

7-DAY FREESTYLE SPEED CAMP

Find your fastest repeatable stroke.

A measurement-led micro-cycle for the 50 m and 100 m freestyle.

YOUR CAMP OUTPUT

5 sessions · 2 race tests · 1 sprint blueprint

Record splits, stroke count and execution. Change one variable at a time.

Retest fresh. Carry the strongest signal into your next four weeks.

50/100

READ THIS FIRST

How to use Sprint Lab

This is a profiling week: the goal is to find a faster, repeatable race pattern and leave with better evidence for the next training block. It is not seven consecutive maximal sessions.

The non-negotiable

Use the same pool, timing method and start type for the baseline and retest. A cleaner test is more valuable than a flattering comparison.

Choose your route

3 pool sessions	Complete Days 1, 3 and 7. Add the most relevant main set from Day 2 or Day 6 to Day 3, but reduce the total repetitions.
4 pool sessions	Complete Days 1, 2, 5 and 7. Use Day 4 as dry recovery and review your baseline notes before Day 5.
5 pool sessions	Complete Days 1, 2, 3, 5 and 7. Day 6 becomes an optional controlled rehearsal only if you recover well; do not force six hard swims.

Effort language

- **Easy (RPE 2–3/10):** relaxed breathing; technique should feel unhurried.
- **Race-quality (RPE 8–9/10):** very fast with control and enough rest to repeat the same movement.
- **Maximal (RPE 10/10):** reserved for the baseline/retest and a small number of start efforts.

Rest is part of the prescription. When a set says full recovery, wait until breathing settles and you believe the next repetition can be technically equal or better.

Safety scope

This plan is for adults who can train freestyle independently. Use starting blocks or resisted equipment only when your facility permits it and you already know how. Do not train through pain, illness, dizziness or unusual shortness of breath.

YOUR PROFILE

Write the race before you change it

Complete this page before Day 1. The target is a direction, not a promise. A strong camp outcome can be a better first 15 m, a more stable stroke count, or a smaller fade even when the final time barely moves.

Primary event		Pool length	
Current best		Target time	
Timing context		Training sessions / week	
Current strokes / length		Biggest race limiter	

The four numbers to keep

15 m	25 m	STROKES	FINISH
Start / breakout time	Early speed split	Hand entries per length	Last 5 m execution

How to count

- Count each hand entry as one stroke. Start counting on the first entry after breakout; stop at wall contact.
- Record the number; do not manipulate it during the baseline. Lower is not automatically better.
- If someone films, position them perpendicular to the pool at 15 m or 25 m. Use the same camera position on Day 7.

Interpretation rule

A quicker time with one or two more strokes may be a good trade. A quicker time with a large stroke-count jump and visible slipping may be fragile. The useful combination is the one that stays fast across repeated efforts.

DAY 01 · SPRINT LAB

Baseline & map

Capture your natural race before adding cues. Keep the rest of the session easy enough that the result is clean.

01	1,400–2,100 m	10 / 10
DAY	SESSION VOLUME	PEAK EFFORT

BLOCK	SET	WHAT TO RECORD
Warm-up	300–500 easy mixed + 4 × 50 as 25 drill / 25 swim, 15–20 s rest.	How the shoulders and breathing feel.
Prepare	8 × 25: odds build 1–4; evens easy. Take 25–35 s rest. Finish fast without forcing the first stroke.	Best-feeling tempo and breakout.
Start map	4 × 15 m from your normal race start, 2–3 min recovery. Stop the clock when the head crosses 15 m.	15 m time, breakout distance, first breath.
Baseline	50 focus: 2 × 50 from race start, 6–8 min recovery. 100 focus: 1 × 100; after 10 min, optional 1 × 50 only if form is good.	Total, 25/50 splits, strokes each length, finish cue.
Cool-down	300–500 easy. Include four relaxed 25s with long exhalation.	One sentence: where did speed leak?

