COMBAT READINESS – MEDICAL RESEARCH PROGRAM

CDMRP
DEPARTMENT OF DEFENSE
CONGRESSIONALLY DIRECTED MEDICAL RESEARCH PROGRAMS

MISSION: Develop innovative high-impact solutions to increase medical readiness, diagnose and treat life threatening injuries, reduce morbidity and mortality and promote positive long-term outcomes for the Warfighter

Congressional Appropriations FY19-FY24: $55M total

"War trauma is not left on the battlefield, and the CRRP is able to fund programs that enhance the quality of life for many."

Ricky Ditzel, U.S. Army Veteran, FY19 Consumer Peer Reviewer

SCOPE OF THE PROBLEM

Modern conflicts require innovations in battlefield medicine to treat operational injuries and prevent the risk of death[1]

The risk of death significantly decreases for combat casualties surviving greater than **4 hours post injury**[2]

RELEVANCE TO MILITARY HEALTH

Addressing battlefield casualties **closer to the point of injury** translates to improved readiness and responsiveness of the force

Future combat casualty care will require innovative solutions to provide optimal medical care in **current and future operations**

PROGRAM PRIORITIES

All applications for CRRP funding must specifically address one of the CRRP topic areas as directed by the U.S. Congress. The FY24 CRRP topic areas align to several areas addressing Warfighter needs.

Threats to Readiness: Operational Environments

- Combat medical skills sustainment training
- Eating disorders
- Highly infectious disease treatment and transport
- Infectious disease
- Medical simulation technology
- Sleep disorders
- Valley fever

Battlefield Diagnostics, Triage and Decision Aid Tools

- Antibiotic susceptibility test development
- Blast sensor technology
- Infectious disease
- Medical simulation technology
- Telemedicine
- Traumatic brain injury biomarkers

Battlefield Treatments

- Battlefield wound care technologies, including therapies and devices
- Freeze-dried plasma and platelets
- Highly infectious disease treatment and transport
- Hemorrhage field care
- Infectious disease
- Purified exosomal products to treat battlefield orthopedic injuries

Threats to Readiness: Non-Operational Environments

- Dietary interventions and noninvasive brain stimulation in support of post-traumatic stress disorder
- Hydrocephalus research
- Infectious disease
- Myalgic encephalomyelitis/ chronic fatigue syndrome

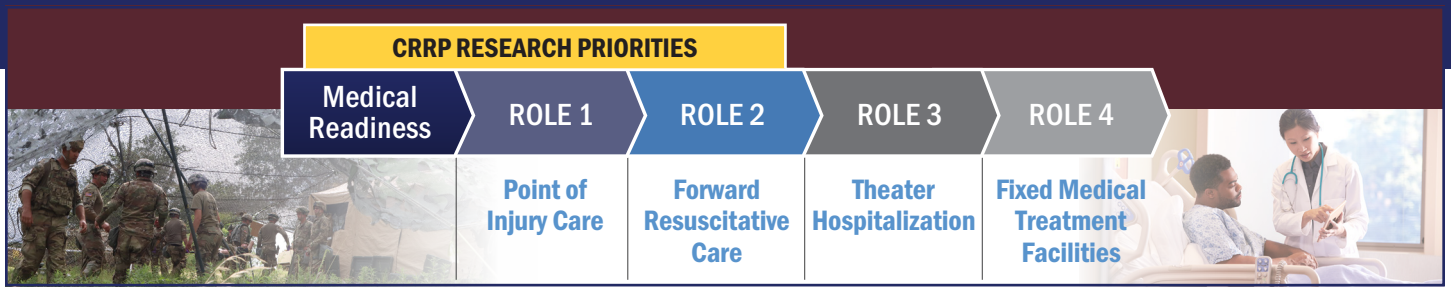
[1] Based on data collected from 2001-2011 in Eastridge BJ, et al. *J Trauma Acute Care Surg,* 73, no. 6 Suppl. 5, 2012: S431-S437

