



spear tips

with Glenn George

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My name is Simon Wilson, I live in Grafton only an hour away from you. My mates and I are fully into spearfishing and have done it most our lives as we are 18 now and just starting uni, we are just getting up to date with the most recent gear and are producing some very good fish, including jew up to 28 kilo. The question I have to ask you is - I want to be able to hold my breath longer, can you tell me the best thing to do to improve my ability to hold my breath under water?.

Hi Simon,
Sounds like you are getting some nice fish mate, keep it going, I know plenty of guys from down South who would kill to nail any Jewfish, let alone one of 28 kilos! If you guys ever want to come down Coffs way for a dive just give us a call.

My knowledge of freediving and breath-hold has essentially been self taught through years of trial and error, a lot of reading and a lot of advice from others. Firstly let me just say that nothing beats experience and practice. The mental side of spearfishing is huge, not only for breath-hold but also in terms of locating your prey, assessing the situation and the particular fish's reactions and movements, your dive and approach and your skill in placing a shot and ultimately playing out the fight. Never underestimate the importance of all of these things, in my opinion they are far more important than being able to hold your breath on a freedive for over two and a half minutes while diving to 35 metres (although it's a nice bonus if you are able to do it!).

To me perhaps the most critical first ingredient to good breath-hold diving is relaxation. In this regard your heart rate is the key. Lower heart rate = less oxygen being consumed = more time underwater. Note here I said good breath-hold diving, not breath-hold alone. There can be significant differences between having a good static breath-hold (eg. face down in a pool) and being able to stay relaxed and focused while swimming down and stalking a fish in over 20 metres of water. Although at the end of the day the fundamentals of breath-hold are the same, there are so many factors to consider when holding

your breath to stalk a fish.

Fortunately for us our bodies have an automatic, pre-programmed reaction to the stimulus of submerging our faces in water, called the mammalian reflex. This reflex immediately encourages our heart rate to slow when we submerge our face in water, preparing our bodies for the likely depletion of oxygen we are likely to experience. This is useful, but if only it were that simple....

Relaxation requires consideration of both mental and physical aspects. Ever noticed what your heart rate does when you spot that great fish you have been chasing for weeks, months or even years – at that point the mammalian reflex isn't counting for much! Suddenly your heart rate is racing and even getting down 10 or 15 metres might be a struggle, at a time when it is especially critical to remain calm and non-aggressive to ensure you don't alert the fish to your intentions. In these situations there is, unfortunately, no substitute for experience. You need to stop and take stock of the situation, re-focus on the job at hand which needs to be a slow, relaxed and non-aggressive descent and stalk of the fish. Try to concentrate on slowing your breathing and your heart rate down rather than what your mates are going to think when you land this big one – remember it's not in the ice box yet!

In terms of your breathing, a very useful technique to ensure you are utilizing the full volume of your lungs is diaphragm breathing. The diaphragm is the most efficient muscle of breathing. It is a large, dome-shaped muscle located at the base of the lungs. Your abdominal muscles help move the diaphragm and give you more power to empty your lungs. As you begin to inhale focus on expanding your diaphragm down and your abdominal area out, visualising the incoming air filling the very bottom of your lungs first and working it's way up. Similarly during exhale you visualise emptying the whole of your lungs from the top down, tightening your abdominal muscles and letting them fall inward (don't force the air out, just let it happen). This basic technique (in some form or another) is practiced by almost all top freedivers and, after some practice, can be very useful. There

is plenty of information on this technique, and how to practice it, available on the internet.

Another technique practiced by many freedivers is called "packing". Essentially what you do is after you have filled your lungs with your final deep breath, you keep taking a number of small, short sharp breaths and visualise swallowing the air until you can take no more. This is a more advanced technique that requires practice but when completed by an experienced freediver it can give you that extra edge.

There are a few other things you can do to help with your breath-hold freedive. Sometimes while lying on the surface preparing for a dive, especially if there is no current and it is going to be a deeper dive, I like to very gently 'shake' my quads (upper legs) to ensure they are stimulated and well oxygenated. These muscles are the biggest users of oxygen in your body and are critical. I don't know how much this affects my dive but personally I think it helps me. Of course this is not always possible or practical where you are diving in a strong current or if you need to dive quickly, but it is one to always keep in mind.

Once you leave the surface, it is super critical to stay relaxed and conserve energy wherever possible. Once you pass about 6-8 metres you should be able to use your momentum and decreasing buoyancy to just sink without further kicking. One way of getting a very good idea just how important it is to stay relaxed is by practicing in a pool (always with a buddy). Try completing 25 or 50 metres underwater going hard, and time yourself. Now try again only using super slow movements and hardly any kicking. You will surprise yourself, it is amazing just how long you can hold your breath and just how good you can feel at the end of a slow 50m conserving your legs versus a hard one that took half the time.

You need to try these types of things to find what works best for you. Undoubtedly two of the best divers I have speared with are Greg Smith and Ian Puckeridge, yet each of their styles is completely different. Greg leaves the surface with barely a ripple and absolutely everything is in slow motion. This acts

not only to ensure his bottom time is maximized, but also that his prey is not spooked. On the other hand, if you're a super fit breath-hold machine like Pucko relaxed and slow doesn't seem to matter so much. Pucko has an amazing ability to be able to swim all the way down (deep), spend time swimming on the bottom, return to the surface, keep swimming quickly and re-dive at will. Unfortunately not all of us have his ability, so keep testing and trying things until you find what is the most comfortable for you personally.

