

# Devastating Dismounted IED Injuries in OEF

Increasing Amputation and  
Genital Injury Rates admitted to LRMC

2009-2010

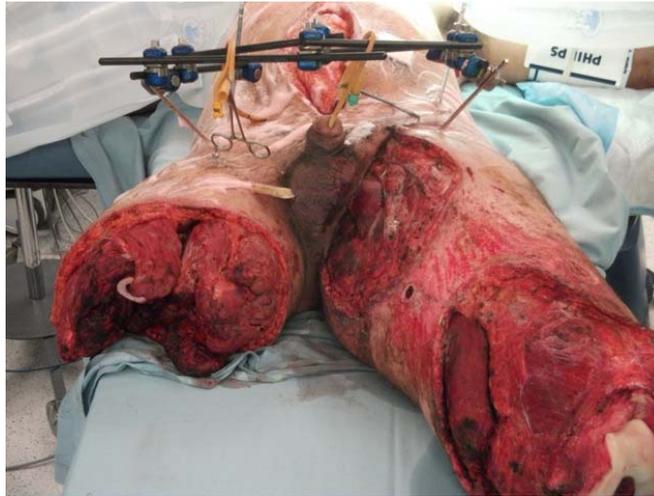
(Sept -Dec 2010)

1

- My personal observations (Dec 11-26, 2010)
  - Cared for combat casualties from 1989-2008
- 2 week volunteer as a member of the ACS-COT, AAST and JTTS Senior Visiting Surgeons Program
  - Military-civilian collaboration in trauma care and the senior visiting surgeon program.  
Moore EE, et al. N Engl J Med. 2007.
- Describe rates of devastating injuries like I have never seen before

2

## Typical High Bilateral Amputations, Scrotal and Abdominal Wounds



3

## Amputations in U.S. Military Personnel in the Current Conflicts in Afghanistan and Iraq

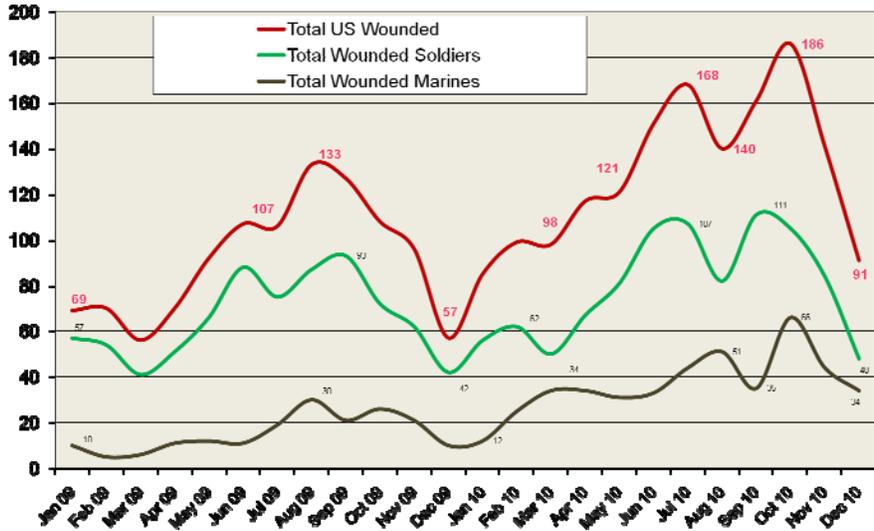
*Lynn G. Stansbury, MD, MPH, FACP,\* Steven J. Lalliss, MD,\* Joanna G. Branstetter, MD,†  
Mark R. Bagg, MD,† and John B. Holcomb, MD, FACS\**

J Ortho Trauma, 2008

- From 2001-2006, 8058 military casualties entered into the JTTR,
  - 5684 (70.5%) were recorded as having major limb injuries.
- Of these, 423 (7.4%) underwent major limb amputation
- The mechanism of injury for 87.9% was some form of explosive device.
- The major amputation rate during Vietnam was 8.3% of major limb injuries.
  
- Overall, major limb amputation rates for the current U.S. engagement in Afghanistan and Iraq (2001-2006) are similar to those of previous conflicts.

