Tips to Improve Accuracy of Pool Swim Activities

Garmin watches that support pool swim activities use arm movements and preconfigured data, such as pool size, to provide swim metrics when recording a pool swim activity. Swim distance is computed by detecting your turns in the pool. Individual differences in swimming style and training styles may cause errors in the reported distance. The information provided in this FAQ describes the main reasons for distance inaccuracies and ways to potentially improve accuracy.

What Can Cause Swim Distance to Be Incorrect?

Discrepancies in the distance of your recorded Pool Swim activity can be caused by multiple sources.

Over Reporting Distance

If the watch is over reporting distance, it is typically because of how the user is swimming or turning at the end of the length which is causing the watch to register an extra length. The watch looks for a pause in strokes to indicate that the user has reached the end of a length, so a slow swim pace or stopping mid-length could cause the watch to register an additional length.

Under Reporting Distance

If the watch is under reporting distance, the watch may not be detecting enough of a pause in strokes between lengths. Not pausing long enough at the end of a length, not doing a flip turn, or not pushing off and gliding before starting strokes again may cause the watch to miss adding another length.

Other Factors to Consider

- Inexperience in lap swimming.
- Using a stroke type that is not one of the four recognized competitive stroke types (freestyle, breaststroke, backstroke, and butterfly stroke).
- Disruptions mid-length, such as:
    - Switching stroke type mid-length.
    - Changes to speed or stroke cadence mid-length (including stopping or walking).
    - Interruptions from other swimmers.
- Performing drills that affect arm motion.
- Slow swim pace. Our swim algorithm is tuned for swimmers that swim a 25 meter length in less than 45 seconds. Slower than this may result in no distance being recorded.

NOTE: When stopping to rest at the end of a length, the distance displayed on the watch may lag behind one pool length for a few seconds but should correct itself when you press Lap to start your rest or when auto rest kicks in (if enabled in settings).

How Can I Improve the Accuracy of the Swim Distance Recorded on My Watch?

To maximize accuracy, ensure the following:

- Set the correct pool size prior to starting the timer.
- Use one of the four recognized competitive stroke types (freestyle, breaststroke, backstroke, and butterfly stroke).
- Swim continuously throughout the length, using one stroke type at a consistent pace and stroke cadence.
- If resting between lengths, use rest intervals or ensure auto rest is enabled in settings.
- Use a flip turn with a strong push-off from the wall and a long streamlining (glide) phase.
- Use drill log for drills that affect arm movement. If a drill log is not available, use rest intervals for drills that affect arm movement.

As your swimming technique improves with practice and the use of the tips above, distance accuracy will typically improve. Experienced swimmers who are still experiencing errors can also try wearing the watch on the other wrist.

Using the Swim Drills Feature on Compatible Garmin Fitness Watches

For swim sets that include drills or a kickboard we recommend using the "Drill" feature on a compatible watch. Drills and kick sets can often result in a lower arm movements (Ie: "catch-up", sculling, single arm, and gallop drills) which can lead to lower stroke and lap counts during your swim workouts.

On compatible watches (listed below) you can enable drills when you are about to begin a set that lacks arm movement. Follow the steps listed below for your particular device to enable drills while you're swimming. After the workout is complete, you can manually enter/confirm the drill distance. When the drill logging feature is used, a swim interval is created with the stroke type – Drill. This interval will appear in the history on your watch and on Garmin Connect with the interval time and distance. The drill distance is added to total distance and drill time is added to total swim time.

On the Forerunner 735XT:

1. Press **START**
2. Use **UP** to select **Pool Swim**
3. Press **DOWN**
4. Select **Activity Settings**
5. Select **Data Screens**
6. Select **Drill Log** to turn on (if necessary)

On the Forerunner 920XT:

1. Unlock device from Watch mode
2. Highlight **Pool Swim**
3. Tap **UNLOCK/SHORTCUT**
4. Select **Activity Settings**
5. Select **Data Screens**
6. Select **Drill Log**
7. Select **On**

On the Forerunner 55/245/645/745/935/945/945LTE and Swim 2:

NOTE: Drill Logs screen is enabled by default. If not visible, follow the steps below to enable the screen.

