

Swimming Information Sheet



Starts, Turns, Finishes and Relay Takeovers

Starts, turns, finishes and relay takeovers can make the difference in the competitive performance of the swimmer. Although swimmers practise starts, turns, and finishes in every training session, the quality of the practice is what is important.

Every training session should start with a perfect competitive racing start. Anything other than this reinforces less-than-perfect technique. Swimmers must do every turn correctly, regardless of the intensity of the training. Similarly, swimmers must do every finish correctly throughout the training session. Relay takeovers are another specific skill that coaches and swimmers sometimes neglect. We believe that relays should be scheduled in workouts at least weekly to give swimmers an opportunity to practise the skill of takeovers.

STARTS

Every start that the swimmer performs in training should be a correct racing dive. At every workout the swimmer should start the warm-up and all sets with a racing dive. This is the only way to have extra practice on starts. Whether the swimmer can do a racing dive in a warm-up at a competition depends on the rules that govern it.

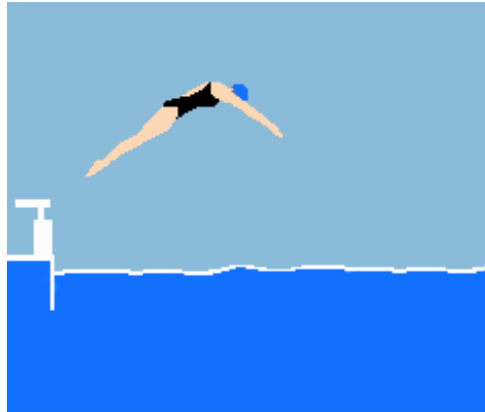
Grab Start

The grab start is one of the commonly used methods of starting in competitions. The better your starting position, the better your dive, so:

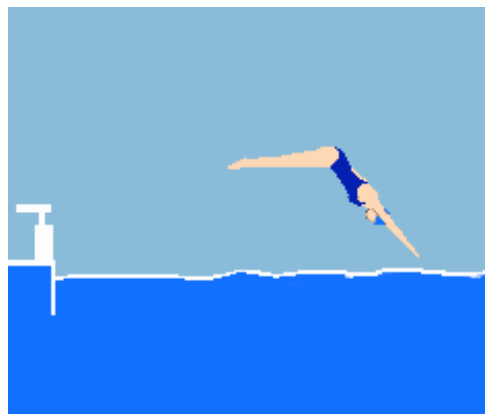
- **Feet** - slightly apart, just within shoulder-width.
- **Legs** - the toes should be curled over the edge of the block for stability and control. As the swimmer bends forward on the block, the centre of gravity will move from the sternum to the base of the spine.
- **Knees** - bending the knees slightly will put as much of the upper body as possible over the block. The swimmer grips the front of the block firmly with the hands, either inside or outside the feet.



- **Head** - tucked in as close to the knees as possible.
- **Hips**- pushed up to shift the centre of gravity back to the pit of the stomach; most of the weight will have now moved to the front of the block.
- **Arms** - should be in a "hands on" position, this means one hand on top of the other. Stretch your arms down, point your fingers to the floor and put your palms on the front of the wall or starting block.
- **Push off** – should drive through the hips, not just the legs. Press hard with the palms of your hands and throw your arms forward.



- **Flight** - arms have reached their extended position, which occurs just before the head drops. Streamline your body so that you go into the water head first.



Track Start

Another commonly used starting position is the track start. If a swimmer prefers this starting position, they need to decide which foot is placed at the front of the block.

The track start has two variations: arms back and arms forward as the swimmer leaves the block. The advantage of using a track start is that swimmers react faster off the block and therefore enter the water faster. This start will also give them a smaller angle on entry, which is advantageous when starting in shallow pools.

CHECKLISTS FOR THE START OF EACH STROKE

Every start in training must be a competition racing start. Butterfly kicking is used from the start on butterfly, backstroke, and freestyle. The reason for using the butterfly kicks is to maintain speed from the start, not for distance underwater.

Butterfly Start Checklist

- To maximise speed off the dive, the swimmer should not begin butterfly kicks underwater immediately off the start. The swimmer holds the streamlined position until a point just before starting to slow. As the kicks speed up, they become shorter and shallower than normal stroking, without excessive undulation. The swimmer should have a firm upper body.
- The swimmer maintains streamlining and underwater butterfly kicking for a maximum distance of 15m. The swimmer who is not proficient at underwater butterfly kicking should work on this in training to attain proficiency rather than accept performing with a less efficient technique.
- The swimmer completes at least two strokes before breathing.
- The swimmer should aim to hit racing stroke rate from the first stroke.

