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14. ABSTRACT: This grant funded expenses related to the second Safar Symposium held at the University of Pittsburgh School of Medicine on Oct 30, 2003. This is an ADDENDUM to the final report submitted Oct 14, 04. This symposium is held each year in honor of the late Dr. Peter Safar, pioneer of CPR, resuscitation, critical care, and disaster medicine. The symposium focused on two aspects of medical research of importance to the field of resuscitation medicine in its broadest scope, namely, a morning session entitled "Breakthroughs in Resuscitation" and an afternoon session on "The Use of Human Simulation in Medical Education and Research." The symposium featured 12 speakers from around the world, and was well received by over 200 attendees, including physicians, scientists, medical residents, fellows, and students, nurses, paramedics, and other allied professionals in the field of resuscitation medicine. The proceedings of the second Safar Symposium were published as a free-standing seventy-four page supplement to the Feb 2004 issue of the journal <i>Critical Care Medicine</i> . The topics presented included lectures and interactive sessions focused on novel approaches to resuscitation of victims of both military and civilian trauma, and state-of-the-art approaches to teaching optimal resuscitation strategies to military and civilian care providers – from medic to in-hospital personnel.					
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Table of Contents

Cover.....	1
SF 298.....	2
Introduction.....	4
Body.....	4
Key Research Accomplishments.....	6
Reportable Outcomes.....	6
Conclusions.....	6
References.....	6
Appendices.....	6

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ADDENDUM TO THE FINAL PROCEEDINGS REPORT
FOR AWARD NUMBER DAMD17-03-1-0764
September 12, 2004 – September 11, 2005

SECOND ANNUAL SAFAR SYMPOSIUM

INTRODUCTION

On October 30, 2003, the Safar Center for Resuscitation Research held the second “Safar Symposium” at the biomedical science tower of the University of Pittsburgh School of Medicine. The symposium honors the late Dr. Peter Safar, father of modern-day cardiopulmonary resuscitation (CPR), one of the three founders of the field of critical care medicine in the United States, renowned anesthesiologist, and pioneer in the field of disaster medicine. Dr. Safar’s incredible legacy across the broad aspects of the field of “resuscitation medicine” serves as the basis for the symposium that honors him.

In this ADDENDUM report, the Key Research Accomplishments and Reportable Outcomes obviously did not change—since they were a result of the Symposium. The no-cost extension allowed us to complete payment on work related to the Symposium.

BODY OF REPORT

The symposium featured a morning session that was assembled by Dr. Patrick Kochanek, Director of the Safar Center on “Breakthroughs in Resuscitation: Therapeutic hypothermia from hibernation to resuscitation.” The speakers included Dr. John Hallenbeck, chief of stroke at the National Institute of Neurological Disorders and Stroke who spoke on hibernation, a natural model of tolerance to profound reductions in blood flow and capacity to deliver oxygen to brain. Dr. Hallenbeck’s topic addressed key aspects of cell signaling in hibernation that might play an important role in neuroprotection. Dr. John Povlishock, editor in chief of the *Journal of Neurotrauma* and Professor and Chairman of the Department of Anatomy at the Medical College of Virginia spoke on “The brain and vascular protection provided by posttraumatic hypothermia: The importance of time of initiation, duration, and post-hypothermic re-warming rate. Dr. Povlishock’s seminal work on the importance of slow re-warming after the use of therapeutic hypothermia in brain injury was a key point addressed in his presentation, and is becoming recognized as a potentially important facet in the use of mild cooling in a variety of conditions. Dr. Lance Becker, Professor of Medicine in the Department of Emergency Medicine at the University of Chicago presented a talk on a

very novel concept, namely, "Cooling by a Novel IV Iced Slurry." Dr. Becker has been working with scientists at the Argonne National Laboratory in Illinois, on the use of solution that contains microscopic ice crystals that can be used to cool animals (and potentially humans) at an accelerated rate and with relatively small volumes of intravenous solution—or via other routes such as nasogastric or pulmonary. Dr. Donald Marion, Professor of Neurosurgery at Boston University presented his work on the use of a novel intravascular cooling catheter to maintain normothermia and prevent fever in neurotrauma patients. His talk was entitled "Fever in the Neurointensive Care Unit: Is there a Better Way to Prevent It?" Dr. Samuel Tisherman, Professor of Surgery and Critical Care Medicine at the University of Pittsburgh School of Medicine present novel work from the Safar Center entitled "Suspended Animation for Resuscitation from Exsanguinating Hemorrhage." This work presented a novel and provocative approach to preserving victims of severe exsanguinating hemorrhage by rapidly cooling to profound hypothermic temperatures using an intra-aortic flush of iced normal saline. After durations as long as 2 hours, experimental animals cooled in this manner after an exsanguination cardiac arrest could be resuscitated using cardiopulmonary bypass to complete neurological recovery. Finally, Dr. Lyn Yaffe, formerly of the US Naval Medical Research Institute, presented a talk on novel developments in the area of obtaining rapid vascular access of the aorta in a presentation entitled "Smart Catheter: Moving Suspended Animation for the Lab to the Field."

