PROFOUNDLY FREE

UNDERWATER ON A SINGLE BREATH

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MY FIVE MINUTES OF *PRANAYAMA* breathing is up, and I'm ready. I exhale with a loud whoosh, take a final deep breath and sink my head underwater. It's the first day of our beginners freediving course. I manage a mere two minutes, paling in comparison to my friends' efforts, and the astonishing world record for static apnea (breath holding), which stands at over 10 minutes.

Freediving – diving without artificial breathing equipment – is an undersea adventure of great skill and daring. For many exponents, it's also an inner journey with spiritual dimensions.

It's for freediving that I have travelled to Koh Lanta, in the Andaman Sea off Thailand's southwestern coastal town of Krabi.

The art of freediving is purely to explore the undersea world on a single breath and the key to it is learning how to relax in the deep blue, explains our instructor Marc of Koh Lanta-based Blue Planet Divers.

Free from cumbersome scuba equipment, a freediver can spend minutes underwater and feel the ocean like any other marine mammal does, gliding to the bottom for an encounter with a manta ray, or, as in our case, watch a leopard shark literally sweep right by our faces.

The day begins with the theory and history behind the sport. Marc explains the correct breathing techniques to make us feel comfortable in the abyss.

He demonstrates by breathing in for 10 seconds, holding for two seconds, and breathing out for five seconds. We watch in awe as his lower belly expands like a balloon, followed by a slow hiss as he exhales to control the flow of air. The trick is to learn to breathe using the whole of the lungs and to stretch the diaphragm down, filling the ribcage with oxygen to slow the heart rate prior to descent.

It seems bizarre, especially at the start, and feels slightly ridiculous. But as we learn to draw out respiration while remaining completely calm, we become much more aware and sensitive to our breathing. Marc teaches us to listen attentively to our breath and visualise it, feeling the passage of air through the lungs.

Later in the day, we move on to the pool session to practise static apnea – holding one's breath underwater for as long as possible in a motionless position – which places a great demand on our ability to concentrate.

As I finish my "breathe-up" and duck my head under the surface, I forget about the landlocked world above and try my best not to count the time, to restrain instinct with reason.

Reassuringly, Marc is beside me and we communicate at intervals via hand movements. I give him the signal when I want to surface, on this he gently glides me to the side of the pool and encourages me to push further. By the end of the session, I manage a best time of around two minutes.

Disappointingly, I failed to fight the diaphragmatic contractions that made me feel like I was running out of breath, although they are

actually quite normal. Marc assured us that once we hit this stage we should be able to stay under for several minutes more. I am consoled by the fact that freediving is the toughest form of diving from a psychological point of view.

My friends fared slightly better, with times of around three minutes, having started to fend off the contractions and banishing thoughts of surfacing.

It is possible for the average person to remain underwater for easily four or five minutes with practice, while competitive times are more than double this.

As the day draws to a close, we reflect on the techniques we have been taught and focus our minds on the next day's diving in the deep blue ocean.

On the second day of the course, we head out to sea, and, after dropping off a noisy bunch of scuba divers, we find a quiet spot to practise our newfound skills.

First off, we learn to duck dive. This will help us conserve lots of energy and begin our dive in a more fluid manner – it involves raising one leg and then sliding under – a much more precise technique than sticking our legs in the air to descend when snorkelling.

THE DEEPEST MAN (AND WOMAN) ON EARTH

• Austrian Herbert Nitsch currently holds the world record for No Limits freediving, in which a diver goes down with a weighted sled and comes back up with an air-filled balloon. In 2007, in Greece, he reached a total depth of 214 metres. The deepest woman on earth is Tanya Streeter, who reached a total depth of 160 metres in 2002.

• The world record for a Constant Weight dive (the maximum depth reached by a diver swimming down and back up without any assistance from fins, sleds, lines etc.) is 95 metres for men (set by New Zealander William Trubridge in 2010 in the Bahamas) and 62 metres for women (Russian Natalia Molchanova set in 2009 in the Bahamas).

• The world record for static apnea (breath holding) is 11 minutes 35 seconds set by Frenchman Stephane Mifsud in 2009, and 8 minutes 23 seconds for women, set by Natalia Molchanova in 2009.

