

# What actually is a good diving trim and why I need it for back kicks?

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I started outdoor adventuring several years before the university starting with long mountain hikes for several weeks. During the following 13 years, I transitioned from whitewater kayaking and a bit of climbing to taking on caving and dry cave exploration expeditions. Around the post-COVID times, I added paragliding and also SCUBA diving with my university BSAC club. Alongside being a scientist (biologist, bioengineer, and recently a data scientist) and traveller living in a homebuilt van, it tells something about my obsession with learning new things and adventure.

After leaving my university, I have been struggling a little bit to find my way within diving. I prioritised diving and paragliding and a bit of caving for the last several years but often struggled to find diving buddies when travelling, progress further, and practice skills and leadership rather than just dive with a guide. I also realised that diving and cave diving, unlike many other outdoor sports, have the potential to be much more than just free time activities and there is a path to connect them with my scientific interests and have a positive impact in the world. Through the NextGen Legacy project, I got the fantastic opportunity to join the Technical Fundamentals with Dorota Czerny and through it get to know the GUE community and projects a little. I got so excited about GUE specifically because it promises to do something useful and scientific using diving and I heard it's not difficult to find buddies with a growth mindset in GUE wherever one goes around the world. I also knew the Fundamentals had a reputation for being a very rigorous course that really takes diving skills to the next level. Some of the skills like perfect buoyancy, motionless floating, and precise kicks have been my focus for a while.

## Before the course

Several months before the class, we received the online learning. The new adaptive learning platform is really well made with thorough explanation, although it's only just getting rolled out. I was asked to assess my level of prior knowledge from beginner to expert on each module. A beginner would get explanation first while expert would



be asked questions beforehand. In all modules, I undervalued my experience compared to how the system assessed me afterwards. Because I was so keen to get the most out of the class, I didn't want to miss out on anything even if it takes longer. But towards the end, I started to trust the system more to actually adapt to my existing knowledge. It seems to work a lot more reliably than comparable systems that claim to be adaptive. I enjoyed a challenge of being asked first, I might

have learnt more that way as it was more active and the system didn't make me feel embarrassed if I didn't know something that wasn't yet covered. I particularly liked the videos on kicks and one video specifically mentioned one of the common mistakes that I could identify with. I didn't know the system was so new so I only left a couple of comments on questions I didn't find too clear but it was lovely to hear later how actively are Doro and her colleagues working on developing the system and reviewing the comments.

At the beginning of June, I arrived in Cala Gonone, Sardinia, for my course. I also met Jenn and Andy (the NextGen scholar from 2022-2023 now organising the programme and another Trainee doing her Instructor, Rescue and Cave 1 courses) and my new teammate Federico. We are relatively similar in experience with Federico, on paper and underwater. We also had a very similar mindset trying to get the most out of the class and asking a lot of questions so it was really pleasant.

While there was a lot covered during the course, I will focus on a few key aspects that were the biggest takeaways for me and which on their own would make the course worth it for me. I mainly came here with the goal of finally getting my back kick right and otherwise, I was very open to soaking up anything new and really tried to detach myself from the goal of passing. On the other hand, I took the class very seriously and couldn't help but try to do a fair bit of preparation (which for fundamentals is quite challenging not really knowing what to expect and not wanting to engrain bad habits).

On the first day, we had a bit of theory, gear preparation, and a first dive. Doro mentioned that we would focus a lot in the first few dives on our trim, stability, buoyancy, and four important kicks – frog and flutter kick, and their modified versions. Having those really mastered would then make all the future skills and drills much easier. It seemed the first day might not be too embarrassing, none of the



skills were new to me although they were still not perfect. Buoyancy has been my focus recently, priding myself with fine adjustments and control by conscious breathing. I frequently ask buddies for feedback on my trim and I usually get advice whether I am a little head-up or head down depending on configuration which I learn from. That is pretty much what trim meant to me before the class. It would be nice to stop the occasional slight forward movement when hovering. I have been frog kicking since the first dives but flutter kick was something I barely used (or found useful seeing its common execution) aside from turbo swimming mode to following an angel shark :D

I saw on some photos and heard recently from my tech instructor that I have a problem with dropping my knees in frog and back kick but we didn't have time during my recent lesson to focus on this and I couldn't figure out how to get enough power and mobility without dropping knees and why it was important (aside from not kicking them to the bottom).



