“Military Medical Partnership’s Vital Role in Warrior Health”

USAMRMC’s Military Medicine Partnership Days 2015

Eric B. Schoomaker, MD, PhD, LTG (Ret)
Professor & Vice-Chair for Centers and Programs, Military & Emergency Medicine
Uniformed Services University of the Health Sciences
1. Warrior and Military Family health is deeply personal to all of us.

2. Unprecedented Warrior health protection and battlefield survival have been outcomes of effective partnerships.

3. We want to work with you; get to understand the military medical requirements and focus. Innovation and cutting edge ideas are pipe-dreams without willing partners in academia and industry.
“Americans should not expect one battle, but a lengthy campaign, unlike any other we have ever seen.”

President George W. Bush
Address to a Joint Session of Congress
September 20, 2001
Improved Survival Over Time

% Survivability Over Time

WW II*  69.7%  Korea*  75.4%  Vietnam*  86.5%  OEF/OIF**  89.9%

* May 2008 DoD Data  **3 June 2010 DoD Data

[Wounds Not Mortal / (Battle Deaths + Wounds Not Mortal)] * 100
Died of Wounds Rate Remained Stable Despite Steadily Rising Military Injury Severity Scores

Produced by the Joint Theater Trauma Registry
Data Source: JTTR v.3 data extract supplemented by data provided by DMDC Statistical Analysis Division & US Pentagon OSD
Improvements in Warrior Care

• Improvements on the battlefield
  – Better trained medics
  – Improved equipment
  – Far forward emergency & surgical care

• Improvements in in-theatre (tactical) evacuation

• Improvements in between-theatre (strategic) evacuation
IFAK: Saved Countless Lives & Limbs
Improved Field Medical Equipment

HemCon Bandage

QuikClot

Combat Gauze

HemCon

One of Army’s “Top Ten Greatest Inventions of 2004”

One of Army’s “Top Ten Greatest Inventions of 2005”

One of Army’s “Top Ten Greatest Inventions of 2008”

Z-Medica

North American Rescue

Combat Application Tourniquet (CAT)
Evacuation: Tactical and Strategic
Transformed Strategic Evac System: *One Trauma System... Three Continents... 7,000 miles...*
Portable Infusion Pump for Regional Anesthesia and Pain Control

ambIT Infusion Pump

Army SPC Brian Wilhelm—the first patient treated with regional anesthesia in combat by COL (Dr.) Trip Buckenmaier in 2003
Rapid Adoption by Providers and Relief for Patients

RATS patient progression

- # patients
- # users
- Clinical
- Procedure
- Transfer

Dates:
- 9/27/2005
- 10/27/2005
- 11/27/2005
- 12/27/2005
- 1/27/2006
- 2/27/2006
- 4/27/2006
- 6/27/2006
- 7/27/2006
- 8/27/2006
- 9/27/2006
- 10/27/2006
- 11/27/2006
- 12/27/2006
- 1/27/2007
- 4/27/2007
- 6/27/2007
- 7/27/2007
- 8/27/2007
- 9/27/2007
- 10/27/2007
- 12/27/2007
- 1/27/2008
- 2/27/2008
- 3/27/2008
- 4/27/2008
- 5/27/2008
- 6/27/2008
- 7/27/2008
- 8/27/2008
- 9/27/2008
- 10/27/2008

Y-axis: Dates
- 0
- 100
- 200
- 300
- 400
- 500
- 600
- 700
- 800
- 900
- 1000

X-axis: Dates
“To stay a Soldier…”
Changes in Combat Wounds

Better Battle Field Tactics and Personal Protective Equipment Results in Greater Survivable Battle Injuries

WW II: 1:1 ratio of wounded to fatality

OIF/OEF: 9:1 ratio of wounded to fatality

<table>
<thead>
<tr>
<th></th>
<th>% Body Area</th>
<th>WWII</th>
<th>Korea</th>
<th>Vietnam</th>
<th>OIF/OEF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head &amp; Neck</td>
<td>12%</td>
<td>21%</td>
<td>21%</td>
<td>16%</td>
<td>29%</td>
</tr>
<tr>
<td>Chest</td>
<td>16%</td>
<td>14%</td>
<td>10%</td>
<td>13%</td>
<td>6%</td>
</tr>
<tr>
<td>Abdomen</td>
<td>11%</td>
<td>8%</td>
<td>8%</td>
<td>9%</td>
<td>11%</td>
</tr>
<tr>
<td>Extremities</td>
<td>61%</td>
<td>58%</td>
<td>60%</td>
<td>61%</td>
<td>54%</td>
</tr>
</tbody>
</table>

