

Swimming with undulations

Principle

This concept defines the way to swim with undulations and shows it's integrating into a new Systematic of Swimming.

The Wave technique is the way to swim based on undulations, carried out under the waters surface, and in combination with motions similar to the rowing technique.

The combination of two full body motions combined with a full arm stroke und a synchronic leg stroke, allows to swim the Wave technique forwards as well as backwards.

Undulations demand the effort of the whole body. They can be applied gently or with very dynamic impulses and allow to swim fast and effectively or easy and economically over long distances.

Guidelines

Forward movement is created primarily by horizontal body wave motions.

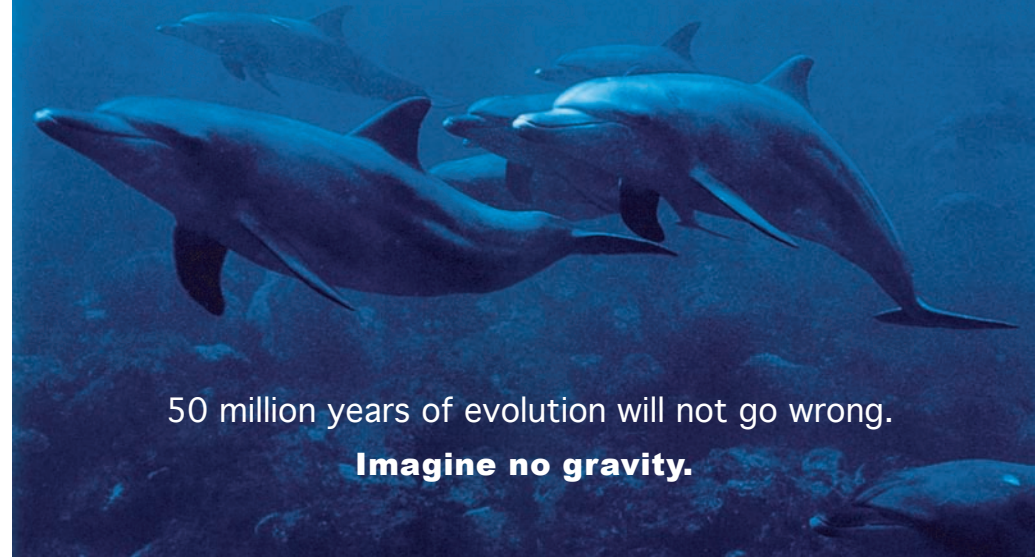
Holding ones breath under water only one stroke with the arms and legs will be done.

While gliding under the surface, the palms of the hands rest if possible on top of each other (dolphin-nose).

Evolution

Our nearest relatives in the water the sea mammals have learned through evolution to optimize the motions that propel their body through the water. They have evolved to use a swim technique based on horizontal wave motions (undulations).

