Advances for Active Duty, Veterans and Medicine

DoD and VA Research Partnership

Dr. Terry Rauch, Director, Defense Health Program Research and Development

Medical Research in the Department of Defense

- Defense Health Program – largest funding sponsor in DoD
  - *New Program - RDT&E - increased in FY10 & POM per GDF*
  - Central PP&B
  - Decentralized Execution
  - Leverage Services R&D Management & Science Infrastructure
  - Focus is Joint Force Health Protection Solutions
- Army-RDT&E – largest R&D management & science infrastructure
- Navy-RDT&E
- Defense Advanced Research Projects Agency-RDT&E
- Chemical and Biological Defense Program-RDT&E
- Defense-wide-RDT&E
- USSOCOM-RDT&E
- AF Human Systems-RDT&E

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Defense Health Program Medical Research and Development

- A core research program of the DoD within OASD (HA) and the focal point for Defense Health Program execution of RDT&E funds.
- The program's efforts help to fulfill the DHP priority to advance medical R&D for wounded warriors and expedite the delivery of products and solutions to service members and their families and advance the state of medical science in areas of the most pressing need.
- Funds projects spanning basic research through advanced clinical development.

"Our men and women in combat; our wounded warriors; the chronically ill—
these are our priorities
and these service members and families need our greatest attention."
Jonathan Woodson, M.D.
Assistant Secretary of Defense for Health Affairs

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R&D Objectives

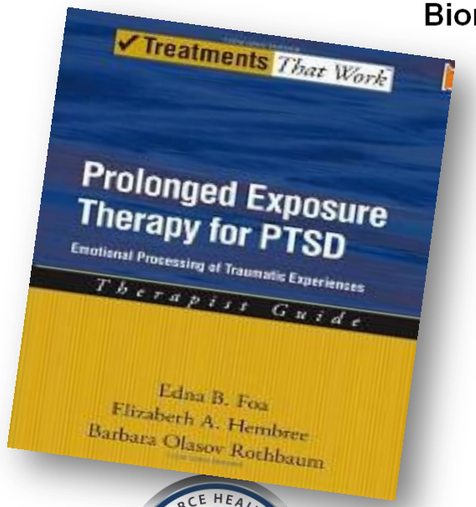
- To discover and explore innovative approaches to protect, support, and advance the health and welfare of military personnel, families, and communities.
- To accelerate the transition of medical technologies into deployed products.
- To accelerate the translation of advances in knowledge into new standards of care for injury prevention, treatment of casualties, rehabilitation, and training systems that can be applied in theater or in the clinical facilities of the Military Health System.

Benchtop System Role III

Point of Care Device
Role II

Handheld Device
Role I

Biomarker Assessment for Neurotrauma Diagnosis & Improved Triage System (BANDITS)



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Research Initiatives

- Diagnosis & Treatment of Brain Injury
- Polytrauma & Blast Injury
- Infectious Diseases
- Operational Health & Performance
- Regeneration/Rehabilitation
- Pain Management
- Psychological Health & Well-Being for Military Personnel & Families
- Medical Training Systems & Simulations
- Health Informatics

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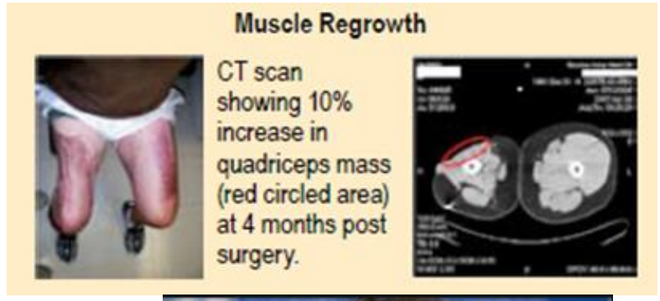
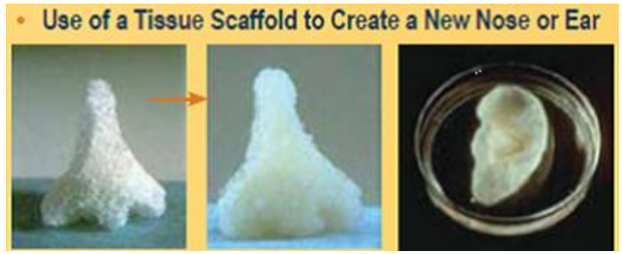
Program Highlights