[2] Shackelford SA, et al. *J Trauma Acute Care Surg,* 91, no. 2S, 2021: S186-S193

For more information, visit: https://cdmrp.health.mil/crrp

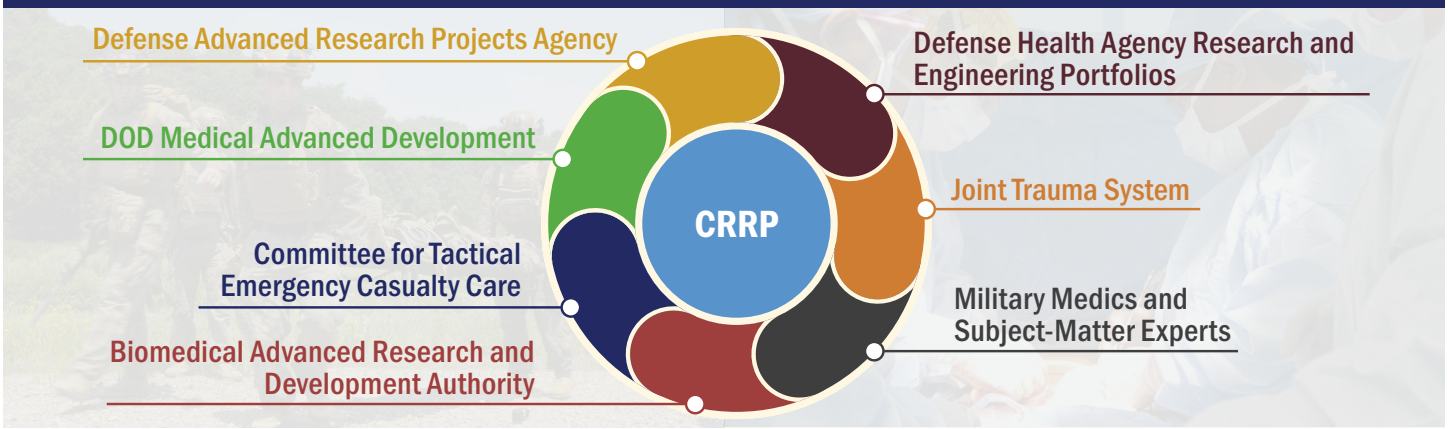
PROGRAM IMPACT AND ANTICIPATED OUTCOMES

- Enable the Warfighter to better respond to critical injuries in future battlespaces
- Develop solutions that translate to prolonged care in pre-hospital environments
- Potential applications in civilian trauma care



Fostering Collaboration with End-User Communities

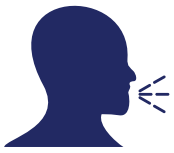
Active engagement across the DOD and with other federal organizations to accelerate and enhance the translation of life-saving medical capabilities



ONGOING HIGH-IMPACT RESEARCH

Prevent Infectious Disease

HDT-201 – Intranasal Spray Against Respiratory Viruses



- Triggers antibody responses to prevent viral transmission and progression to severe disease
- Broad-spectrum and temperature-stable
- Limits viral replication

Prevent Surgical Hypothermia

MaxExo™ – Fluid Warmer for Reconstituted Freeze-Dried Plasma

- Small, easy to use, robust, no electricity required
- Established performance and operational requirements
- Prototype device effectively warms plasma without affecting functionality

Support Frontline Clinical Decision Making

Trauma Thompson Challenge – Designing Algorithms to Predict Life-Saving Interventions

- First-person view of key life-saving medical procedures
- Support ML/AI approaches to procedure guidance at the point of injury
- Develop mobile app to support airway management practices

Accelerate Wound Healing

cNP8 – Peptide Therapy to Limit Burn Conversion

- Successful IND-enabling studies supported by CRRP funding led to a phase 1 clinical trial funded by other sources expected to begin in 2024

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06/2025