

## CHAPTER 10 TIMING

### INTRODUCTION

Other than winning the race or scoring points for their team, the most important part of a swimmer's race is knowing with confidence how long he took to swim that event, i.e. his Official Time. Although there is usually only one first place winner in a race, each swimmer who participates legally achieves an Official Time. The swimmer's time could meet the qualification standards for future competition, set a local or national record, or it could simply be that swimmer's Personal Best. Regardless, our responsibility as officials is to provide each swimmer with an accurate and valid Official Time.

**The rules of USA Swimming specify that, "No swimmer shall be required to reswim a race due to equipment failure which results in unrecorded or inaccurate time or place."**

When touchpads (fully automatic timing equipment) are used, the time recorded by that equipment normally determines both the Official Time and the Order of Finish. The use of automatic timing equipment provides more accurate time and placement information than can be obtained from manual techniques (buttons or stopwatches.) Nevertheless (because of the potential for failure) and always to verify proper operation, **all times from electronic timing equipment (whether touchpads or buttons) must both be verified and backed-up by another timing system. The backup must always include at least one stopwatch.** When just buttons or watches are used, the timers usually provide the basis for the Official Time. In all cases they provide information needed to determine the Official Time. **The accurate timing and recording of each swimmer's performance are essential.**

This chapter explains the types of timing equipment used, the responsibilities of the various positions involved in determining an Official Time, and the process used to determine each swimmer's Official Time.

### DESCRIPTION OF TIMING SYSTEMS

(1) **Manual timing** requires the use of hand-held, battery powered, digital read-out **stopwatches**. Digital wristwatches or dial watches are not permitted. Lane timers perform the "start" and "stop" actions.

(2) **Semi-Automatic timing** is activated by an electronic pulse from a starting device or transducer. Finishes are recorded by **buttons** pushed by timers at the swimmer's finish touch.

(3) **Automatic timing** is activated by an electronic pulse from a starting

device or transducer. Finishes are recorded by the swimmer's contact with the **touchpad**.

## **EXPLANATION OF TIMING SYSTEM DESIGNATIONS**

(1) **Primary timing system:** The timing system (touchpads, buttons or watches) from which the swimmer's Official Time will be determined unless that equipment has malfunctioned. When watches or buttons are used as the primary timing system, at least two watches or buttons must be used. Three watches or buttons per lane are highly preferable.

(2) **Secondary timing system:** A system used to **verify the proper operation** of the **primary** timing system or to provide **backup** times in the event that the primary timing system malfunctions. Automatic and semi-automatic electronic equipment must always be backed up.

(3) **Tertiary timing system.** Unless the primary timing system consists of manual watches or the secondary system includes at least one manual watch per lane, a tertiary system of at least one watch per lane must be provided.

Both secondary and tertiary timing systems provide verification and backup times for the primary timing system.

## **TIMING OFFICIALS**

Because of its critical importance, many people are involved in determining the Official Time for each swimmer. The following is a brief description of each person's duties.

(1) **Lane Timer** -- A lane timer starts and stops a watch and/or presses a button on a lane. By doing so, they provide a time from each timing system they use. A Lane Timer may be asked to operate a watch and button simultaneously, but they may not operate two watches or two buttons at the same time.

(2) **Head Lane Timer** -- In addition to performing the duties of a Lane Timer, the Head Lane Timer also records the manual watch times from that lane, verifies that the proper swimmers are competing in that lane, and reports if a swimmer delays in touching or misses the touchpad at the finish.

(3) **Chief Timer** -- This person is responsible for all the Lane Timers and Head Lane Timers. In addition to assuring the Lane Timers are properly briefed prior to each session, the Chief Timer supervises the timers during the session, collects recorded times from the Head Lane Timers, and starts additional watch(es) to be used as a substitute in the event a Lane Timer's watch fails.

(4) **Timing Equipment Operator** -- When automatic (pads) or semi-automatic (buttons) timing equipment is being used, he is responsible for operating the timing console.

(5) **Timing Judge** -- Receives times produced by the automatic or semi-automatic timing systems (when used) and the manual (watch) times from each lane.

He **uses that information to determine the Official Time for each swimmer.** The Timing Judge also receives any signed disqualifications from the Referee. Provides the Recorder (this duty is frequently performed by the computer operator) with information regarding Official Times, disqualifications, or reported/observed absences (*i. e.* empty lanes) for each swimmer scheduled to compete. The Administrative Referee may perform the duties of Timing Judge.

A more detailed listing of each position's responsibilities is given in the following sections.