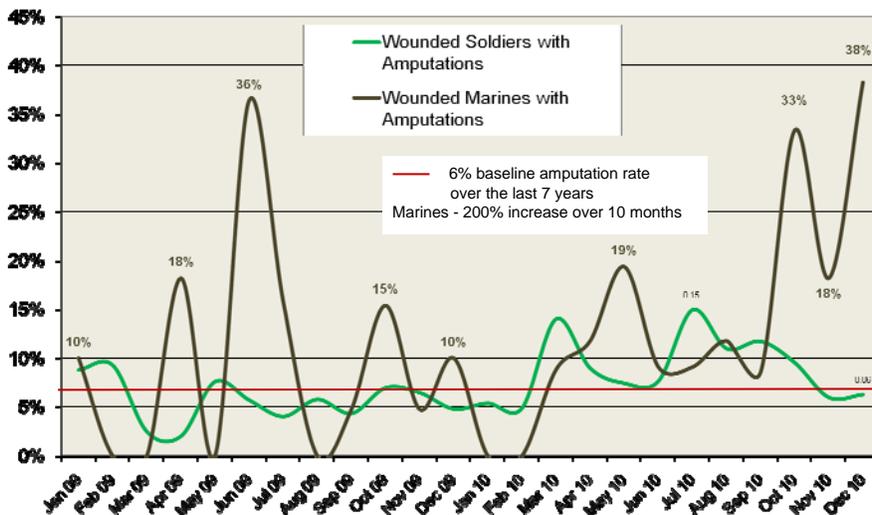
4

## Number of US Wounded admitted to LRMC Jan 2009 – Dec 2010



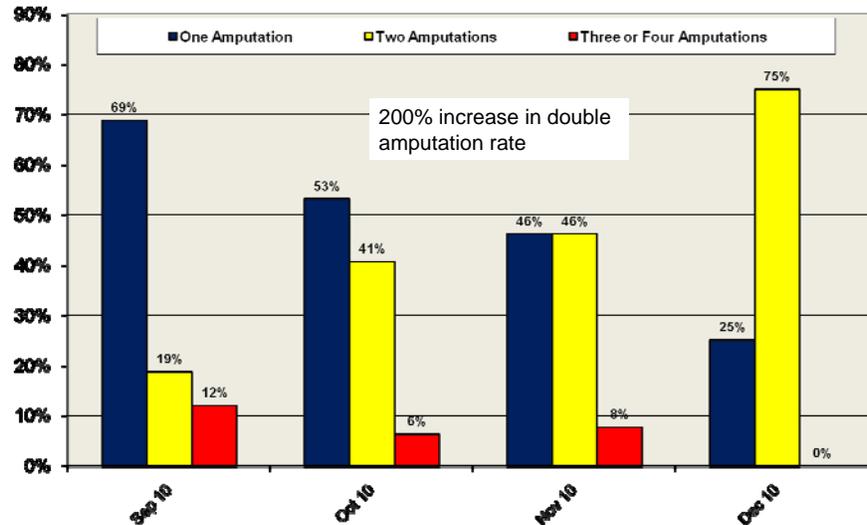
5

## Soldier/Marine Amputation Rates Jan 2009 – Dec 2010



6

## Single and Multiple Limb Amputations Sep 2010 – Dec 2010



7

### ORIGINAL ARTICLE

## Penetrating trauma to the external genitalia in Operation Iraqi Freedom

Published, 2009

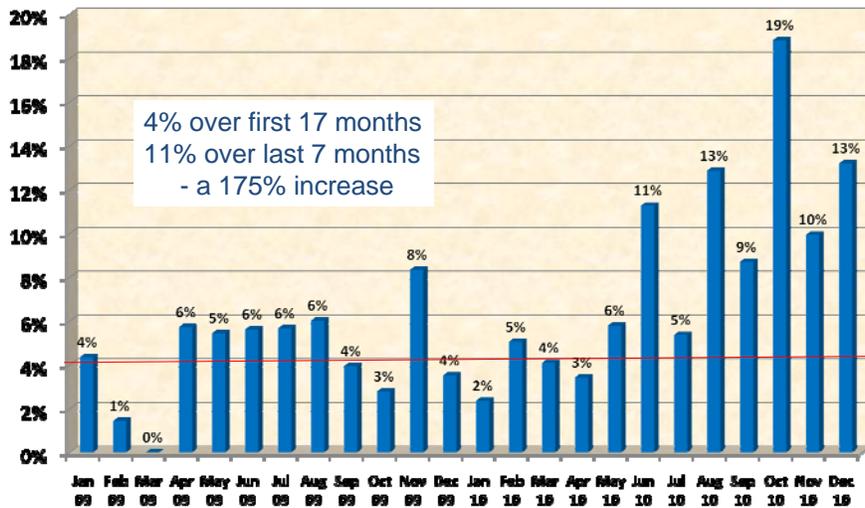
S Waxman<sup>1</sup>, A Beekley<sup>2</sup>, A Morey<sup>3</sup> and D Soderdahl<sup>1</sup>

<sup>1</sup>Brooke Army Medical Center, Fort Sam Houston, San Antonio, TX, USA; <sup>2</sup>Madigan Army Medical Center, Tacoma, WA, USA and <sup>3</sup>Dallas Southwestern Medical Center, Dallas, TX, USA

- Injury to the genitalia has historically occurred in 0.5–4.2% of all war injuries.
  - Injuries to the external genitalia are typically not life threatening.
  - Injuries to the external genitalia can result in substantial long-term urinary, hormonal and sexual dysfunction and concomitant severe psychosocial distress to the casualties.
- A retrospective review of the patients who sustained genitalia injuries at an US Army CSH in Iraq over 6 months in 2007 was performed
- Of the 3595 battle trauma injuries seen at the CSH during the time period, 168 (4.7%) had one or more GU injuries, consistent with previously reported rates.

8

## Percent of LRMC Trauma Admissions with GU Injuries 2009-2010



9

## Amputation and Genitalia Summary

- Amputation rates for evacuated Marines has increased from 6 to 18% over the last 10 months
  - a 200% increase over baseline
  - The double amputation rate increased from 19 to 75% over 4 months, a 295% increase
  - The amputation rate in December 2010 was 38% of all admissions
  - Most of the amputations are high proximal injuries, extremely disabling.
- Genitalia injury rates increased from 4% to 11% over last 7 months, a 175% increase
  - Extremely disabling
- Emotional impact on casualties, families and medical providers is enormous

10

## Medical Response

- Army TSG has established a rapid response taskforce
- Tactical Combat Casualty Care is aware
  - Interventions
    - truncal /groin hemorrhage control
    - Improved fluid resuscitation (prehospital lyophilized plasma)
    - CASEVAC issues (plasma and RBCs)
- Joint Theater Trauma System
  - Interventions
    - GU capability forward
    - Guideline for changing surgical management
    - New simulation situations
    - Conference on management
    - Compassion fatigue / PTSD in providers
    - Track rates via JTTR
- Line leadership is aware