

## RACE ANALYSIS FROM VIDEO

Objectively analyzing a race may yield insight into what created the final time, where you are improving, and areas to address to improve in the future.

Too many times, a race may be “analyzed” by simply looking at the splits and listening to observations from your coach and/or teammates (“He killed you off the turns, dude!”). While both of these do provide feedback, a more thorough analysis will make you more knowledgeable of how the race was swum and can highlight areas to exploit to your advantage and areas to improve upon.

### The Race Analysis Form

This simple form will allow you to analyze several components of your race. To complete the form, you will need a stopwatch and an eye for details. Initially, the analysis may seem time-consuming, but, just like any skill, once it is mastered it can be done quite efficiently.

RACE ANALYSIS								
NAME	MEET			DATE				
EVENT	TIME >>>>>>>>>					STROKE COUNT	TEMPO	
Length 1	START to BREAK	SWIM	TURN	LAP SPLIT	CUM SPLIT			
Length 2	PUSH to BREAK	SWIM	TURN	LAP SPLIT	CUM SPLIT			
Length 3	PUSH to BREAK	SWIM	TURN	LAP SPLIT	CUM SPLIT			
Length 4	PUSH to BREAK	SWIM	TURN	LAP SPLIT	CUM SPLIT			
Length 5	PUSH to BREAK	SWIM	TURN	LAP SPLIT	CUM SPLIT			
Length 6	PUSH to BREAK	SWIM	TURN	LAP SPLIT	CUM SPLIT			
Length 7	PUSH to BREAK	SWIM	TURN	LAP SPLIT	CUM SPLIT			
Length 8	PUSH to BREAK	SWIM	TURN	LAP SPLIT	CUM SPLIT			

First, fill in your name, the meet, the date, and the event. You may also want to note anything pertinent, such as if you were sick, if you had a challenging practice in the morning, or if this was a rested or tapered meet.

To analyze your race, you will be looking at several things. Therefore, it may be necessary to replay the video several times in order to get everything down.

### Times

You will be breaking the race down into several sections and timing each section. In addition, you will be recording the normal splits by length. (Note that the times you get for splits and the “official” splits from the touch pads may be slightly different).

1. **START to BREAK:** This is the time from the starting signal to when your head first breaks the surface of the water. If there is no sound on the video, look at the strobe light on the starting device to start your watch. If that is not visible, then look for first movement.
2. **SWIM:** This is the time from your break-out until the beginning of the turn or, on the last length, the finish.
3. **TURN:** For freestyle and backstroke, this is the time where the head submerges through when the feet hit the wall. For breaststroke and butterfly, this is the time from when the hands first touch the wall to when the last hand leaves the wall.
4. **PUSH to BREAK:** This is the time from the end of the turn portion (above) until the head first breaks the surface.
5. **LAP SPLIT:** This is the total time for the entire length of the pool.
6. **CUM SPLIT:** This is the running time for the race at the conclusion of that length of the pool.

- Notes:**
- A. The last length of a race will end with a time in the SWIM column, as there will be a finish, not a turn, at the end.
  - B. For events longer than 200 yards/meters, simply use part of the next race grid to complete the analysis.
  - C. If you have a watch with a split and recall feature, you will be able to watch the race straight through, hitting the split button at the appropriate points of the race, then recall each time to post to the worksheet. If you do not have such a stopwatch, you may need to view the race several times to get your numbers.
  - D. The Lap Split times should add up to their respective Cum Times
  - E. The final Cum Time should be equal to the final time for the race.

### Stroke count and tempo

Counting the strokes and tempo are important, too! Your efficiency and your cadence determine your time.

1. **STROKE COUNT:** Simply count the number of strokes or stroke cycles in each length. For free, back, and fly, count each time a hand enters the water. For breast, count each time the head breaks the surface of the water.

2. **TEMPO:** You are actually measuring the time for each *stroke cycle*. For free and back, measure the time from when one hand enters the water to when the same hand enters the water again. For fly, measure from when both hands enter the water to when they enter the water again. In breaststroke, it's a bit trickier: Pick one point in the stroke (the completion of the lunge, the head breaking the surface) and measure from that point in the stroke cycle back to that same point. You may list all tempos taken, or an average of at least 3.

### Example:

RACE ANALYSIS									
NAME	Susie Swimsfast	MEET	ABC Meet	DATE	Oct 25, 2007				
EVENT	100 Fly								
								STROKE COUNT	TEMPO
Length 1	START to BREAK	2.5	SWIM 10.3	TURN 1.2	LAP SPLIT 13.9	CUM SPLIT 13.9	8	1.22	
Length 2	PUSH to BREAK	3.1	SWIM 16.0	TURN 1.4	LAP SPLIT 20.5	CUM SPLIT 34.4	12	1.51	
Length 3	PUSH to BREAK	2.8	SWIM 16.3	TURN 1.4	LAP SPLIT 20.5	CUM SPLIT 54.9	12	1.77	
Length 4	PUSH to BREAK	3.0	SWIM 15.2	TURN XXX	LAP SPLIT 18.2	CUM SPLIT 1:13.1	13	1.44	

---

In this example, you can see not only the splits per 25, but also several other things:

- The swimmer slowed down on the second and third turn, compared to the first
- The swimmer's total time on length 2 & 3 were the same, but slower than length 4.
- Length 4 had more strokes, but at a higher tempo, and also a faster time than lengths 2 & 3 ...hmmm
- The tempo went way down on length 3

Can you see any other things to look at and compare?

### Now What?

Analyzing a race to get a lot of numbers doesn't do much if you don't appreciate and use what the numbers tell you. In our example, for instance, the swimmer obviously got tired and, consequently, slowed up the tempo on the third length – but the number of strokes stayed the same. Therefore, this swimmer might have to work on maintaining proper stroke tempo when tired in practice so that he/she can do that in a meet.

Another excellent use of this type of analysis is comparing the same event at different meets. Seeing where improvements occurred might indicate that parts of your training are starting to fall into place. Also, if you go into a race with a different strategy, you might be able to see how effective it was.

“Be pleased with your accomplishments, but not satisfied” ...CC