

## DEFENSE-RELATED VISION FUNDING

### Vision Research Program Funding Scorecard

Since it was created by Congress in FY2009 in Defense appropriations through NAEVR advocacy, the Department of Defense's (DOD) Peer Reviewed Vision Research Program (VRP) within the Congressionally-directed Medical Research Program (CDMRP) will have awarded 79 grants totaling \$68.4 million (including FY2015/2016 awards).

#### FY2017: Program Announcement Released

The FY2017 Omnibus Appropriations included \$15 million for the VRP—\$5 million greater than in FY2016 and the first time at that increased level after being funded at \$10 million in each FY2013-2016. On May 15, the CDMRP released the VRP Program Announcement with two funding mechanisms: Clinical Trial Awards, with a maximum funding of \$5.25 million per award, and Technology and Therapeutic Development Awards, with a maximum funding of \$2.1 million per award. The Clinical Trials funding maximum is higher than the previous year due to feedback that the previous maximum was too low to properly conduct a clinical trial. Pre-Applications were due July 12, and full grant applications are due October 25.

#### FY2018: NAEVR Requests Funding at \$15 M

On June 29, the House Appropriations Committee reported out its FY2018 DOD Appropriations bill which included \$15 million in VRP funding, the second year at that level. The Senate Appropriations Committee has not marked up its companion bill. Typically, the Senate bill does not contain detailed funding for most areas of research within Defense Health Programs, but instead accepts the House's numbers when the two bills are confereed.

#### FY2019 and Beyond: AEVR Updates the 2012 Cost of Military Eye Injury Study

To justify an FY2019 VRP funding increase to \$20 million, AEVR has begun an update of NAEVR's 2012 *Cost of Military Eye Injury* study, which estimated total costs from 2010-2020 at \$25.1 billion (see box right). Once again, AEVR has hired Kevin Frick, PhD (Carey Business School/ Johns Hopkins) to conduct the study, and he is guided by a Working Group that includes representatives of the DOD, VA, joint DOD/VA Vision Center of Excellence (VCE), Blinded Veterans Association (BVA) and Eric Singman, MD, PhD (Wilmer/Johns Hopkins), who will author an article for publication with Dr. Frick.

In its initial call, the Working Group discussed the planned review of all relevant published literature

since the 2012 study's 2011 cut-off date, as well as the potential use of data from the Defense and Veterans Eye Injury and Vision Registry (DVEIVR), which is managed by the VCE. The Group also addressed a number of considerations not included in the 2012 study, including:

- More robust data on visual dysfunction implications from Traumatic Brain Injury (TBI), such as double vision, light-sensitivity, and dry eye.
- Economic data regarding the re-training and replacement of soldiers with eye injuries, especially those from the highly-trained Special Forces, since eye-injured soldiers have only a 20 percent return-to-duty rate as compared to an 80 percent rate for other battle trauma injuries.
- Economic implications of vision loss and polytrauma, such as loss of limb.
- Data on lost wages for eye-injured soldiers as opposed to that from general population studies.

AEVR plans completion of an initial assessment of data resources by late August, with a recommendation for the analysis and report development associated with Phase II.

NAEVR released its study entitled *Cost of Military Eye Injury* study in May 2012 at the ARVO Annual Meeting. It used published data from 2000-2010 and widely accepted economic conventions to characterize the incidence numbers and concomitant costs associated with eye injuries, which ranged from superficial to one-eye or two-eye (bilateral) blindness, as well as visual dysfunction associated with TBI. The study report estimated total incident cost of eye injury each year had been \$2.28 billion, yielding a total cost to the economy over the 2000-2010 timeframe of \$25.1 billion, reflecting \$24.3 billion in present value costs to the economy and society (Social Security benefits, lost wages and family care). This was not surprising, as 97 percent of visual injuries occur in male soldiers age 20-24 who have a potential 50-70 years of life remaining.

Visit the Defense-related Vision Research section of NAEVR's Web site at [www.eyereseearch.org](http://www.eyereseearch.org) for details

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### VRP-Funded Researcher Demonstrates Use of Ocular Patch for Battlefield Trauma

In May, Jack Whalen, PhD (University of Southern California) led a team of investigators from the USC Roski Eye Institute and the Institute for Biomedical Therapeutics in hosting a workshop at the 2017 Tri-Service Ocular Trauma Surgery Lab at the Uniformed Services University and Walter Reed National Military Medical Center in testing the team's novel medical technology used to treat open globe injuries of the eye. NAEVR's David Epstein attended the session, observing Dr. Whalen's team as they demonstrated the use of the technology.

The technology, a Hydrogel Ocular Patch, received VRP funding in 2011 and was featured in a March 2014 AEVR *Defense-related Vision Research* Congressional Briefing presented by Mark Humayun, MD, PhD—also at USC Roski Eye Institute—who leads the team. In October 2015, Dr. Whalen participated in AEVR's first-ever *Emerging Vision Scientists Day on Capitol Hill*.

Over the four-day Trauma Surgery Lab, 44 military ophthalmologists, medics, and corpsmen tested the new technology in a benchtop model of ocular trauma. Each tester was invited to try to seal a full-thickness laceration through the wall of an isolated porcine eye—a benchtop model of open globe injury. Afterwards, each tester was invited to fill out a brief questionnaire to capture their impressions of the concept, its design, and any changes or improvements that might be helpful to consider. The goal is to take this user feedback and include it into a final design which will then be accelerated towards clinical trial testing.



Jack Whalen, PhD (USC Roski Eye Institute), left, instructs a Navy Corpsman in using the Hydrogel Ocular Patch to close an open-globe incision in a porcine eye