART

BONUS · COACH'S VIDEO REVIEW CARD

| 4 | 12 | 28 | 4 |
|---|---|---|---|
| WEEK PLAN | FULL WORKOUTS | PAGES | PHASES |

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| 4 | 12 | 43,075 | 3 |
|---|---|---|---|
| WEEKS | WORKOUTS | YARDS IN PACK | BONUSES |

**YOUR BONUSES**

Stroke Rate Tracker · Fault-Fix Flowchart · Coach's Video Review Card — exclusive tools included with every EST Blueprint.

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COACH'S INTRODUCTION

# Program Guide

100-Drill Swimming Development Library is a Reference Blueprint built for the Senior / Collegiate Track athlete. It applies the same periodization principles used by NCAA Division I programs: a polarized aerobic base, progressive threshold density, and race-specific speed timed to peak on championship day.

Focus: Complete drill reference manual. Every week is written with clear objectives, an intensity target, and coached workouts so the athlete always knows why a set exists, not just what it is.

*"Train the system, then trust the system. Champions are made in the boring middle of the season."*

## What the athlete will achieve

| Outcome | How it's measured | Target |
|---|---|---|
| **Aerobic capacity** | T-30 or 10 x 100 test | +3-6% distance / -1.5 s avg |
| **Race-pace control** | Broken 200 at goal pace | ±0.5 s per 50 |
| **Stroke efficiency** | Stroke count @ pace | -1 to -2 strokes / 25 |
| **Underwater skill** | 15 m breakout time | -0.3 to -0.6 s |
| **Consistency** | Attendance + log | 90%+ sessions |

## The weekly microcycle

| Mon | Tue | Wed | Thu | Fri | Sat | Sun |
|---|---|---|---|---|---|---|
| Aerobic + skills | Threshold + dryland | Recovery + technique | Race pace | Speed + dryland | Test / long aerobic | Rest & reflect |

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SPORTS SCIENCE

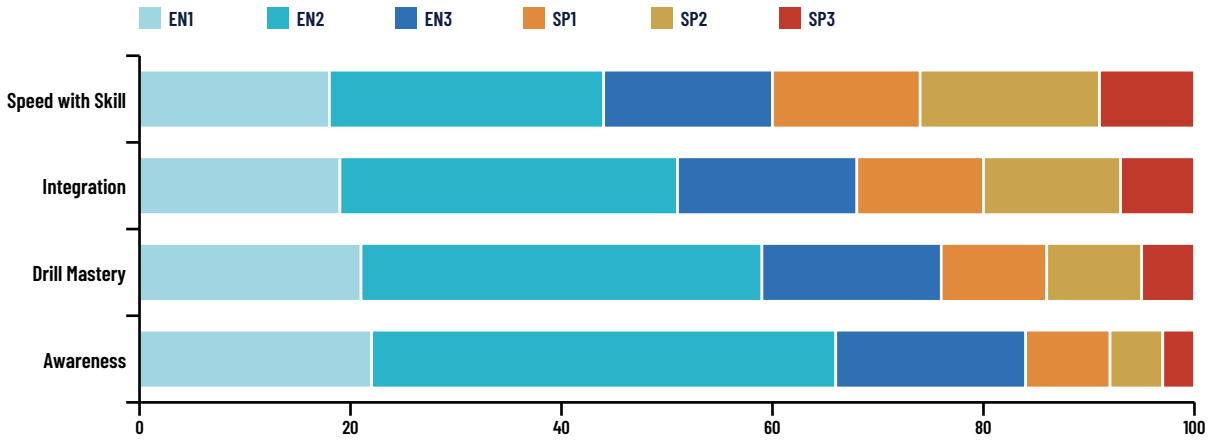
# Energy Systems & Training Zones

Swimming races from 22 seconds to 15 minutes draw on all three energy systems. The zone system below — used by most collegiate staffs — tells the athlete exactly how hard each repeat should feel.

| Zone | Name | Heart rate | % max effort | Feel | Typical sets |
|---|---|---|---|---|---|
| EN1 | Aerobic Recovery | 120-140 | 50-60% | Easy, conversational | Warm-up, recovery, drill |
| EN2 | Aerobic Endurance | 140-160 | 60-75% | Steady, sustainable | Long aerobic repeats |
| EN3 | Threshold | 160-175 | 75-85% | Comfortably hard | Threshold / CSS sets |
| SP1 | VO2 Max / Lactate Tolerance | 175-190 | 85-95% | Very hard | Heart-rate and broken race sets |
| SP2 | Race Pace | Max | 95-100% | Goal race speed | Broken swims at target pace |
| SP3 | Sprint / Alactic | n/a (short) | 100%+ | All-out, full rest | Starts, 12.5s, 25s from a dive |

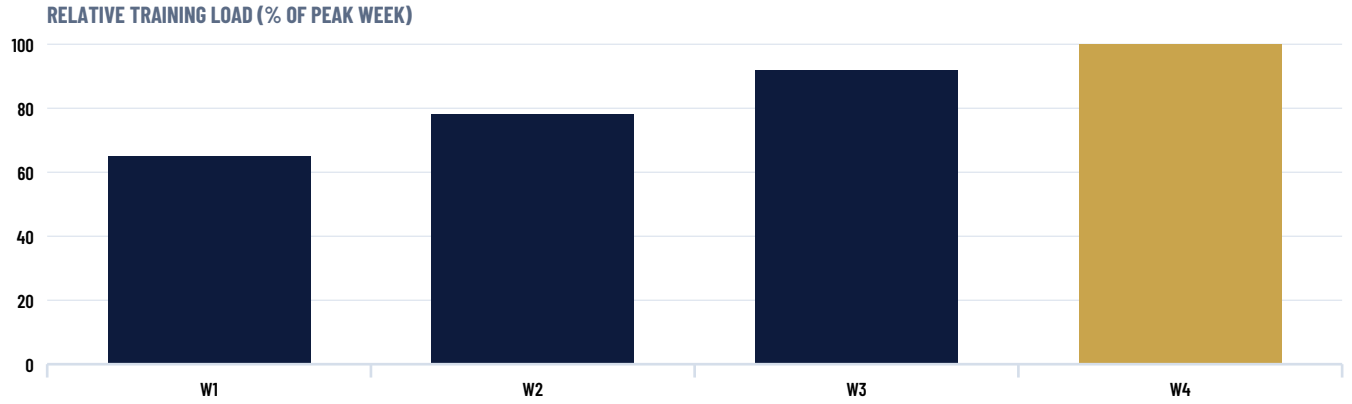
| System | Duration | Fuel | Trained by |
|---|---|---|---|
| **ATP-PC (alactic)** | 0-10 s | Creatine phosphate | Dive 12.5s / 25s, full rest |
| **Glycolytic (lactic)** | 10 s - 2 min | Glycogen lactate | 75s / 100s all-out, lactate sets |
| **Aerobic (oxidative)** | 2 min + | Fat + carbohydrate | EN2 / EN3 volume |