### **INSTRUCTIONS FOR LANE TIMERS**

1. The Chief Timer will assign each timer to a specific lane and designate one timer per lane as the Head Lane Timer.
2. Remember that timing is one of the most important positions at the meet. Your input is always needed to determine a swimmer's Official Time.
- 3 You may operate a button and/or a watch, but may never operate two buttons or two watches at the same time.
- 4 Become familiar with the watch you will be using at the meet. In particular, know which button starts, stops and clears (resets) the watch. Start and stop the watch with the same finger.
- 5 The Head Lane Timer should check each swimmers name, preferably by asking for the swimmer's name. For relays, the team and the order in which the swimmers compete should be checked.
- 6 Do not engage in conversation with swimmers prior to their race unless they initiate the conversation.
- 7 Prior to the race you should be sitting or standing (if no chairs are provided) far enough back so you will not distract the starter or competing swimmers.)
- 8 At the start, focus on the starting device (strobe light or gun flash) and start ~~the~~ your watch on that signal, rather than the sound. When an automatic or semi-automatic timing system is being used, buttons are **not** pushed at the start.
- 9 Once each heat has started, check to be sure your watch is running. If it is not or you think you started it late, signal the Chief Timer by raising your hand with the watch showing.
- 10 For distance events (16 lengths or longer) the Head Lane Timer records split times each time the swimmer turns at your end of the pool. These split times may be taken either from the scoreboard (if available) or from glancing at the watch without stopping it.
- 11 Be at the edge of the pool at the finish. You must be looking down over the forward edge to see an underwater touch. Expect to get wet. Stop your watch when

any part of the swimmer's body touches the wall. You are not concerned with whether the finish was legal.

12 Always push the same button at the finish.

13 Times should always be recorded to the hundredths of a second (two decimal places), and in the same order for each heat. If there is no one in the lane, record "No Swimmer" as N/S.

14 Stay focused on your duties, particularly during the start and finish. Do not cheer for particular swimmers and do not get so interested in watching a race in another lane that you do not get an accurate time for the lane you are timing.

## **INSTRUCTIONS FOR THE CHIEF TIMER**

### **A. Prior to Meet:**

1. Assure sufficient timers are being recruited. At least two timers per lane are needed (and three are highly recommended or the times may not be acceptable for all purposes).
2. Check that there are sufficient watches and that they are operating properly. Backup watches are also needed.
3. Assure the preparation of Lane Timer materials and supplies, such as: clipboards, programs (when available), and pencils (#2). Make sure that if the swimmers are not bringing timing cards to their lane, that forms for recording the watch times are available.
4. For dual meets, determine which teams will be in the even and which in the odd lanes. This may affect the assignment of timers.

### **B. Prior to the first event.**

1. Coordinate with the Referee or Starter regarding whether they wish to participate in the timer's briefing. In some LSC's, this responsibility is given to the Starter.
2. Confirm that sufficient timers are available, that each lane has an equal number of timers, etc. Make sure an individual is serving as the Head Lane Timer in each lane. If enough volunteers are available, appoint Assistant Chief Timer(s) to help you.
3. Assure the "Timers Briefing" is conducted covering (as appropriate) the points discussed under the Instructions for Lane Timers . The Lane Timers should be assembled and the briefing started early enough that attendance can be confirmed, the briefing conducted, questions answered, and a timing check completed prior to scheduled starting time for the first heat.
4. Conduct a timing check with the timers standing by their lanes. The Chief Timer should ask the Starter to conduct a time check before the start of the meet. Usually

all timers start their watches at the flash of the strobe or, if used, the signal smoke or flash of a pistol. They stop their watch when the stop signal is given, which is usually after at least 30 seconds has elapsed. The watch times are then compared. This serves to confirm that the watches are operating properly and the Lane Timers are familiar with their watch. If a watch has a time that differs by more than 0.20 seconds, it should be reported to the Chief Timer.

5. Determine if the Timing Equipment Operator wants the timer's assistance for a final confirmation that the buttons and pads are operating properly. You may wish to request such a check if you have Lane Timers who are not familiar with using a button.

### **C. During the meet**

1. Observe whether the Lane Timers are watching the strobe light or gun at the start, looking over the edge at the finish, not clearing their watches prematurely, etc. Assure that the Head Lane Timers are recording the times properly, listing the times as instructed, writing numbers clearly and recording times in a consistent order. If any are not performing efficiently, reinstruct them or replace them.

2. Identify timers who may not be doing a good job, note those lanes where the timers are working well together and the times are matching well. Then, let them know that they are doing a good job. A little praise and encouragement pays great benefits. An experienced Chief Timer should know after a short period (3 to 5 heats/events), the capabilities of each group of timers.

3. Make sure your lanes remain staffed. Volunteer timers do sometimes leave without giving notice. Be prepared to move people between lanes to maintain consistent coverage. Keep the Referee informed regarding your staffing situation so that heats are not started if there are insufficient timing personnel in place.

4. Particularly when watches are the primary timing system, frequently check various lane times for accuracy and the spread of times. It is particularly important to do this for the first few heats of a session to confirm everybody understands their responsibility. You can use the split hand on your watch to check for accuracy by depressing it when the winner finishes and then stopping the main watch when the last swimmer in the heat finishes. All times recorded should be between your two times. When buttons are being used, work with the Timing Judge, who by his review of timing information can help identify where there may be problems.

5. After each heat or event (depending on how times are being recorded), collect the time information for all lanes and deliver them to the Timing Judge

### **D. After the meet**

1. Make sure times from the last heat/event are collected,

2. Collect and account for all watches and clipboards.

3. Note any problems and inform the Meet Director or other responsible official of any inoperable watches

## **INSTRUCTIONS FOR TIMING EQUIPMENT OPERATOR**

The Timing Equipment Operator is responsible for the automatic or semi-automatic timing equipment, including the electronic starting system and scoreboard (if used.) Because different timing systems are used at various swim meets, discussion of how to use a particular timing system cannot be included. However, many points are common to all systems and can be discussed here.

