

Devastating Dismounted IED Injuries in OEF

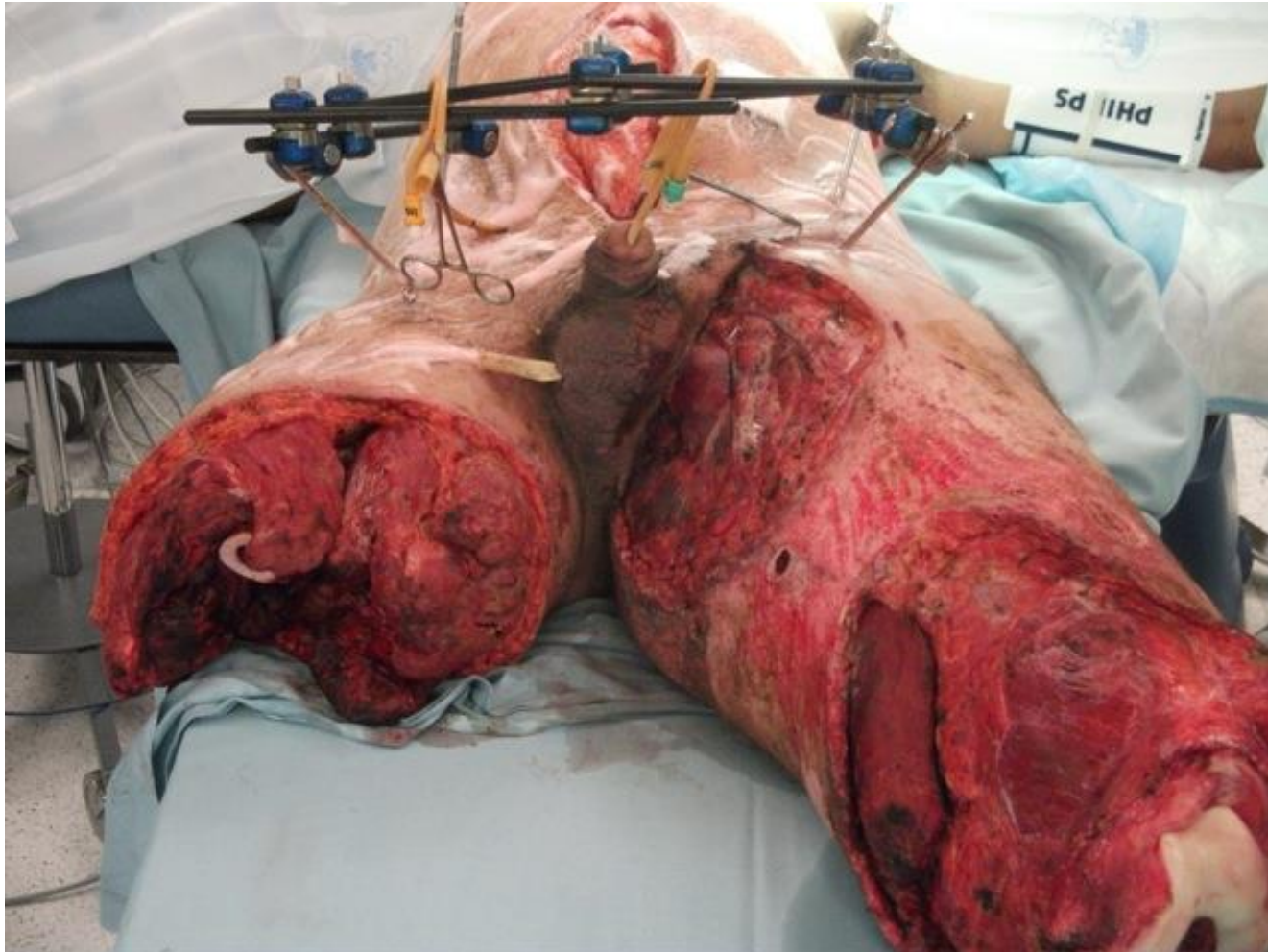
Increasing Amputation and
Genital Injury Rates admitted to LRMC

2009-2010

(Sept -Dec 2010)