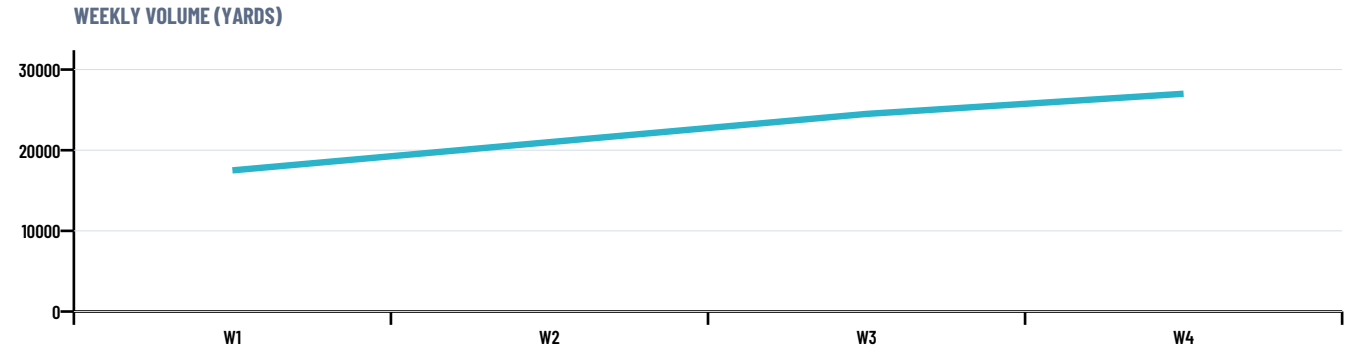
## Intensity distribution by phase



THE PLAN

# Season Periodization




| Phase | Weeks | Objective | Key performance indicator |
|---|---|---|---|
| **Awareness** | Week 1 | Understand the key positions and feel of the stroke. | Aerobic test baseline |
| **Drill Mastery** | Week 2 | Repeat drills until positions become automatic. | Threshold pace -1 s |
| **Integration** | Week 3 | Blend drills into full stroke at moderate effort. | Race-pace hold |
| **Speed with Skill** | Week 4 | Hold technique at race tempo and under fatigue. | Season best |

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EXECUTION

# Week-by-Week Plan

| Wk | Phase | Theme | Load | Volume | Sessions |
|---|---|---|---|---|---|
| 1 | Awareness | Complete Drill Reference Manual | 65% | 17,500 | 6-3-6 / Fist drill / Bilateral breathing 3/5 |
| 2 | Drill Mastery | Complete Drill Reference Manual | 78% | 21,000 | Tarzan / head-up / Back kick, arms at side / Single-arm backstroke |
| 3 | Integration | Complete Drill Reference Manual | 92% | 24,500 | 6-kick switch / Double-arm backstroke / Cup-on-forehead |
| 4 | Speed with Skill | Complete Drill Reference Manual | 100% | 27,000 | Underwater back dolphin / Kick on back / 2-kick 1-pull |

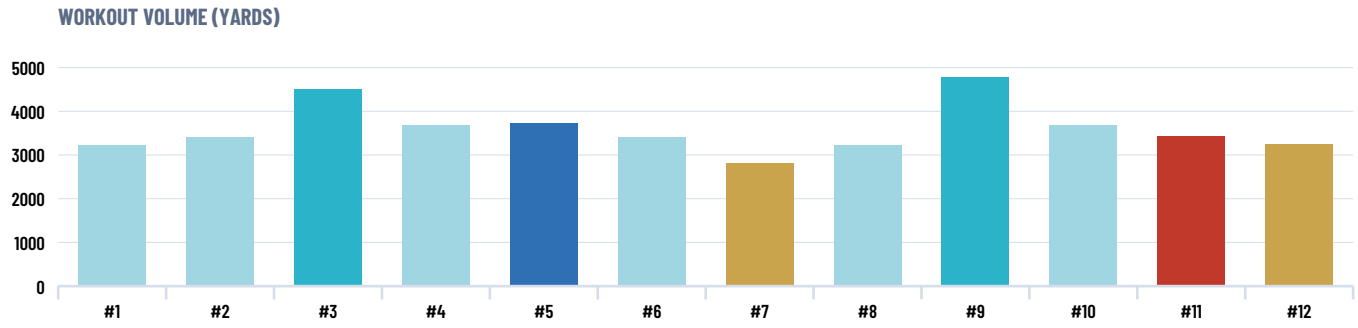
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12 COMPLETE SESSIONS

# The Workout Pack

Each workout is written at full collegiate detail: every set, interval, intensity zone and distance. Intervals are starting points — adjust ±5 s per 100 to keep each repeat inside its zone.

| # | Workout | Primary zone | Volume | Best used in |
|---|---|---|---|---|
| 1 | Technique Lab | EN1 | 3,225 yd | Awareness |
| 2 | Technique Lab | EN1 | 3,400 yd | Awareness |
| 3 | Aerobic Engine | EN2 | 4,500 yd | Awareness |
| 4 | Technique Lab | EN1 | 3,675 yd | Drill Mastery |
| 5 | Threshold Builder | EN3 | 3,725 yd | Drill Mastery |
| 6 | Technique Lab | EN1 | 3,400 yd | Drill Mastery |
| 7 | Race Pace Precision | SP2 | 2,800 yd | Integration |
| 8 | Technique Lab | EN1 | 3,225 yd | Integration |
| 9 | Aerobic Engine | EN2 | 4,775 yd | Integration |
| 10 | Technique Lab | EN1 | 3,675 yd | Speed with Skill |
| 11 | Speed & Power | SP3 | 3,425 yd | Speed with Skill |
| 12 | Race Pace Precision | SP2 | 3,250 yd | Speed with Skill |




