Mayo Clinic has a long history of supporting the military. That support continues today. Efforts range from vaccine research and practice efforts to reduce suicide rates in the military to offering the Mayo Multidisciplinary Simulation Center for mass-casualty training. On the following pages, you will find just a few of the many ways Mayo Clinic is partnering with the military and continuing to support our armed forces.

**Working for the Veterans**

Chris Schieffer, Systems and Procedures, spends most days improving processes across Mayo Clinic. But that isn’t Schieffer’s only job. He also is a Major and civil engineer in the U.S. Air Force. In this role, his days look different than they do at Mayo. You might find him consulting on building construction in Afghanistan or project management in Israel.

To bridge those lives, Schieffer is active in the Veterans Mayo Employee Resource Group (MERG). Supported by the Office of Diversity and Inclusion, the Veterans MERG’s mission is twofold. It supports the needs of Mayo military members and their families, and it uses members’ collective knowledge to improve patient care, research and education. The ultimate goal is to be an advocate and trusted resource at Mayo in all areas related to the military.

A group of Mayo veterans formed the group in 2011. “Mayo had the opportunity to host people from Ride 2 Recovery, a program that helps disabled veterans,” says Schieffer. “It was short notice, and we realized that we didn’t have a way to account for all the
veterans on staff. We decided to be more organized. Within 30 days, the Veterans MERG had its first meeting.”

As a National Guard member, Schieffer serves deployments of 60 to 180 days. No law requires private companies to pay veterans during deployments. However, Mayo’s military leave policy offers support during deployments. Members of the military return from deployment to the same work assignment and schedule. There is also no interruption in benefits like pension, life insurance, medical coverage and paid time off.

“I am so appreciative of Mayo’s support for veterans,” says Schieffer. “My supervisors have been so accommodating. It’s nice to not have to worry about work while I’m serving my country.”

Many self-identified veterans and military members work at Mayo Clinic. And, Mayo remains committed to recruiting, supporting and educating members of the military. It actively engages with veteran career fairs and is active on job websites. Human Resources also works with employees to help translate military skills to the civilian workforce.

**Sharing Knowledge**

As the first Gulf War ended, Brian McGlinch, M.D., Anesthesiology, was completing his medical degree and facing significant student loan debt. The U.S. Army was offering debt-repayment programs to medical school graduates who joined the U.S. Army Reserves. The new Dr. McGlinch decided to add another title to his name. He joined the Army Reserves, starting his military career as Capt. McGlinch.

Twenty-two years later, now Col. McGlinch, M.D., is the Command Surgeon for the 84th Training Command, Fort Knox, Kentucky. He also is a consultant in anesthesiology at Mayo Clinic. In 2005 and 2007, he was mobilized to Walter Reed National Military Medical Center. “During my deployments, we were in the middle of two wars and receiving 30-40 critically injured patients each week,” says Dr. McGlinch. “I came from a place of great resources, and I realized that our troops were coming back from war with injuries that could use those resources.”
Dr. McGlinch wanted to start a program with staying power. He wanted it to be sustainable and benefit medical providers and patients. He consulted with Mark Warner, M.D., executive dean of Education. The result was a program to offer grand rounds-style lectures from Mayo anesthesiologists to the military.

“Without question, the military providers believe this program has been very valuable,” says Dr. McGlinch. “This was just one way we could provide what we do best to help our combat wounded and the personnel providing their care.”

Since its implementation in 2007, more than 55 Mayo anesthesiologists have traveled to military training programs. They have presented more than 200 lectures, given practice board exams and taught military residents one-on-one.

“Every military physician or provider, we are all in this because we want to help,” says Dr. McGlinch. “And now, when you walk the halls of these military hospitals, the providers speak so highly of Mayo Clinic.”

The program is expanding to specialties beyond anesthesiology. Mayo physicians now regularly lecture and provide the military with their expertise. Funding support from Dr. Warner’s named professorship through the Annenberg Foundation helps with this effort.

“The military has many young providers who have gained spectacular experience in fields such as trauma surgery, anesthesia and critical care. We can learn from their knowledge,” says Dr. Warner. “And, they can learn from us the unique problems that patients present in civilian practice that they may not see in their acute care hospitals.”

Mayo’s Military Education Committee is exploring ways to enhance knowledge exchange with military colleagues. For Dr. McGlinch, the lecture program he helped build remains “the most satisfying thing I’ve done in my career.”

**Science in the Skies**

Hypoxia, or a lower than normal level of oxygen in the blood, has plagued pilots of elite military aircraft and high-altitude climbers since humanity took to the skies. Shortness
of breath, impaired speech, slowed reaction time and loss of consciousness are all symptoms.

Historically, the best way to test for hypoxia was to watch for the symptoms. However, “often people won’t have symptoms until it’s too late,” says Jan Stepanek, M.D., Preventive Medicine, who is program director for Aerospace Medicine.

Now, Mayo Clinic researchers have harnessed a method to test pilots for hypoxia before symptoms begin to occur. The study team used the King-Devick neurocognitive performance test. This test is commonly used to identify cognitive changes related to sports-related concussions. The study was published in the October 2013 issue of *Aviation, Space, and Environmental Medicine*.

“This study opens the door for objective assessments of hypoxia and additional safeguards for military and commercial pilots and others working in high altitudes,” says Dr. Stepanek. Dr. Stepanek and Michael Cevette, Ph.D., Audiology, co-direct the Aerospace Medicine and Vestibular Research Laboratory in Arizona.

This is the latest development in Mayo’s long history of contributions to aerospace medicine. Mayo Clinic Aerospace Medicine began in Rochester in the 1930s. Mayo physiologists and altitude scientists developed several life-support systems and strategies. Many were vital to military pilot safety in the World War II era and are still in use today.

Mayo physiologists and altitude scientists also contributed to commercial aviation. Prior to pressurized aircraft cabins for commercial airline passenger flights, aircraft flew at relatively low altitudes. This was to avoid hypoxic conditions. Mayo scientists developed an oxygen mask for pilots and passengers to wear during flights. This allowed travel at higher altitudes to avoid turbulent weather conditions, making flights smoother and more tolerable.

More recently, Mayo aerospace medicine teams helped return F-22 fighter aircraft to full operational capability. They did so with a first-ever, in-flight physiologic evaluation of pilots’ health with the U.S. Air Force (USAF).
“We worked closely with the USAF research team,” says Air Force Col. Lawrence Steinkraus, M.D., Preventive Medicine. “We helped get the fleet back in the air, and we’re continuing to problem solve with its teams.”

Research also continues in the Aerospace Medicine and Vestibular Research Laboratory in Arizona. Drs. Stepanek, Cevette and team have a close, collaborative relationship with Luke Air Force Base in Glendale, Arizona. This relationship enables them to learn more about USAF challenges and devise solutions in their lab. They are among dozens of Mayo investigators receiving funding for special projects to advance national health, sustainability, security and education for U.S. armed forces.