

Fix (BCD) Problems Before They Become Emergencies

“Practice for dive emergencies such as a stuck power inflator, so you won’t panic in a real situation.”

Diver’s handout – 08/8/2023,

Estimated presentation duration: 30 minutes

I. INTRODUCTION & NEED:

1. Most underwater emergencies start as minor problems before they escalate to emergencies. Tonight, you will learn how to manage some frequently encountered issues and hear how club members prevented them from becoming emergencies. You can do likewise.
2. The Second Quarter 2023 Edition of Alert Diver magazine article “An Unconscious Ascent” describes a diver that failed to manage problems that escalated into a life-threatening emergency.
 - a. At around 60 feet, the diver’s BCD started inflating on its own (inflator valve stuck open), causing a rapid ascent and the diver to lose consciousness.
 - b. Applying what you learn from this presentation, you can prevent similar problems from becoming emergencies. As the diver in the article recommended, you can “Practice for dive emergencies such as a stuck power inflator so you won’t panic in a real situation.”

II. PRESENTATION:

1. A stuck open BCD inflator valve was the initiating event in the emergency mentioned above. Inflator valves can stick open any time you use the power inflator.
 - a. This problem becomes an emergency when the stuck-open inflator valve fills the BCD with air, rapidly propelling the diver to the surface. Anticipate this, respond appropriately, and it will not become an emergency.
 - b. To mitigate a stuck inflator valve:
 - (1) Exhale while simultaneously venting the BCD with the inflator dump valve and extending the corrugated hose upward.
 - (2) Disconnect the inflator hose with the other hand.
 - (3) Pulling the corrugated hose tight on most recreational BCDs activates a second dump valve in the BCD. This doubles the amount of air vented. While dumping air, disconnect inflator hose with the free hand.
 - c. <https://goodwww.youtube.com/watch?v=smB388i1Hkl>
 - d. Practice this on land, in controlled waters, or on the dive boat as you routinely take off your BCD to become proficient.
2. Purge a regulator:
 - a. In the Alert Diver incident, the diver failed to share air because she couldn’t purge or clear a regulator. All divers should be able to purge/clear regulators in three different ways:
 - (1) Blow into it.
 - (2) Push the purge button.
 - (3) Gently draw air, like through a straw or kiss, using your jaw and cheeks, from the regulator, then reverse the action to purge the regulator.
 - b. Practice these methods when you check your octopus to become proficient.
3. Inadvertently dropped/lost weight is a problem that can turn into an emergency if not resolved:
 - a. Often, the diver doesn’t notice the weight has dropped. It is a common occurrence. Currently, Oceanic Manufacturing has a recall on integrated weight systems because they unexpectedly fail. Lost weight results in excess buoyancy, causing the diver to ascend.
 - b. To mitigate lost weight, dive properly weighted. When the weight inadvertently drops:

- (1) Exhale while simultaneously venting the BCD.
- (2) Swim downward to arrest your ascent and look for your weights while you alert your buddy.
- (3) If found, return weights to position or hold them in your hand.
- (4) If you cannot reinstall or hold the weight, continuously vent BCD air, maintain minimum lung volume, and terminate the dive with a slow, normal rate ascent and safety stop. You may need to constantly swim oriented downward (in a circle) to maintain depth. Holding onto the anchor line will make it easier to maintain safety stop depth.

Don't be this diver.

https://www.google.com/search?q=YouTube+Lost+scuba+weight+while+diving&gs_lcrp=EgZjaHJvbWUqCQgFECMYJxjqAjIICAAQIxnGOoCMgkIARAjGCcY6gIyCQgCECMYJxjqAjIICAMQIxnGOoCMg8IBBAuGCcYrweYxwEY6gIyCQgFECMYJxjqAjIICAYQIxnGOoCMgkIBxAjGCcY6gLSAQ4xNDE1MDgzNzhqMGoxNagCCLACAQ&sourceid=chrome&ie=UTF-8#fpstate=ive&vld=cid:5533dca7,vid: O85LwqCB7k

- d. Practice swimming without a weight pouch to become proficient.

4. Loss of power inflation:

a. Losing the ability to use your power inflator may be disconcerting, but the system is designed for manual inflation. It may challenge the novice diver who empties his lungs into the BCD and forgets how to purge the regulator before starting to breathe.

- b. To manually inflate the BCD:

- (1) Start with a full breath and remove your regulator keeping it in your hand.

- (2) Insert the BCD inflation hose mouthpiece into your mouth, **PRESS AND HOLD THE DUMP VALVE** as you blow into the BCD; release the dump valve when you stop blowing.

- (3) Reinsert your regulator in your mouth, purge it, and breathe normally.

- c. Practice this operation on land, in controlled conditions to gain proficiency.

5. Vomiting underwater:

a. When a diver thinks they are going to vomit, they should hold their regulator firmly in their mouth (in case of projectile vomiting) and merely vomit through the regulator and purge it to breathe normally. Vomiting is usually not a severe problem if the diver remains calm. The five divers I talked to that experienced this said they stayed calm and remembered to keep the regulator in their mouth, and it was a minor issue.

- c. The thought of vomiting underwater is worse than doing it.

https://www.google.com/search?q=youtube+vomiting+through+regulator&rlz=1C1GCEA_enUS961US961&oq=&gs_lcrp=EgZjaHJvbWUqCQgFECMYJxjqAjIICAAQIxnGOoCMgkIARAjGCcY6gIyCQgCECMYJxjqAjIICAMQIxnGOoCMg8IBBAuGCcYrweYxwEY6gIyCQgFECMYJxjqAjIICAYQIxnGOoCMgkIBxAjGCcY6gLSAQ4xNDE1MDgzNzhqMGoxNagCCLACAQ&sourceid=chrome&ie=UTF-8#fpstate=ive&vld=cid:e2ad689f,vid:aTniXcOAg-o

- d. Prepare for this problem by mentally preparing to vomit through the regulator while you hold it.

6. Panicking often leads to emergencies: Knowing what to do when problems occur reduces diver stress and anxiety, reducing the tendency to panic. *The Complete Panic Prevention Program* by Tom Griffiths, Ed.D., NAUI 6448, at <https://sites.google.com/site/divepsych> “is excellent self-help training for divers who are concerned about their first big dive, who has scrubbed a dive out of stress, those who nearly panicked underwater, and divers who would like to prepare better to react safely in stressful situations.”

May all your dives have the surfaces you plan; don't touch the coral.