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WORKOUT 1 OF 12 · EN1

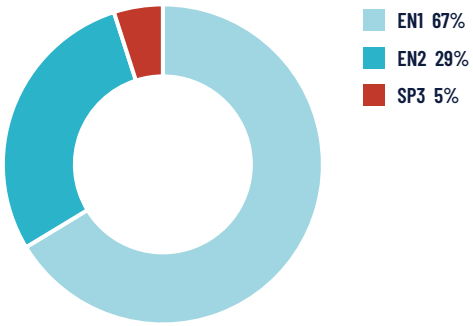
# Technique Lab

| Part | Set | Interval / rest | Zone | Yards |
|---|---|---|---|---|
| **Warm-up** | 350 swim / 200 kick / 200 pull | Continuous | EN1 | 750 |
| **Pre-set** | 7 x 50 drill: 6-kick switch / fist swim | 1:05 | EN1 | 350 |
| **Kick** | 7 x 75 kick (25 underwater / 50 build) w/ fins | 1:25 | EN2 | 525 |
| **Main set** | 8 x 100 as 25 drill / 50 swim / 25 build | 1:30 | EN1 | 800 |
| **Main set** | 8 x 50 free distance-per-stroke, count strokes | 1:00 | EN2 | 400 |
| **Secondary** | 6 x 25 free dive sprint, max velocity | 1:00 | SP3 | 150 |
| **Cool-down** | 250 easy choice, long strokes | Continuous | EN1 | 250 |
| **Total** | | | | 3,225 |

**COACHING POINTS**

Slow is smooth, smooth is fast. Film one rep of each drill if possible.

VOLUME BY ZONE




| Session facts | |
|---|---|
| **Primary system** | EN1 |
| **Total volume** | 3,225 yd |
| **Est. duration** | 70 min |
| **Best phase** | Awareness |

## Lane scaling

| Lane | Who | Interval adjustment | Main-set reps | Equipment |
|---|---|---|---|---|
| **A — Elite** | Top 20% of group | -5 s per 100 | +1 round | Optional paddles |
| **B — Core** | Most athletes | As written | As written | Fins on kick |
| **C — Developing** | Younger / returning | +10 s per 100 | -25% | Fins + snorkel |

Why this session: Motor learning at low fatigue: grooves efficient patterns before they are loaded at speed.

| Date | Pool | Best rep | Average | RPE (1-10) | Notes |
|---|---|---|---|---|---|
| | | | | | |

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WORKOUT 2 OF 12 · EN1

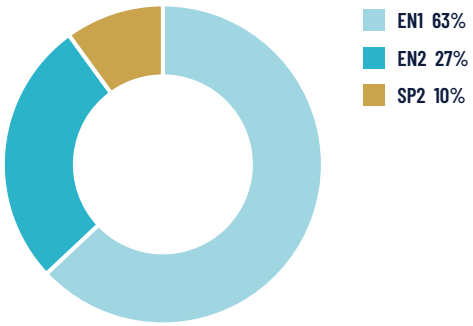
# Technique Lab

| Part | Set | Interval / rest | Zone | Yards |
|---|---|---|---|---|
| **Warm-up** | 350 swim / 200 kick / 200 pull | Continuous | EN1 | 750 |
| **Pre-set** | 7 x 50 drill: catch-up with paddles / fingertip drag | 1:05 | EN1 | 350 |
| **Kick** | 7 x 75 kick (25 underwater / 50 build) w/ fins | 1:25 | EN2 | 525 |
| **Main set** | 8 x 100 as 25 drill / 50 swim / 25 build | 1:30 | EN1 | 800 |
| **Main set** | 8 x 50 free distance-per-stroke, count strokes | 1:00 | EN2 | 400 |
| **Secondary** | 13 x 25 free @ 100 race pace | 0:45 | SP2 | 325 |
| **Cool-down** | 250 easy choice, long strokes | Continuous | EN1 | 250 |
| **Total** | | | | 3,400 |

**COACHING POINTS**

Slow is smooth, smooth is fast. Film one rep of each drill if possible.

VOLUME BY ZONE




| Session facts | |
|---|---|
| **Primary system** | EN1 |
| **Total volume** | 3,400 yd |
| **Est. duration** | 74 min |
| **Best phase** | Awareness |

## Lane scaling

| Lane | Who | Interval adjustment | Main-set reps | Equipment |
|---|---|---|---|---|
| **A — Elite** | Top 20% of group | -5 s per 100 | +1 round | Optional paddles |
| **B — Core** | Most athletes | As written | As written | Fins on kick |
| **C — Developing** | Younger / returning | +10 s per 100 | -25% | Fins + snorkel |

Why this session: Motor learning at low fatigue: grooves efficient patterns before they are loaded at speed.

| Date | Pool | Best rep | Average | RPE (1-10) | Notes |
|---|---|---|---|---|---|
| | | | | | |

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WORKOUT 3 OF 12 · EN2

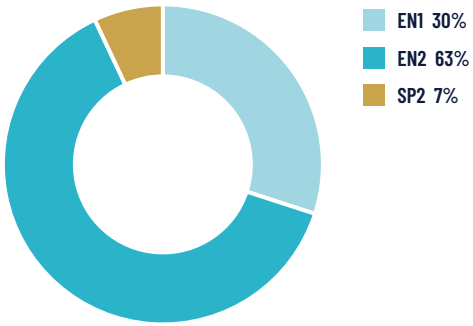
# Aerobic Engine

| Part | Set | Interval / rest | Zone | Yards |
|---|---|---|---|---|
| **Warm-up** | 350 swim / 200 kick / 200 pull | Continuous | EN1 | 750 |
| **Pre-set** | 7 x 50 drill: fist swim / 3-3-3 (right/left/full) | 1:05 | EN1 | 350 |
| **Kick** | 7 x 75 kick (25 underwater / 50 build) w/ fins | 1:25 | EN2 | 525 |
| **Main set** | 5 x 300 free @ EN2, descend 1-3 | 3:55 | EN2 | 1,500 |
| **Main set** | 4 x 200 pull w/ paddles, hold strokes count | 2:40 | EN2 | 800 |
| **Secondary** | 13 x 25 free @ 100 race pace | 0:45 | SP2 | 325 |
| **Cool-down** | 250 easy choice, long strokes | Continuous | EN1 | 250 |
| **Total** | | | | 4,500 |

**COACHING POINTS**

Hold the same stroke count on every repeat. Breathe bilaterally on pull. The goal is sustainable speed, not heroics.