- Leading the Nation in accelerating delivery of trauma therapies and regenerative medicine therapies for severely injured Service members
- Initiation of multiple clinical trials to include:
  - Hand and face transplants
  - Novel treatments for burn injuries that decrease requirements for skin grafting and decrease scar formation
  - Pioneering approaches to repair facial deformities
  - Suicide intervention studies
  - Hemorrhage control clinical trials





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DHP DoD-VA Portfolios

There are currently 137 DHP DoD-VA collaborative projects broken into 15 portfolios

Advanced Prosthetics	**$590,733.00**
Alzheimer	**$6,000,000.00**
Breast Cancer Research Program	**$521,250.00**
CIMIT	**$120,241,010.00**
Health Information Technologies	**$3,900,000.00**
Neuroscience	**$7,658,040.00**
Peer Reviewed Medical Research Program	**$1,232,443.00**
Peer Reviewed Orthopaedic Research Program	**$652,392.00**
Psychological Health & Resilience/TBI	**$133,485,419**
Gulf War Illness Research Program	**$4,527,699.20**
Multiple Sclerosis Research Program	**$621,923.00**
Resilience & Retraining	**$15,929,840.66**
Simulation and Training Technology	**$7,163,115.77**
Spinal Cord Injury Research Program	**$1,415,922.00**
Vision	**$1,109,280.00**
	$609,507,416.36

Making Major Advancements Through Collaborations with the VA

NCIRE
The Veterans Health Research Institute

MILITARY SUICIDE RESEARCH CONSORTIUM

MILLENNIUM COHORT STUDY

ARMED FORCES INSTITUTE OF REGENERATIVE MEDICINE
AFIRM

- Millennium Cohort Study
- Regenerative Medicine / AFIRM
- STRONG STAR
- Psychological Health / INTRUST
- Military Suicide Research Consortium
- Military Risk Factors for Alzheimer's Disease

INTRUST
INjury & TRaumatic STress

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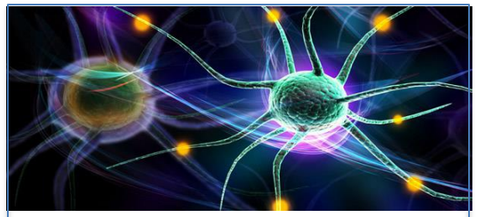
Future Research Collaborations: Built on Current Successes

Treatment of Active Duty Military with PTSD in Primary Care: PTSD-PC Program Early Findings
Lt Col Jeffrey Cigrang, Ph.D., Wilford Hall Medical Center, San Antonio, Texas; Sheila Rauch, Ph.D., VA Ann Arbor Healthcare System and University of Michigan Medical School, Ann Arbor Michigan; and Laura Avila, Ph.D., Brooke Army Medical Center, San Antonio, Texas

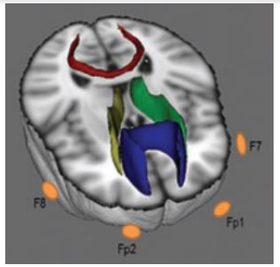
Spouse Telephone BATTLEMIND: A Telephone Support Program for Spouses to Help Soldiers Transition Home
Linda Nichols, Ph.D., and Jennifer Martindale-Adams, Ed.D., VA Medical Center, Memphis, Tennessee


Cognitive Behavioral Therapy for Nightmares in OEF/OIF Veterans
Richard Ross, M.D., Ph.D., and Gerlinde Harb, Ph.D., Philadelphia Research and Education Foundation, Philadelphia VA Medical Center, Philadelphia, Pennsylvania



Small Molecule Activators of the TRK Receptors for Neuroprotection
Nicholas J. Webster, Ph.D., Veterans Medical Research Foundation of San Diego


Multi-Family Group Intervention for OEF/OIF Traumatic Brain Injury Survivors and Their Families
Deborah Perlick, Ph.D., VA Medical Center, Bronx, New York

The Effects of Explosive Blast as Compared to Post-Traumatic Stress Disorder on Brain Function and Structure
Scott R. Sponheim, Ph.D., Veterans Affairs Medical Center, Minneapolis, Minnesota; University of Minnesota, Twin Cities

