

FAQ

Tips to Improve Accuracy of Open Water Swim Activities

When recording an open water swimming activity, following some best practices will ensure that the watch will provide the most accurate information possible. Here are some of the best practices to remember to ensure that the device is ready before beginning the activity.

- **Sync your watch**
 - Syncing with either the Garmin Connect app or Garmin Express will allow the watch to obtain the latest satellite position information resulting a faster signal lock.
- **Wait a moment or two after you have acquired a signal**
 - Waiting an additional minute or two before jumping into the water allows the watch to further triangulate your current position.
- **Swim with a stroke where the wrist comes out of the water**
 - Depending on form and breathing pattern, it may be best to place the watch on the other wrist
 - Avoid strokes like the breaststroke and swimming underwater
 - If you stop swimming, keep the watch above the surface of the water
 - Try not to hold the watch underwater for more than 3-5 seconds
- **Wear the watch under a swim cap**
 - For absolute best GPS data, it is recommended to wear the watch in a swim cap or to tow it in a dry bag that rides on the surface of the water.

Following these practices will maximize GPS accuracy when swimming.

Tips to Improve Swim Distance Accuracy

Several Garmin devices use arm movements and preconfigured data, such as pool size, to provide swim metrics.

What can cause swim distance to be incorrect?

Discrepancies in distance can be caused by multiple sources including:

- Inexperience in lap swimming
- Switching stroke type mid-length
- Stopping or walking mid-length
- Dramatic changes of speeds mid-length
- Performing drills that affect arm motion
- Interruptions from pool traffic
- Failing to setup pool size properly
- Using a pool that is too small for your level of swimming proficiency
 - If lengths are being missed (under-counted) in a small pool, consider using a standard-sized pool as the watch may miss lengths for strong swimmers who only take a few strokes to cross small pools.
- Stroke type being used is not one of the four recognized competitive stroke types
 - The four recognized competitive stroke types are freestyle, breaststroke, backstroke, and butterfly stroke.

How can I improve the accuracy of the swim distance recorded on my device?

To decrease the amount of discrepancies ensure the following:

- If resting between lengths, use rest intervals
- Use a strong push-off from the wall with a long streamlining (glide) phase
- Swim continuously throughout the length at a consistent pace
- Use one stroke type throughout each length
- Continue to strive for a consistent stroke pattern
- Try switching the watch to the other wrist
- Use drill log for drills that affect arm movement
 - If drill log is not available; use rest intervals for drills that affect arm movement.
- If missing lengths as a strong swimmer, consider using a standard-sized pool
- Use one of the four recognized competitive stroke types
 - The four recognized competitive stroke types are freestyle, breaststroke, backstroke, and butterfly stroke.

As swimming technique improves with the use of the above instructions, distance accuracy will improve.

Using the Swim Drills Feature on Compatible Garmin Fitness Watches

For kick sets or swimming drills where arm motion is affected (e.g. kick sets, “catch-up” front call, one-arm swimming, sculling, etc.), the following devices will not automatically count lengths and strokes accurately. When doing drills, it is recommended to use one of two methods.

The first method is to leave the watch paused when resting. This will prevent any erroneous data from being recorded.

The other method is using the drill feature to time the drill set and manually enter or confirm the distance. On some devices, it is necessary to enable the drill logging feature.

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 935:

1. Press **START**
2. Select **Pool Swim**
3. Press and hold the **Menu** button
4. Select **Pool Swim Settings**
5. Select **Data Screens**
6. Add 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.

Swim Terminology on Garmin Fitness Watches that Feature a Swim Activity Profile

Below are the definitions for the various terms related to swimming on both Garmin devices and Garmin Connect:

[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.

[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.

[Swim Interval / Interval / Int](#)

This is 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.

[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.

[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.

[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.

[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.

[Streamlining](#)

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

[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.

[Stroke type](#)

This refers to what kind of swimming style - 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 mostly useful when analyzing your data post swim.

[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".

[Backstroke](#)

This is the correct name for what many people call "back crawl", can be 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".

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.

Mixed stroke type

"Mixed" is what Garmin labels any swim interval that contains more than one stroke type. E.g. An interval that contains 4 lengths, two of which are Free and two of which are Back.

Note that 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. In 2019, the plan is for watches to assign the label "IM" to Mixed intervals that are actually IM (equal parts of each stroke type in the correct order).

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 pull, swimmers hold a pull buoy between their legs and don't kick. All the work is done by the arms. When doing pull, swimmers don't need to use drill mode.

Kicking / Kick Sets

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.

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.

[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. $\text{Swolf} = (\text{number of strokes in the length}) + (\text{time of the length in seconds})$. For example, if I swim a length in 25 second and take 11 strokes, my Swolf score would be 36. Swolf scores can't be compared for different stroke types or different pool sizes.

Recording an Indoor Pool Swim Activity on a Compatible Garmin Device

There are several Garmin devices that will provide indoor pool swim metrics. When creating a pool swim activity, intervals are created by using the Lap/Reset button¹ to pause the activity while resting, and again to start the next interval.

Steps to perform an indoor swim activity

1. Select **Pool Swim** activity profile
2. If prompted, select pool size
3. Press **Start/Stop**
4. Swim an interval
5. Press **Lap/Reset** to start a rest
6. Press **Lap/Reset** to begin next interval
7. Repeat steps 4-6 for subsequent intervals
8. Press **Start/Stop** to finish swim session

Downloading Stored Heart Rate Data From an HRM-Swim or HRM-Tri

The HRM-Swim and HRM-Tri heart rate straps will transfer data real-time for activities like running and cycling where it is stored on the paired watch or head unit. These straps can also store up to 18 hours of heart rate data before the oldest data starts being overwritten. The heart rate storing feature was developed for cases where the watch can not receive heart rate data in real-time, such as during a swimming or under water activity, or for team sport activities where athletes don't typically wear watches such as basketball.

At the end of an activity, if the paired watch determines the following:

1. There was an HRM-Swim/Tri connected,
and
2. There is missing heart rate data (such as swimming)

The watch will automatically start searching for stored heart rate data and download it from the HRM-Swim/Tri.

To handle any cases where stored heart rate data was not downloaded post-activity, there is an option to manually cue the watch to “download heart rate”.

To manually download heart rate data:

1. Put heart rate strap on
2. From the watch, select the saved activity under **History**
3. Arrow down and select the option **Download Heart Rate***

When heart rate data is manually downloaded, a second activity file is created with the stored heart rate. You may have to manually upload this second file to Garmin Connect. This will result in having two of the same activities. One without the stored heart rate and one with the heart rate. The activity that does not display heart rate data can be deleted.

Can I Use the Indoor Swim Activity Profile in a Stationary Pool?

Garmin watches that feature an indoor swim activity profile will not work in a stationary pool. The device's swim algorithm relies on detecting turns at the wall and stops in stroking to count lengths and measure distance.

Distance Alerts for Pool Swimming

For pool swimming, distance alerts are intended to notify the user when they are on the last length of the target distance. This "bell lap" -type of design enables swimmers to modulate their effort and to plan to stop at the wall, rather than starting a turn. The exact timing of the alert depends on the swimmer's pace, stroke rate, and the size of the pool. Typically the alert will activate when the swimmer is approximately one third or halfway into the last length.

Since swimmers are not looking at the watch when they are swimming, the alert includes an audible tone and a vibration*. The tone is best heard when both the watch and the ear closest to the watch are underwater. Sometimes putting the watch on the other arm can make it easier to hear.