- 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

Typical High Bilateral Amputations, Scrotal and Abdominal Wounds



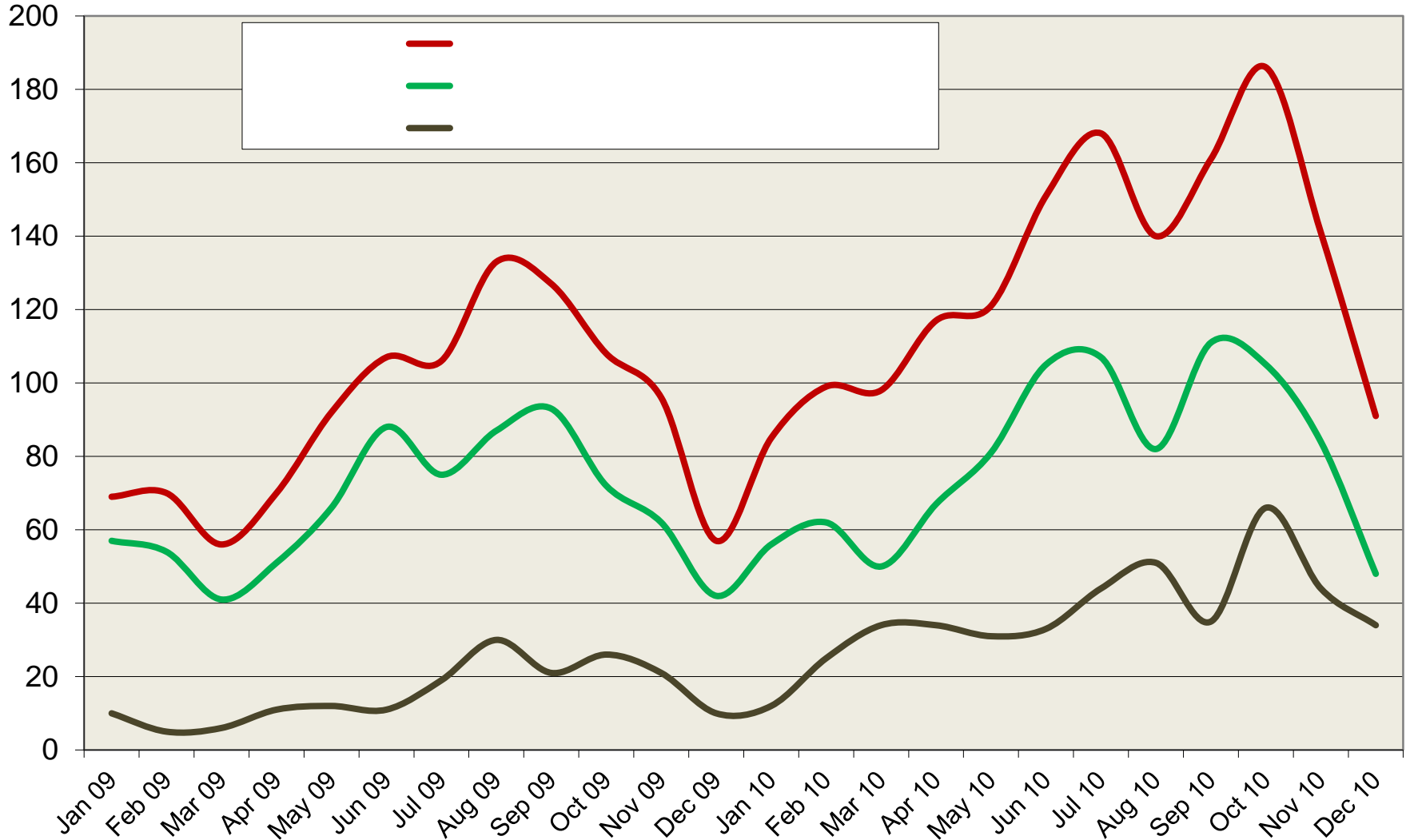
Amputations in U.S. Military Personnel in the Current Conflicts in Afghanistan and Iraq

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- 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.