1. Press **START**
2. Select **Pool Swim**
3. Press and hold the **Menu** button
4. Select **Pool Swim Settings**
5. Select **Data Screens**
6. Use the down button to view and enable the **Drill Logs** data screen

On the Garmin Swim:

1. Press **Menu**
2. Select **Swimming**
3. Select **Drill Log**

Once enabled, a drill logging page is added to the training page loop and will remain there unless this setting is disabled or the page is turned off. Once in the pool and ready to do a drill set, navigate to the drill logging page, and follow the on-screen instruction from the drill logging page.

Once the drill is complete:

1. Stop timer
2. Enter or confirm drill distance by using **UP** or **DOWN**

3. Press **START/STOP** to save drill distance

The device will be paused as the distance is entered. To resume regular swimming after the distance is entered, move off the drill log page and press the Pause or Lap button as usual. A new swim interval is started.

When the drill logging feature is used, a swim interval is created with the stroke type – Drill. This interval will appear in History and on Garmin Connect with the interval time and distance. The drill distance is added to total distance and drill time is added to total swim time.

NOTE: For watches without a dedicated drill log mode, leave the watch paused when resting. This will prevent any erroneous data from being recorded.

Using Auto Rest for Pool Swimming

Some Garmin watches have a feature called Auto Rest for Pool Swimming. This feature can be turned on in the Pool Swim Activity Settings. When Auto Rest is on, the watch will detect when you are resting and when you resume swimming. You can use this feature instead of pressing the Lap key to create swim intervals and rest intervals (see Related below).

To learn if your watch has Auto Rest, refer to your Owner's Manual.

With Auto Rest enabled, the rest screen will appear within a few seconds of when you start your rest. If you rest for at least 20 seconds, this will create a rest interval, and a new swim interval will start when you resume swimming.

Use Auto Rest If

- You dislike having to press Lap at the start and end of your rests.
- You do not mind if the timing of your swim intervals and your rest time is occasionally off by ~5-10 seconds.
- You do not mind the rest timer adjusting as it calculates the start of an Auto Rest.
- You do not care if short rests (less than ~20 seconds) are not captured.
- You do not move your arms around much when you are resting (as doing so can trick the watch into thinking you are swimming).

Turn Off Auto Rest, and Press the Lap Button at the Beginning and End of Each Swim Interval If

- You want to time your swim intervals precisely.
- You want to capture even short rests (< 20 seconds).
- You tend to move your arms a lot when you are resting.
- You use advanced swim features like countdown start, pacing alerts, and swim workouts (note that Auto Rest is automatically disabled during swim workouts).

NOTE: You can still use the Lap button to manually start and end rest intervals when the Auto Rest feature is turned on. However, if you are using the Lap button for all rests, it is recommended that you turn off the Auto Rest feature.

Swim Terminology Used for Garmin Watches and Garmin Connect

Below are definitions for various terms related to swimming that you may find on a Garmin watch or within Garmin Connect.

Backstroke

This is the correct name for what many people call "back crawl", sometimes abbreviated as just "Back".

Breaststroke

This is a stroke type most people are familiar with, sometimes abbreviated as just "Breast".

Butterfly

This is a stroke type that is typically only done by more advanced swimmers. Both arms come out of the water together which makes it challenging. Also sometimes called "fly".

Drill

Swimmers use the term "drill" for any time of swimming that is used to work on technique and is not one of the four recognized stroke types. For example, one-arm swimming, sculling, catch-up front crawl, etc.

Kicking while not moving the arms is another very common type of drill (frequently a kick board is used).

When doing any kind of drill that affects the motion of the arms, swimmers should use drill mode on the Garmin watch (if available).

The most common drill that doesn't affect the motion of the arms is "Pull". When doing a pull, swimmers hold a pull buoy between their legs and don't kick. All the work is done by the arms. When doing a pull, swimmers don't need to use drill mode.

Flip Turn

Flip turns are done by more advanced swimmers. When they reach the wall they do a forward somersault under the water such that their feet end up positioned on the wall ready to push off. The hands never touch the wall. It is the fastest way to turn when doing freestyle or backstroke. Flip turns are not typically done for butterfly or breaststroke.

Freestyle

This is the correct name for what many people call "front crawl". It is the stroke most often used by triathletes. It is frequently abbreviated as just "Free".

