



# Hearing Restoration Research Program

## Vision

Improve the operational effectiveness, medical readiness and quality of life of Service members and Veterans with auditory system injuries

## Mission

Advance the science of hearing restoration by delivering groundbreaking research and solutions that remove barriers to the successful treatment of auditory system injury

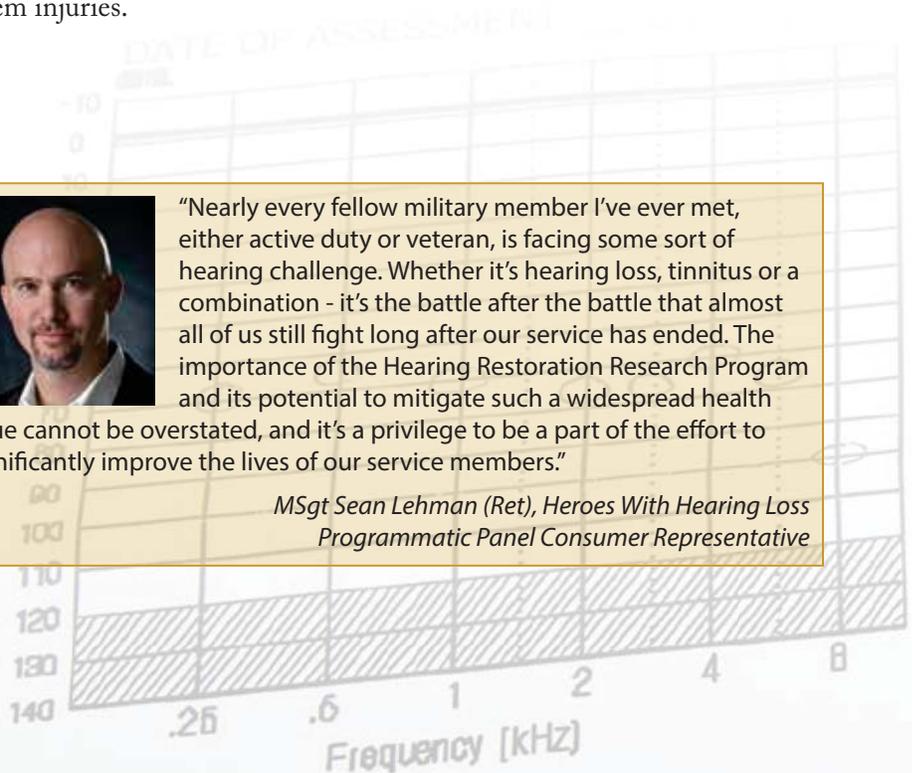
## Program History

The Hearing Restoration Research Program (HRRP) was initiated in 2017 to pursue promising, necessary research for treatment of burdensome and very prevalent auditory system injury. It is estimated that more than 30 million Americans over the age of 12 years have hearing loss in both ears and an estimated 48 million have hearing loss in at least one ear. In the military, the two most prevalent service-connected disabilities are related to hearing disorders. The most recent data from the Veterans Benefits Administration, Department of Veterans Affairs indicates that there are 1.1 million Veterans with service-connected disability due to hearing loss. The HRRP will fund innovative research that has the potential to maximize operational effectiveness, medical readiness and quality of life for Service members, Veterans and others living with significant auditory system injuries.



"Nearly every fellow military member I've ever met, either active duty or veteran, is facing some sort of hearing challenge. Whether it's hearing loss, tinnitus or a combination - it's the battle after the battle that almost all of us still fight long after our service has ended. The importance of the Hearing Restoration Research Program and its potential to mitigate such a widespread health issue cannot be overstated, and it's a privilege to be a part of the effort to significantly improve the lives of our service members."

*MSgt Sean Lehman (Ret), Heroes With Hearing Loss  
Programmatic Panel Consumer Representative*



## FY17 Focus Areas

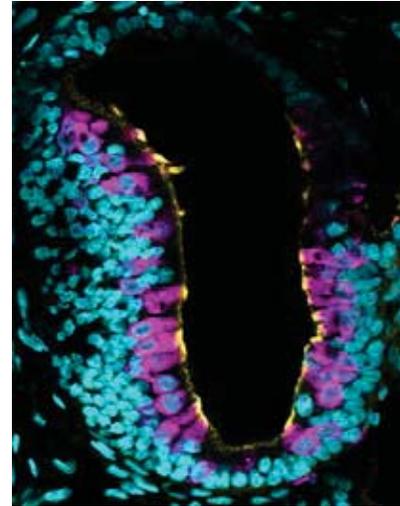
Develop reliable in vitro human models for evaluating hearing restoration therapies

Accelerate translation of biological regeneration into therapies that restore auditory function, including for example, treatments that enhance:

- Synaptic plasticity
- Hair cell and neural regeneration

Develop and validate assessment techniques and or treatment methods that address functional hearing restoration including for example:

- Personalized prognostic indicators of therapeutic success
- Better differential diagnostic tests
- Improved evaluation of treatment methods



Human Stem Cell Derived Auditory Hair Cell.  
Photo courtesy of Dr. Eri Hashino, Ph.D., Indiana University School of Medicine

## FY17 Award Mechanisms

### *Translational Research Award (TRA)*

- The FY17 HRRP TRA is intended to support preclinical translational research that will accelerate the movement of promising initiatives relevant to hearing restoration into clinical applications. In this first year of the program the proposals submitted must focus on the development of reliable in vitro human models to evaluate hearing restoration therapies or research that translates biological regeneration initiatives into therapies that restore auditory function.

### *Focused Research Award (FRA)*

- The FY17 HRRP FRA is intended to support functional hearing restoration research that develops and validates assessment techniques and treatment methods using patient-centric outcomes to identify potential predictive indicators for successful treatment of functional auditory system deficits. The research in this area should result in refined diagnostic tools and improved evaluation of the effectiveness of therapeutic approaches for functional hearing restoration.



"The FY17 Hearing Restoration Research Program marks the first time that the Department of Defense will have a research effort specifically focused on hearing restoration. As stewards of this vital resource we have the opportunity to propel the science forward, concentrate our efforts on the most promising technological solutions for the treatment of permanent hearing loss, and impact the operational effectiveness, medical readiness and the quality of life for our Service members, Veterans and others living with impaired hearing."

Col LaKeisha Henry, M.D., USAF, Programmatic Panel Chair