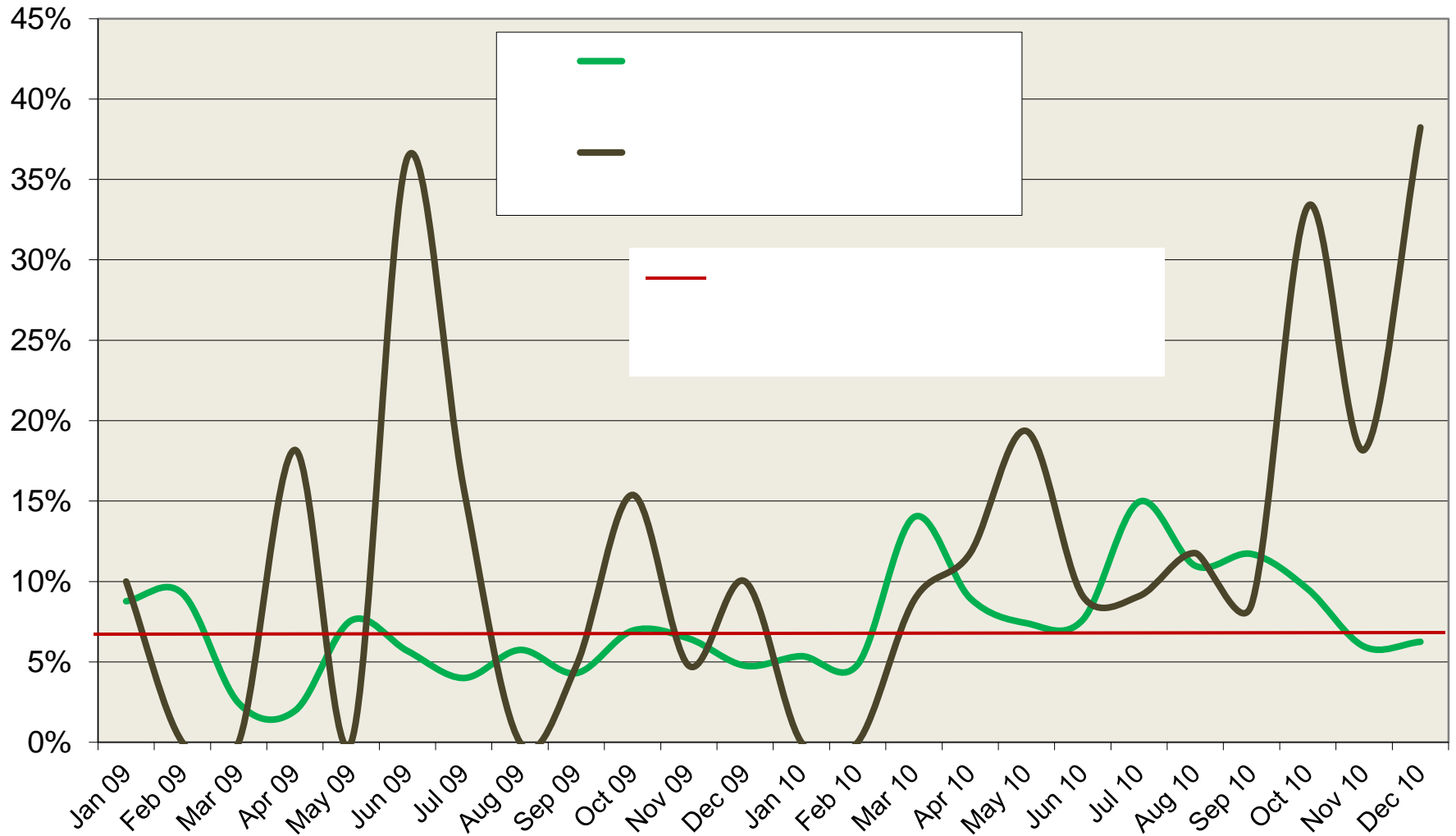
- Overall, major limb amputation rates for the current U.S. engagement in Afghanistan and Iraq (2001-2006) are similar to those of previous conflicts.

