



Relevant Research and Results . . . Yesterday, Today, and Tomorrow

Office of Naval Research

Dr. Michael B. Given
Casualty Care and Management

Automation and Decision Support Systems (DSS) for the ED, OR and ICU
4-Jun-09

ONR: Technology Developer

Expeditionary Maneuver Warfare & Combating Terrorism S&T Department
Code 30

DEVELOPING FUTURE NAVAL COMBAT CAPABILITIES
USMC USN

SMALL AND LIGHTWEIGHT
ADVANCED, INTEGRATED, AND COMPACT PERFORMANCE AND CONFORMAL LOAD CAPABILITY TECHNOLOGIES FOR NAVAL WEAPONRY

MANPOWER AND PERSONNEL
NAVAL COMBAT CAPABILITY CONCEPTS TECHNOLOGY AND SUPPORTING THE ADVANCED WEAPONRY

THE FUTURE OPERATOR
ADVANCED, INTEGRATED, AND COMPACT TECHNOLOGIES FOR WEAPONRY AND WEAPONRY

ONR
OFFICE OF NAVAL RESEARCH

Manpower and Personnel Management

Training and Education

Human-System Design

Warfighter Protection

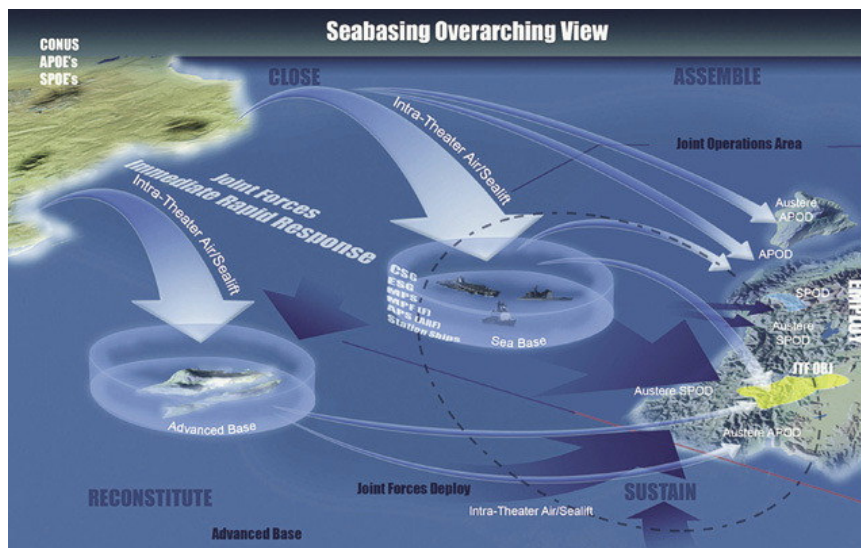
Operational Health and Casualty Prevention

Naval Warfighter Performance

for the Navy and USMC

Future Naval Warfare

- It is anticipated that combat operations in the future will encounter denied access situations that prevent friendly forces from utilizing establish infrastructure around the globe.
- Sea Basing doctrine is a response to current/future world political and economic factors and will allow naval forces to conduct Ship To Objective Maneuver (STOM) operations



- STOM operations may involve significant distances from point of injury to the Seabase, and from the Seabase to the Advanced Base. The Advanced Base will be used to transfer casualties to the USAF for transport to higher levels of care.

Future Naval Warfare



MV22 Osprey



High Speed Vessel (HSV)

- Transport from the point of Injury to the Seabase may take:
 - 50-60 min by MV22
 - 4-5 hrs by HSV
- Transport from the Seabase to the Advanced Base may take:
 - 4-5 hrs by MV22
 - 40-70 hrs by HSV
- Naval forces have a requirement for an automated critical care system to maintain casualties over these distances.

Automated Critical Care System

- Land-based, Shipboard and Transport Use
- EKG (wireless)
- Fluid/Blood Warming
- Auto Data-Logging/Transmission
- Decision-Assist and Full Automation Capable
 - **Ventilation (in process)**
 - **Fluid Resuscitation (in process)**
 - Analgesia/Anesthesia
 - Therapeutics
 - Glycemic control
 - Core Temperature
 - Suction

Questions?

“If you ask me a question I don't know, I'm not going to answer”

Yogi Berra