

## Combat Casualty Care Program



The wars in Iraq and Afghanistan have resulted in over 6,800 U.S. military casualties and more than 51,000 injuries. For the first time in decades, the number of Service members killed-in-action (i.e., on the battlefield) has decreased significantly due to the availability of new life-saving technologies and medical procedures. However, the reality is that many who survive often endure devastating and debilitating injuries, such as traumatic brain injury (TBI), extremity amputations, and post-traumatic stress disorder (PTSD). But there is good news ahead.



We have found that the timely introduction of innovative devices and therapeutics can reduce the severity of wounds, not only decreasing the number of those killed-in-action, but also increasing the likelihood of restoring full function post-injury. This is the core focus of the combat casualty care program which is shared between the Department of Defense (DoD) and the Medical Technology Enterprise Consortium (MTEC). Together, we plan to invest in innovative medical devices and therapeutics that are effective on the battlefield to provide immediate care, and also reduce long-term symptoms and complications of injury after the return to the United States. Not only do we intend to save lives on the battlefield, we also strive to vastly improve the quality of life for our wounded warfighters.

### ***Medical Technology Enterprise Consortium (MTEC):***

- Is a non-profit organization charged with bringing medical solutions to industry that protect, treat, and optimize warfighters' health, performance, and quality of life.
- Provides a public-private partnership strategy to push technological innovation through the "valley of death" between concept and viable product by funding the most promising advances and supporting the transition to clinical use.
- Serves as the lever that efficiently aligns public priorities and resources with the best opportunities for transformational R&D that benefits both injured military members and civilians.
- Funds potential trauma care solutions that can drive industrial interest toward final FDA approval and market production.
- Transforms the lives of many by partnering with foundations, corporations, and individuals who support our mission through philanthropy.

### ***The following areas of R&D are of highest priority:***

- Development of a single **extracorporeal life support** device that will replace all or part of the lung function for patients with acute respiratory distress syndrome or other types of pulmonary failure, and/or kidney function for patients with acute kidney injury.

- Drugs or devices that assist in the diagnosis of **traumatic brain injury (TBI)**, in particular those that can: i) assess the degree of concussive damage and be used to assist in decision-making regarding whether to order patient evacuation or return to duty; ii) be applied at the time of injury to reduce the severity and progression of TBI; and iii) repair or restore function within a hospital setting.
- Technologies that can provide **prolonged field care** to injured patients in an austere battlefield environment, including: i) diagnostics with new modalities or algorithms to assist in directed care for personnel; ii) pharmacological-based stabilization approaches; and iii) telehealth technologies and tools that transform healthcare.
- Development of **cell therapies** that reduce or eliminate the inflammatory complications that arise from hemorrhagic shock.

All of these research areas have immediate implication for stabilizing Service members who are wounded in war, but many have longer term effects that reduce the extent of injury to provide a greater likelihood of functional recovery for life after military service.

### ***Impact on the Wounded and Society:***

Trauma is the leading cause of death for individuals between the ages of 1–44 and the third leading cause of death in the U.S. overall, accounting for approximately 180,000 fatalities each year, of which up to 20% are potentially preventable.



Seventy-five percent of traumatic deaths occur during the first 3 days after injury, and are due primarily to uncontrolled hemorrhage and TBI. After 3 days, the remaining 25% of deaths accumulate at a low but steady rate. In addition, according to the National Trauma Institute, traumatic injury accounts for 30% of all life years lost in the U.S. The development of trauma care technologies that can provide rapid treatments for severe injuries will prevent mortality from wounds where damage control and immediate medical intervention are not possible.

### ***How Can You Help?***

These efforts have significant cost, and although the Government is supporting portions of this critical work, major private philanthropic engagement could accelerate progress dramatically. MTEC has the ability to work with foundations, corporations, and individuals whose goals align with our mission. There are several technologies at the forefront that are ready to enter the clinic where monetary requirements grow and risk increases. Our purpose is to help alleviate that gap and transition promising technologies through the “valley of death” and into the hands of competent, world-renowned industry leaders, who can take the final steps toward FDA approval, market production, and ultimately provide solutions to injured military personnel, veterans, and civilians.

The opportunity to join a public-private research partnership whose vision is to bring new products – and life-altering impact – from the bench to the market is here. Your commitment to a financial partnership with MTEC could play a crucial role in making this vision a reality.

For more information and assistance with making a gift or forming a partnership with MTEC, please contact: Kathy Zolman, Executive Director, [kathy.zolman@ati.org](mailto:kathy.zolman@ati.org), 843-760-4349  
[www.mtec-sc.org](http://www.mtec-sc.org)