VOLUME BY ZONE




| Session facts | |
|---|---|
| **Primary system** | EN2 |
| **Total volume** | 4,500 yd |
| **Est. duration** | 98 min |
| **Best phase** | Awareness |

## Lane scaling

| Lane | Who | Interval adjustment | Main-set reps | Equipment |
|---|---|---|---|---|
| **A — Elite** | Top 20% of group | -5 s per 100 | +1 round | Optional paddles |
| **B — Core** | Most athletes | As written | As written | Fins on kick |
| **C — Developing** | Younger / returning | +10 s per 100 | -25% | Fins + snorkel |

Why this session: Builds mitochondrial density and capillary networks — the engine every event above 50 depends on.

| Date | Pool | Best rep | Average | RPE (1-10) | Notes |
|---|---|---|---|---|---|
| | | | | | |

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WORKOUT 4 OF 12 · EN1

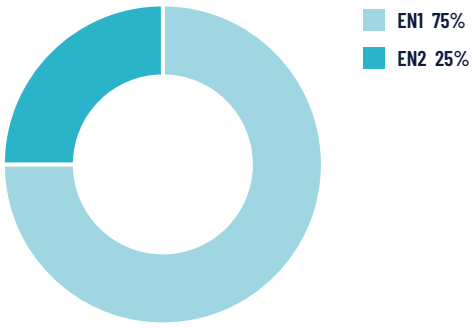
# Technique Lab

| Part | Set | Interval / rest | Zone | Yards |
|---|---|---|---|---|
| **Warm-up** | 350 swim / 200 kick / 200 pull | Continuous | EN1 | 750 |
| **Pre-set** | 7 x 50 drill: fingertip drag / single-arm 25s | 1:05 | EN1 | 350 |
| **Kick** | 7 x 75 kick (25 underwater / 50 build) w/ fins | 1:25 | EN2 | 525 |
| **Main set** | 8 x 100 as 25 drill / 50 swim / 25 build | 1:30 | EN1 | 800 |
| **Main set** | 8 x 50 free distance-per-stroke, count strokes | 1:00 | EN2 | 400 |
| **Secondary** | 6 x 100 as 25 drill / 50 swim / 25 build | 1:40 | EN1 | 600 |
| **Cool-down** | 250 easy choice, long strokes | Continuous | EN1 | 250 |
| **Total** | | | | 3,675 |

**COACHING POINTS**

Slow is smooth, smooth is fast. Film one rep of each drill if possible.

VOLUME BY ZONE




| Session facts | |
|---|---|
| **Primary system** | EN1 |
| **Total volume** | 3,675 yd |
| **Est. duration** | 80 min |
| **Best phase** | Drill Mastery |

## Lane scaling

| Lane | Who | Interval adjustment | Main-set reps | Equipment |
|---|---|---|---|---|
| **A — Elite** | Top 20% of group | -5 s per 100 | +1 round | Optional paddles |
| **B — Core** | Most athletes | As written | As written | Fins on kick |
| **C — Developing** | Younger / returning | +10 s per 100 | -25% | Fins + snorkel |

Why this session: Motor learning at low fatigue: grooves efficient patterns before they are loaded at speed.

| Date | Pool | Best rep | Average | RPE (1-10) | Notes |
|---|---|---|---|---|---|
| | | | | | |

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WORKOUT 5 OF 12 · EN3

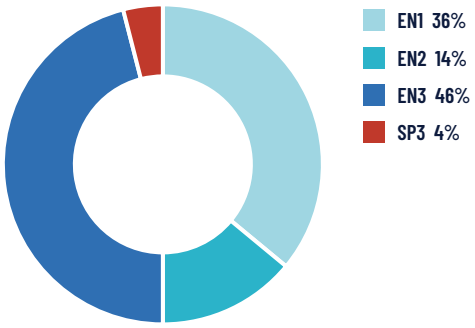
# Threshold Builder

| Part | Set | Interval / rest | Zone | Yards |
|---|---|---|---|---|
| Warm-up | 350 swim / 200 kick / 200 pull | Continuous | EN1 | 750 |
| Pre-set | 7 x 50 drill: 3-3-3 (right/left/full) / 6-kick switch | 1:05 | EN1 | 350 |
| Kick | 7 x 75 kick (25 underwater / 50 build) w/ fins | 1:25 | EN2 | 525 |
| Main set | 9 x 100 free @ threshold (CSS) pace | 1:20 | EN3 | 900 |
| Main set | 4 x 200 IM, hold 1:00 per 50 average | 3:05 | EN3 | 800 |
| Secondary | 6 x 25 free dive sprint, max velocity | 1:00 | SP3 | 150 |
| Cool-down | 250 easy choice, long strokes | Continuous | EN1 | 250 |
| Total | | | | 3,725 |

**COACHING POINTS**

Pace should feel 'comfortably hard' — you could hold it for 30 minutes. Record your average; it becomes next week's target.

