



US DEPARTMENT OF DEFENSE

BLAST INJURY RESEARCH PROGRAM COORDINATING OFFICE

Hemorrhage Control and Resuscitation

Evaluation of Ability of Infusion Therapeutic to Prolong Prehospital Survival and Permit Delayed Periods of Resuscitation without Compromising Survival

Severe blood loss can decrease oxygen and nutrient delivery to critical tissues, leading to poor physiologic and neurologic outcomes. Prolonged evacuation after blast, polytrauma, and hemorrhage (four to six hours) in combat environments can compromise survival. Novel therapeutic agents, used commonly in cardiopulmonary bypass, can potentially extend these survival times without compromising outcomes. Researchers at Naval Medical Research Unit—San Antonio, sponsored by the USAF 59th Medical Wing, are evaluating the use of combined adenosine-Lidocaine-magnesium to stabilize patients in the setting of hemorrhagic shock and polytrauma, allowing prolonged evacuation times (prolonging the “golden hour”) and allowing for best outcomes in modern and future areas of operation. This initiated project has the capacity to impact medevac options and survivability during transport following hemorrhagic blast injury.