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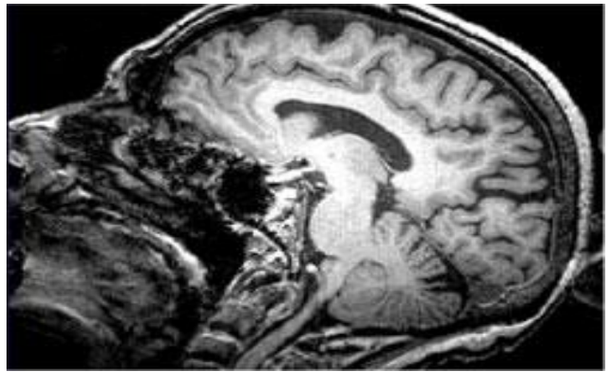
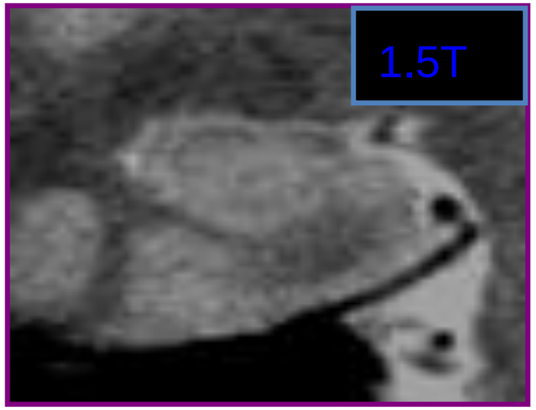
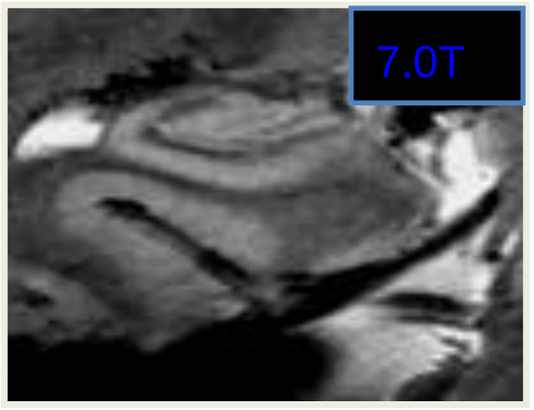
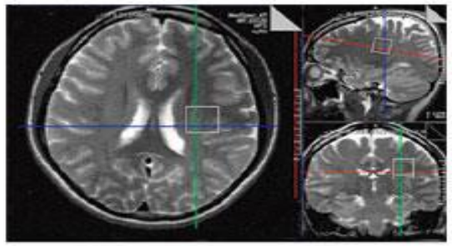
DoD-VA Neuroimaging Partnership at SF VAMC

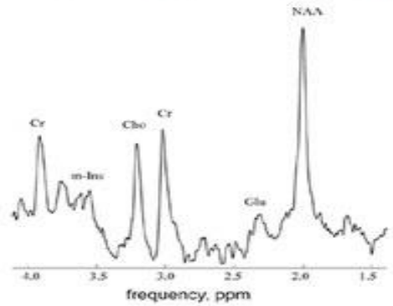






Comparison of In-Vivo Hippocampal Imaging 1.5T & 7.0T





Gulf War Illnesses MRS imaging study
Vietnam veterans ADNI (Alzheimer's) study
Neurodegenerative disease
Peripheral nerve regeneration
PTSD & TBI studies
Sleep studies

Michael Weiner, 2006
Middleton research award

4T magnet purchased with funds from NIH and DoD

Neuroscience Center of Excellence
DoD ★ NCIRE ★ VA

Collaboration with Portland VAMC
In-Home Tele-behavioral Health Feasibility

Tele-Behavioral Health

- Improve access to BH providers for Soldiers in need of BH
- Extend the reach of limited numbers of BH providers
- Reduces need for soldier travel in remote sites

Patient to Provider
TBH session

The study examines health IT issues including patient privacy, computer security, patient safety, and clinical documentation in the EMR.