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

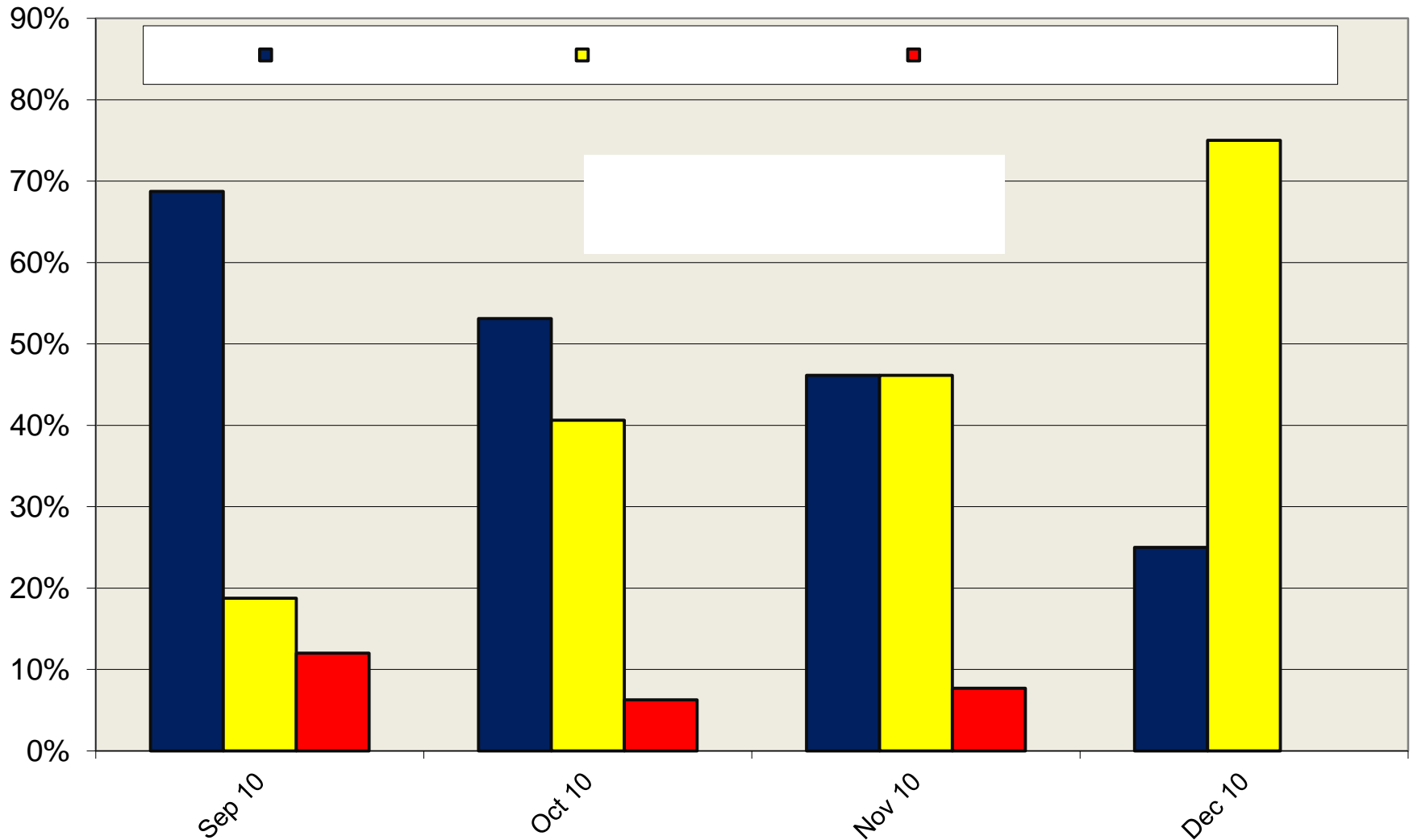


Soldier/Marine Amputation Rates

Jan 2009 – Dec 2010



Single and Multiple Limb Amputations Sep 2010 – Dec 2010



ORIGINAL ARTICLE

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Penetrating trauma to the external genitalia in Operation Iraqi Freedom