VOLUME BY ZONE




| Session facts | |
|---|---|
| Primary system | EN3 |
| Total volume | 3,725 yd |
| Est. duration | 81 min |
| Best phase | Drill Mastery |

## Lane scaling

| Lane | Who | Interval adjustment | Main-set reps | Equipment |
|---|---|---|---|---|
| A — Elite | Top 20% of group | -5 s per 100 | +1 round | Optional paddles |
| B — Core | Most athletes | As written | As written | Fins on kick |
| C — Developing | Younger / returning | +10 s per 100 | -25% | Fins + snorkel |

Why this session: Raises the speed you can hold before lactate accumulates. The single best predictor of 200-1650 performance.

| Date | Pool | Best rep | Average | RPE (1-10) | Notes |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

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WORKOUT 6 OF 12 · EN1

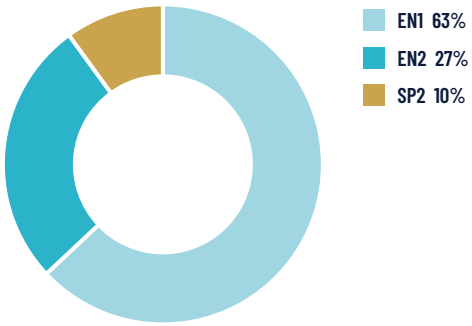
# Technique Lab

| Part | Set | Interval / rest | Zone | Yards |
|---|---|---|---|---|
| **Warm-up** | 350 swim / 200 kick / 200 pull | Continuous | EN1 | 750 |
| **Pre-set** | 7 x 50 drill: single-arm 25s / catch-up with paddles | 1:05 | EN1 | 350 |
| **Kick** | 7 x 75 kick (25 underwater / 50 build) w/ fins | 1:25 | EN2 | 525 |
| **Main set** | 8 x 100 as 25 drill / 50 swim / 25 build | 1:30 | EN1 | 800 |
| **Main set** | 8 x 50 free distance-per-stroke, count strokes | 1:00 | EN2 | 400 |
| **Secondary** | 13 x 25 free @ 100 race pace | 0:45 | SP2 | 325 |
| **Cool-down** | 250 easy choice, long strokes | Continuous | EN1 | 250 |
| **Total** | | | | 3,400 |

**COACHING POINTS**

Slow is smooth, smooth is fast. Film one rep of each drill if possible.

VOLUME BY ZONE




| Session facts | |
|---|---|
| **Primary system** | EN1 |
| **Total volume** | 3,400 yd |
| **Est. duration** | 74 min |
| **Best phase** | Drill Mastery |

## Lane scaling

| Lane | Who | Interval adjustment | Main-set reps | Equipment |
|---|---|---|---|---|
| **A — Elite** | Top 20% of group | -5 s per 100 | +1 round | Optional paddles |
| **B — Core** | Most athletes | As written | As written | Fins on kick |
| **C — Developing** | Younger / returning | +10 s per 100 | -25% | Fins + snorkel |

Why this session: Motor learning at low fatigue: grooves efficient patterns before they are loaded at speed.

| Date | Pool | Best rep | Average | RPE (1-10) | Notes |
|---|---|---|---|---|---|
| | | | | | |

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WORKOUT 7 OF 12 · SP2

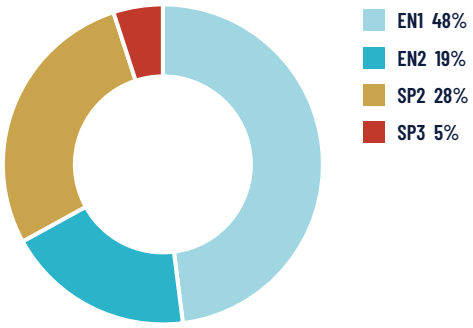
# Race Pace Precision

| Part | Set | Interval / rest | Zone | Yards |
|---|---|---|---|---|
| **Warm-up** | 350 swim / 200 kick / 200 pull | Continuous | EN1 | 750 |
| **Pre-set** | 7 x 50 drill: 6-kick switch / fist swim | 1:05 | EN1 | 350 |
| **Kick** | 7 x 75 kick (25 underwater / 50 build) w/ fins | 1:25 | EN2 | 525 |
| **Main set** | 15 x 25 free @ 100 race pace | 0:40 | SP2 | 375 |
| **Main set** | 8 x 50 free @ 200 race pace | 1:05 | SP2 | 400 |
| **Secondary** | 6 x 25 free dive sprint, max velocity | 1:00 | SP3 | 150 |
| **Cool-down** | 250 easy choice, long strokes | Continuous | EN1 | 250 |
| **Total** | | | | 2,800 |

**COACHING POINTS**

Use a pace clock or tempo trainer. Within 0.3 s of goal pace = success. Miss twice in a row: take an extra 15 s rest.

VOLUME BY ZONE




| Session facts | |
|---|---|
| **Primary system** | SP2 |
| **Total volume** | 2,800 yd |
| **Est. duration** | 61 min |
| **Best phase** | Integration |

## Lane scaling

| Lane | Who | Interval adjustment | Main-set reps | Equipment |
|---|---|---|---|---|
| **A — Elite** | Top 20% of group | -5 s per 100 | +1 round | Optional paddles |
| **B — Core** | Most athletes | As written | As written | Fins on kick |
| **C — Developing** | Younger / returning | +10 s per 100 | -25% | Fins + snorkel |

Why this session: Rehearses exact goal-race speed and stroke rate so race day feels familiar.

| Date | Pool | Best rep | Average | RPE (1-10) | Notes |
|---|---|---|---|---|---|
| | | | | | |

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WORKOUT 8 OF 12 · EN1

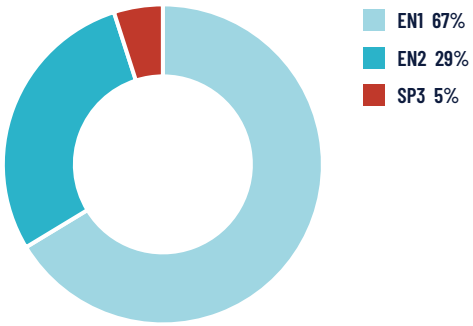
# Technique Lab

| Part | Set | Interval / rest | Zone | Yards |
|---|---|---|---|---|
| **Warm-up** | 350 swim / 200 kick / 200 pull | Continuous | EN1 | 750 |
| **Pre-set** | 7 x 50 drill: catch-up with paddles / fingertip drag | 1:05 | EN1 | 350 |
| **Kick** | 7 x 75 kick (25 underwater / 50 build) w/ fins | 1:25 | EN2 | 525 |
| **Main set** | 8 x 100 as 25 drill / 50 swim / 25 build | 1:30 | EN1 | 800 |
| **Main set** | 8 x 50 free distance-per-stroke, count strokes | 1:00 | EN2 | 400 |
| **Secondary** | 6 x 25 free dive sprint, max velocity | 1:00 | SP3 | 150 |
| **Cool-down** | 250 easy choice, long strokes | Continuous | EN1 | 250 |
| **Total** | | | | 3,225 |

**COACHING POINTS**

Slow is smooth, smooth is fast. Film one rep of each drill if possible.

