

2010 Military Health System Conference

The Marine Corps Perspective

Sharing Knowledge: Achieving Breakthrough Performance

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Headquarters U. S. Marine Corps

Overview



- United States Marine Corps
- Casualty Care
- Challenges

Ready Marine



“No Better Friend — No Worse Enemy”



A Marine's Guardian Angel



Overarching Priorities



!!Winning the War!!

CMC Priorities

- Achieve Victory in the Long War
- Right-size our Corps
- Provide the Nation's MAGTF
- Reset and Modernize
- Improve Marine and Family QOL
- Rededicate to Core Values and Warrior Ethos
- Posture the Corps for the future (2025)

ACMC's Focus for CMC

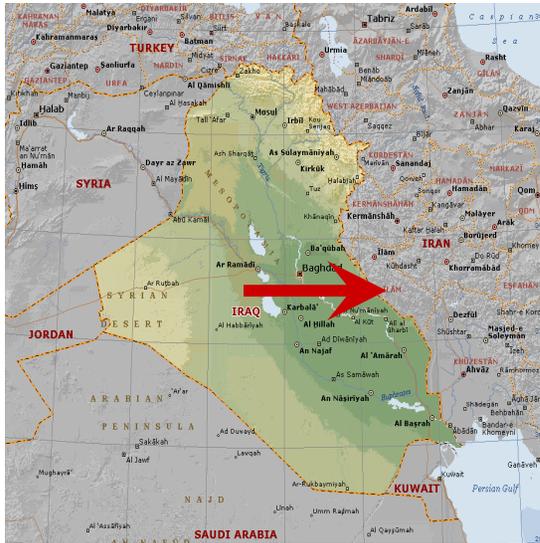
- Guam
- Suicide
- TBI/PTSD
- QDR
- Reset
- POM/PR 11/12
- Wounded Warrior and Family Readiness
- OLA Engagement

EOS / GOS

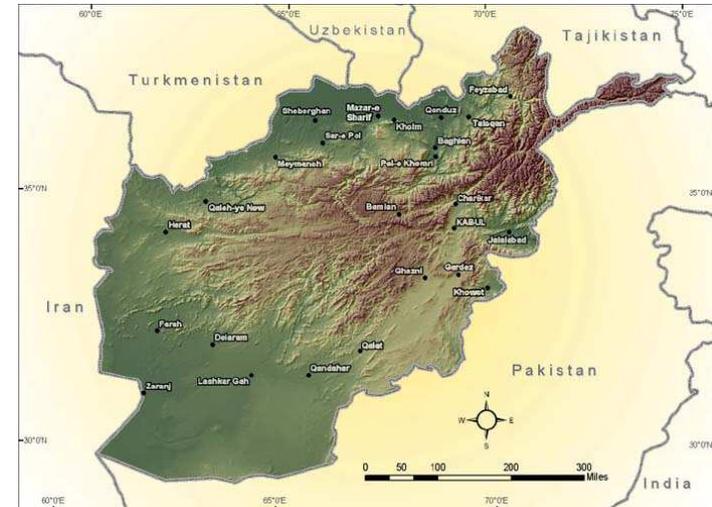
Iraq – Afghanistan Transition



IRAQ



AFGHANISTAN



- 2/7
- SPMAGTF
- Mobile Trauma Bay (MTB)

Adapt and Overcome



2/7's STP – Casualty of War



Mobile Trauma Bay



Casualty Statistics



GLOBAL WAR ON TERRORISM

October 7, 2001 Through January 16, 2010



OIF/ OEF	USMC	USMCR	TOTALS
OIF	883	139	1,022
OEF	137	6	143
Wounded in Action Survival Rate			85% – 95%
Massive Transfusion Survival Rate			83% - 93%

Casualty Care



- **300K+ Marines deployed since 11 Sep 2001- 9K received personal casualty report**
- **Estimated ~ 50K suffered mild Traumatic Brain Injury (mTBI)**
- **Identified ~ 20K with Post Traumatic Stress Disorder (PTSD)**
- **ACMC: “How does the Marine Corps help keep the Medical Community focused on our Warfighter issues?”**

