



TEAMGOLDUSA | USA1 SWIMMING

25 and 50 Maximal Sprint Test

Measures maximal 25- or 50-unit performance; optional segment timing and stroke-cycle data separate swimming speed from start effects.

TEST PROFILE

Primary use	What it produces
Sprinters and athletes being monitored for speed development	Measures maximal 25- or 50-unit performance; optional segment timing and stroke-cycle data separate swimming speed from start effects.

Controlled document: TEAMGOLDUSA club field protocol, Release R34.0.77, September 2026. This is a performance test, not a medical examination, diagnosis, or clearance to participate.



25 and 50 Sprint Coach Protocol

Purpose. Establish a repeatable maximal sprint-performance baseline. A dive-to-finish time includes the start, underwater, breakout, swimming and finish; it is not pure swimming velocity or a direct laboratory measure of anaerobic power.

1 Select one test definition

Choose 25 or 50 yards/meters, start type, course, timing system, stroke, finish rule, equipment and optional measurement zone before testing. Do not compare push-start results with dive-start results.

2 Warm up and recover

Use a full sprint warm-up with progressive swimming, starts, breakouts and short speed efforts. Allow complete readiness before the first trial. If two trials are used, allow at least 8 minutes of easy recovery and repeat that interval on retest.

3 Conduct the sprint

Give one clear maximal instruction and use the same start commands. Record total performance time. When staffing permits, record a 15 m split, a defined clean-swimming zone, stroke cycles, and video. Use the best valid trial; document a slip, missed start, timing error, or disrupted lane.

4 Interpret responsibly

Total time is the primary result. A defined segment can estimate velocity; cycle rate describes rhythm. Neither stroke rate nor time alone proves efficiency. Compare only matched test definitions.

Safety and result boundaries

Use only with coach-selected swimmers who are currently training and can safely complete the required effort. Do not test an athlete who is ill, injured, returning without clearance, or reports concerning symptoms or a restriction. Stop for distress, chest pain, faintness, confusion, loss of coordination, unusual breathing difficulty, suspected injury, or when directed by safety personnel. Follow the facility emergency action plan. An interrupted test is not a valid comparison result.



COACH FIELD FORM

25 and 50 Sprint Recording Sheet

Record start method and timing system. Optional stroke measures must use a defined measurement zone.

Date _____	Site or pool _____	Course SCY / SCM / LCM
Coach _____	Conditions and equipment _____	Round _____

Athlete	Distance	Trial 1	Trial 2	Best	15 m split	Cycles	Cycle rate	Notes
1. _____								
2. _____								
3. _____								
4. _____								
5. _____								
6. _____								
7. _____								
8. _____								
9. _____								

Optional clean-speed segment: speed = measured zone distance / zone time. **Cycle rate:** cycles / measured seconds x 60. Do not claim "efficiency" from time or rate alone; interpret with distance per cycle, video, and technique.

Notes, interruptions, timing method, or reasons a result should not be compared



READ BEFORE ADMINISTERING THE TEST

Medical Context and Research

This is a performance field test, not medical care. Coaches must follow club eligibility, supervision, emergency, and return-to-participation procedures.

What the result can support

Short maximal swims can track sprint-performance changes. Segment timing and stroke-cycle measures help distinguish start, underwater, clean-swimming, and finish contributions when measurement zones are consistent.

Important limits

A 25- or 50-unit time reflects multiple skills and energy systems. Hand timing, start reaction, measurement zones, fatigue, and technical execution can create meaningful error. Do not label total race time as pure anaerobic power or infer efficiency from stroke rate alone.

Source	Citation for further research
Sprint biomechanics	Craig AB Jr, Pendergast DR. Relationships of stroke rate, distance per stroke, and velocity in competitive swimming. <i>Medicine and Science in Sports</i> . 1979;11:278-283.
Velocity and stroke parameters	Toussaint HM, Beek PJ. Biomechanics of competitive front crawl swimming. <i>Sports Medicine</i> . 1992;13:8-24. doi:10.2165/00007256-199213010-00002.
Start contribution	Tor E, Pease DL, Ball KA. Characteristics of an elite swimming start. <i>Journal of Applied Biomechanics</i> . 2015;31:152-158. doi:10.1123/jab.2014-0300.

For more research: Search the title or DOI through PubMed, Crossref, or the journal website. TEAMGOLDUSA provides citations for education and does not endorse self-diagnosis.