

SPECIAL TALK: AN INTERVIEW

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An Ongoing Series

**“Follow Admiral William Halsey’s advice:
Look around and see what needs to be done. Then do it.”**

—Frank Butler on serving the operational medicine community

Interviewed by John F. Kragh Jr, MD, 4 February 2014

What was your first SOF job?

Platoon officer – Third Platoon, Underwater Demolition Team (UDT) 12 based in Coronado, California.



Frank Butler

Since then, the unit has been renamed SEAL Delivery Vehicle Team ONE.

How did you come to SOF medicine?

After my time in UDT 12 and a second tour as a platoon commander in SEAL Team ONE, I became interested in medicine

and attended the Medical College of Georgia on a Navy Health Professions Scholarship. I completed my internship in family medicine at Naval Hospital Jacksonville and then went through the Navy Undersea Medical Officer training course in Groton, Connecticut. After graduating from that course in December 1980, I was assigned to the Navy Experimental Diving Unit (NEDU) in Panama City, Florida.

Most of my 5 years at NEDU was spent doing research on diving medicine topics that were related to SEAL operations. One project was serving as the primary investigator on the largest series of experimental oxygen dives in US Navy history. This series of almost 900 test dives allowed for the Navy’s oxygen exposure limits to be extensively revised. The results of this research were later incorporated into the *US Navy Diving Manual*. Closed-circuit oxygen rebreather operating limits at some depths were increased by greater than 200%, and the ability to make a brief excursion to depths as deep as 50 feet was added. Both of these advances significantly expanded the capabilities of SEAL combat diving operations.

We also revised the purge procedure (a technique designed to remove nitrogen from the breathing loop) of the Draeger LAR V, the German-made closed-circuit oxygen underwater breathing apparatus (UBA). This UBA is still in use in the SEAL teams today; it is now called the Mark 25. Based on a question and a comment from SEAL Master Chief Jimmy Johnson in 1982 (“Doc, why do we purge the Draeger LAR V the way that we do? The German SEALs don’t purge it at all, and it seems to work just fine using it like that”), NEDU conducted an extensive review of closed-circuit oxygen purging procedures and found that the procedure then in use had not been well thought-out. After reworking the purge process and then conducting several dive series to confirm the effectiveness and safety of the proposed new procedure, NEDU recommended to NAVSEA that the purge procedure be changed, and it was.

The revised purge procedure now consumes much less oxygen than the previous procedure. This both saves gas for the mission and allows for a lower fraction of oxygen in the breathing loop—one that is high enough to keep the diver from becoming hypoxic but lower than that obtained with the

previous purge procedure. This significantly lowers the diver’s risk of suffering life-threatening central nervous system oxygen toxicity events, such as convulsions.

I also assisted in the development of new decompression procedures for SEAL Delivery Vehicle (SDV) operations, as well as new atmosphere control procedures and medical emergency procedures for the SEAL Dry Deck Shelter system, which was just being introduced into use in the fleet at that time.

After 5 years at NEDU, it was time to leave for my ophthalmology residency, but my time at NEDU working

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with superb physician-scientists like CAPT Ed Thalman gave me a solid background in operationally oriented biomedical research and experimental design. This background was an excellent preparation for working on the Naval Special Warfare (NSW) Biomedical Research program a few years later—a job that I enjoyed tremendously for 14 years (1990 to 2004).

How did the NSW Biomedical Research Program come about?

After I completed my ophthalmology residency in 1989 and was working as a staff ophthalmologist at the Naval Hospital Pensacola, I got a call to come up to the office of the hospital's executive officer. The SEAL community was seeking medical officers with NSW experience to enhance the medical support being provided to the SEAL community. After discussions with SEAL Captain Tom Lawson, the commander of the Naval Special Warfare Center, and Rear Admiral George Worthington, the commander at WARCOM, the decision was made to establish a biomedical research effort that was sharply focused on the unique array of medical and physiology issues encountered in NSW operations. I was given the unique opportunity to continue to work as an eye surgeon while assuming the management of the NSW Biomedical Research Program. This arrangement also allowed for long-term continuity in the SEAL biomedical research effort. The program was also strongly supported by subsequent NSW commanders, including Rear Admirals Ray Smith, Tom Richards, Eric Olson, and Bert Calland. This unique arrangement provided an opportunity for me to make a number of significant contributions to the SEAL and the Special Operations communities, and I am deeply grateful to these senior NSW leaders for their trust and support throughout my 14 years in the SEAL Biomedical Research Program.

What were some products of the NSW Biomedical Research Program?

One was the 3-year research effort in which the Special Operations medical community partnered with the Uniformed Services University of the Health Sciences to produce the first set of Tactical Combat Casualty Care Guidelines in 1996. Another was the subsequent establishment of the Committee on TCCC in 2001. The CoTCCC has been the primary group responsible for the remarkable advances in battlefield trauma care made by the US Military in Afghanistan and Iraq.