Humanitarian Assistance & Disaster Relief



- **Haiti**
 - **22nd MEU & 24th MEU**
 - **Lummus**
- **Marine Preposition Ships**
 - **MEB**
- **OIF/OEF**
- **Pakistan Earthquake**
- **Tsunami**
- **Katrina**
- **Samolia**



Medical Laydown



- **The Golden Hour “CONOPS”**
- **Forward Resuscitative Surgery System (FRSS), Shock Trauma Platoon (STP) and H&S Augmentation**
- **Expeditionary**
 - MCO
 - COIN
 - SSTRO
 - CASEVAC
 - TACEVAC
 - MEDEVAC





**“So what keeps the
Marine Corps’ leadership
up at night with
Medical?”**

Operational Stress



Greenside © by Jeff Bacon



After Action 1st Bn, 5th Mar COIN in Helmand Province



Make people feel safe
enough to send their
kids to school.

COIN in Helmand Province



Treat ANSF casualties just as we do our own.

The Challenges



ACMC's Four Areas of Focus

- Burns and facial reconstruction
- Amputations, limb transplant and regenerative medicine
- TBI and PTSD
- DoD Centers of Excellence



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AFIRM's Goal: To Heal Wounded Warriors



Cranio-Facial
Reconstruction



Healing Without Scarring



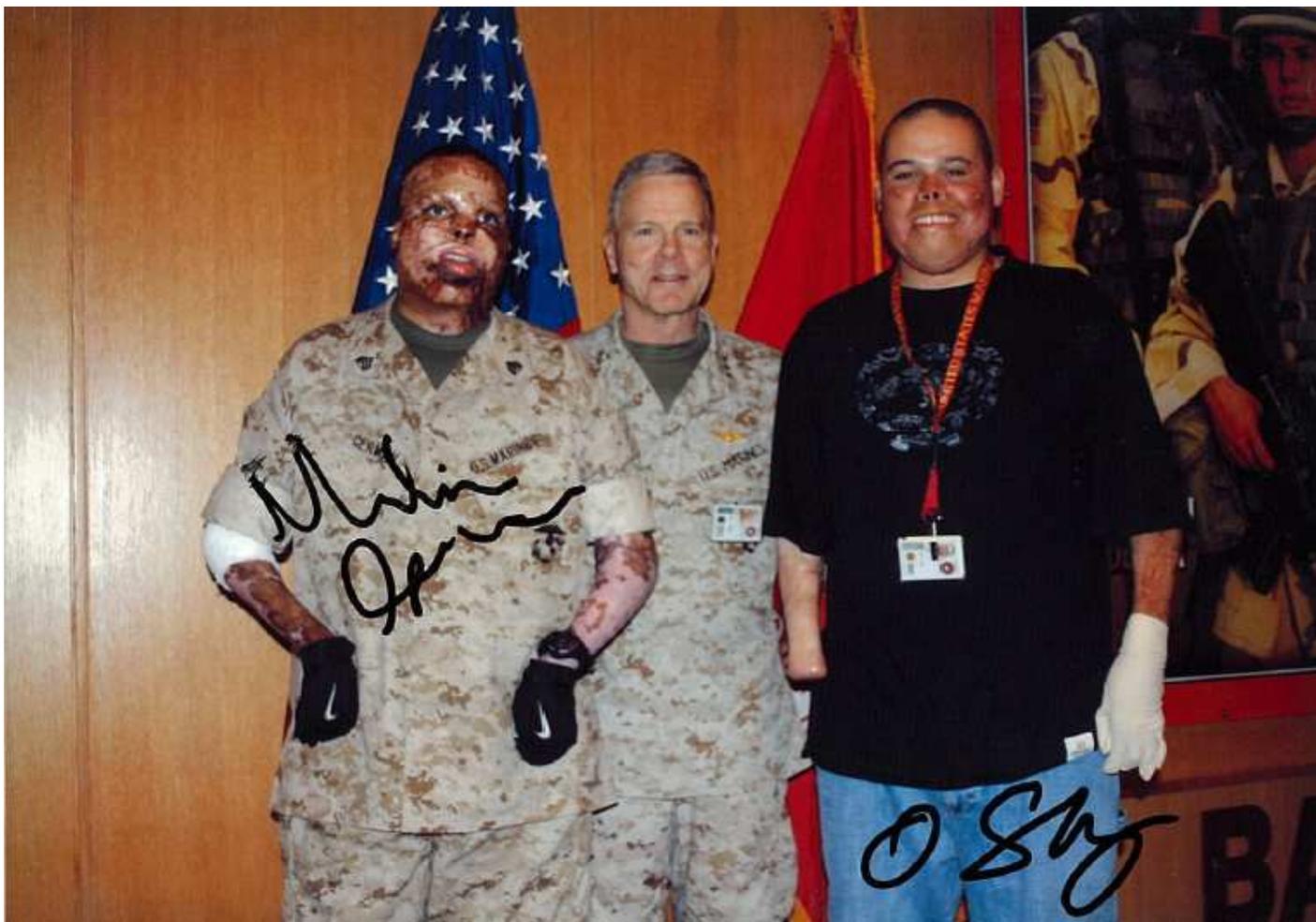
Limb and Digit Salvage and
Reconstruction