VOLUME BY ZONE




| Session facts | |
|---|---|
| **Primary system** | EN1 |
| **Total volume** | 3,225 yd |
| **Est. duration** | 70 min |
| **Best phase** | Integration |

## Lane scaling

| Lane | Who | Interval adjustment | Main-set reps | Equipment |
|---|---|---|---|---|
| **A — Elite** | Top 20% of group | -5 s per 100 | +1 round | Optional paddles |
| **B — Core** | Most athletes | As written | As written | Fins on kick |
| **C — Developing** | Younger / returning | +10 s per 100 | -25% | Fins + snorkel |

Why this session: Motor learning at low fatigue: grooves efficient patterns before they are loaded at speed.

| Date | Pool | Best rep | Average | RPE (1-10) | Notes |
|---|---|---|---|---|---|
| | | | | | |

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WORKOUT 9 OF 12 · EN2

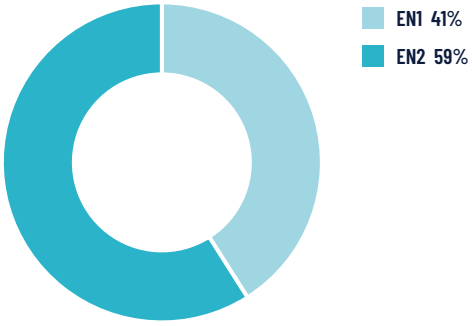
# Aerobic Engine

| Part | Set | Interval / rest | Zone | Yards |
|---|---|---|---|---|
| **Warm-up** | 350 swim / 200 kick / 200 pull | Continuous | EN1 | 750 |
| **Pre-set** | 7 x 50 drill: fist swim / 3-3-3 (right/left/full) | 1:05 | EN1 | 350 |
| **Kick** | 7 x 75 kick (25 underwater / 50 build) w/ fins | 1:25 | EN2 | 525 |
| **Main set** | 5 x 300 free @ EN2, descend 1-3 | 3:55 | EN2 | 1,500 |
| **Main set** | 4 x 200 pull w/ paddles, hold strokes count | 2:40 | EN2 | 800 |
| **Secondary** | 6 x 100 as 25 drill / 50 swim / 25 build | 1:40 | EN1 | 600 |
| **Cool-down** | 250 easy choice, long strokes | Continuous | EN1 | 250 |
| **Total** | | | | 4,775 |

**COACHING POINTS**

Hold the same stroke count on every repeat. Breathe bilaterally on pull. The goal is sustainable speed, not heroics.

VOLUME BY ZONE




| Session facts | |
|---|---|
| **Primary system** | EN2 |
| **Total volume** | 4,775 yd |
| **Est. duration** | 104 min |
| **Best phase** | Integration |

## Lane scaling

| Lane | Who | Interval adjustment | Main-set reps | Equipment |
|---|---|---|---|---|
| **A — Elite** | Top 20% of group | -5 s per 100 | +1 round | Optional paddles |
| **B — Core** | Most athletes | As written | As written | Fins on kick |
| **C — Developing** | Younger / returning | +10 s per 100 | -25% | Fins + snorkel |

Why this session: Builds mitochondrial density and capillary networks — the engine every event above 50 depends on.

| Date | Pool | Best rep | Average | RPE (1-10) | Notes |
|---|---|---|---|---|---|
| | | | | | |

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WORKOUT 10 OF 12 · EN1

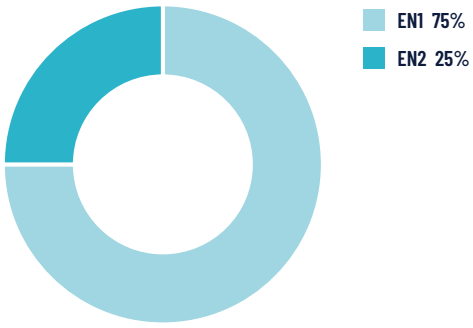
# Technique Lab

| Part | Set | Interval / rest | Zone | Yards |
|---|---|---|---|---|
| **Warm-up** | 350 swim / 200 kick / 200 pull | Continuous | EN1 | 750 |
| **Pre-set** | 7 x 50 drill: fingertip drag / single-arm 25s | 1:05 | EN1 | 350 |
| **Kick** | 7 x 75 kick (25 underwater / 50 build) w/ fins | 1:25 | EN2 | 525 |
| **Main set** | 8 x 100 as 25 drill / 50 swim / 25 build | 1:30 | EN1 | 800 |
| **Main set** | 8 x 50 free distance-per-stroke, count strokes | 1:00 | EN2 | 400 |
| **Secondary** | 6 x 100 as 25 drill / 50 swim / 25 build | 1:40 | EN1 | 600 |
| **Cool-down** | 250 easy choice, long strokes | Continuous | EN1 | 250 |
| **Total** | | | | 3,675 |

**COACHING POINTS**

Slow is smooth, smooth is fast. Film one rep of each drill if possible.

