



# Atlanta Underwater Explorers

## AUE Bubbles

November 15, 2015  
Volume 3 Issue 6

The Atlanta Underwater Explorers, P. O. Box 55048, Atlanta, GA 30308 [www.diveaue.org](http://www.diveaue.org)

## Lessons for Life: Lack of Training, Prep Spells Doom

By Eric Douglas

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*"There are no dive police. No one in the water stops divers from doing stupid things."*

Dave's friends would never believe he went to more than 200 feet – he had even borrowed a computer so he could prove it. He was thinking about that and smiling right up until he took a breath from his regulator and there was nothing there.

### The Divers

Dave had just completed his open-water diver certification two weeks before on his 19th birthday – he dreamed of pursuing diving as a career. He wanted to work his way up to become a dive instructor as quickly as he could, and then he wanted to dive around the world. He read through dive magazines, watched TV shows and read online reports of dive adventures and expeditions, compiling a list of the dives he wanted to make. His buddies Roy and Clarence had been diving a little longer, by a few months. They were both about a year older than Dave.

### The Dive

The morning air was only slightly warmer than the 60-degree water temperatures, but the wind was calm and the sun was bright when the boat headed out. When the divemaster explained that they were anchored near a deep drop-off with depths dropping quickly to 1,000 feet or more, each knew what the other was thinking: They wanted to go deep. The threesome geared up quickly and entered the water before any other divers. They didn't want anyone to question their plan to make a deep dive. As soon as they were all in the water, they began swimming down as quickly as they could. There wasn't much to see below 100 feet, but they kept pushing. None of them had ever been that deep before. They finally pulled up when it started getting dark. Dave looked at his dive computer and it read 227 feet, although he was having a little trouble focusing. His head felt fuzzy. All three of the divers felt the effects of nitrogen narcosis. They stayed at that depth less than a minute before agreeing to ascend some, hoping the feelings would go away. They made it to 190 feet and leveled off.

### The Accident

When Dave ran out of air, he didn't know how to react at first. He was puzzled that there was nothing coming out of his regulator. Quickly he looked around and found Roy. He swam over to his buddy, making the out-of-air signal he had just practiced during his certification training a few weeks before, a slashing motion across his throat. Roy what was happening and gave Dave his alternate air source. As soon as they got the situation under control and began ascending Clarence swam

## Lessons for Life: Lack of Training, Pre Spells Doom – Cont.

up. He was out of air too. Dave gave the alternate air-source regulator to Clarence and then he took off swimming for the surface. Dave made a free ascent to the surface from 170 feet. Roy and Clarence followed quickly behind. Due to their limited air supply, the pair ascended directly to the surface without making a safety stop or any sort of decompression stop. They immediately saw that the dive-boat crew was in the process of rescuing Dave. He was unconscious and floating on the surface. The crew's efforts to resuscitate Dave were unsuccessful, and he was pronounced dead later at the local hospital.

### Analysis

These divers made a series of mistakes related to planning and preparation. They were inexperienced and ill-equipped for the dive they were attempting. They had no real goal other than to “go deep,” and no idea what would happen to their air supply at that depth. There are no dive police. No one in the water stops divers from doing stupid things. Regardless of the recommendations for recreational depth limits or guidelines on how to prepare for deep dives, no one enforces those things: They are recommendations and guidelines. As divers, we have to make conscious, informed decisions for ourselves. What these divers couldn't overcome were the laws of physics. Their initial descent was to nearly 8 atmospheres of pressure (absolute). As every beginning diver learns, each atmosphere of pressure reduces their gas supply by the same fraction. In other words, at these depths, the aluminum 80-cubic-foot tank each diver was wearing would last one-eighth as long as it would on the surface – less, actually, when you consider that they were working to swim down, excited and nervous. All of that would have raised their gas-consumption rates. These divers decided at the spur of the moment to make a deep dive and set a personal depth record. They had never been trained in the proper techniques. They didn't understand nitrogen narcosis or the potential gas toxicity of the air they were breathing. They didn't know how to plan for decompression stops, nor did they have sufficient gas supply with them or suspended below the boat to perform those stops. And for that, one of them paid the ultimate price. Dave's autopsy was not released, so we don't know the actual cause of death. It is likely he drowned. Without an air supply for that long, he probably suffocated and lost consciousness. The other two divers lived. They both returned to the water for some unspecified “in-water recompression” although it is unlikely that this provided any benefit. It was probably just a few minutes breathing air as the crew attempted CPR on Dave and recalled the other divers. Once the boat was ready to leave, they had to resurface. Clarence developed symptoms of decompression sickness on the boat. He was treated several times at a hyperbaric chamber but still has residual symptoms to this day. Clarence did not receive oxygen first aid on the surface – the standard of care for a dive-related injury – after his symptoms developed. Roy never exhibited any signs or symptoms of decompression sickness. We don't know why Clarence took a severe “hit” while Roy walked away without a scratch. Dive tables and computer algorithms are mathematical models of decompression tempered with conservatism. They do not know what is going on inside a diver's body at any given time. Roy's escape from harm does not mean he is less prone to decompression sickness. On another day, he might have been the one to take the hit.

