

Diving? The Best Therapy

Abstract: This essay charts a student's journey in which she learns that scuba diving offers relief from the stresses of everyday life but also provides an entry into an exciting academic career.

The writer describes her earliest dives including certification in the Aegean Sea and the friendship she forges with one of the country's leading dive instructors. As her experience grows, she realizes that her passion for the underwater world would lead her to the University of Miami to study marine science. However, an unexpected turn of events early in her university career interrupted her diving at a time when she needed it most.

“ In a world full of hate, it's important to hope”

- Michael Jackson

The first breaths that I took underwater distracted me from the moment that I found out about Cole. *It was 3:00 am on a cold January morning and I got a call from a friend that Cole had been attacked and was in a coma adding that things were not looking good for him. I quickly became overwhelmed by the situation and decided to look up flights that I could take to Australia to be by his side. Realizing that a round trip ticket was upwards of \$2,000, I began to realize that I may never get to see my best friend again. I began to hope for the best and that he would pull through. I took solace in walking through the forest by our house until the sun began to rise. The following day news broke that Cole died of his injuries, and I began trying to convince my parents to let me fly back to Australia and attend the funeral. With their response being a strong no, I knew that I would have trouble finding the closure that I would need. Yes, his attacker did get sentenced to seven years in prison but I never got the chance to say goodbye to my best*

friend. As I began to descend I was fascinated by the marine life- *Carcharhinus perezii* (Caribbean reef sharks) darting about, *Muraenidae* (moray eel), *Nephropidae* (lobsters) and *Diadema* (sea urchins) to name a few. As I began to near the sandy bottom the bow of a shipwreck became clearer and clearer, sitting five meters off of the ground. The dive was phenomenal; I was for the first time in months in a world of my own, free of worry, sadness, and stress. I fell in love with this feeling immediately and knew that this was something that I wanted to get involved in more.

Three months later, I was surfacing from my fifth dive in the Aegean Sea, concluding my Open Water course, signifying that I was now a certified diver. Eager to continue my dive education and better my skills, I began to look for training opportunities near home. Pittsburgh is not renowned as a scuba diving destination, but I found a local dive store where instructors were able to certify me as an advanced open water diver. By now I was well and truly hooked and knew that I wanted to develop my knowledge as far as possible. My Dad had bought me a copy of *SCUBA: A Practical Guide for the New Diver*, one of the best-selling scuba books on Amazon. The book highlighted the importance of dive safety, noting that many agencies are driven by turning over a large profit- allowing new divers to take a course within a day or two- putting safety and essential knowledge and skills in the backseat. I was stunned to read near the end of the book that the author, James Lapenta, lives near Pittsburgh. I had already learned a huge amount from his book, and my Dad suggested that we get in touch to see what he would suggest I do next. A phone call later, and we were set to meet Jim, at a Starbucks near his house. We had a great conversation about my diving interests, and at the end, Jim told me that he would be interested in taking me on as a student. I hadn't realized at the time, but I was being interviewed! The next step was to meet Jim at his training pool and allow him to assess my in-

water skills. A few weeks later, and we met again at Dive World, a scuba center around an hour from home. I didn't know then that I would become very familiar with their pool over the next three years. Jim and I spent a couple of hours in the water as he put me through my paces, and gave me some advice to improve my basic skills. At the end of that session, Jim told me that he would take me on as a student - a great honor as he only works with a limited number.

What followed has been three years of excitement and challenge that has set the course for my academic studies and my future career. Training with Jim allowed me to develop advanced skills to cope with all sorts of conditions and to develop techniques that will support my exploration and study of the marine environment. Jim started to rely on me as a demonstrator, showing skills to his students whilst he taught them. I did this most frequently on his rescue training program and this made me appreciate the role of emergency medicine in dive settings. I took advanced training courses as a dive emergency management specialist, as well as in first aid, and cardiac defibrillation. I realized that this was an environment in which I wanted to work, and sought out opportunities to learn more. A highlight was a class at the London Diving Chamber, a hyperbaric center at the Hospital of St John & St Elizabeth in London, England.

I was fortunate that family holidays and my parents' business trips have allowed me to dive in different locations allowing me to take other advanced diving courses, and to see a variety of different marine environments. Two summer marine science programs



allowed me to learn about things like conservation and coral repair, and I knew that this was where I wanted to focus the next part of my academic career. I was excited to secure a place at UM. Not only would I study marine science, but I'd be able to study in a pre-med program - and do lots of diving!