Individual Medley (IM)

This refers to "set" or "interval" that consist of all four stroke types in equal amounts in this order: butterfly, backstroke, breaststroke, freestyle. It is an Olympic event and is often used by serious swimmers in training. There is also "Adapted IM" where the butterfly is replaced by freestyle, or reverse IM where the strokes are performed in the opposite sequence: freestyle, then breaststroke, then backstroke, then butterfly.

Interval / Swim Interval / Int

This a group of lengths separated by rests. A swimmer could do 5 x 200 m intervals with 15 seconds of rest between each. It is very common for swimmers to train this way - with swims separated by rests. It is less common to just get into the pool and swim continuously for some amount of time or distance, though recreational swimmers may do this.

Swimmers should press the Lap button when they start a rest, and then again at the end of the rest when they are about to push off the wall to resume swimming.

Kick Sets / Kicking

Kicking or kick sets are very common. Swimmers often hold a kick board (flutter board) when they do kicking. Kicking is a type of drill, though some swimmers may need to be educated on this.

Lap

Swimmers might use this term to refer to a "there and back" - i.e. two lengths. Garmin avoids this term for swimming because of potential confusion with the concept of laps in running or cycling, and also confusion about what the Lap Button does.

Length

One length in swimming is crossing the pool once. A swimmer that swims "there and back" would have swum two lengths. Swimmers should not stop in the middle of a length, and should not change stroke types in the middle of the length.

Mixed Stroke Type

"Mixed" is what Garmin labels any swim interval that contains more than one stroke type. For example: an interval that contains 4 lengths, two of which are free and two of which are back

Note: A single length cannot have stroke type "Mixed", the stroke type detection algorithm expects swimmers to use the same stroke type for the whole length. If they switch, they will likely get whichever stroke type was used for most of the length, or the label will just be wrong.

Pool Size

This is how big the pool is. The most common pool sizes are 25 m, 50 m, and 25 yards (mostly in the US). Races held in 25 m pools are sometimes referred to as "Short Course", and races in 50 m pools are sometimes referred to as "Long Course". International competitions are always in 50 m pools. Races are not generally held in 25 yard pools.

Other pool sizes are common, too. Hotel and backyard pools are often smaller and sometimes resorts have pools that are strange lengths that can be longer than typical.

Sets

This is a common term among swimmers that can be used for a swim interval or even a group of intervals (e.g. 5 x 200 m). Sometimes they might be a "warm-up set" or "main set" or a "sprint set". Because this term is not used consistently and doesn't always mean the same thing, it is not used by Garmin.

Streamlining

This is the underwater glide performed after a turn. Swimmers usually have their arms extended over their heads and perform a dolphin kick either on the front or back.

Stroke Count

Not to be confused with stroke type, the stroke count is the number of cycles with the arms in a length. Swimmers sometimes count the number of strokes they take in a length to understand their efficiency. Since the watch is only worn on one arm, the Garmin stroke count refers to the number of cycles with the watch arm only.

Stroke Type

This refers to what kind of swimming style is being used: freestyle, backstroke, breaststroke, or butterfly. These are the four recognized swim strokes that are used in competition. There are some less used stroke types that aren't recognized by Garmin devices, such as side stroke, elementary backstroke, dolphin swimming, etc. Users not using one of the four recognized stroke types should use drill logging (if available).

Stroke Type Identification

This is the feature on Garmin watches that determines what type of stroke you are swimming. You can choose to see this as a data field but it is most useful when analyzing your data post-swim.

Swolf

This is a measure of swim efficiency. Swolf is a contraction of swimming and golf. Like in golf, a lower score is better. The Swolf score is computed per length swum. Swolf = (number of strokes in the length) + (time of the length is seconds). For example, if I swim a length in 25 seconds and take 11 strokes, my Swolf score would be 36. Swolf scores can't be compared for different stroke types or different pool sizes.

Touch Turn / Open Turn

This refers to any type of turn that is not a flip turn. The swimmer grabs the wall with one or both hands before spinning their bodies to position their feet to push off.

Turns

A "turn" is done at the end of a length when the swimmer reaches the wall and continues swimming in the other direction. There are several types of turn styles.