Source: AIDA International, the worldwide federation for breath-hold diving

I must admit it's not easy to learn the correct technique straight away – you're meant to leave just a tiny ripple, not the tidal wave I was creating.

After practising the duck dive it's time to begin my "breathe-up" and prepare for my first freediving descent. Marc and I will follow a guide rope to the ocean floor about 15 metres below.

I take my final deep breath; we duck dive and start to descend. I pull myself slowly, steadily down the line. The first thing that hits me is a peaceful sensation throughout my entire body. Surprisingly, I feel an immense sense of calm in this new dimension and become one with the sea.

Interestingly, you don't swim frantically downwards to reach your goal. Everything is very slow and deliberate in order to conserve oxygen.

Descending, Marc and I finally encounter the seabed just short of 15 metres.

I release the rope and swim briefly around the reef before the pressure in my lungs starts sending

PHYSIOLOGY OF FREEDIVING

The human body experiences several changes during a dive, which stem from the "mammalian diving reflex". It's these changes that allow freedivers to dive so deep for so long.

- **Reflex bradycardia:** The heart's pulse rate drops.
- **Vasoconstriction:** Blood vessels shrink and blood is directed away from limbs for the benefit of heart, lungs and brain.
- **Splenic contraction:** This releases red blood cells that carry oxygen.
- **Blood shift:** Blood plasma fills up blood vessels in the lungs and reduces residual volume. Without this adaptation, the human lungs would shrink and wrap into their walls, causing permanent damage, at depths greater than 30 meters.

Source: Wikipedia

Before a competitive dive, freedivers will often hyperventilate to a certain degree. The goal is to reduce the level of carbon dioxide in the lungs and bloodstream. This action stops the brain's warning signals that the body is running out of air.

This is dangerous as the oxygen level in the blood is not increased and can contribute to shallow- or deep-water blackouts. Trained freedivers always dive under supervision when they compete. All safe freedivers have a "buddy" who accompanies them, observing from within the water at the surface and, if necessary, scuba divers below the surface.

Due to the nature of the sport, safety is an integral part of freediving. Without proper training and supervision, freediving is extremely dangerous.

me warning signals. I reach for the rope and start to climb again. Calmness and economy of effort are essential at the turn-around point, I had been warned, to conserve oxygen and keep the pulse rate low. Other instructions: don't exhale (as you need all the air you can get); don't look up (it can stop the blood flow to the brain and lead to a shallow water blackout); and don't get faster towards the end. Above all – never panic.

Finally I break the surface, fix my eyes on the horizon and take several deep breaths. Marc has followed me all the way and he makes sure I give him the "okay" sign before we both relax. He knows that most freediving accidents happen in those last few moments.

We carry on practising before taking a break for lunch and then spend the afternoon exploring the underwater world; the perfect conclusion for our two-day beginners course.

The godfather of freediving, Jacques Mayol (his rivalry with Enzo Majorca was immortalised in the cult film *The Big Blue*), once said: "The sea is neither a territory to conquer, nor a boundary to cross. The sea is a friend." Perhaps freediving is not extreme at all, but something we were all born to do.

COMPETITIVE FREEDIVING DISCIPLINES

Static Apnea
Maximum time holding breath while submerged in water. This is generally done face down in a swimming pool.

Dynamic Apnea
Maximum distance covered horizontally under water.

Constant Weight/Constant Ballast
Maximum depth reached by a diver by swimming down and back up without any assistance (e.g. line, sled, etc.). Records exist for both with fins and without fins.

Free Immersion
Maximum depth reached by pulling oneself down and up on the competition line. No fins are used.

Variable Weight/Variable Ballast
Maximum depth reached by a diver on a weighted sled before swimming back to the surface either by kicking and/or pulling on a rope.

No Limits
Maximum depth reached by a diver on a weighted sled before being pulled to the surface by a lift bag that is inflated by the diver at depth. This is the discipline that receives the most publicity because of the extreme depths that have been reached. It is also the discipline that has given the sport the most bad publicity because of one or two highly-publicised accidents.