Day 1 aim

Leave with trustworthy numbers. Do not redo a baseline just because the result disappoints you; note the execution error and preserve the test for Day 7.

Baseline record

TEST	TIME	SPLIT(S)	STROKES	NOTE
15 m #1		—	—	
15 m #2		—	—	
Race test				
Second test				

DAY 02 · SPRINT LAB

Rate lab

Test small changes in turnover while protecting pressure on the water. This is an experiment, not a punishment set.

02	1,300–2,000 m	9 / 10
DAY	SESSION VOLUME	PEAK EFFORT

BLOCK	SET	WHAT TO RECORD
Warm-up	300–500 easy + 6 × 25 build, 20 s rest. Add 4 × 15 m fast kick into breakout if you use fins safely.	Readiness score from 1–5.
Calibrate	3 × 25 fast with 90 s rest at your natural race stroke. Count strokes and time each effort.	Baseline 25 time and stroke count.
Rate ladder	3 rounds of 3 × 25 with 60–90 s rest: (1) one stroke fewer than natural if speed holds, (2) natural count, (3) one to two strokes more. Easy 100 between rounds.	Time + count. Mark clean, forced or slipping.
Confirm	4 × 25 at the fastest clean combination, 90 s rest. Stop the set if time slows by >3% twice or technique unravels.	Average time and range of counts.
Cool-down	300–400 easy, shoulders relaxed.	The combination to rehearse next.

No tempo trainer?

Use the pace clock or phone for time and stroke count for turnover. If someone can time cycles, count three complete arm cycles and divide 180 by the seconds taken to estimate cycles per minute.

Rate ladder

TRY	25 TIME	STROKES	FEEL	CLEAN?
Longer				
Natural				
Quicker				
Confirm 1				
Confirm 2				

DAY 03 · SPRINT LAB

First 15

Keep the speed created by the start. The winning underwater distance is the point where surfacing is still faster than staying down.

03	1,100–1,700 m	10 / 10
DAY	SESSION VOLUME	PEAK EFFORT

BLOCK	SET	WHAT TO RECORD
Warm-up	300–500 easy + 4 × 50 descend 1–4, 25 s rest. Then 4 × streamline push to 10 m, easy back.	Tightest line without neck tension.
Entry / line	4 × start to first kick or first movement, full 2–3 min recovery. Blocks only if permitted and familiar; otherwise use a strong wall push.	Entry line and first movement timing.
Breakout ladder	6 × 15 m, 2–3 min recovery. Use two trials each at a short, natural and slightly longer underwater. Time all six.	15 m time, breakout point, first breath.
Connect	6 × 25 from start or push: carry the winning breakout into six clean cycles, then easy to wall. 90 s rest.	Does the first stroke add speed or interrupt it?
Cool-down	300–400 easy backstroke / freestyle.	One start cue; one breakout cue.

Breakout decision

Stay down only while it is fast

A longer underwater is not automatically quicker. Choose the distance that produces the best 15 m time and lets the first surface stroke connect without a pause.

TRIAL	BREAKOUT POINT	15 M TIME	FIRST BREATH	CONNECTION
1				
2				
3				
4				
5				
6				

DAY 04 · SPRINT LAB

Absorb & review

Recovery is where the previous sessions become usable. Keep this day deliberately quiet.

04	800–1,300 m	4 / 10
DAY	SESSION VOLUME	PEAK EFFORT

BLOCK	SET	WHAT TO RECORD
Easy swim	300–500 conversational mixed swimming. No pace target.	Any soreness or asymmetry.
Body line	8 × 25 alternating side-kick / relaxed freestyle. 20 s rest. Use fins only if they make the work easier.	Head position and exhalation.
Feel	8 × 50 as 25 smooth with your Day 2 stroke pattern + 25 easy. 20–30 s rest.	Can the pattern feel automatic?
Downshift	200–300 very easy. Finish feeling better than you started.	Readiness for the next hard day, 1–5.