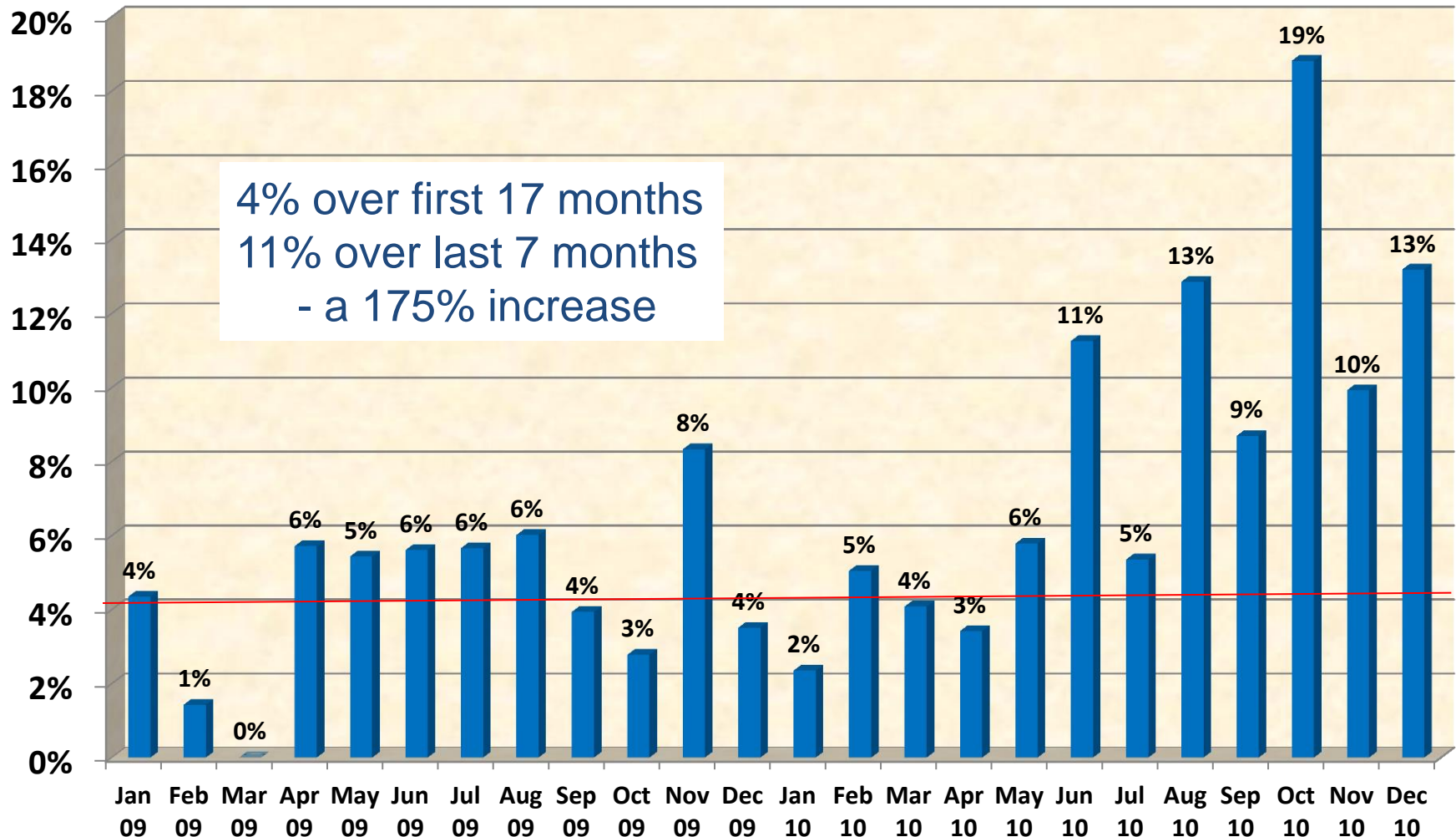
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- Injury to the genitalia has historically occurred in 0.5–4.2% of all war injuries.
 - Injuries to the external genitalia are typically not life threatening.
 - Injuries to the external genitalia can result in substantial long-term urinary, hormonal 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.

Published, 2009

Percent of LRMC Trauma Admissions with GU Injuries 2009-2010



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

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