VOLUME BY ZONE




| Session facts | |
|---|---|
| **Primary system** | EN1 |
| **Total volume** | 3,675 yd |
| **Est. duration** | 80 min |
| **Best phase** | Speed with Skill |

## Lane scaling

| Lane | Who | Interval adjustment | Main-set reps | Equipment |
|---|---|---|---|---|
| **A — Elite** | Top 20% of group | -5 s per 100 | +1 round | Optional paddles |
| **B — Core** | Most athletes | As written | As written | Fins on kick |
| **C — Developing** | Younger / returning | +10 s per 100 | -25% | Fins + snorkel |

Why this session: Motor learning at low fatigue: grooves efficient patterns before they are loaded at speed.

| Date | Pool | Best rep | Average | RPE (1-10) | Notes |
|---|---|---|---|---|---|
| | | | | | |

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WORKOUT 11 OF 12 · SP3

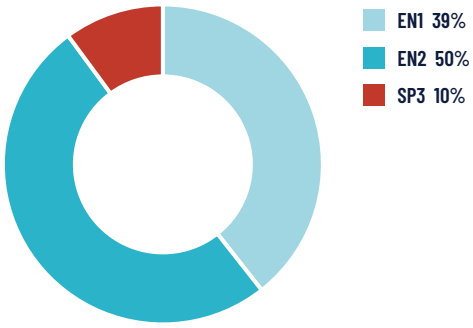
# Speed & Power

| Part | Set | Interval / rest | Zone | Yards |
|---|---|---|---|---|
| **Warm-up** | 350 swim / 200 kick / 200 pull | Continuous | EN1 | 750 |
| **Pre-set** | 7 x 50 drill: 3-3-3 (right/left/full) / 6-kick switch | 1:05 | EN1 | 350 |
| **Kick** | 7 x 75 kick (25 underwater / 50 build) w/ fins | 1:25 | EN2 | 525 |
| **Main set** | 8 x 25 free dive sprint, max velocity | 1:00 | SP3 | 200 |
| **Main set** | 6 x 12.5 fast + easy, breakout focus | 0:45 | SP3 | 150 |
| **Secondary** | 4 x 300 free @ EN2, descend 1-3 | 4:20 | EN2 | 1,200 |
| **Cool-down** | 250 easy choice, long strokes | Continuous | EN1 | 250 |
| **Total** | | | | 3,425 |

**COACHING POINTS**

Full recovery. Quality over quantity. Every dive to 15 m with 5+ underwater kicks.

VOLUME BY ZONE




| Session facts | |
|---|---|
| **Primary system** | SP3 |
| **Total volume** | 3,425 yd |
| **Est. duration** | 75 min |
| **Best phase** | Speed with Skill |

## Lane scaling

| Lane | Who | Interval adjustment | Main-set reps | Equipment |
|---|---|---|---|---|
| **A — Elite** | Top 20% of group | -5 s per 100 | +1 round | Optional paddles |
| **B — Core** | Most athletes | As written | As written | Fins on kick |
| **C — Developing** | Younger / returning | +10 s per 100 | -25% | Fins + snorkel |

Why this session: Develops the alactic system and neuromuscular power: starts, breakouts and top-end velocity.

| Date | Pool | Best rep | Average | RPE (1-10) | Notes |
|---|---|---|---|---|---|
| | | | | | |

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WORKOUT 12 OF 12 · SP2

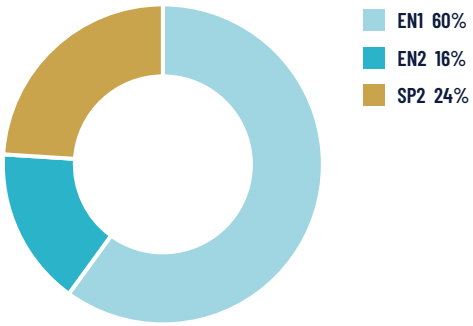
# Race Pace Precision

| Part | Set | Interval / rest | Zone | Yards |
|---|---|---|---|---|
| **Warm-up** | 350 swim / 200 kick / 200 pull | Continuous | EN1 | 750 |
| **Pre-set** | 7 x 50 drill: single-arm 25s / catch-up with paddles | 1:05 | EN1 | 350 |
| **Kick** | 7 x 75 kick (25 underwater / 50 build) w/ fins | 1:25 | EN2 | 525 |
| **Main set** | 15 x 25 free @ 100 race pace | 0:40 | SP2 | 375 |
| **Main set** | 8 x 50 free @ 200 race pace | 1:05 | SP2 | 400 |
| **Secondary** | 6 x 100 as 25 drill / 50 swim / 25 build | 1:40 | EN1 | 600 |
| **Cool-down** | 250 easy choice, long strokes | Continuous | EN1 | 250 |
| **Total** | | | | 3,250 |

**COACHING POINTS**

Use a pace clock or tempo trainer. Within 0.3 s of goal pace = success. Miss twice in a row: take an extra 15 s rest.

VOLUME BY ZONE




| Session facts | |
|---|---|
| **Primary system** | SP2 |
| **Total volume** | 3,250 yd |
| **Est. duration** | 71 min |
| **Best phase** | Speed with Skill |

## Lane scaling

| Lane | Who | Interval adjustment | Main-set reps | Equipment |
|---|---|---|---|---|
| **A — Elite** | Top 20% of group | -5 s per 100 | +1 round | Optional paddles |
| **B — Core** | Most athletes | As written | As written | Fins on kick |
| **C — Developing** | Younger / returning | +10 s per 100 | -25% | Fins + snorkel |

Why this session: Rehearses exact goal-race speed and stroke rate so race day feels familiar.

| Date | Pool | Best rep | Average | RPE (1-10) | Notes |
|---|---|---|---|---|---|
| | | | | | |

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# Drill Progressions

| # | Drill | Purpose | Dosage | Progression |
|---|---|---|---|---|
| 1 | 6-Kick Switch | Alignment | 7 x 50 | Add fins  remove |
| 2 | Catch-Up With Paddles | Early vertical forearm | 7 x 50 | Add paddles |
| 3 | Fist Swim | Rotation timing | 7 x 50 | Build to race tempo |
| 4 | Fingertip Drag | Breath control | 7 x 50 | Snorkel  normal |
| 5 | 3-3-3 (Right/Left/Full) | Rhythm | 7 x 50 | Add fins  remove |
| 6 | Single-Arm 25S | Kick connection | 7 x 50 | Add paddles |
| 7 | Im Order 25 Drill/25 Swim | Alignment | 7 x 50 | Build to race tempo |
| 8 | Fly-Back Turn Rehearsal | Early vertical forearm | 7 x 50 | Snorkel  normal |
| 9 | Back-Breast Crossover | Rotation timing | 7 x 50 | Add fins  remove |
| 10 | Breast-Free Transitions | Breath control | 7 x 50 | Add paddles |

**COACH'S RULE**

Never swim a drill badly. Drill quality is the session: when form breaks, shorten the rep or add fins. Two perfect 25s beat eight sloppy 50s.

