

Background/Overview:

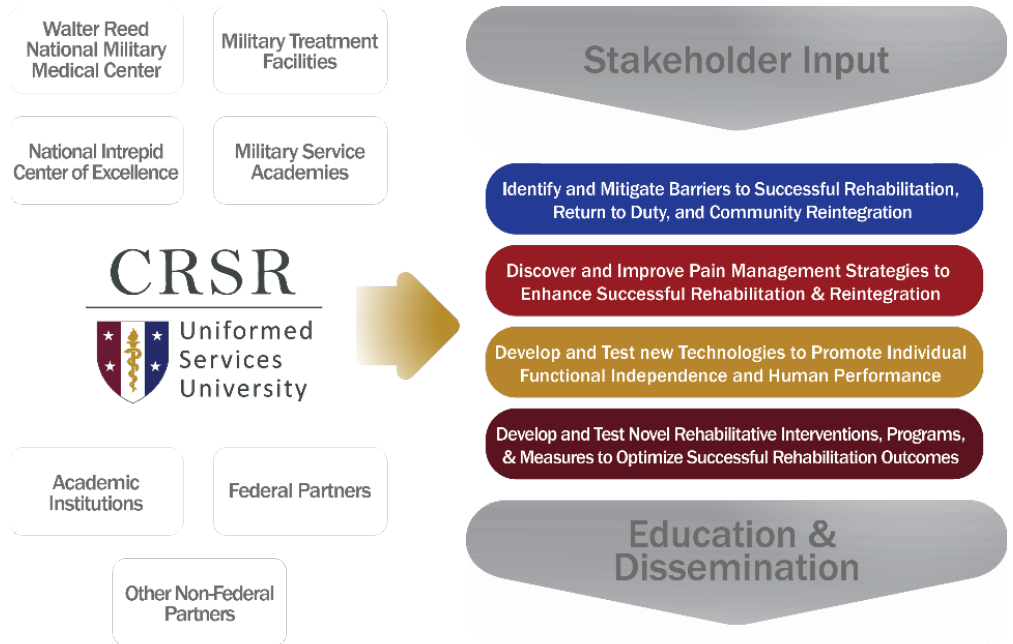
Advancements in military medicine have dramatically improved survivability on the battlefield. In addition to saving lives, equal research investment is needed in restoring lives. Early rehabilitative interventions for service members with life-threatening injuries are linked with reduced secondary complications and improved outcomes. The Center for Rehabilitation Sciences Research (CRSR) was established as a research organization to promote the advancement of rehabilitative care for individuals with war-related trauma. Headquartered at the Uniformed Services University with strong partnerships across multiple military treatment facilities, academic institutions, and other federal and non-federal agencies/institutions, the CRSR facilitates team-based science by connecting multiple clinical and scientific disciplines to solve clinically relevant rehabilitative challenges to achieve optimal outcomes. Since its inception, the CRSR has supported the development of critical innovations in military medicine, as well as the improvement of rehabilitative strategies for individuals with severe trauma, particularly those with limb loss/dysfunction, traumatic brain injury, paralysis, complex pain syndromes, and accompanying psychological injury.

Mission:

The mission of the Center for Rehabilitation Sciences Research (CRSR) is to lead synergistic rehabilitation-related translational research efforts within the Military Healthcare System and disseminate knowledge to the community in order to maximize functional recovery and promote the successful return to duty and community reintegration of injured service members, especially those with severe combat-related trauma.

Vision:

CRSR will be a global leader in advancing rehabilitative care for individuals with war-related trauma.



Research Priorities/Opportunities:

- Novel prosthetic, orthotic, robotic devices, including improved human-machine interfaces to enhance intuitive motor control and provide sensory feedback after limb loss and limb dysfunction
- Personalized rehabilitation for individuals with TBI, SCI, Amputation, Limb Salvage, Nerve Injury
- Neuromodulation and Photobiomodulation (e.g. TMS, PNS) to enhance recovery, regeneration, functionality, reduce pain, and prevent re-injury
- Non-surgical approaches to musculoskeletal/overuse/sports injuries, including orthobiologics
- Wearable sensors and virtual reality platforms to enhance rehabilitation, including telehealth care for individuals with transportation challenges or geographical barriers.
- Understand healthcare barriers/disparities/variance in rehabilitation care, in support of domestic and global health engagement
- Basic science/translational science in heterotopic osseointegration and regenerative medicine/rehabilitation
- Partnerships with NIH/VA/NCAA/Service Academies/NICoE/ISC network for mTBI and non-pharmacological pain management