

The personnel in a premier maritime safety agency must be as professional as the persons and organizations with which they deal. We can be that organization, but we must accept the notion that we must change and adapt to fit the circum-

stances. For as long as officers perceive that their careers are in jeopardy when they pursue technical specialization and true expertise, we will never be that organization. The choice is ours to make. Let us choose wisely.

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A Visit to the Polish Naval Academy

By Captain William B. Garrett, U.S. Navy (Retired)

Imagine visiting a Soviet-built Kilo-class submarine or a Kashin-class guided-missile destroyer with detailed tours provided by the commanding officers. During the summer of 1995, a four-member team from the U.S. Naval Academy did just that while visiting the Polish Naval Academy at Gdynia, near Gdansk—a major home port for the Polish Navy and headquarters for Admiral Romuald Waga, Commander of Polish Naval Forces. As part of the visit, we toured the submarine *Orzel* and the guided-missile destroyer *Warszawa*, flagship of the Polish Fleet.

Our team consisted of Professor Arthur A. Rachwald of the Political Science Department; Commander Michael P. Campbell, U.S. Navy, Division of Professional Development; Lieutenant Mary K. Williams, U.S. Navy, Admissions Department and Women's Advocate; and the author, Vice Academic Dean. We focused on the academic, professional, and admissions programs at Gdynia and compared them with our own. The visit was sponsored by the Military-to-Military/Joint Contact Team Program approved by both the Secretaries of State and Defense.

The Polish Naval Academy has a proud history. Courses for Polish naval officers began in 1921 and led to the establishment of the Naval Officers School in Torun in 1922; shortly thereafter, the school was moved to Gdynia. On 1 September 1939, when the Nazi forces attacked Gdansk, Polish Naval Academy midshipmen responded quickly and defended the nearby arsenal at Westerplatte. Although eventually overrun, they continued their defense even after the city of Danzig had surrendered.

As World War II broke out, four destroyers and three submarines escaped from the Baltic and served for the duration of the war in support of the Allies as part of the Royal Navy. By the end of the war more than 600,000 Poles were

serving the Allies in uniform in Europe; every eighth Allied pilot in the Battle of Britain was a Pole. The Royal Air Force's 303 Squadron composed entirely of Polish pilots was the highest scoring squadron in the RAF. Polish infantry fought at Narvik, Tobruk, Monte Cassino, the Falaise Gap, and Arnhem. The Polish destroyer *Piorun* was the first Allied ship to engage the German battleship *Bismarck*. The destroyer *Blyskawica* supported the Normandy invasion and now

faculty of 150 officers and civilian men and women.

The curriculum has undergone a number of changes and improvements. A steady emphasis on academic excellence and rigor through the 1960s and '70s led to the establishment of a new standard curriculum in 1974—a five-year master's program heavily oriented toward seamanship and navigation.

Last year, the school shifted to a four-year bachelor's program. Prior to entry, each midshipman chooses one of two majors, either navigation and weapons or mechanical and electrical engineering. The summers are filled with two months of practical training at sea. The Academy has three training cutters and three training vessels, including the sailing ship *Iskra*, which made a ten-month around-the-world cruise in 1995 with 35 midshipmen and 8 officers on board. From all indications, the newly graduating ensigns are extremely well prepared for their first assignments at sea and are well trained professionally for their first watch duties on board ship.

The Academy location provides other support for the Polish Navy, including:

- ▶ The two-year Naval Warrant Officers School
- ▶ The Naval Command and Staff Institute, which provides training for officers in courses up to ten months

The Academy also serves as the scientific center for research for the Polish Navy. At any one time there could be up to 1,500 students at the Naval Academy complex.

We also visited the naval base at Hel, located at the end of a long peninsula across the Bay of Gdansk. Famous as the site of resolute resistance to the Nazi invaders, it held out even after Poland had surrendered at the beginning of World War II. We also visited Westerplatte, the shipyards at Gdansk, the seaport of Sopot, the 13th century fortress and castle of the Teutonic Knights at Marlborck, and



PHOTOS COURTESY OF THE AUTHOR

The author (center) and the team that visited the Polish Naval Academy got a firsthand look at an institution with a stirring history of service to its nation.

serves as a museum ship dockside in Gdynia. She is immaculately maintained and hosts many military ceremonies; the graduates of the Naval Academy are commissioned on board the ship.

With the start of the war, the Naval School was shifted to Plymouth, England, and then to Devon for the duration of the war, and was reestablished in Gdynia in 1946. In 1955, the school was granted the status of a university and the name was changed to the Westerplatte Naval Heroes School in honor of the midshipmen who died in battle in 1939. The name changed again in 1987 to the Polish Naval Academy of the Westerplatte Heroes. More than 400 male midshipmen attend the Naval Academy, which has a



Being shown around a Kilo-class submarine by the commanding officer was an opportunity experienced by few westerners—and even fewer former U.S. submarine skippers.

the Naval Academy recreational center located in the nearby Kaszubian Lakes region.

