The American Physiological Society (APS) thanks you for your ongoing support of Medical and Prosthetic Research at the department of Veterans Affairs (VA). Research that specifically addresses the medical needs of veterans is an important component of VA health care. The VA health care system currently faces many challenges, including both an aging veteran population and the needs of veterans who are returning home from Iraq and Afghanistan. The decreased funding level proposed by the administration poses a threat to VA medical research at a time when the need for better treatments and health care is acute.

The APS is a professional society dedicated to fostering research and education as well as the dissemination of scientific knowledge concerning how the organs and systems of the body work. The Society was founded in 1887 and now has more than 11,000 physiologists, including many who conduct research within the VA system. The APS recognizes both the enormous financial challenges facing our nation and the enormous opportunities before us to make progress against disease. The APS urges you to make every effort to provide an increase in the budget allocation for VA medical and prosthetic research.

VA medical research facilities across the country provide veterans access to state-of-the-art medical care. The focus of the VA research program is medical problems that affect veterans, and many VA researchers are also practicing physicians who treat veterans. Some medical problems such as post-traumatic stress disorder, substance abuse, traumatic injuries, and lost limbs, are more prevalent among veterans than the general population. Others such as heart disease and diabetes are typical of any aging population. New treatments developed at VA medical centers have led to healthcare improvements for all Americans. Moreover, the opportunity to combine research and patient care enables the VA to recruit and retain outstanding clinicians.

Below are two examples of research done at VA facilities that have direct applications to clinical care for veterans.

A common and often deadly complication of alcoholism and liver disease is the rupture of blood vessels at the lower end of the esophagus. While not every patient with liver disease experiences a blood vessel rupture, when it does occur, the mortality rate is 30-50%. Thus, determining which patients have the greatest risk of developing this condition is critical to patient care. One way that physicians make these predictions is by measuring the pressure in the affected blood vessels. However, current methods to take such measurements are invasive and provide only a limited amount of information.
Researchers at the San Diego Veterans Affairs Medical Center recently undertook a study to determine whether a less invasive technique would be equally effective. Using an ultrasound system, researchers tried measuring pressure in an artificial system using veins taken from pigs (1). These are preliminary results that will need to be confirmed in live animal subjects before they can be tried with human patients, but this study shows that a less invasive technique could turn out to be a better way to determine which patients are at risk for bleeding.

Researchers at the Michael E. DeBakey Veterans Affairs Medical Center in Houston, TX have been studying another problem that affects injured soldiers and veterans. Paradoxically, when there is extensive blood loss followed by treatment and restoration of blood volume, damage to the heart muscle may result, and this can cause an increased risk of death due to heart failure. Although doctors have observed this phenomenon for decades, the biological cause was not understood. Using a mouse model to simulate this kind of blood loss, researchers were able to show that an inflammatory response caused the heart damage when blood flow was restored (2). Moreover, they were able to minimize that damage by administering a drug to block the inflammatory response in the mice. While these results need to be confirmed in humans, this study clearly has the potential to save lives in many settings.

In addition to focusing on research and patient care, VA medical researchers also spend time educating the next generations of physician-scientists. Currently, more than half of all practicing physicians in the US receive some of their training at a VA facility. Nevertheless, recent budgets for medical and prosthetic research at the VA have been well below the inflation rate for the biomedical sciences, currently 3.2%, and this year the administration’s budget calls for funding to be reduced by $9 million. This constant shortfall of funds has strained the infrastructure of VA research, and limited the ability to modernize research facilities. The uncertain state of funding also discourages young physician-scientists from choosing a career at the VA. The APS joins FASEB and the Friends of VA Medical Care and Health Research in calling for an increase in the VA medical and prosthetic research to $460 million for FY 2006, with an additional $45 million to be spent on facilities and major equipment. Investment in medical research at the VA will result in better medical treatment for our veterans and all Americans.

Studies Referenced