### Lessons for Life

**Dive within recreational limits.** Dives beyond those limits require additional training, redundant equipment and additional gas supplies. **Plan your dive.** Even dives within recreational limits need to be planned appropriately. A vague goal to “go deep” is not a plan. **Seek training.** Before you plan to do any dive that takes you beyond recreational limits, seek additional training and experience. **Know emergency procedures.** Seek training in diving first aid so you can assist in an emergency situation.

*Eric Douglas co-authored the book [Scuba Diving Safety](#), and has written a series of dive-adventure novels and short stories. Check out his website at [booksbyeric.com](http://booksbyeric.com).*

## Steel Tank Causes Diver to Become Inverted on Descent

By Brian Wake



### Unused to the heavy tank, a diver gets inverted during descent REPORTED STORY

The diver is an experienced diver who knows he has a higher than normal air consumption rate. He is aware this may be inconvenient for other divers in the group who have the air supply to dive longer, but must cut their dive short when diving with him. His instructor advised the diver that if he could dive with a steel tank he could carry more air for his dives, it would reduce the amount of weight needed to stay negatively buoyant. The instructor explained the larger steel tank was negatively buoyant and therefore has a tendency to flip an unaware diver upside down. The diver was instructed on how to handle the steel tank underwater and was advised to remove 2kg (approximately 4lbs) from his 5kg (approximately 11lbs) weight belt.

The diver began a normal descent and started to equalize. While he was descending, the extra weight of the steel tank on the diver's back started turning him upside down. This caused the diver's descent rate to increase and equalizing a challenge. Being inverted, his regulator was also causing problems by allowing water to enter through the exhaust valve as the diver exhaled. He consequently inhaled sea water and gagged water back through his regulator. The diver inflated his BCD to halt his descent, stabilize himself, and then ascended until he could equalize his ears and stop gagging. He signaled to his instructor that he needed to surface so he could calm down and adjust his weight. By the end of the dive trip, the diver was able to trim his weight down to nothing and had the best control just using the steel tank with no additional weight.

### COMMENT

Suggesting the diver migrate to a steel tank from an aluminum tank was a good idea to address his concern regarding his air consumption rate by allowing him a larger reserve of air supply. The instructor was correct in giving the diver tips on this new configuration and pointing out some of the drawbacks for this configuration for the diver.

One of the lessons normally taught during training is to test out new gear configurations in controlled environments; such as a pool or confined open-water. This allows divers to have better control. Divers can adjust buoyancy and weight distribution in shallow water enough to stand up in if they have difficulties. It may have been more beneficial to the diver if the instructor had allowed the diver to try the new configuration first in a pool before actually diving in an open-water environment with the steel tank. This way, the diver would have discovered the difficulties in a more controlled environment. The instructor would have been able to assist the diver and practice with the new diving configuration allowing him to be more confident and comfortable diving in open water. If this had been a less experienced and trained diver, this incident may have been more serious as he might have panicked and ascended quickly to the surface.

