



Three Minute All Out Swim Test

Coach administration packet for consistent club field testing, recording, calculation, and further research.

WHAT THIS TEST DOES

The 3MT is one continuous, maximal 180-second front-crawl effort. TEAMGOLDUSA uses it as a repeatable field measure of performance and an estimate of critical speed. It is not a medical examination, diagnosis, or clearance to participate.

Included	Coach use
Testing protocol	Standardize the warm-up, start, timing, encouragement, distance marks, and calculations.
Multi-athlete recording sheet	Capture up to 10 swimmers in one test round.
Medical and research references	Review limitations, stop criteria, and primary research before administering the test.

Controlled document: Club field protocol, Release R34.0.76, September 2026. Use the current download from TEAMGOLDUSA. Do not alter the protocol between comparison tests.



3MT Coach Testing Protocol

Purpose. Estimate swimming critical speed from the final 30 seconds of a maximal 180-second front-crawl swim, while collecting a simple performance profile that can be repeated under matched conditions.

1 Before the session

Use only with coach-selected swimmers who are currently training, can safely complete maximal front-crawl swimming, and have current club emergency and health information. Do not test an athlete who is ill, injured, returning without clearance, or reports chest pain, fainting or near-fainting, unusual shortness of breath, racing or irregular heartbeat, or another condition that makes maximal exercise inappropriate. The coach must know the facility emergency action plan and have normal supervision and rescue coverage in place.

Control	TEAMGOLDUSA standard
Course	Record SCY, SCM, or LCM. Compare only like course and similarly configured tests.
Start	In-water push start from the wall. No dive.
Stroke	Front crawl throughout. Record any exception; do not compare altered tests as equivalent.
Timing	One primary 180-second stopwatch plus a backup. Give 30-second signals to recorders.
Distance	Record cumulative distance every 30 seconds. Mark exact position at 150 and 180 seconds, including partial length.
Conditions	Record pool, lane, date, water/deck conditions, equipment, and any interruption.

2 Standard warm up

Complete the team's normal training warm-up, including progressive aerobic swimming, technique preparation, and brief race-pace or sprint efforts. Finish the final hard effort early enough for the swimmer to begin the test ready, not fatigued. Record and repeat the same warm-up and recovery interval when comparing tests.

3 Athlete instruction

Use this instruction: **"This is a three-minute maximal swim. Begin all-out from the push and continue as fast as you can for the entire three minutes. Do not pace for a finishing sprint. Keep swimming through every signal until the stop signal."** Do not provide pace targets, split information, or countdown information that changes how the swimmer allocates effort.

4 Conduct the test

Start: swimmer is motionless at the wall; start the clock on the push. **During:** provide consistent, strong encouragement without giving speed or distance. Record cumulative distance at 30, 60, 90, 120, and 150 seconds. **Finish:** at exactly 180 seconds give a clear stop signal and mark the swimmer's leading-hand position. Measure the partial length as consistently as practical.

5 Stop criteria and response

Stop immediately for distress, chest pain, faintness, confusion, loss of coordination, unusual breathing difficulty, suspected injury, or when directed by facility safety personnel. Begin the facility emergency action plan as indicated. A stopped or interrupted test is not a valid comparison result. Document the event and do not resume maximal testing until the appropriate health and coaching review is complete.



COACH FIELD FORM

3MT Multi-Athlete Recording Sheet

Record cumulative distance at each 30-second signal. At 150 seconds, also mark the swimmer's exact location. At 180 seconds, stop the test and measure the final partial length.

Date _____	Site or pool _____	Course SCY / SCM / LCM
Coach _____	Water and deck conditions _____	Test round _____

Lane / athlete	30	60	90	120	150	180 total	Last 30	CS	D prime
1. _____									
2. _____									
3. _____									
4. _____									
5. _____									
6. _____									
7. _____									
8. _____									
9. _____									
10. _____									

Units: enter distance in the pool's unit. **Last 30:** total distance at 180 seconds minus distance at 150 seconds. **Critical speed:** last-30 distance / 30 seconds. **D prime estimate:** total distance - (critical speed x 180 seconds).

Test notes, interruptions, turns, measurement 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. A maximal swim can expose an athlete to substantial exertional stress. Coaches must follow club eligibility, supervision, emergency, and return-to-participation procedures. This packet does not replace an athlete's clinician, preparticipation evaluation, emergency action plan, or individualized restrictions.

What the published evidence supports

Tsai and Thomas evaluated a swimming 3MT against traditional critical-speed models. In their study, critical speed was the mean speed during the final 30 seconds; the estimate correlated highly with traditional models. Their anaerobic-distance estimate did not agree as well, so TEAMGOLDUSA treats D prime from this field sheet as a secondary estimate rather than a medical or definitive physiological measurement.

Important limits

Published studies used small, trained samples and specific procedures. Results can change with course, start method, turns, measurement accuracy, motivation, warm-up, fatigue, and test familiarity. A value should be compared only with a repeat test performed under closely matched conditions. Do not use one result alone to diagnose health, determine medical fitness, or label an athlete's long-term potential.

Source	Citation for further research
Primary swimming validation	Tsai MC, Thomas SG. Three-Minute All-Out Test in Swimming. International Journal of Sports Physiology and Performance. 2017;12(1):27-35. doi:10.1123/ijsp.2015-0479. PMID: 27003111.
Competitive-swimmer validity and reliability	Patrikova E, Sousa AC, Gonzalez JT, Williams S. Validity and Reliability of the 3-Minute All-Out Test in National and International Competitive Swimmers. International Journal of Sports Physiology and Performance. 2018;13(9):1190-1198. doi:10.1123/ijsp.2018-0018. PMID: 29651887.
Modified elite-swimmer protocol	Mitchell LJG, Pyne DB, Saunders PU, Rattray B. Reliability and validity of a modified 3-minute all-out swimming test in elite swimmers. European Journal of Sport Science. 2018;18(3):307-314. doi:10.1080/17461391.2017.1413138. PMID: 29251174.
Background and limitations	Sousa FAB et al. Comparison of parameters derived from a three-minute all-out test with classical benchmarks for running exercise. PLOS ONE. 2022;17:e0266012. doi:10.1371/journal.pone.0266012.

Questions for a clinician: Ask whether the athlete has any restriction on maximal exertion; whether recent symptoms, illness, injury, medication changes, or a return-to-sport plan affect testing; and what action plan applies if symptoms occur.

Research access: Search the DOI or PMID shown above through PubMed or the journal website. TEAMGOLDUSA provides citations for education and does not endorse self-diagnosis.