## **So much I learnt about trim!**

During the class, it was the first time I heard in so much depth about the correct body tension, flattening back, and pelvis tilt. All the know-how about body tension and position was really the biggest revelation for me from the whole class. It didn't come straight away, probably around day 3, I started actually getting what it is about and why it is important. I was fascinated when Doro mentioned that when she appears motionless, it's not actually doing nothing, it's really about anticipating the water movements, purposefully changing a tiny amount of the core position/tension and counteracting mindfully any effects of her other motions or external factors. It sounds like magic I really want to learn!



We kept working on this throughout the course and every day, I felt I understood a little bit more, especially, when we demonstrated in the classroom that it's actually physically impossible to bend at the hip with the right trim applied. Somehow I needed that real-life experience and all the targeted feedback, swimming around in a 3.5m deep square playground and learning to be more mindful about what I feel in the body.

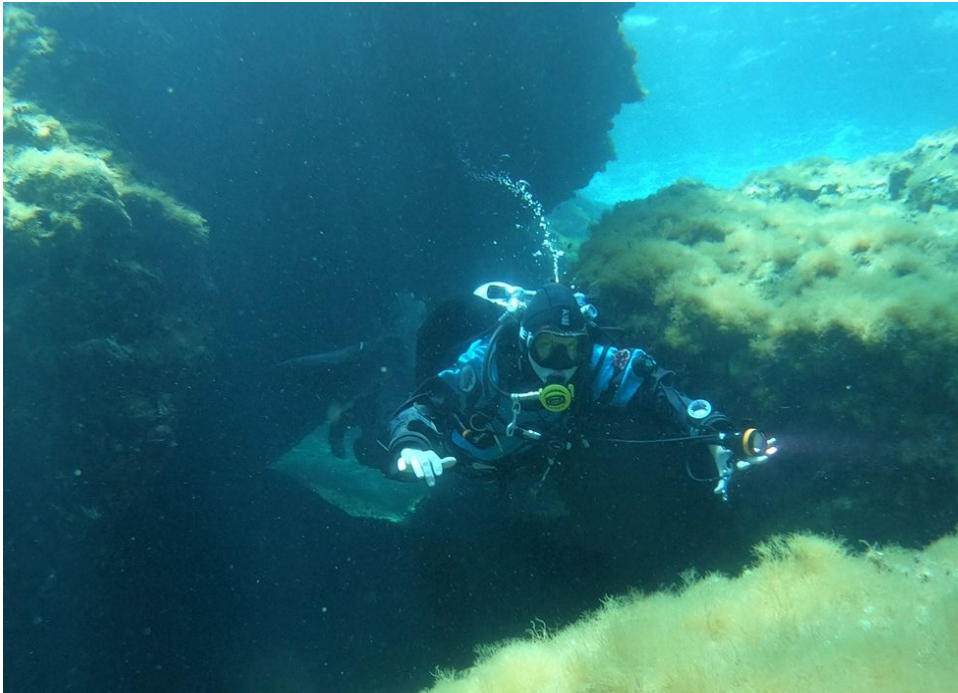
## **Back kicks**

From the second day, we started doing back kicks and at the end of the day more communication and working together as a team. Sometimes I wonder, why I struggle with the back kick while my helicopter isn't bad and it should be a combination of a back kick and a frog kick. I sometimes get my legs a little tangled when I want to do the helicopter kick super fast but I went slow and controlled during the class and was really happy when Doro thought it was quite good.

