

AAST Senior Visiting Surgeon Program

Landstuhl Medical Center

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Objectives

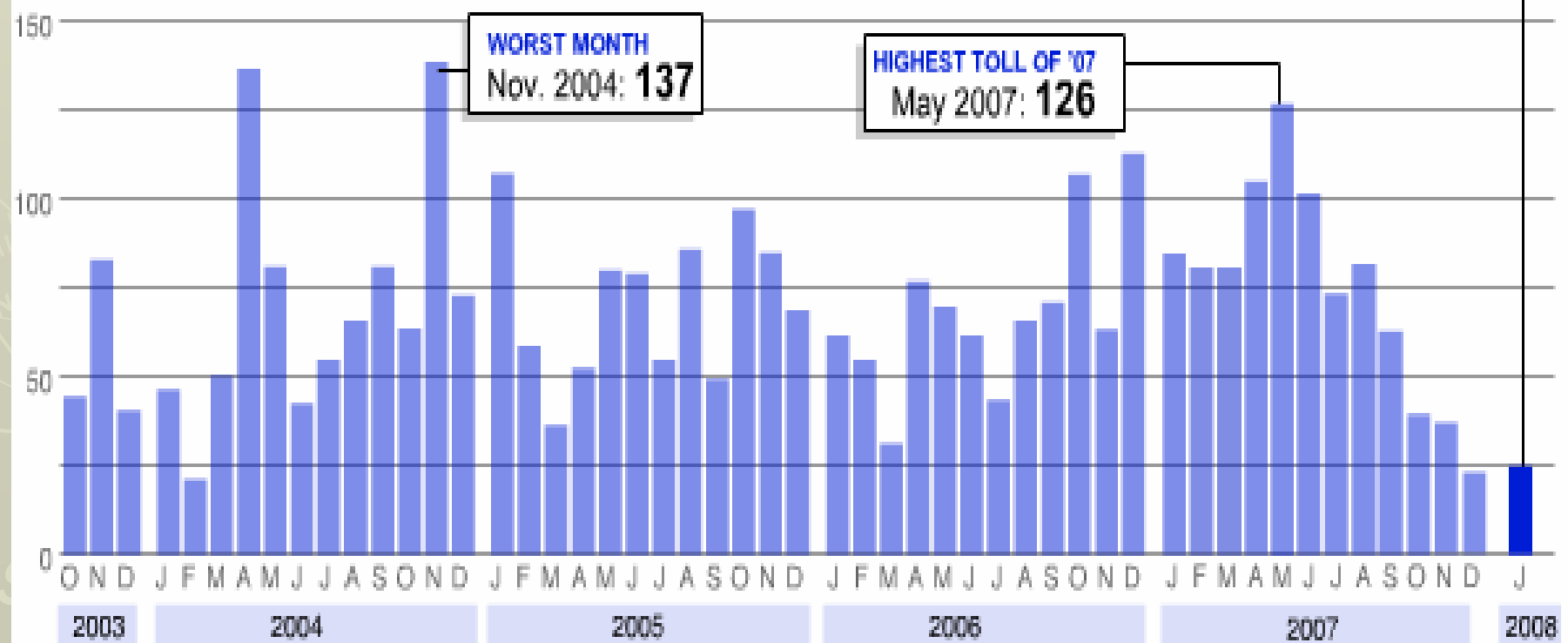
After participating in this activity, the participant should be able to:

- ▶ 1. Describe current military medical care and the flow of patients through that system;
- ▶ 2. Prepare for roles in the optimal care of wounded warriors; and,
- ▶ 3. Develop knowledge about typical wartime injuries in Iraq and Afghanistan.

U.S. Troop Deaths in Iraq

U.S. troop deaths in Iraq

U.S. troop deaths from hostile action and non-combat-related incidents, according to the Defense Department and AP (through Jan 22, 2008):



USA Today

Wounded Warriors



Goals as Visiting Professor

- ▶ Familiarize myself with the military medical system in order to better prepare our residents and Air Force Attendings for their involvement
- ▶ Experience as a trauma surgeon in the care of the wounded in wartime
- ▶ Implement the changes adopted from the military experience at MVH