Five-minute review

- Circle the two fastest clean 25s from Day 2. What stroke-count range did they share?
- Circle the best 15 m time from Day 3. Where did you break out, and when did you breathe?
- Write one cue for the start, one for clean swimming and one for the finish. More cues are not better.

RACE MOMENT	ONE CUE	WHAT SUCCESS LOOKS LIKE
Start + line		
Breakout		
Clean swim		
Finish		

Red flag

If your readiness is 1–2/5, pain is rising, or your warm-up pace is unusually hard, repeat this recovery day or rest. Do not compress missed maximal work into the next session.

DAY 05 · SPRINT LAB

Power transfer

Create force without letting the stroke shorten into frantic movement. Quality ends the set before fatigue does.

05	1,200–1,900 m	9 / 10
DAY	SESSION VOLUME	PEAK EFFORT

BLOCK	SET	WHAT TO RECORD
Warm-up	300–500 easy + 6 × 25 build, 25 s rest. Then 4 × 10 m wall acceleration.	Readiness 1–5 and shoulder comfort.
Power option A	If already competent with resistance: 2 rounds of 4 × 12–15 m light resisted sprint, 90 s rest; 200 easy between rounds. Resistance must not destroy shape.	Time or distance at 8–10 s; stroke quality.
Power option B	Without resistance: 2 rounds of 4 × 15 m wall-to-speed, full recovery; 200 easy between. Accelerate through the first six strokes.	15 m time and stroke count.
Transfer	6 × 25 race-quality at your Day 2 combination, 90 s rest. Keep only reps within 3% of your best clean time.	Time, strokes, and whether pressure held.
Cool-down	300–400 easy.	Best power cue to retain.

Equipment rule

More resistance is not more specific. Use the lightest load that lets you preserve the catch, alignment and recovery you want at race speed. If that is not possible, use Option B.

Quality gate

REP	TIME / DISTANCE	STROKES	WITHIN 3%?	TECHNIQUE
1				
2				
3				
4				
5				
6				

DAY 06 · SPRINT LAB

Race control

Rehearse the point where your event usually leaks. Keep the race fragments fast enough to be relevant and rested enough to be honest.

06	1,300–2,000 m	9 / 10
DAY	SESSION VOLUME	PEAK EFFORT

BLOCK	SET	WHAT TO RECORD
Warm-up	300–500 easy + 4 × 50 descend, 25 s rest + 4 × 25 fast/easy by 12.5 m.	Race cue rehearsal.
50 route	2 rounds: 25 from race start + 15 s at wall + 25 from push. Take 8 min between rounds. Add the two swim times; compare fade and strokes.	Both 25 splits, strokes, first breath, finish.
100 route	1–2 rounds: 25 + 10 s + 50 + 20 s + 25. Take 10 min between rounds. First 25 controlled-fast; middle 50 must preserve the pattern.	All swim splits, strokes per length, last-25 fade.
Finish	4 × 15 m into the wall from a rolling start. No glide; finish the stroke through the target.	Stroke/no-stroke choice inside 5 m.
Cool-down	300–500 easy.	One pacing decision for Day 7.

Choose, do not stack

Complete the route for your primary race. Do not do both the 50 and 100 main sets. If performance falls sharply in round one, skip round two and protect the retest.

Race rehearsal

SEGMENT	TARGET	ACTUAL	STROKES	EXECUTION NOTE
Opening 25				
Middle				
Final 25				
Total swim time			—	

DAY 07 · SPRINT LAB

Retest & carry forward

Repeat the baseline under the same conditions. Compare more than the final time, then choose the training signal worth keeping.

07	1,200–1,900 m	10 / 10
DAY	SESSION VOLUME	PEAK EFFORT

BLOCK	SET	WHAT TO RECORD
Warm-up	Repeat Day 1 warm-up exactly where possible. Do not add a new activation trick.	Readiness compared with Day 1.
Prime	4 × 25 build + 2 × 15 m at race quality, full recovery.	Confirm the Day 3 breakout cue.
Retest	Repeat the same event, start type, timing method and number of trials used on Day 1. Match the recovery.	15 m, splits, strokes, first breath, finish.
Confirm	Optional second test only if Day 1 also had one and the first retest was technically sound.	Repeatability, not just best result.
Cool-down	400–600 very easy. The camp is complete.	Write the next four-week priority.

