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Support Funding for the Military Burn Research Program in FY20

Burns are one of the most painful and devastating battlefield injuries:

- 95 percent of those with burn injuries generally survive but must often cope with incapacitating scarring and other severe limitations in function and movement.
- For the non-survivors, approximately 86 percent of all battlefield deaths occur within the first 30 minutes after wounding, emphasizing the importance of rapidly diagnosing and rendering appropriate initial burn resuscitation and treatment.
- According to the Department of Defense, over 1,100 service men and women suffered significant burn injuries during the wars in Iraq and Afghanistan.

DoD’s Military Burn Research Program

The Military Burn Research Program (MBRP) was initiated in 2011 to address capability gaps for treating combat burn injuries. MBRP-funded projects explore innovative approaches to accelerate the translation of advances in knowledge into new standards of care for the treatment of injured Service members and those within the public at large who sustain burn injuries. The funded research is expected to have a beneficial impact on both the civilian and military communities.

Funding Levels within DoD Appropriations for the Military Burn Research Program

This funding also helped create the ABA administrative and clinical science network which conducts rigorous multicenter clinical trials on burns and continues to support competitive, peer reviewed research at burn centers across the nation. To date, the ABA has been directly awarded \$27.7 million to support 13 research studies at 43 burn centers.

Total Funds Appropriated for Military Burn Research FY 2008–2019 = \$83 MILLION			
FY 2008	\$3M	FY 2014	\$8M
FY 2009	\$4M	FY 2015	\$8M
FY 2010	\$6M	FY 2016	\$8M
FY 2011	\$8M	FY 2017	\$8M
FY 2012	\$6M	FY 2018	\$8M
FY 2013	\$8M	FY 2019	\$8M

FY20 Request: Unmet Needs

While important advances in military burn treatment have been made, there are still many unmet research needs that, if addressed, will greatly benefit our wounded warriors. Additional high priority research topics include optimizing burn wound outcomes, cell-based therapies to replace muscle and nerve loss/function, prolonged field care and evacuation, and decision support technology to empower medics to deliver lifesaving interventions. Therefore, the ABA urges inclusion of \$10 million in FY 2020 Appropriations for the Military Burn Research Program to address these and other high priority burn research areas.



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MBRP Accomplishments

- Disaster Triage Protocol – developed a triage protocol based on outcomes from the national data set that guide our forces in triage during mass casualty incidents.
- Combined Burn/Traumatic Brain Injury – with the increasing incidence of IAD and explosive injuries, combined burn/traumatic brain injury is increasingly impacting our war fighters. Supported research is developing more effective treatment models to address this deadly combination of injuries and to reconcile competing treatment priorities in such a way as to minimize or eliminate any adverse consequences.
- Blood Transfusion Utilization – Successfully identified the most effective use of blood transfusion after burn injury, which will cut the mean transfusion volume in half, saving millions of dollars and decreasing utilization of a valuable resource, blood.
- Smoke Inhalation – developing earlier and more accurate diagnosis of smoke inhalation injuries.
- Accelerated Diagnosis of Infection – Utilization of modern technology (polymerase chain reaction) to accelerate diagnosis of infection from the traditional 3-5 days to less than 12 hours. Early identification and treatment of infection decreases morbidity and mortality.
- Sepsis – studies to determine the effect of hemofiltration or renal replacement therapy on sepsis outcomes.
- Hypertrophic Scar Prevention – effective methods of preventing scar contractures, including investigation of novel methodologies for remodeling hypertrophic burn scars using stem cells combined with laser therapy.
- Accelerated Wound Healing – conducting a randomized controlled pilot study of hyperbaric oxygen therapy as a possible treatment for deep partial thickness burns.

Future MBRP Projects Needed to Improve Readiness

Despite the great research progress achieved over the past several years, there remains much work remains to be done to improve military burn care. Several key areas that could improve current readiness:

- Inhalation injury remains a key driver of morbidity and mortality and much more work needs to be done in this area, including optimizing diagnosis of inhalation injury and determining the appropriate timing and methodology of tracheostomy.
- Infection remains a constant priority in burns. Current forward military combat environments, which are removed from definitive medical care, are at particular risk, as sterility is often not possible. Portable methods for rapid diagnosis and treatment of infection are needed.
- Optimizing wound healing, which is a major component of all traumatic injuries but of burns, in particular, is essential. Development of innovative treatments in initial wound care and subsequent scar management would enable more rapid healing and return to the work force.
- Pain is ubiquitous in burn injury. Optimizing pain management decreases the incidence of post-traumatic stress disorder and allows earlier return to duty as well as improvements in quality of life.