Backstroke Start Checklist

- The swimmer grips the block at the front bar with the fingers over the top of the bar and thumbs under the bar.
- The feet are positioned just under the water surface approximately shoulder width apart.
- The swimmer can position one foot higher than the other to prevent the feet from slipping down the wall during a start.
- The arms throw backwards, aiming to carry the body and hips over the water. The swimmer drives through the hips.
- The entry into the water should be streamlined with a lifting of the legs on entry.
- Streamlining underwater is important, and the swimmer should keep the head between the arms during this phase.
- To maximise speed off the dive, the swimmer should not begin butterfly kicks underwater immediately off the start. The swimmer holds the streamlined position until a point just before starting to slow. The butterfly kick starts at this point. The first kicks are quite slow. As the kicks speed up, they become shorter and shallower than normal stroking, without excessive undulation. The swimmer should have a firm upper body.
- The swimmer should maintain the streamlining and butterfly kicks underwater for a maximum of 15m. The swimmer who is not proficient at underwater butterfly kicking should work on this in training to attain proficiency rather than accept performing with a less efficient technique.
- The swimmer makes a transition to a flutter kick just before breaking the surface and should not stop the leg motion.

Breaststroke Start Checklist

- The swimmer should streamline into the water following the dive to minimise resistance on entry.
- A powerful underwater pull and push-through are important. The underwater pull should be a keyhole (or hourglass) pattern, with the hands finishing the push-through by the side of the thighs. The elbows should be in a high fixed position during the outward and then inward sweep. This underwater pull should not begin immediately because the swimmer should develop maximum speed and distance off the wall while in the streamlined position.
- The head should stay in line with the body during the underwater phase and not drop out of alignment.
- As the hands and arms recover underwater after the pull and push, they stay close to the body with the elbows tight to the body to minimise resistance during this part of the underwater phase. The legs are recovering, ready for the kick phase of the underwater action.
- The swimmer performs a powerful leg kick as the arms extend forward past the head. The arms must be extended forward past the head. The arms must be extended and streamlined to maximise propulsion from the kick by minimising resistance.
- The head should break the surface of the water during the outward sweep of the first arm stroke to prevent any disqualification for two underwater pulls.

Freestyle Start Checklist

- The swimmer should streamline into the water following the dive to minimise resistance on entry.
- Butterfly kicks can be effective if the swimmer performs them well.
- To maximise speed off the dive, the swimmers should not begin butterfly kicks underwater immediately off the start. The swimmer holds the streamlined position until a point just before starting to slow. The butterfly kicks begin at this point. The first kicks are quite slow. As the kicks speed up, they become shorter and shallower than normal stroking, without excessive undulation. The swimmer should have a firm upper body.
- The swimmer should maintain the streamlining and the butterfly kicks underwater for a maximum distance of 15m.
- Just before breaking the surface, the swimmer should change from a dolphin kick to a flutter kick, without allowing leg movement to stop.
- The swimmer should swim a maximum distance of 15m underwater off the dive and turns.
- Swimming should begin before the first breath is taken.

CHECKLIST FOR THE TURN OF EACH STROKE

Butterfly Turning Checklist

- By being aware of how many kicks you perform on the start, the swimmer can hit the first turn on a full stroke.
- The knees should tuck tightly under the body as the two-handed touch is made to ensure that the rotation is fast.



- One arm pulls back under the water and the other arm recovers over the water during the turning action.
- The recovering hand enters the water forward and slightly behind the head.



- As the swimmer drives off the wall they should have the hands together when exploding through the knees and hips to maintain streamlining.
- As the swimmer pushes off the wall they should maintain a streamlined position from the arms through to the pointed toes. The head should be between the arms, neither too high nor too low.
- While streamlining underwater the swimmer should perform the predetermined number of dolphin kicks to ensure hitting the next turn or finish on a full stroke.
- The swimmer should stay underwater off the push and streamline to avoid the rough water. A head position that is too high or too low causes resistance.
- The dolphin kicks should be fast and vigorous, and too ensure streamline position.
- The swimmer should start swimming before the first breath.
- The swimmer should be able to turn both ways. (left and right)

Backstroke Turning Checklist

- As the swimmer approaches the turn and rotates off the back, they should use the recovering arm by crossing over the body and entering the water while turning onto the front. The swimmer can then use the extended arm to pull into the turn.
- When turning, the chin goes to the chest with a mini dolphin kick and the abdominal muscles tighten (by pulling the belly button to the backbone). The swimmer holds the chin on the chest and maintains it there until streamlining off the wall. The pull into the turn and the dolphin kick must be part of a continuous turning action.
- The knees need to be tucked tightly to ensure that the rotation is fast.
- In pushing off the wall the swimmer should maintain a streamlined position from the arms through to the toes.
- While streamlining underwater the swimmer should perform the predetermined number of dolphin kicks to ensure hitting the next turn or finish on a full stroke.
- The dolphin kicks should be fast and vigorous, and too ensure streamline position. This should transfer into a flutter kick as the swimmer starts the first arm stroke after the turn.
- The swimmer should stay underwater off the push and streamline to avoid the rough water. A head position that is too high or too low causes resistance.