Landstuhl Service Area



Landstuhl Regional Medical Center



Ramstein Inn



ICU Call Room



Vascular Surgeons



Facilities for Visitors



Workout Facilities



Workout Facilities



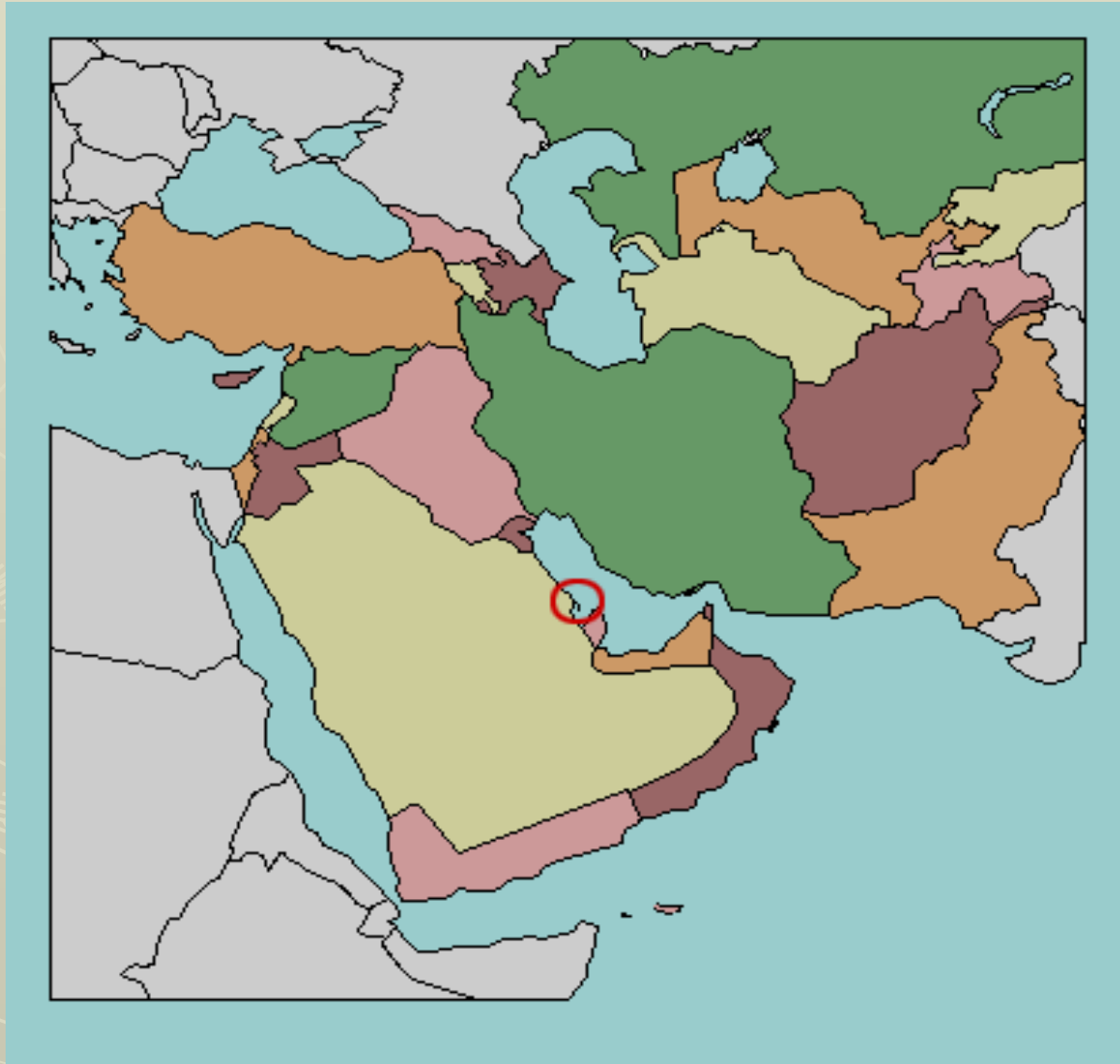
Intensive Care



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Geography



Geography



Transport

- ▶ **Forward Surgical Hospital (FSH)**
- ▶ **Baghdad**
- ▶ **Balad**
- ▶ **Ramstein Air Base**
- ▶ **Landstuhl Medical Center**
- ▶ **CCATT Transport**
- ▶ **Walter Reed, Bethesda, San Diego, other bases**

C-117 Transport Plane



Open Humerus Forearm Fasciotomies 11/9 Balad



Evac-istan



Interior of C-117



ICU Team: Resuscitation and Stabilization



Operating Room



GSW to the Abdomen



Ambulance



Ambulance



Outcomes

- ▶ **0.38% Mortality**
- ▶ **Highest ratio of injuries to deaths of any war—16:1**
- ▶ **Transport systems raise new issues in care of the injured**
 - **Pneumothorax**
 - **Prolonged intubation**
 - **Transfusion thresholds**

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Open Abdomen and Leg Amputation



IED

- ▶ **Improvised Explosive Device**
- ▶ **Components salvaged from munitions, electronics, mobile phones, garage door openers**
- ▶ **Charge-Detonator-Initiation-Armor penetration system**
- ▶ **Antipersonnel: Shrapnel (Shipyard confetti)**
- ▶ **Responsible for 63% of Coalition deaths in Iraq (Washington Post)**
- ▶ **Explosive Ordnance Disposal personnel**

IED discovered in Baghdad by Iraqi police



Department of Defense 2005

Injuries due to Improvised Explosive Devices (IED)



Right Leg



Left Leg

Injuries due to Improvised Explosive Devices (IED)



Right arm



Left hand

Pneumonia and Mediastinal Abscess=Tetraplegia



Traumatic Asphyxia



Traumatic Asphyxia



Burns



Morning Changeover



Open Fracture, Penetrating Neck and Abdominal Injuries



Trauma Conference



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Novalung



Trauma Care Protocols

- ▶ **Factor VII in the treatment of Coagulopathy**
- ▶ **Massive Transfusion Protocol: Ratio of RBC:Plasma:Platelets**
- ▶ **Damage Control**
 - Abdomen
 - Vascular
- ▶ **Research Collaboration**

TBI

- ▶ **Traumatic Brain Injury is the “signature injury” of the Iraq war**
- ▶ **22% of the patients passing through Landstuhl have injuries to the head, face or neck**
- ▶ **56% of Walter Reed patients exposed to a blast have a TBI; 59% severe**
- ▶ **All patients are now screened for TBI**

Traumatic Brain Injury Grant

- ▶ **Department of Defense TBI/PTSD Research Program**
- ▶ **Funding Opportunity Number: W81XWH-07-CC-CSS**
- ▶ **Components**
 - **1: Traumatic Brain Injury**
 - ▶ **Acute Head Injury Studies: Trauma Service**
 - **2: Post-traumatic Stress Disorder**
 - ▶ **Psychiatry: Dr. Douglas Lehrer**

Nanstein: Knights of Sickingen Castle at Landstuhl/Palatinate



World War II Cemetery

