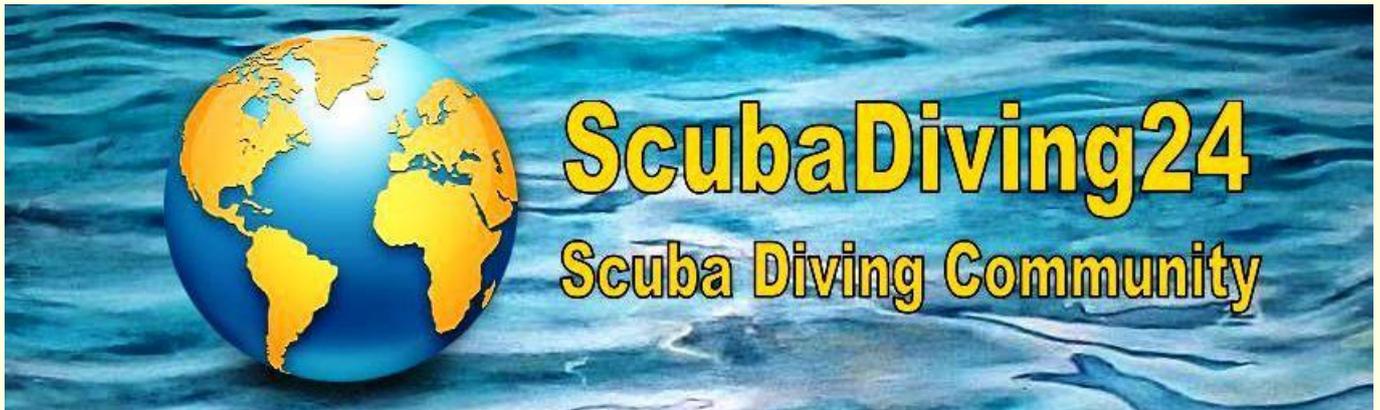


The ABCs of DCS

Everything You Need to Know about Decompression Sickness



Decompression sickness is a form of decompression illness that's caused by gas bubbles forming after a rapid ascent. DCS is divided into two types, with Type 1 being milder and Type 2 being more severe. In general, it's believed that DCS is underreported. One of the reasons is that the symptoms can be mistaken for something else – for example, a diver may blame an achy shoulder on a pulled muscle due to overexertion.

Denial is our most common defense mechanism – we use it to reduce anxiety by reducing the threat. This is normal, but it's also potentially disastrous. Ten of the most dangerous words in diving are 'this can't happen to me' and 'maybe it will go away.' There is also the embarrassment and ego factor – especially for experienced divers and professionals. Even when divers notice something is wrong, they sometimes make another dive, adding more nitrogen to their bodies and making the situation worse.

Assess the Risk

While the most significant risk factor is your dive profile – time, depth and ascent rate of your dives – a host of things can contribute to a DCS incident or make you more vulnerable, also including physical fitness, workload while diving and cold water. DCS can also seemingly strike randomly; it's possible for a diver to get bent while their buddy does not, even when their profiles are identical.

Seek Treatment Early

Symptoms and signs usually appear within 15 minutes to 12 hours after surfacing, but in severe cases, symptoms may appear before surfacing or immediately afterward. Delayed occurrence of symptoms is rare, but if it does occur, air travel following a dive is usually the culprit. If the dive operator or medical professionals tending to you seem hesitant about what you're experiencing, speak up. As a diver, you may know more about DCS than the emergency-room staff at a hospital. The DCS victim does not look sick to ER staff. There are no visible wounds. DCS does not fit easily into a regular occurrence seen in an average ER. In some cases, the injury is mild and is not an immediate threat. In other instances, serious symptoms occur; when this happens, the sooner treatment begins, the better the chance for a full recovery.

Sick person knows they need help but simply can't ask for it. It makes sense that if your body chemistry is that screwed up, it might affect your ability to speak up. It is critical that somebody else on the team takes charge and makes decisions for a DCS victim.

How to Help a Victim

Whether it's for you or a buddy, call your local Emergency Medical Service first, and if you need advice, call DAN (919-684-9111), 24 hours a day, 365 days a year. DAN's medical staff will help evaluate the symptoms and find appropriate medical facilities and nearby recompression chambers. Otherwise get in touch with Aquamed (0049-700-38435463) with similar framework and conditions.

The victim must have continuous emergency oxygen and ASAP have the diver lie down. This can be difficult with a diver in denial. A neurological assessment is a helpful tool for diagnosis, although it won't alleviate symptoms – that's the job of the O₂. And not just dribbling through a nasal cannula, but through a proper mask. As the oxygen gets to the tissues surrounding the nitrogen bubbles, it helps reduce injuries and prevents tissue damage. Place the victim on their side with the head supported at a low angle and the upper leg bent at the knee. If they vomit, make sure their airway is clear.

Take as detailed a history as possible and try to evaluate and record the diver's neurological status. These facts will be useful to the medical professionals who will treat the victim. Record a description of all dives: depths and times, ascent rates, intervals between dives, breathing gases, problems or symptoms at any time before, during or after the dive.

Local EMS (Emergency Medical Service) and ER (Emergency Response) medical professionals should be able to determine whether you need a chamber treatment, and will make getting you to one a priority. But in some cases, you may find yourself in a local hospital or ER, being treated by a medical professional who is unfamiliar with DCS.

If symptoms are worsening, then call DAN or Aquamed and get them to talk to the physician or nurses in the ER. Have a number of friends who presented themselves at the ER only to be ignored for the entire night or who were dropped into a bed with a cannula and got significantly worse before air evacuation to a facility the following morning. In an emergency case of DCS – when the diver has trouble breathing or loses consciousness – you may have to begin CPR (cardiopulmonary resuscitation). Take immediate action to have the diver evacuated.

What the Treatment Is Like

Treatment in a hyperbaric chamber is basically a “dry dive” to about 60 feet in most cases. A friend once likened it to being in a fish bowl. Treatment usually takes five to seven hours. The chamber pressure is about the same as a dive at that depth, and you need to equalize your ears. For 25 minutes, you breathe pure oxygen from the mask, followed by a five-minute reprieve without it. The doctor checks in over a speaker to monitor symptoms in order to determine the length of the treatment. A tender stays with you in the chamber in case of convulsions resulting from the high levels of oxygen and to give fluids by mouth. It's not pretty – the high pressure, confined space and huge oxygen mask make for an unpleasant experience.

But it is a huge relief when you emerge from the chamber with your symptoms significantly improved if not completely resolved. Even when treatment is delayed, the outcome can be positive. In cases where recompression is done at the dive site within minutes, like in military and commercial diving, the rate of total symptom resolution appears higher. The data for cases treated hours after symptom onset is not so clear-cut, but most cases of DCS respond well to treatment despite delays of 24 hours or more.

You may end up making follow-up chamber treatments until residual symptoms disappear, or experience some joint soreness for a couple of days, but this does not require additional treatment. In severe cases, however, even early treatment may fail to bring resolution.