Breaststroke Turning Checklist

- The knees should tuck tightly under the body as the two-handed touch is made to a fast rotation.
- One arm pulls back under water, and the other arm recovers over the water.
- The recovering hand enters the water forward and slightly behind the head.
- The body rotates to the side of the arm that pulls back.
- Following the streamlined push-off, in which the swimmer maintains the head position between the arms, the swimmer starts the under water pull. The shape of this pull is similar to that of used for butterfly (keyhole shape). During this pull the swimmer must maintain the level position of the head.
- The underwater pull will finish with both arms by the side of the thighs.
- The underwater recovery of the arms then commences as the legs begin to recover. To maintain streamlining, the hands and arms must stay close to the body during this recovery.
- As the arms stretch forward from underneath the face, the legs perform a breaststroke kicking action. The head stays in a downward position during this phase of the turn.
- Following the extension of the arms and the breaststroke kick, the head will break the surface during the out sweep of the pull. If the hands have started the in sweep before the head breaks the surface, the swimmer will be disqualified.

Freestyle Turning Checklist

- When turning, the chin goes to the chest with a mini dolphin kick and the abdominal muscles tighten (by pulling the belly button to the backbone). The swimmer holds the chin on the chest and maintains it there until streamlining off the wall.
- The swimmer kicks the heels to the butt while going through the turn.
- The swimmer should pull themselves into the turn. The swimmer should not finish the push-through with the arm that took final stroke and then start the turn with both arms by the side of the body.
- Twisting does not occur on the wall. After hitting the wall, the swimmer pushes off and streamlines, twisting after the push.
- While pushing off the wall, the swimmer should maintain a streamlined position from the arms through to the pointed toes.
- The swimmer should stay underwater off the push, streamline to avoid the rough water, and maintain the head position between the arms. A position either too high or too low causes resistance.
- The dolphin kicks should be fast and vigorous, and too ensure streamline position. This should transfer into a flutter kick as the swimmer starts the first arm stroke after the turn.

CHECKLISTS FOR THE FINISH OF EACH STROKE

The following are some points for each stroke the swimmer should consider when working on finishes.

Butterfly Finishes Checklist

- The finish in butterfly may be affected by how the swimmer comes off the final turn because a reduced underwater turning distance will alter the stroke count on that lap. Consistent turning length and stroke count will ensure a proper finish.
- The swimmer must try to maintain distance per stroke on the final lap of the race. If the swimmer shortens the stroke, the swimmer may need an extra half stroke to hit the wall at the finish. The swimmer who needs to adjust the stroke for the finish should have worked out before the final pull to the finish.
- On a finish, the head and face should be between the arms to maximise the stretch to the wall. The swimmer should maintain propulsion from the kick during this streamlined finish. The upper body, arms, and head should all be streamlined to maintain speed.
- During the finish, the hands should be close to the surface, not above the surface.
- The butterfly swimmer should hit the finish with the arms extended, not on a half stroke.
- If the butterfly swimmer is short stroked, they should streamline and kick rather than perform a small sculling action that could be considered a breaststroke pull and underwater arm recovery. The small pull or scull will lead to a disqualification on the finish.

Backstroke Finishes Checklist

- The swimmer should count strokes to enable a finish on the wall with a full stroke.
- The swimmer should count the number of strokes from the flag because they are a constant distance (5m) from the wall. The backstroke swimmer should count strokes for the entire lap to avoid arriving under flags mid stroke and therefore misjudging the finish.
- The swimmer should also be aware that the number of butterfly kicks performed underwater off the start and each turn will affect the number of arm strokes required for that lap. If the swimmer normally takes eight fly kicks underwater and performs 30 strokes for the lap but takes only six kicks coming out of the last turn, that last lap will require more arm strokes. The swimmer must also maintain distance per stroke through the last lap to build consistency on every finish.
- The swimmer should roll toward the arm as it extends to hit the wall.
- While extending into the finish with the arm, the swimmer must be sure to maintain a strong kick onto the wall.
- The swimmer should be sure not to over reach to the finish. If the shoulders go past 90° (relative to the water surface), the swimmer is technically off the back and may risk disqualification.

Breaststroke Finishes Checklist

- What the swimmer does coming out of the final turn can also affect the finish in breaststroke. If the distance underwater is not consistent with the normal underwater pull, the swimmer may surface short and therefore be half a stroke short on the finish.
- The swimmer must maintain distance per stroke down the final lap. If stroke length shortens, the swimmer may need an extra half stroke to hit the wall at the finish.
- The breaststroke swimmer should focus on the wall in the approach to the finish. The finish is made with downward pressure from the hands with the arms extended, pushing the head down and forward to maximise forward stretch. The final stretch should occur as the legs are driving backwards into the propulsive phase of the kick; this action will maintain the momentum into the wall. The upper body (arms and head) should be streamlined to maintain speed to the finish.
- As the arms reach forward for the finish, they should be near the surface.
- The breaststroke swimmer should hit the finish with arms extended.
- If the breaststroke swimmer is short stroked, they should streamline in and get the most from the kick rather than start another stroke.

Freestyle Finishes Checklist

- The swimmer should never take a breath between the flags and the wall.
- On the last stroke into the wall, the swimmer should push the head against the arm that is extending and roll the body to gain maximum stretch.
- While extending the arm to the lateral position, the swimmer should be sure to maintain the kick to the wall.
- The swimmer should not lift the head until after the hand hits the wall.

Relay Takeovers

- Always ensure that the incoming swimmer touches the wall before next swimmer enters the water, failing to do so will result in the relay team being disqualified.