# PEER REVIEWED ORTHOPAEDIC RESEARCH PROGRAM



MISSION: Fund high-impact and clinically relevant research to advance treatment and rehabilitation from orthopaedic injuries sustained during combat and service-related activities to maximize return to duty

Congressional Appropriations FY09-FY24: \$548.5M total



"I am a 100% disabled Veteran who receives his care from the VA. I have been taking

part in these reviews for a few years now and am proud to say I have seen some of the medical advances we discussed being put into use at the end user level. Albeit a small role in the process, it makes my part even more important knowing that what we do really does make a difference. I am so grateful to be a part of the process in military and Veteran healthcare advances."

Kent Phyfe, American Legion Post 65, FY19-FY23 Consumer Peer Reviewer



#### SCOPE OF THE PROBLEM<sup>1</sup>

770/o of all injury health care visits in the U.S. included care for an MSKI or condition

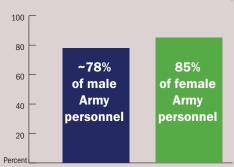
Annual cost for treating musculoskeletal injuries exceeds \$176M

70% of musculoskeletal injury patients report lost work days



# **RELEVANCE TO MILITARY HEALTH<sup>2</sup>**

- Musculoskeletal injuries or conditions account for the most common reason for medical discharge from the armed services
- Percentage of disability separated Army personnel with a musculoskeletal injury or condition listed as a reason for medical discharge:



# **PROGRAM PRIORITIES**

- Prostheses and orthoses
- Retention strategies
- Composite tissue regeneration
- Limb stabilization and protection

- Volumetric muscle loss
- Osseointegration
- Translation of early findings







 $<sup>^1</sup>$  United States Bone and Joint Initiative: The Burden of Musculoskeletal Diseases in the United States, Fourth Edition, 2020 Rosemont, IL.

<sup>&</sup>lt;sup>2</sup> Piccirillo AL, et al. Disabil Health J, 9, no.2, 2016:324-331.

# **PROGRAM IMPACT AND OUTCOMES**











Example: Vancomycin Powder
Low-cost therapy reduces surgical site infection risks after traumatic fractures

Example: Motion Control ETD2

Water resistant prosthetic hand device allows for grip force adjustments when handling delicate objects

Example: Targeted Muscle Reinnervation
Surgical nerve-transfer procedure to prevent
and treat phantom and residual limb pain

#### **IMPROVING PATIENT CARE**

# **Collaborative efforts with other DOD partners to advance clinical products include:**



# SPRINT® Peripheral Nerve Stimulation System

- Shown to relieve residual limb pain and phantom limb pain in patients with amputations
- Allowed for an 80% decrease in opioid use and sustained pain relief
- Over 11,000 patients treated commercially to date



# TARPIN Prosthetic Socket System

- Easily relieves pressure on the socket
- Allows restoration of residual limb volume
- Adapts to changing limb volume to maintain optimal fit

# ADVANCING WOMEN'S HEALTH IN ORTHOPAEDICS RESEARCH

#### New in FY24 - Women's Health Research Award

Focused on orthopaedic issues faced by women serving in physically demanding military settings

- Preservation of function and physical ability
- Quality of life
- Symptom management
- Resilience
- Sex-specific considerations



The PRORP encourages applicants to any award mechanism to recruit female study participants and identify sex-specific trends or differences in outcomes.