#### Lessons learned:

- Diving with an instructor to work through gear configurations is an excellent idea.
- Do not dive without formal training when trying new specialized gear for the first time.
- Spending time in a pool or confined open-water environment is recommended for familiarizing a diver with new equipment.

Full story: [https://www.diversalertnetwork.org/diving-incidents/Steel-Tank-Diver-Gets-Inverted-During-Descent?utm\\_content=sf41880119&utm\\_medium=spredfast&utm\\_source=facebook&utm\\_campaign=Divers+Alert+Network+\(DAN\)&sf41880119=1#.VjqZGrrQgt](https://www.diversalertnetwork.org/diving-incidents/Steel-Tank-Diver-Gets-Inverted-During-Descent?utm_content=sf41880119&utm_medium=spredfast&utm_source=facebook&utm_campaign=Divers+Alert+Network+(DAN)&sf41880119=1#.VjqZGrrQgt)

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### Things to Bring on Dive Trip

#### Dive Gear

- BCD
- Regulator with Octopus
- Depth & Pressure gauge
- Dive computer/watch
- Compass
- Weights
- Skin & Wet Suit
- Gloves
- Hood
- Mask, Snorkel, Booties, & Fins
- Knife/Dive Tool

- Seasickness Medicine
- Camera
- Swimmer's Ear

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- Dive Camera
- Dive Light
- Underwater Slate
- Gear Bag
- Dry Bag
- Mask Defog
- C-Card
- DAN Insurance card
- Log Book

#### Personal Items

- Bathing Suit
- Towel
- Sunscreen
- Dry Warm Clothing
- Sunglasses
- Toiletries

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## Upcoming AUE Activities

- *AUE General Meeting - Saturday 3:00 p.m. - 5:00 p.m. November 21, 2015 -Emory Midtown-Crawford/Long Hospital, 550 Peachtree St NE, Atlanta GA 30308 Meet in lobby no later than 2:45 p.m. Directions (Access link below):*  
<http://www.emoryhealthcare.org/emory-university-hospital-midtown-atlanta/parking-directions.html>
- *AUE Holiday Gala Date & Location: TBA*
- *AUE General Meeting, January 2015. An announcement will be sent to all club members and also posted on Facebook. TBA*
- *Annual Manatee Dive and Snorkel - February 19 - 21, 2015 at the Plantation Resort in Crystal River Florida. It's not too early to make your reservations. The event will be hosted by SSQ. Contact: Jenifer Ford of SSQ for details.*

## Recent AUE Activities

- *AUE Panama City Beach Dive September 10 thru 13, 2015*
- *AUE General Meeting - Saturday September 19, 2015 -Tour of wound care/bariatric unit which has 5 to 7 chambers. Emory Midtown-Crawford/Long*
- *DWP Coral Restoration Session 3 - October 17 thru 20, 2015*
- *25<sup>th</sup> Anniversary NABS Summit Ka'anapali Beach Hotel Maui, Hawaii- November 7<sup>th</sup> thru 14, 2015*

## Announcements

### 2015 NABS Summit Update:

*The Summit was a wonderful experience for all who attended. Next year's summit in Aruba should be equally as enjoyable. See image from the event and next year's summit information on the AUE's and NABS Facebook pages.*

<https://www.facebook.com/groups/ATLANTAUNDERWATEREXPLORERS/?fref=nf>

Renaissance Aruba Resort & Casino

[https://www.facebook.com/groups/120032470724/10156328458380725/?notif\\_t=group\\_activity](https://www.facebook.com/groups/120032470724/10156328458380725/?notif_t=group_activity)



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## Editor's Corner

### Fellow AUE Members:

Welcome to the November 15, 2015 edition of *AUE Bubbles* newsletter. We hope you continue to find future editions informative. Your suggestions, comments and story ideas are always welcomed.

We also hope you continue to find value from future editions. Your suggestions, comments and story ideas are welcomed.

Completed story submissions must be received one week prior to the publishing date (Bi-monthly on the 15<sup>th</sup> of the month).

The next edition will be published January 15, 2016.

Please submit your story ideas and comments to my attention via email.

Dive safely,

Alex Adams,

*Publisher & Editor*

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