Owens, J Trauma FEB 2008
Top 10 Gaps to Restore Function

<table>
<thead>
<tr>
<th>Rank</th>
<th>Capability Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Treatment of Extremity Injury</td>
</tr>
<tr>
<td>2</td>
<td>Pain Management</td>
</tr>
<tr>
<td>3</td>
<td>Rehabilitation of Neuromuscular Injuries</td>
</tr>
<tr>
<td>4</td>
<td>Treatment of Craniofacial Injury</td>
</tr>
<tr>
<td>5</td>
<td>Treatment of Skin Injury (burns and scars)</td>
</tr>
<tr>
<td>6</td>
<td>Visual system Regeneration</td>
</tr>
<tr>
<td>7</td>
<td>Orthotics, Prosthetics &amp; Robotics</td>
</tr>
<tr>
<td>8</td>
<td>Visual system Rehabilitation</td>
</tr>
<tr>
<td>9</td>
<td>Auditory System Regeneration</td>
</tr>
<tr>
<td>10</td>
<td>Treatment of TBI associated dysfunction</td>
</tr>
</tbody>
</table>

Effective treatment requires rehabilitation strategies to support regenerative medicine technologies.
AFIRM Partners & Proud Sponsors

DoD, Army, Navy, Air Force, VA, NIH

US Army Institute of Surgical Research

Wake Forest – Pittsburgh Consortium (WFPC)

Rutgers–Cleveland Clinic Consortium (RCCC)

Industry Partners

AFIRM

AFIRM

Tolera Therapeutics

Neodyne Biosciences

LEXMARK

DoD, Army, Navy, Air Force, Va, NIH

Avita

Lonza

PROXY Biomedical

Organogenesis Inc.

Stratatech

OSTEOTECH®

KeraNetics

DePuy Synthes

LifebankUSA

HealthPoint
AFIRM Areas of Emphasis

- Craniofacial Reconstruction
- Burn Repair
- Scarless Healing
- Limb and Digit Salvage
- Compartment Syndrome
Industry Opportunities

US Army Medical Materiel Agency
US Army Medical Research and Materiel Command

https://www.dmsb.mil/VDay/vendorDay.asp

http://mrmc-npi.amedd.army.mil/

USAMRMC NPI | NEW PRODUCTS & IDEAS
The United States Army Medical Research and Materiel Command’s (USAMRMC) mission is to provide medical solutions to protect and sustain the health and performance of the force across the continuum of military operations by (1) conducting research, developing health care solutions and enhancing the delivery of health services for the warfighter; and (2) providing medical logistics support to the Army and the acquisition of medical materiel.

USAMRMC is seeking medical solutions for the battlefield with a focus on various areas of biomedical research, including military infectious diseases, combat casualty care, military operational medicine, medical chemical and biological defense, and clinical and rehabilitative medicine. To learn more about the Command’s mission and interests, go to http://mrmc.amedd.army.mil.

WHAT IS THE PURPOSE OF NPI?
The intent of the new products and ideas (NPI) system is to provide USAMRMC with visibility of new products and ideas that support our mission, either as currently configured or with additional development. The NPI provides a means for our subject matter experts to assess these products and ideas, evaluate their applicability to USAMRMC’s mission, and provide feedback to the submitter. It provides the vendor an opportunity to showcase their product or idea without needing to travel to Fort Detrick and without giving anyone an unfair competitive advantage.

Submission to the NPI is not a substitute where other vehicles are more appropriate, such as responding to Requests for Proposals (RFPs), the Broad Agency Announcement (BAA) or Program Announcement (PAs), or does it take the place of a pre-proposal that may be required by a BAA or PA.


The goal of the NPI system is to facilitate interaction between DoD medical researchers and innovative commercial products and ideas.
Thank you! Questions?