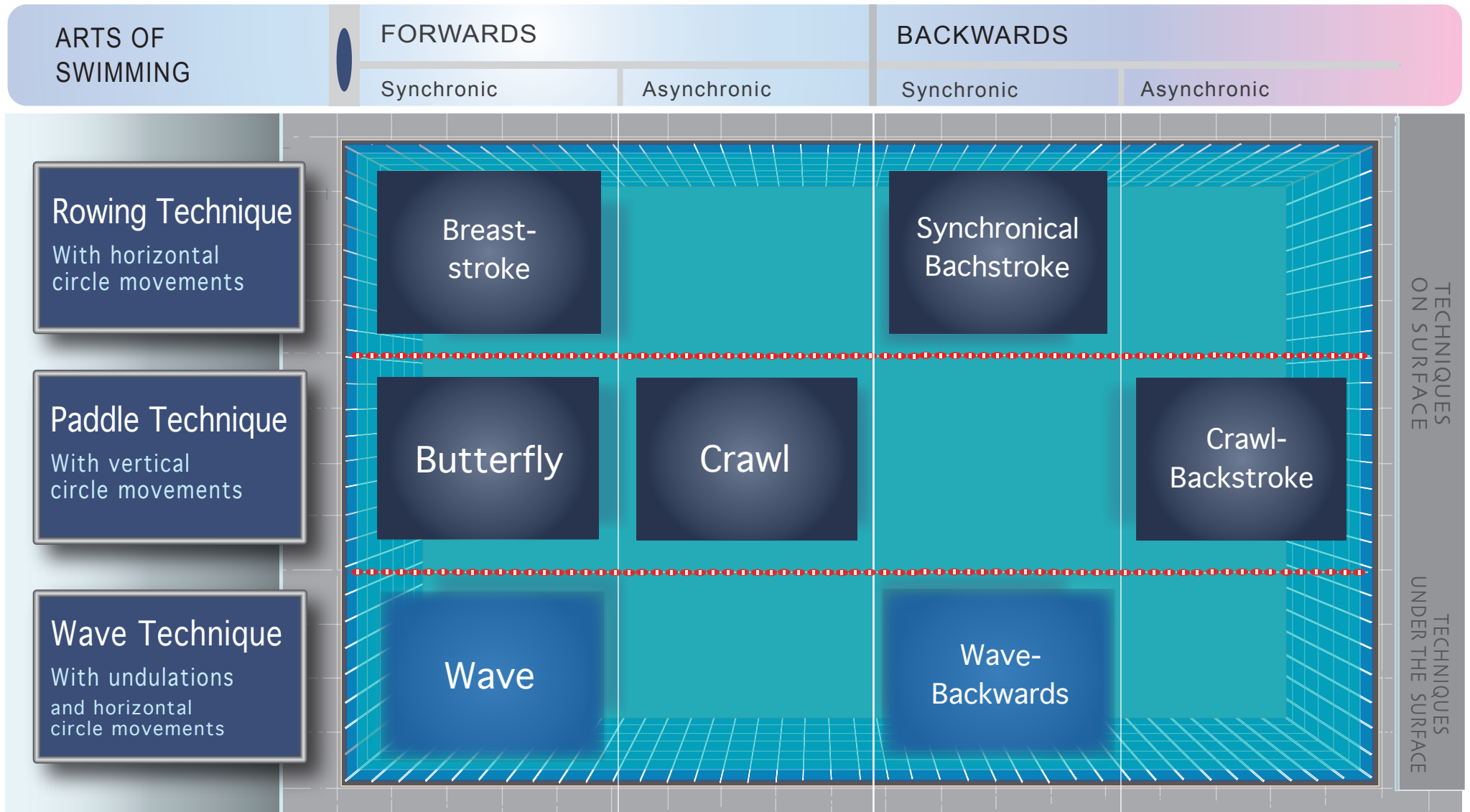
The *Wave technique* follows this idea and applies the same principles to the human physiognomy. An aesthetically pleasing and fast way of swimming is born.



50 million years of evolution will not go wrong.

Imagine no gravity.

Systematics of swimming



Wave (Freestyle version)

The swimming style Wave (Freestyle) is the basic form to define the Wave technique. The technique is based on two “wave motions” (undulations) and can be described as a motion in three sequences:

	Description	Sequences	Guidance
Step 1	<p>Under water the arms are led forward along the trunk until they are stretched in front of the body and slightly above head level. The palms of the hands rest on top of each other (<i>dolphin nose</i>). A synchronical leg stroke comes along. The body follows the direction of the arms and submerges to about knee deep under the surface.</p>		<p>Leg stroke. Under water the arms are stretched out in front of the head. The body is following and diving knee deep.</p>
Step 2	<p>Arms slightly over head level introduce a boody undulation (Wave motion) by the tilt of the palms towards the water surface. The wave motion runs through the whole body and ends with a strong double leg stroke. The arms remain stretched in front of the body and open up slightly in the new upward postion.</p>		<p>The hands introduce a undulation. The arms remain stretched in front of the body and open up.</p>
Step 3	<p>In a slighly downward direktion the arms are pulled back lateral to the body onto a final position beside the hips. At the same time a second undulation is introduced by the palms of the hands - again in upward direction. The head has to follow the direction of the arms too. Through a upward tilt of the body the surfacing is initiated..</p>		<p>With an open position of the arms a complete arm stroke follows, together with a second undulation.</p>

Wave-Backwards

The swimming style Wave-Backwards is quite similar to the forward technique but transposed up side down. This allows to create more efficient movements. To learn the wave technique backwards a nose clip is highly recommended.

Wave-Backward can also be described as a motion in three steps.

	Description	Sequences	Guidance
Part 1	<p>The arms are led over the head and slide in a high arch in front of the body steeply into the water. At the same time the upper body presses down. The body dives under until one overlooks the swimming direction. Synchronical leg stroke.</p> <p>The palm of the hands rest all the time on top of each other (called "Dolphin nose").</p>		<p>The arms slide in front of the body into the water. The upper body is pushing under the water surface. Synchronical leg stroke.</p>
Part 2	<p>A horizontal undulation (wave motion) is introduced by a tilt of the hands into the direction of the surface.</p> <p>The arms remain stretched and open slightly.</p>		<p>A wave motion is introduced by a hand movement. The arms open up.</p>
Part 3	<p>The arms are pulled back along the swimmers horizontal axis to a final position beside the hips. At the same time another wave motion is executed and runs through the body.</p> <p>The surfacing will be initiated by a slight bending of the upper body in direction of the surface. The stretched arms support the posture by pushing down.</p>		<p>A complete arm stroke follows. At the same time a new wave motion starts. Surfacing by bending the upper body.</p>