When diving deep, a good idea is to ensure you are descending as vertically as possible. It is very easy to get a bit disoriented and descend on an angle, wasting valuable time, especially if you can't see the bottom. In these situations some divers like to actually 'drop' their gun in front of them on the way down for a couple of seconds and follow it, to ensure they are descending straight down. Also on the way down, be careful not to breathe too much air back into your mask to equalize the pressure on it. You can easily blow air out of your mask, losing valuable O2.

Once on the bottom, minimize your movements and use your legs as little as possible, and ALWAYS keep thinking about your return to the surface. Too many divers have drowned by getting over-focused on the fish they are targeting and not on ensuring they can return to the surface. On your ascent, especially the last 10 metres or so, it can be useful to take more, smaller kicks primarily driven by your lower legs and feet, rather than using your oxygen consuming quads. On the way up after a very deep dive, another technique used by some divers is to "re-breathe" the air you blew into your mask to equalize the pressure on the way down. That is, as you ascend the pressure reduces and the air in your mask expands, and it may be possible to access just that miniscule bit of extra oxygen you need to ensure you reach the surface safely.

Out of the water, there are plenty of things you can also do to help your diving. Good fitness is essential if you want to dive long and hard. Pool training can be great, and bike riding is a very good activity to build up your fitness and the capability of those quads. Other activities can include walking or running using 'interval' type techniques where you hold your breath for a certain number of steps and then recover for a further fixed period, and do it all again. My father and uncles, when they were younger, used to practice by going jogging and holding their breath between every second pair of telegraph poles. Believe me, try this for a while and you will know you are alive. For walking you can ultimately build up to something like holding your breath for 1 minute followed by recovery for 30 seconds, however don't try this straight up, build up to it over time!

Of course at the end of the day, nothing beats just continually getting out there and spearing. And as I mentioned earlier, never underestimate the importance of the mental and experience aspects of spearfishing. Time and time again I see the young, superfit divers who can fish in over 25m still being outdone by older, possibly shallower diving but more experienced spearos. The young ones that do well have spent a lot of time in the water, diving with and learning from the experienced guys as often as possible, and have got their heads around the sport. Once you achieve this, you are well on the way.

*Hi Glenn,
I can't wait for your regular column to start, as I'm a keen young spearo.*

Glenn I have a question relating to wetsuit thickness. Growing up in the Northwest of Australia and diving in the Dampier Archipelago the water was so warm that most of the time I dived in shorts and rashy, but towards the winter months you would still only need a 1mm steamer on. I have recently done a full 180 and have been relocated to Albany the Southern tip of Western Australia for work purposes. The yearly water temp down here ranges between 16-19degrees. Now this is freezing for me, but what is the go with wetsuits. I find that in a 5mm wetty that my movement is restricted by half and I need three more weights to get to the bottom. If I use a 3mm wetty I have a lot more movement, use less weights but I only last a couple of hours in the water due to freezing my butt off!!!!. Please tell me there is an answer to surviving all day in cold water and not feeling like Mr robot man.

*Cheers,
Brett Gillespie
Albany, Western Australia
P.S killer mag guys keep up the good work.*

Hi Brett,

Unfortunately what you are describing is an issue we all face when winter falls upon us (unless you live in the far tropical north), and unfortunately there is no single answer that will completely solve your problem. Cold water is cold water and you need to wear an appropriate amount of rubber to ensure your body stays warm. Water conducts heat far more efficiently than air, and so your body loses far more heat more quickly when submerged in water. This is the reason you will eventually get cold even in apparently 'warm' water, if you stay there long enough.

There is nothing that will ruin your bottom time more quickly than getting cold. My general philosophy is better to be a bit too hot than too cold, although many deeper divers try to minimize the amount of rubber they wear as it in turn affects the amount of lead they need, which needs to be minimized to dive deep and return to the surface safely.

There are a few things you can do to help:

1. Ensure your wetsuit is of high quality and fits you well. It is worth spending some time doing plenty of research and, if possible, trying on as many suits as you can to get one that fits well. Make sure it is one made for spearfishing.

2. If the suit is made for spearfishing then it will generally have a hood attached to the jacket. You lose more heat through your head than anywhere else, so a hood is an absolute essential in cold water.

3. The most flexible, warmest wetsuits available are completely un-lined inside and out. Unfortunately it is a trade off, as these suits have a couple of drawbacks. Firstly they tend to be at the top end of the market, so although they are mostly very well made they are expensive. Secondly these types of suits are most definitely NOT suited to rock hopping, or spearfishing where you will be crawling along a rough bottom or diving into ledges and caves, or chasing crayfish. They are really best suited to deeper open water type diving.

4. Possibly the best compromise is to get a suit that is lined on the outside and un-lined on the inside. Although suits that are un-lined on the inside

are not so easy to get on (you need to use lubrication – not fun in the middle of winter at the boat ramp) they do tend to be far more flexible and warm, and they tend to hold the flexibility for longer than a suit that is lined inside and out.

5. Consider toying with alternative suit arrangements. One option is to use a 3mm suit and add a vest underneath it, and although that arrangement is still not quite as warm as a full 5mm suit, it's not bad. Some people also like long johns which provide some good warmth and give you the vest arrangement, however I am not a personal fan as they are a problem if nature calls.

6. If you are only diving with a steamer (surf type suit) a cheap alternative can be to just add a vest with attached hood. These are available from most good dive stores. 🐟



We have 8 x Fil-O-Fish reference books (valued at \$49.50) which we will be giving away with every letter published in the Spear?Tips section over the next couple of issues. So congratulations to last issue's winners Nathan Evans and Nick Gerrard and this issue's winners Simon Wilson and Brett Gillespie. Don't forget to include your mailing address so we can forward you this great little reference book should we publish your letter.

For more details on the Fil-O-Fish reference book see page 31

FISH-HOLD