Compartment Syndrome



Burn Repair



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AFIRM: Developing Strategies



Cell spraying in place of skin grafting for burn patients (ReCell)



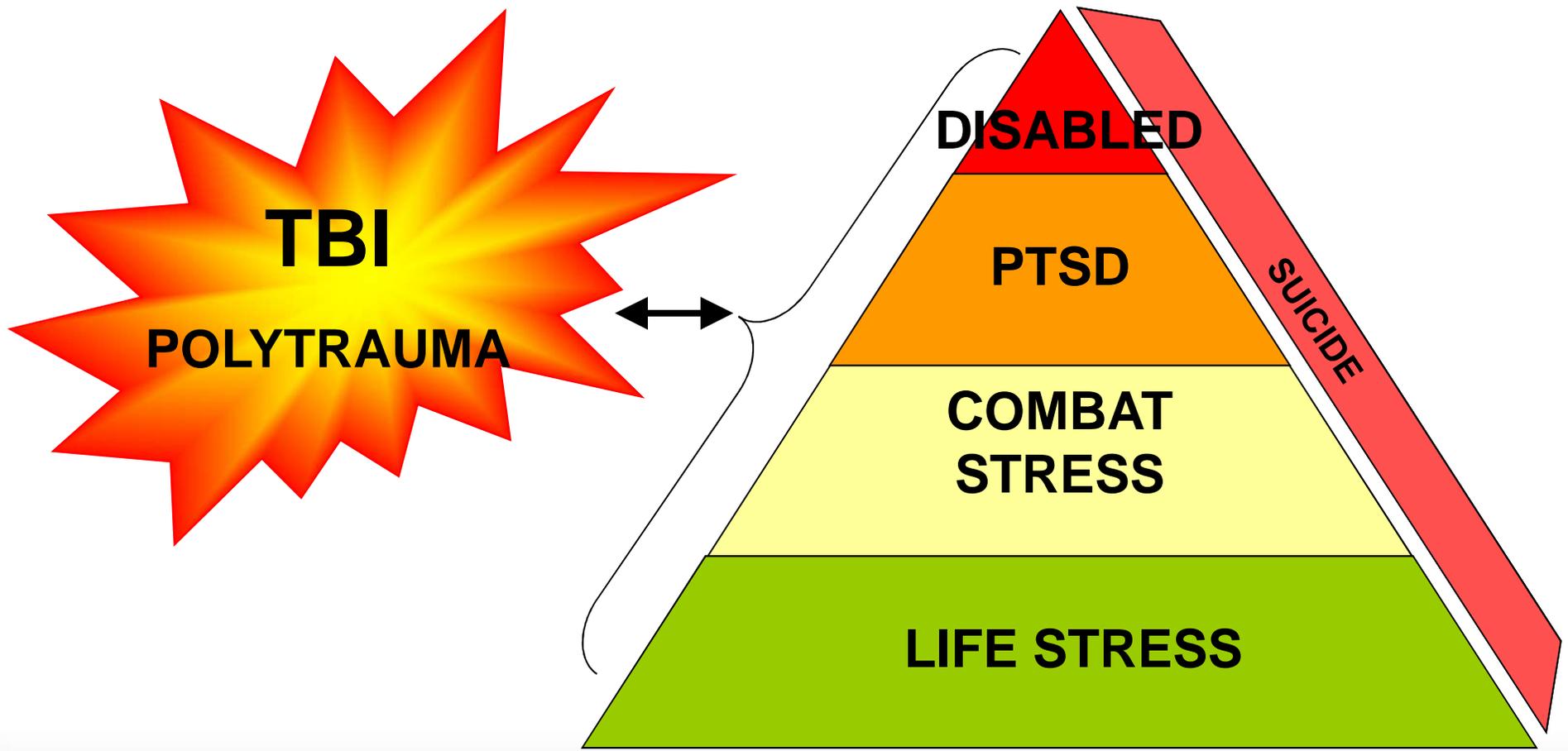
Hand transplant at the University of Pittsburgh March 2009 (Marine lost his right hand during a training exercise in Quantico)