Grouper Season. September 1st, 2018 is a day that I will never forget. A two tank dive was scheduled for that day up in Jupiter with the UM SCUBA club. The weather was glorious, and the water was warm, a nice 81 degrees Fahrenheit. The water was neither flat nor rough - just a little bit choppy. The dive site called Wreck Trek had three shipwrecks sitting at about a depth of 90 feet with approximately 800 feet separating the first ship from the last. The sea around the wrecks was filled with giant groupers the largest weighing upwards of 500 pounds, and lemon sharks. Thirty-five minutes into the dive my buddy was running low on air. We began to ascend slowly, taking care to complete a three-minute safety stop at fifteen feet/ five meters to minimize the risk of decompression sickness. *Decompression sickness is caused when nitrogen bubbles do not fully dissolve and go into the blood and are dissolved in the tissue.* As we surfaced I immediately began throwing up, I had a killer headache and I was disoriented to the point that it appeared the ocean was spinning around me. Knowing that something was not right I decided to sit out the second dive, where I began to develop joint pain. Upon return to campus, I noticed that a blotchy rash had developed on my shoulder and was spreading down my arm. I immediately called Divers Alert Network, an insurance company for divers which provides a 24-hour emergency medicine hotline. Knowing that I had four major symptoms of decompression sickness I was unsure of what should be done. Was I overreacting? Or was I actually sick? The doctor on the phone listened to me describe my symptoms and told me that I should head to Mercy Hospital as soon as possible, as they were very concerned that I might have

decompression sickness. Whilst Mercy Hospital is only a mile from the Coral Gables campus, it serves as the diver recompression center for Florida and the Caribbean.

Dive doctors concluded that I did indeed have decompression sickness but wondered what caused it. I dove a conservative profile, under 100 feet, did not exceed no decompression limits, completed a safety stop and dove on nitrox. *Nitrox is a blend of oxygen and nitrogen where the oxygen concentration can range from over twenty-one percent to 100 percent.* Doctors began to investigate possible causes and a hole in my heart called a patent foramen ovale was discovered. A patent foramen ovale is when the foramen ovale fails to close. The foramen ovale is a hole in the wall between the left and right atria of every human fetus. *A bubble test is where a bubble is entered into the bloodstream and images are taken with an echocardiogram. This test can conclude whether or not a hole in the heart is present.* It turns out that this hole was responsible for two strokes that I previously suffered, the blood clots traveled through the hole and into my brain. After 30 hours spent in the hyperbaric chamber over five days, to remove the effects of DCS, we consulted with a cardiologist who is also an advanced scuba instructor. He said I had three choices: to stop diving altogether, to limit myself to very basic dives, or to have my PFO repaired. He and I knew that only one of those options was acceptable. I was scheduled for heart surgery over fall break back home in Pittsburgh. In order for the heart surgery to go ahead, I needed a transthoracic echocardiogram to measure the dimension of the hole and so that the correct size of the device could be ordered. The scan showed that I had an atrial septal defect which is a failure of the septal tissue to form between the atria, which is considered a congenital heart defect.

October 18th, 2018. It was just after 3:00 pm and I was wheeled into the operating room- 4 hours behind schedule. As I lay on the table my legs were being scrubbed with iodine. Before I

knew it I had been injected with lidocaine and one of the three interventional cardiologists in the room dug the scalpel into my leg in two places. I winced in pain, and more lidocaine was injected. I questioned why I had not been sedated yet and was told: “Oh we don’t like to sedate patients during heart surgery if we can help it, we only do it if something goes wrong”. A short two hours later and I was wheeled out of the operating with a brand new gortex occluder placed in my heart, sealing the hole.

October 27th, 2018. It was just after 11:30 am when my phone began to continuously vibrate. I saw several missed calls from my parents, text after text from friends, and a BBC headline stating that there was a shooting at the Tree of Life synagogue shooting in Pittsburgh and at least eight people were dead. The synagogue is only half a mile from my house and a place that I passed to and from school every day for five years. In the coming hours, there were a few friends that no one had heard from and we began to fear for the worst. Thankfully they were okay, just following orthodox traditions, meaning that they are not allowed to use technology until Shabbat had concluded. The first name that was released, Dan, was a family friend. Joyce was another family friend who lost her life during the senseless tragedy.

This was the second incident in a matter of years where I lost people that I cared about due to hate crimes. Cole was murdered by a stranger. The reasoning? One will never know but those closest to the murderer claim that it was done in the spur of the moment out of jealousy. Cole had a prosperous life ahead of him, at 18 he was on track to follow Billy’s, his brother, footsteps to be an Olympic water polo player. Dan and Joyce along with nine others were murdered for being Jewish.

Regrettably, I was unable to attend the funerals and again knew that I would be unable to find the closure that I need. Unfortunately, I am currently unable to dive due to my recent

operation, but thankfully will be able to return to diving in due course. I will be unable to feel a sense of closure for the passing of Dan and Joyce until I have the chance to breathe underwater again. In the meantime, I will try to cope with the pain from the recent events that occurred in Pittsburgh. Sadly, the world that we live in today means that it is important to find a way to deal with the constant pain that is suffered on a near-daily basis around the world. For me, this is diving.

“No one is born hating another person because of the color of his skin, or his background, or his religion. People must learn to hate, and if they can learn to hate, they can be taught to love, for love comes more naturally to the human heart than its opposite.”

- Nelson Mandela