Examples of Other DoD-VA Collaborations

- Dr. Julia Golier; VA Medical Center Bronx, NY: A Randomized, Double-Blind, Placebo-Controlled, Crossover Trial of Mifepristone in Gulf War Veterans with Chronic Multisymptom Illness

  GOAL: to test whether mifepristone, a safe and tolerable glucocorticoid receptor antagonist, improves the health and functioning of Gulf War Veterans with chronic multisymptom illness

- Dr. Nina Sayer VA Medical Center, Minneapolis MN: Military to Civilian: RCT of an intervention to promote post-deployment reintegration

  GOAL: to determine whether Internet Based-Expressive Writing , a brief, low-cost, easily disseminated, and resource efficient intervention, can reduce psychological symptoms, including PTSD, and improved functioning among veterans returning from hazardous deployments.

Examples of Other DoD-VA Collaborations (Continued)

- Dr. Debbie Perlick VA Medical Center Bronx NY: Multi-Family Group Intervention for OEF/OIF Traumatic Brain Injury Survivors and their Families

  GOAL: to evaluate the feasibility and preliminary efficacy of an intervention that adapts Dyck's civilian MFGT model (MFGT-TBI) for veterans with TBI and their families, to improve the health, mental health and quality of life for veterans and their families.

- Dr. Murray Raskind VA Puget Sound Health Care System: A Placebo-Controlled Augmentation Trial of Prazosin for Combat Trauma PTSD

  GOAL: to evaluate efficacy and tolerability of the alpha-1 adrenergic antagonist, prazosin, for reducing trauma nightmares and sleep disturbance and improving global function and sense of well-being

Examples of Other DoD-VA Collaborations (Continued)

- Dr. Anne Sadler VA Medical Center Iowa City, Iowa: Combat, Sexual Assault, and Post-Traumatic Stress in OIF/OEF Military Women

  GOAL: to identify the antecedent risks and subsequent health consequences of physical and sexual assault (i.e., victimization) in active duty Regular Military (RM) service women during OIF/OEF

- Dr. Paul Hicks Central Veterans Health Care System: Predictors of Treatment Response to Fluoxetine in PTSD Following a Recent History of War Zone Stress Exposure

  GOAL: to conduct a controlled trial of fluoxetine as an early intervention for PTSD among recently redeployed soldiers, as well as to develop methodologies for understanding the multiple factors that may predict outcome.

Examples of Other DoD-VA Collaborations (Continued)

- Dr. Andrew Hoffman VA Palo Alto Health Care System: The Breast Cancer DNA Interactome

  GOAL: to investigate the impact of incorporating new knowledge regarding a breast cancer gene's spatial interactions (i.e., the nuclear neighborhood within which the genes reside) on more accurate prediction of breast cancer susceptibility.

- Dr. J.P. Ginsberg Dorn VA Medical Center: Adjunctive Heart Rate Variability Biofeedback Interventions for OIF-OEF Combat-Related PTSD: Using HRVB to Improve Attention and Immediate Memory in Veterans

  GOAL: to determine the extent to which Heart Rate Variability (HRV) biofeedback training will improve HRV, typically diminished in cases of combat PTSD, and concurrently improve cognitive deficits and general symptoms of the disorder.

Examples of Other DoD-VA Collaborations (Continued)

- Dr. Rachel Yehuda VA Medical Center, Bronx, NY: Neuroendocrine Correlates of PTSD before and after Treatment

  GOAL: to examine longitudinally, biological and psychological alterations in veterans with PTSD.

- Dr. Susan Hall VA Medical Center, Loma Linda, CA: Development and Characterization of a Novel Strategy to Enhance Delivery of Stem Cells to Improve Healing in Traumatic Musculoskeletal Injuries

  GOAL: to determine the optimal lower-dose radiation that stimulates the release of Stromal Cell-Derived Factor1 (and recruits large numbers of transplanted Mesenchymal Stem Cells), without interfing with healing.

Examples of Other DoD-VA Collaborations (Continued)

- Dr. Graham Creasey VA Health Care System, Palo Alto: SCI with Brain Injury: Bedside-to-Bench Modeling for Developing Treatment and Rehabilitation Strategies

  GOAL: to use information from current clinical practice to inform the development of animal models that can be used to evaluate specific strategies for treating the special needs of spinal cord injured patients with concurrent traumatic brain injury.

Research Benefits for Service members and Veterans

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QUESTIONS?