Other initiatives are ongoing between our navies. These include the visit of U.S. ships to Polish ports, exercises such as BALTOPS 95 in which U.S. combatants hosted Polish officers and midshipmen at sea then made port visits, and a program that invites Polish nationals to attend the U.S. Naval Academy. The first Polish midshipman graduated with the class of 1996 and has been commissioned in the Polish Navy. Two others are midshipmen. In addition, two Polish Naval Academy midshipmen attended the 1996 Naval Academy Foreign Affairs Confer-

ence in Annapolis. We hope to see the sailing ship *Iskra* in Annapolis during one of her long training voyages.

Our visit to Gdynia was memorable and we are indebted to the officers, staff, and midshipmen of the Polish Naval Academy and the Polish Navy for their hospitality. They are dedicated professionals.

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Biting On a Bullet Is Not Enough

By Lieutenant Colonels Jerry L. Brown, Medical Corps, and Eugene J. Murdock, Jr., CRNA, MSN, Nurse Corps, U.S. Army Reserve; Major Dewey Galeas, CRNA, MSN, Nurse Corps, U.S. Army (Retired); and Captain Arthur M. Smith, Medical Corps, U.S. Naval Reserve

As we prepare to conduct military operations in two simultaneous major regional conflicts, supported by a downsized military medical cadre, medical operational readiness assumes a greater priority. The administration of field anesthesia to combat casualties and disaster victims is an important component of today's medical readiness mission. Military anesthesia providers may be called on to provide emergency care under suboptimal conditions, without the security of the sophisticated equipment, drugs, and compressed gases that are now considered essential. Unfortunately, there are substantial obstacles to adequate peacetime training of anesthesia providers in operational (field) anesthesia.

Operational Anesthesia: Fundamental Requirements

Familiarity with the implements and techniques of operational anesthesia is a critical component of military medical readiness. The techniques of total intravenous and regional anesthesia, as well as local nerve blocks, may be very useful under certain conditions. To complete their formal training in anesthesia care delivery within the austere environment, military anesthesia providers also need training in the use of the field equipment presently available.

One of the prime targets of the debate over operational readiness is the decades-old field anesthesia machine or FAM 885(A),¹ which has been used with great proficiency by U.S. military anesthesia

personnel since the Vietnam War. The FAM 885(A) is a standard component of field medical equipment and one of the principal forms of anesthesia equipment on board the larger Navy amphibious assault ships. Because it lacks many of the technical specifications now commonly included in modern state-of-the-art equipment, however, it is considered to be below the minimum standards for use in fixed surgical facilities within the United States. Nevertheless, even during the Vietnam War, its unimproved predecessor proved to be a very reliable and durable instrument, with an exceptional safety record.

Most standard anesthesia machines, including the FAM 885(A), depend on medical gases for vaporization of the volatile anesthesia agent. An adequate supply of cylinders of compressed gases, most notably oxygen, may be a major logistical problem in the combat setting. For rapid deployment and field anesthesia, therefore, the alternative drawover anesthetic system is the most versatile solution; it has no absolute requirement for a compressed gas supply, because air can be used as the carrier gas. This minimizes or eliminates the need to transport heavy oxygen cylinders.

The drawover system is a portable anesthetic apparatus that is small, light, portable, and simple to use, but sufficiently versatile to meet the more sophisticated anesthetic requirements of a field or base hospital. It also can operate under reduced barometric pressure (i.e., in aircraft or mountainous regions), and its performance has been well doc-

umented between sea level and a height of 4,000 meters.

Medical units of the Israeli armed forces used drawover units during the Yom Kippur War in October 1973. British medical units involved in the high-temperature environment of Oman and in the ongoing conflict in Northern Ireland have used them extensively.

During May 1982, British naval forces in the Falkland Islands provided the first example of prolonged use of the drawover apparatus under field conditions. Two anesthetists from the Royal Army Medical Corps, who were part of the initial Parachute Field Surgical Team, reported that 133 inhalation anesthetic procedures were performed with this apparatus. The distribution of injuries is important to note, however. In keeping with the historical record from most previous military conflicts, 65% of all injuries were to the extremities, and 75% of all general anesthetics were for cleaning and removal of debris and dead tissue from these wounds. Only 4% of cases required abdominal exploration, and surgical procedures within the chest composed only 1% of the total.

Variations of drawover anesthesia equipment are still in regular use in many Third World countries. Similarly, it is still used by some armies as a field apparatus, where it is employed for simple as well as complex surgery, including major trauma cases. During the 1991 Persian Gulf War, drawover devices were used in U.S. field hospitals when supplies of compressed oxygen were in short supply. The spartan but easily transportable Uni-