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Traumatic Brain Injury





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TBI Mitigation Research with Disappointing Results



**Selfotel Aptiganel
MgSO4 D-CPP-ene**

**Eliprotil
Cerestat**

**Licostinel
Dexanabinol**

**Gavestinel
Traxoprodil**

IGF-1 plus growth hormone

**Methylprednisolone
Bradycor Anatibant**

**Tirilazad mesylate
Cyclosporin
Polyethylene glycol-superoxide
dismutase**

Ritalin

Amantidine

**Dilantin
Valproate**

Nimodipine

SNX-111

Vice Chiefs and Hyperbaric Oxygen



“Positive Anecdotal Results for Marines in Civilian Studies”

Current Marine Corps Participation in Research

- **LSU**
 - 13 Marines so far
- **Navy Operational Medicine Institute (NOMI)**
 - First enrollees spring 2010
- **Wilford Hall HBOT Study**
 - 23 Marines in various stages of participation
- **Richmond VA and ECU**
 - Few individual cases



DCoE – Hyperbaric Oxygen Study



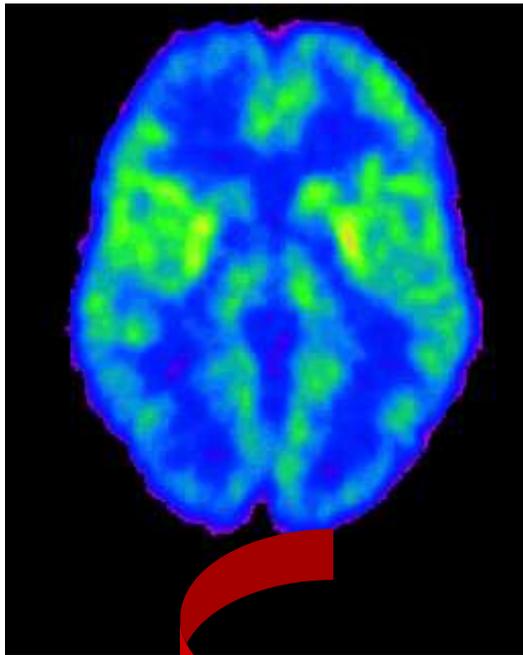
- **First ever Level 1 (highest quality) evidence-based study**
 - Randomized, Controlled, Double-Blind, Multi-center Clinical Trial
 - Typically would take 3-5 years to accomplish; DoD goal for first results under 2 years
- **Current Status**
 - Finalizing contract for portable chambers
 - Anticipating first study enrollees March 2010