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# Common Faults & Fixes

| Fault | What you see | Cause | Fix drill | Cue |
|---|---|---|---|---|
| **Dropped elbow** | Hand pushes down first | Weak lat engagement | Fingertip drag + sculling | 'Reach over the barrel' |
| **Crossover entry** | Hand crosses midline | Over-rotation | Catch-up w/ paddles | 'Railroad tracks' |
| **Late breath** | Head lifts, hips sink | Exhale too late | Bubble-bubble-breathe | 'Breathe in the bow wave' |
| **Scissor kick** | Legs split on breath | Balance compensation | 6-kick switch | 'Kick through the breath' |
| **Short finish** | Exit at waist | Fatigue / tempo | Fist swim | 'Thumb past thigh' |
| **Flat body line** | No hip rotation | Weak core link | Side kick 6-3-6 | 'Hip, then hand' |

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# Video Analysis Checklist

| Checkpoint | Camera angle | Pass standard | Done |
|---|---|---|---|
| **Head position** | Side, above water | Waterline at hairline | [ ] |
| **Entry & extension** | Front, underwater | Shoulder-width entry | [ ] |
| **Catch** | Side, underwater | Forearm vertical by shoulder | [ ] |
| **Rotation** | Front, underwater | 35-45° each side | [ ] |
| **Kick amplitude** | Side, underwater | Within body shadow | [ ] |
| **Breakout** | Side, deck | First stroke at surface | [ ] |
| **Turn** | Deck, 5 m mark | Feet planted < 0.3 s | [ ] |

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# Daily Practice Log

| Date | Session | Main set result | RPE | Sleep (h) | Notes |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
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MEASURE WHAT MATTERS

# Benchmark Testing

| Test | Protocol | Week 1 | Mid-point | Final | Change |
|---|---|---|---|---|---|
| **T-30** | 30 min continuous free, count yards | | | | |
| **10 x 100 @ 1:30** | Average time | | | | |
| **Dive 50 best stroke** | Electronic or hand time | | | | |
| **15 m breakout** | Push, time to head at 15 m | | | | |
| **Stroke count** | 25 @ 200 pace | | | | |
| **Vertical jump** | Best of 3 | | | | |
| **Pull-ups** | Max strict reps | | | | |

## Race pace reference chart

| 100 goal | 25 | 50 | 75 | 100 | 200 pace/100 |
|---|---|---|---|---|---|
| **48.0** | 11.3 | 23.0 | 35.3 | 48.0 | 51.8 |
| **51.0** | 12.0 | 24.5 | 37.5 | 51.0 | 55.1 |
| **54.0** | 12.7 | 25.9 | 39.7 | 54.0 | 58.3 |
| **57.0** | 13.4 | 27.4 | 41.9 | 57.0 | 61.6 |
| **60.0** | 14.1 | 28.8 | 44.1 | 60.0 | 64.8 |
| **63.0** | 14.8 | 30.2 | 46.3 | 63.0 | 68.0 |
| **66.0** | 15.5 | 31.7 | 48.5 | 66.0 | 71.3 |
| **69.0** | 16.2 | 33.1 | 50.7 | 69.0 | 74.5 |
| **72.0** | 16.9 | 34.6 | 52.9 | 72.0 | 77.8 |
| **75.0** | 17.6 | 36.0 | 55.1 | 75.0 | 81.0 |
| **78.0** | 18.3 | 37.4 | 57.3 | 78.0 | 84.2 |

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EXCLUSIVE BONUS

# Stroke Rate Tracker

| Date | Pace /100 | Strokes / 25 | Tempo (s/cycle) | Efficiency index |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
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| | | | | |

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EXCLUSIVE BONUS

# Fault-Fix Flowchart

| If you see... | Check first | Then try | Re-test with |
|---|---|---|---|
| **Slow tempo late in race** | Kick timing | Fins + tempo trainer | 4 x 50 @ race tempo |
| **Losing water on catch** | Elbow position | Sculling series | Stroke count 25 |
| **Hips dropping** | Head position | Snorkel swim | Video side view |
| **Short underwaters** | Streamline + breath | Hypoxic UW 15s | 15 m time |

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EXCLUSIVE BONUS

# Coach's Video Review Card

| Check | Pass / Flag | Notes |
|---|---|---|
| Shoulder flexion 180° | Pass / Flag | |
| Internal rotation 60°+ | Pass / Flag | |
| Thoracic rotation 45°+ | Pass / Flag | |
| Single-leg squat control | Pass / Flag | |
| Ankle plantarflexion | Pass / Flag | |
| Core hold 60 s | Pass / Flag | |
| Pain-free overhead reach | Pass / Flag | |

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OFF THE POOL DECK

# Fuel, Recovery & Wellbeing

| Window | What to eat | Example |
|---|---|---|
| **2-3 h before** | Carb-rich meal, moderate protein | Rice bowl with chicken, fruit |
| **30-60 min before** | Light carbs | Banana, toast with honey |
| **During (90 min+)** | Fluids + electrolytes | 500-750 ml sports drink |
| **0-60 min after** | 3:1 carbs : protein | Chocolate milk, yogurt + granola |
| **Daily** | Protein 1.4-1.8 g/kg | Spread across 4-5 meals |

**BACK-OFF SIGNALS**

Resting heart rate up 5+ bpm for 3 days · sleep under 7 h for a week · persistent shoulder pain · loss of motivation. Any two: replace the next hard session with EN1 + mobility and tell your coach.

## Glossary

| Term | Meaning |
|---|---|
| **CSS** | Critical Swim Speed — threshold pace per 100 |
| **DPS** | Distance per stroke |
| **Taper** | Planned volume reduction before a peak meet |
| **Negative split** | Second half faster than first |
| **Breakout** | Transition from underwater to surface swimming |
| **RPE** | Rate of perceived exertion, 1-10 |
| **Microcycle** | One training week |
| **Macrocycle** | The full season plan |

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