1. All electronic equipment should be placed whenever possible so that the equipment operator has an unobstructed view of the finish end of the pool. This permits the operator to observe the finish and listen to audio signals from the equipment to confirm that the system has properly recorded the touches when they occur.
2. The timing equipment operator should verify that the various components are properly operating prior to each session. This includes making sure that the starting system properly activates (starts) the timing system, the pads and buttons are connected, pad touches and button pushes are being recorded by the timing system, the timing system is properly configured for the type of pool being used, which side of the pool the equipment is on, number of lanes in use, type of timing equipment being used, etc.
3. The operator should also confirm that the scoreboard is connected and working, output can be printed, and that it can be received by the computer used to record the official meet results.
4. Automatic and semi-automatic times are to be recorded to the nearest hundredth of a second. If possible do not allow the automatic timing system printout to show the time to the thousandth. Identical times to the hundredth are considered ties and swim-offs may be required
5. Care must be taken to make sure that all intermediate turns are recorded by the system. If not, the system must be adjusted so that it is properly armed prior to the finish.
6. Similarly during relay races, the system must be carefully monitored to make sure first three swimmers have exited the pool promptly enough to not reactivate the touchpad. If not, the system must be adjusted so it is properly armed prior to the finish.
7. If the primary timing device fails to start automatically on the starting signal, it should be started as soon as possible by the automatic equipment operator. Good results can be obtained by using all the watch times to calculate the delay in starting the timing system and adjusting the times accordingly.

8. If operator error or power failure causes machine failure during the race, an attempt to start the machine late should be made. The only requirement is that the touchpads be armed prior to the time the first swimmer finishes.

## INSTRUCTIONS FOR THE TIMING JUDGE

**The duty of the Timing Judge is to determine the Official Time for each swimmer.** All other personnel (Lane Timers, Head Lane Timers, Chief Timer, Automatic Equipment Operator) provide input to this determination. **Only the Timing Judge or the Referee can make the formal determination.**

Therefore, the Timing Judge should have available all times produced by all timing systems being used as well as any supplemental information that may be useful to determining the Official Time. This includes reports of possible problems from the Head Lane Timers, Chief Timer, Timing Equipment Operator, reported order of finish information from the Referee and/or Starter, etc..

Once the Official Time is determined, it is provided to the Recorder. (The Recorder may do this manually or by accepting/editing times received by a computer from the Timing System.)

The Timing Judge also assures all disqualifications approved by the Referee are recorded so that those swimmers do not receive an Official Time. He may also be asked to keep a record of swimmers scheduled to compete, who do not do so (*i. e.*, "No Shows" or "N/S") and/or a log of swimmers who were disqualified and the reason.

The Timing Judge shall confirm that whenever buttons or watches are used as the primary timing system that the Official Time has been correctly determined in accordance with the USA Swimming rulebook. When buttons are the primary system, watch times should be checked for consistency with the button times.

When Automatic (pad) Timing is the primary timing system, the pad times should always be compared with the button or watch times to verify that the pad times are valid. If the backup times vary from the pad time by .29 seconds or less, the pad time must be used as the Official Time. When such a verification cannot be obtained (*i. e.*, there is a difference of .30 seconds or more) , the Timing Judge should review other available information in order to make an informed recommendation to the Referee. This information can include consistent backup times supporting a different time, reports that the swimmer missed the pad, touched the pad too lightly, the reliability of the pad in other heats, and/or a recorded order of finish.

When the Timing Judge concludes that he cannot recommend use of the time produced by the Primary Timing System as the Official Time, he must obtain the Referee's concurrence. In doing so, he should explain his rationale for rejecting the primary time and his basis for determining the Official Time. The Referee may provide guidelines to

the Timing Judge regarding circumstances when an adjustment may be made without seeking individual approval. When integrating times from different timing systems (i.e. secondary and tertiary system times with the primary system times) the back-up times shall be adjusted as specified in the USA Swimming Rules.

For at least the first few heats of each session and any time any modification is made to the starting and/or timing system, the watch times should also be compared with the times from the primary system to confirm the proper installation of the timing equipment. Consistently observed differences between timing systems (after considering whether the timing system being used adjusts button times for a human reaction delay) may provide a strong indication the timing system has been improperly installed.

If this should be observed, the Referee should be immediately notified and no additional heats swum until the source of the problem is identified and resolved. Times from heats already swum may have to be adjusted before they can become Official Times.

If the Timing Judge observes a pattern of inconsistent or missing information from a particular Lane Timer, the Chief Timer should be notified so corrective steps can be taken. If serious enough, notify the Referee.

This chapter has addressed the equipment, personnel assignments, responsibilities and processes used to determine an official time. The guidance provided in this chapter should be used in conjunction with the USA Swimming Rules and Regulations to assure that valid times are secured.