

# Combat wound initiative summary

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**Introduction:**

Improvised explosive devices have brought about a high incidence of multiple penetrating wounds to the extremities with extensive soft tissue and bone destruction. The increased severity and complexity of these often-survivable war wounds pose formidable surgical treatment challenges. The primary aims of combat casualty care are preservation of life, limb, and function to allow safe and rapid return to functional existence and military duty. The Combat Wound Initiative is a unique inter-service and civilian partnership including Walter Reed Army Medical Center, National Naval Medical Center, Brooke Army Medical Center, Memorial Medical Center - Conemaugh Health Systems, and Hadassah University Medical Center Mount Scopus - Jerusalem.

**Methods:**

This collaborative multi-disciplinary program will provide state-of-the-art wound care through targeted clinical and translational research incorporating advanced technology and treatment, informatics, tissue banking and research.

**Results:**

The Combat Wound Initiative is a collaborative program of leading surgeons and scientists integrating clinical research and basic science to assess and develop further promising technologies and treatments to advance wound healing. The significance of this unrivalled collaborative research effort is to establish a definitive clinical care and research initiative to advance combat and civilian trauma casualty care.

**Discussion:**

The Combat Wound Initiative has completed a Phase II Clinical Trial evaluating the role of shock wave therapy for complicated acute and chronic non-healing wounds, demonstrating the feasibility and safety of this treatment paradigm. The study has been accepted for publication in the Journal of Surgical Research and has been presented at the Annual Wound Healing: Science and Industry meeting as well as the Annual Academic Surgical Congress. This study serves as the basis for a military and civilian collaborative randomized clinical trial, which will provide the first critical analysis of the potential role of shock wave therapy in improved treatment and clinical outcomes of extremity injuries sustained in Operation Iraqi Freedom and Operation Enduring Freedom. Ongoing small animal research studies are defining previously unrecognized molecular mechanisms of shock wave therapy applied to severe burns.

**Conclusion:**

The Combat Wound Initiative serves as a starting point for a programmatic approach to acute wound healing.