The back kick needed a lot more work. For a long time, I had the issue of rising as I did the kick. It might have a bit to do with looking down or holding some amount of breath when I concentrate but

for the majority, it was probably from not understanding proper trim, pulling knees down, not twisting fins to the sides enough, etc. When I didn't see myself before the class and only saw the common mistakes, I thought my fins were pointing too much upward in the loading phase. I believed that my rising problem would be improved by reaching feet really low down in the loading phase which made me go horribly out of trim, especially with knees-down, and while it would somewhat stop me from going up, it just was all wrong and I need to unlearn this.

It was really valuable to see myself on a video and get personalised comments. In the end, it is a combination of many factors, some of which I knew about but didn't know how to actually apply and which ones were my personal most significant problems. Stay in trim, look up to a fixed point,



load slowly with fins together (and don't lose balance), properly twist the blades outwards, don't let the knees drop and keep pushing the pelvis down, don't forget to breathe, do it all slower, don't get frustrated if the first few kicks don't move me back... A lot to practice and coordinate but I definitely improved a lot, especially as the class progressed.

## Bringing it together

In the following days, we had a few dives in slightly deeper places and I could see an amazing amount of progress in myself and Federico (and our common performance regarding communication) in such a short time. Practice in the shallows and lots of kicking with mindful attention to trim, stability and fin position, and back kick practice gifted me a few moments of almost surreal motionless hovering when watching a demonstration, doing a valve drill and DSMBs with little movement from the mark, and some nicely controlled ascents. In the beginnings, Federico and myself would do a new gas sharing or valve drill and shift a probably two meters away while doing it, by the end, we could communicate and collaborate much better and keep much closer to the mark.

After the course, we both had a few million of curious questions and when we both got our outcome. I am really proud I got the Tech Pass rating. As someone with cave diving ambitions, I was so far always separated by at least one more course from learning to cave dive. I feel I wouldn't want to jump straight into a cave course today, without properly digesting and practising everything I learnt. But it is a strangely cool feeling to get the approval that my skills are getting to the right level, especially coming from GUE!

I am quite ambitious so during the course, I wouldn't allow myself to go for less than 100% effort and performance I am capable of but I came with the expectation of learning a lot even if not necessarily passing. Although passing would be fabulous as it would allow me to take part in a lot of projects straight away. I am really glad I spent a whole one evening writing any little note, comment and tip I could remember mentioned. There is so much I didn't have a chance to write down right away (especially from surface debriefs) and now, a few weeks after the course, I would have probably already forgotten most of it otherwise.



I would like to wholeheartedly thank Doro for volunteering her time and knowledge and I can truly say it moved my diving a lot further and opened a lot of new doors I wouldn't otherwise know existed. I also believe Doro is a really inspirational character and a fantastic mentor. Although I have

been nerdily reading books and forums, watching videos about better diving, and practising, the course still went a lot beyond and revealed things I didn't find anywhere else. I kept saying I need truly critical diving buddies and teachers with high standards to help me reach the next level of perfection and I have not only found it during the course but also in other GUE divers I met so far. From my perspective, I needed to live through the course in all its length, I wouldn't have learnt the same on my own. I wouldn't have got the crucial feedback of which specific mistakes I was doing and how to correct them. Doro has a great eye for spotting problems and suggesting improvements and I also didn't feel overwhelmed by all advice at once. I was amazed by the pace of the improvements in both of our performances – with the right feedback, course structure, a skilled mentor and our own motivation, we learnt really fast!



I would also like to thank Federico for being a great teammate and Jenn and everyone else involved in organising the NextGen Legacy project. Also thank you for Base1 for the logistics. Taking the course in Cala Gonone allowed me to meet some other divers coming for their cave courses and cave diving. Although no project work was planned for the time I visited, it was my first encounter



with GUE community and I like the vibe where all divers can be confident in each other's abilities and attitude. We might not know each other but and can jump to the water as teammates without fear – especially as I often struggle to find reliable buddies on travels. I hope to get involved in GUE diving, projects, and expeditions soon and maybe even make them part of my next job as a scientist! Thanks, Jenn, for being an inspiring example!