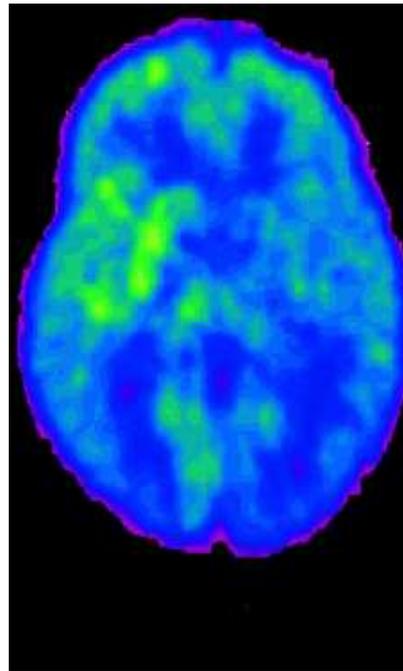
Traumatic Brain Injuries



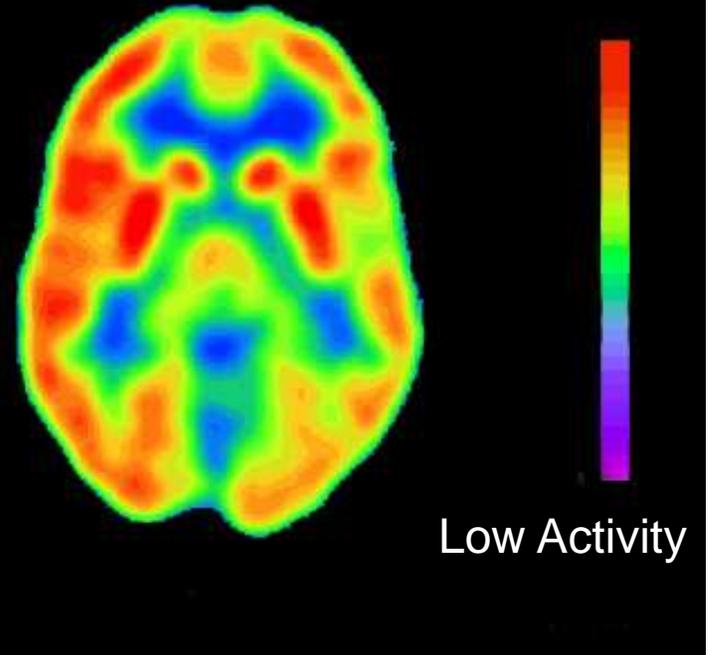
Concussion



**Severe Traumatic
Brain Injury**



Normal



The Brain Wants To Rest After TBI

The Expanding Vice Chiefs Reach in TBI



Current MEB Afghanistan Directive

“Three strikes and you’re in (side the wire).”

ACMC:

“There is much to do about prevention, identification, care and tracking to fill the gaps in the care of our service members - our Marines deserve better.” *

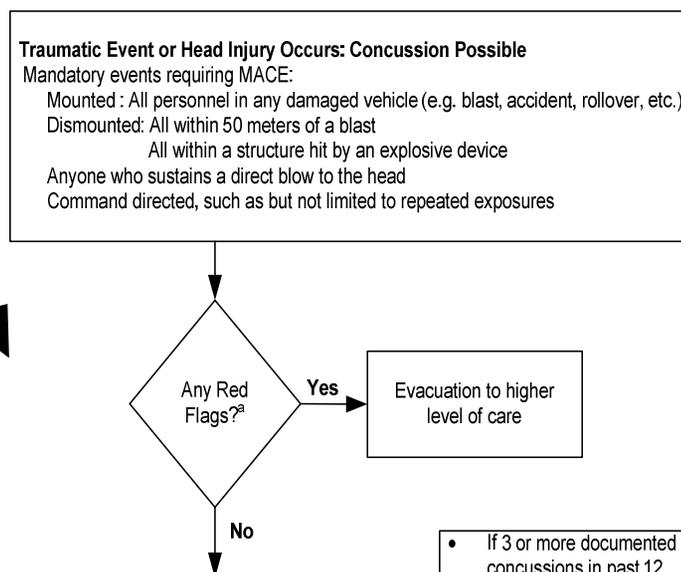
DTM with TBI Protocols



Big leap ahead:

Protocols for specific events, tailored to the operational environment, require commanders to report events, troops involved and mandatory referrals for Rest, Recovery and Medical Evaluation

Figure 1. Combat Medic/Corpsman Concussion (mild TBI) Triage (Pre-Hospital/No medical officer in the immediate area)



Possible concussion with:

Anyone who was dazed, confused, "saw stars", lost consciousness even momentarily, or has memory loss as a result of an explosions/blast, fall, motor vehicle crash, or other event involving abrupt head movement, a direct blow to the head or other head injury

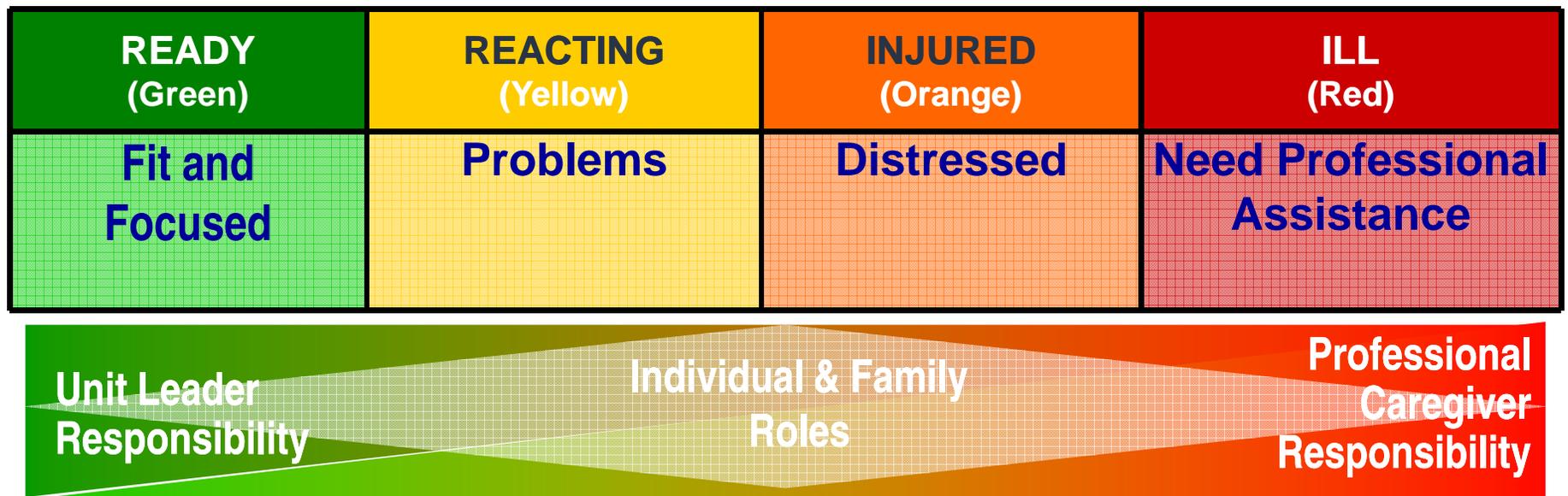
^aRed Flags:

1. WITNESSED LOSS of CONSCIOUSNESS
2. 2 or more blast exposures within 72 hrs
3. Amnesia/Memory problems
4. Unusual behavior
5. Unequal pupils
6. Seizures
7. Repeated vomiting
8. Double vision
9. Worsening headache
10. Weakness
11. Cannot recognize people or disoriented to place
12. Unsteady on feet
13. Abnormal speech

MEF Commander's Requirement



Combat Operational Stress Control Continuum



OSCAR & EXTENDERS



- **OSCAR 2004 - embed mental health teams**
 - Organic assets in operational units
 - Far Forward and at Home Care

- **OSCAR Extended 2010 - Add training for Marines, Corpsman/Medic, RPs/ Chaplain**
 - Engaged Leadership
 - Mitigate stigma

Sacrifice



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