The afternoon session was entitle "Advances in Human Simulation Education" and was assembled by Dr. John Schaefer, Director of the Winter Institute for Simulation, Education, and Research at the University of Pittsburgh School of Medicine. In that session, Dr. Doris Oestergaard, Director of the Danish Institute of Medical Simulation presented a talk on "National Simulation Training Program in Denmark." Dr. Michael DeVita, Associate Professor of Internal Medicine and Critical Care at the University of Pittsburgh School of Medicine then presented a superb talk on "Code Team Training: Simulator Training to Prevent Errors." His presentation outlined the remarkably disorganized state that usually is seen at codes that occur on medical wards, and how simulation can dramatically improve the response time of the team for key interventions—such as control of the airway, among others. Dr. William McIvor, Assistant Professor in the Department of Anesthesiology at the University of Pittsburgh School of Medicine presented a talk entitled "Medical Student Simulation Education for the Anesthesiology Clerkship—My Experience at WISER" which outlined ways in which simulation can help prepare anesthesiology residents for a clinical clerkship. Dr. Paul Rogers, Professor of Critical Care Medicine at the University of Pittsburgh School of Medicine then presented a talk entitled "Simulation in Medical Student's Critical Thinking." Dr. Rogers is a renowned clinical educator at the University of Pittsburgh and presented his experience with success with simulation in the education of medical students. Finally Mr. Tore Laerdal and Dr. Melinda Fiedor presented novel work on the development of a new simulator "SimBaby" for use in training faculty, fellows, and residents in the resuscitation of infants and young children. This appears to have incredible potential to improve skills in dealing with critically ill pediatric patients.

The program was followed by the 23rd Peter and Eva Safar Lecture for Sciences and the Humanities which was hosted by the Departments of Anesthesiology and Critical Care

Medicine at the University of Pittsburgh School of Medicine. That lecture was given by ethicist Dr. Edward Lowenstein of Harvard Medical School.

KEY RESEARCH ACCOMPLISHMENTS

This symposium served as an important educational tool for over 200 physicians, scientists, fellows, residents, nurses, paramedics, and allied personnel working in the field of resuscitation research who attended the program. Admission to the symposium was free. It provided a superb program and facilitated a rich interaction for collaboration between top clinicians and scientists working in both resuscitation and simulation.

REPORTABLE OUTCOMES

The proceedings of the symposium were published in the February 2004 supplement of the journal *Critical Care Medicine*. The supplement was entitled "A celebration of the life of Peter J. Safar, MD and Proceedings of the Second Annual Safar Symposium." This was a free-standing high-quality 74 page supplement published in a high-impact journal. We have received numerous accolades on the publication of this special document.

The presentations at the symposium had considerable military relevance, particularly to the area of combat casualty care. The use of mild hypothermia or hypothermic preservation in states of otherwise lethally wounded combat casualties is an area of intense investigation. This has been particularly true since the recently level I recommendation of the American Heart Association to include mild hypothermia in the treatment of adults after resuscitation from cardiopulmonary arrest.

CONCLUSIONS

This grant supported the second "Safar Symposium" at the University of Pittsburgh School of Medicine on October 30, 2003. A highly scientific and military relevant program was presented on contemporary work in the fields of resuscitation medicine and human simulation in resuscitation research. The symposium was attended by over 200 participants and the proceeding published as a free-standing supplement to the February 2004 issue of the journal *Critical Care Medicine*.

REFERENCES AND APPENDICES

Both of the items listed below were sent under separate cover as the appendix to the final report.

1. Second Annual Safar Symposium: Program Booklet
2. A celebration of the life of Peter J. Safar, MD and Proceedings of the Second Annual Safar Symposium. Kochanek PM, Grenvik A, and Schaefer J (Eds), *Critical Care Medicine* 32: S1-S74, 2004