Before / after

MARKER	DAY 1	DAY 7	CHANGE	WHAT IT MEANS
15 m				
25 / 50 split				
Total time				
Stroke count				
Finish execution				

A good result is a signal

Keep the change that improved time or repeatability without creating a new technical leak. If the final time did not improve, a better 15 m, smaller second-half fade or more stable stroke count still tells you what to train next.

NEXT FOUR WEEKS

Turn the signal into a block

Choose one primary focus. Add it twice per week after warm-up, while fresh, and keep the rest of your normal programme stable enough to judge the response.

IF YOUR BEST SIGNAL WAS...	TRAIN TWICE PER WEEK	KEEP MEASURING
Start + breakout	4–8 race starts or wall push breakouts with 2–3 min recovery. End when 15 m time slows or the line deteriorates.	15 m time, breakout point, first breath.
Stroke-rate combination	Two rounds of 4 × 25 at the winning combination, 60–90 s rest. Progress by repeatability before adding volume.	Time, count, and range between fastest/slowest.
Speed endurance	Broken 50 or broken 100 at race-relevant speed once weekly, plus one short quality 25 set. Do not turn both into exhaustion tests.	Second-half fade and strokes per length.
Finish timing	Six 15 m finish approaches after warm-up. Vary the starting distance slightly so the last-stroke decision remains adaptable.	Velocity into wall; glide or shortened stroke.

Your block

Primary focus	
Twice-weekly set	
Success marker	
Retest date	

EVIDENCE NOTES

What the plan is built on

Research helps decide what to measure and what deserves practice. It does not make one short camp a guaranteed performance intervention. Your result remains individual.

Stroke rate × stroke length

Mean velocity can be described through stroke frequency and stroke length. Elite 50 m race analysis shows that the fastest combination is not simply the highest rate or longest stroke in isolation, and it changes across race sections.

Morais JE et al. Race Analysis and Determination of Stroke Frequency–Stroke Length Combinations during the 50-M Freestyle Event. J Sports Sci Med. 2023. <https://pmc.ncbi.nlm.nih.gov/articles/PMC9982526/>

Starts are a distinct skill

Block, flight, entry, underwater and transition phases all contribute to start performance. Sprint Lab therefore records the first 15 m separately from clean swimming.

Tor E et al. Biomechanical Analysis of the Swim-Start: A Review. J Sports Sci Med. 2014. <https://pmc.ncbi.nlm.nih.gov/articles/PMC3990873/>

Specific sprint resistance

A small 11-week study in young trained swimmers found improved mean velocity and stroke timing after specific resisted sprint work. This supports resisted work as an optional longer-term tool—not a promise from one session.

Valkoumas I, Gourgoulis V. Sprint resisted swimming training effect on the swimmer's hand orientation angles. J Biomech. 2024. <https://pubmed.ncbi.nlm.nih.gov/38359622/>

Warm-up responses vary

Warm-ups can influence sprint performance, but published effects and individual responses vary. That is why Day 7 repeats the Day 1 preparation instead of introducing a new protocol.

Neiva HP et al. Effects of Warm-Up on Sprint Swimming Performance: A Systematic Review. J Funct Morphol Kinesiol. 2021. <https://pmc.ncbi.nlm.nih.gov/articles/PMC8544352/>

Keep perspective

Times are affected by pool length, timing method, start type, fatigue, sleep and execution. Compare like with like. Use this guide alongside qualified coaching where possible.

Support

Questions about your guide? Email hello@swimzy.app. Include your event, baseline time and the page you are using.

© 2026 Swimzy · swimzy.app