Other projects included the NSW decompression computer, laser refractive surgery in the military, extended carbon dioxide-absorbent canister operating limits for oxygen rebreathers used on SDV missions, a laptop-based medical translator, the first US Special Operations Command (USSOCOM) medical informatics system,

orthopedic injury rehabilitation clinics at NSW commands, the *Navy SEAL Nutrition Guide*, the *Navy SEAL Physical Fitness Guide*, and research on ocular disorders associated with diving.

What happened to the NSW Biomedical Research Program?

At the direction of RADM Chuck Lemoyne, then the deputy commander of USSOCOM, the program was moved to USSOCOM and restructured to address the biomedical research needs of all of the USSOCOM components.

Your thoughts on personal development in SOF medicine?

As a baseline, you need to meet the expectations of your unit and the unit commander.

Beyond that, look for opportunities to improve medical support and enhance operational capabilities for your unit and for the Special Operations community in general.

As Adm. William Halsey was quoted as saying to a new officer on his staff who had asked him for guidance: "Look around and see what needs to be done. Then do it."

What's most important to SEAL medics today?

SEAL medics must continue to have state-of-the-art medical training that will permit them to skillfully provide lifesaving medical care for their wounded teammates on the battlefield. It is important for the medics to know that they have been trained to the highest possible standard for combat medical providers and that they have the full support of their senior medical providers and line commanders.

Finding a manageable way to excel in all of the many skills in which SEAL medics are expected to be proficient is paramount. It's challenging enough to maintain the full spectrum of SEAL operator skills; adding battlefield trauma care and the other specialized areas of medical knowledge required to support NSW combat operations to their skill set is a very ambitious proposition.

Any thoughts on current challenges in preparing SEAL medics for the future?

As I noted, a major challenge is developing a SEAL medic who is well-trained to perform battlefield trauma care and selected other advanced medical skills while maintaining proficiency in all of the other skill sets required of a SEAL operator.

There are many facets to providing optimal medical support to NSW Operations. SEALs and Special

Warfare Combatant Craft Crewmen must have medical personnel proficient in battlefield trauma care, medical emergencies in austere environments, prolonged field care, diving medicine, wilderness medicine, altitude medicine, sick call medicine, submarine medicine, preventive medicine, sports medicine, rehabilitation medicine, medical operations and planning, and periodic medical examinations.

It is probably not feasible for SEAL medics to master all of those disciplines in addition to maintaining the other skills required of a SEAL operator. Success lies in planning for the right mix of physicians, physician assistants, Medical Service Corps officers, Corpsmen, and SEAL medics to ensure that all of these areas are covered by the medical personnel most qualified to perform them.

Any other current work aims?

Fourteen years of conflict have enabled the US Military and its coalition partners to make remarkable advances in trauma care, but we have still not succeeded in translating these improvements in trauma care evenly throughout our country's combat forces. That needs to be accomplished in order to ensure that every US Service member wounded in combat receives the best possible care.

We also need to ensure that these advances in trauma care will be preserved by military medicine so that they will be of continued benefit to our country's Warriors and not have to be redeveloped in future wars. Many of the advances in trauma care in wars past were not sustained during the ensuing peace intervals.

Last, inasmuch as possible, we need to work with civilian medical leaders to ensure that advances in trauma care are effectively translated to the civilian sector. At the time of this interview, there continue to be incidents of US civilians bleeding to death unnecessarily from limb hemorrhage caused by gunshot wounds or motor vehicle crashes.

Any guidance for the operational medicine community on life-work balance?

On the professional side—find a way to make a difference. Pick one of the current challenges in Special Ops medicine and make it your personal goal to develop a way to effectively deal with it.

Seek guidance from more senior and more experienced colleagues. Also be aware of the need to develop military medical leaders of the future. Find mentors; and when it is your time, be a mentor.

From a personal perspective—Special Operations work and deployment schedules are very demanding. Be sure to make time to take care of your faith, your family, your friends, your teammates, and yourself.

Future plans?

The Department of Defense's Joint Trauma System (JTS) has a superb team that has made remarkable progress in reducing mortality and morbidity in our country's combat casualties. It's an honor and a blessing for me to be working presently with this dedicated group of professionals. My current plan is to stay on the JTS team and to continue to work with them to improve combat casualty care. I'm also looking forward to spending an increasing amount of time with my wife and best friend, Debbie, our four wonderful children, and their great families, as well as the extended Butler family.

Closing thoughts for the operational medicine community?

Never forget the sacrifices that our country's warriors make to defend our lives and our freedoms. They are counting on military medicine to provide them with the best care possible if they are wounded in combat. We must live up to that trust every day.

E-mail exchanges, including documents, have been condensed and edited.

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