



## **VA Sierra Pacific Network MIRECC (VISN 21) Mental Illness Research, Education and Clinical Center**

### **Overview**

Aging presents intricate complexities in the general population. Among veterans, these complexities are made more severe through unique situations and traumas. Research suggests a substantial overlap in pathologies between Post-Traumatic Stress Disorder (PTSD) and dementia in veterans. Often the same neural structures are implicated in the pathology of both conditions and there are common clinical problems, such as cognitive impairment, sleep disorders and agitation that require similar treatment approaches. It has become clear to us that the overlap between these two patient groups will increase as the veteran population ages and will provide unique challenges for VA clinicians treating their behavioral and neurocognitive problems.

### **Mission**

The mission of the Sierra Pacific Mental Illness Research, Education and Clinical Center (SP-MIRECC) is to build an integrated system of clinical, research, and educational efforts to improve the clinical care for veterans with dementias and PTSD. Dementia and PTSD share common clinical symptoms including cognitive difficulties, sleep disorders and agitation and the SP-MIRECC aims to evaluate current approaches and develop new treatments for these clinical problems.

### **Research**

SP-MIRECC continues to look at cognitive impairment as a factor of aging, sleep disorders and psychiatric conditions including PTSD and dementia. Magnetic Resonance Imaging (MRI) technology is still a focus in looking at structural changes in the brain as brought on by such conditions. Recently, SP-MIRECC has increased its investigation of late-life PTSD, as well as the potential for Transcranial Magnetic Stimulation (TMS) technology.

### **Clinical**

The Clinical component looks at both community- and hospital-based care. The SP-MIRECC works with numerous Alzheimer's Disease Centers of California to evaluate various treatments in the community through outpatient monitoring. The SP-MIRECC also established an inpatient clinical treatment unit for veterans suffering from severe PTSD and complications from dementia.

### **Education**

SP-MIRECC continues to sponsor the annual Updates On Dementia and Updates On PTSD conferences. SP-MIRECC has been providing support for VA Central Office sponsored Cognitive Behavioral Training (CBT) programs aimed at providing VA clinicians with progressive education on diagnostic and treatment alternatives for depression (which also provides for Acceptance And Commitment (ACT) training). A similar program is currently being rolled out for insomnia.

### **Selected Studies and Projects**

- Post-Traumatic Stress Disorder and Risk of Dementia and other Adverse Late-Life Health Outcomes in Veterans: The objective of our study was to test the hypothesis that PTSD is associated with an increased risk of developing dementia in older veterans. Our findings will provide critically important information to help the DOD and VA plan its care for veterans who are currently older or are approaching old age, and to help it prepare over the long term for the health needs of veterans serving in current theaters. Furthermore, our findings might enable us to target patients at risk for dementia and to offer early treatment or

preventative strategies.

- VA Cooperative Studies Program #556, "The Effectiveness of Repetitive Transcranial Magnetic Stimulation (rTMS) in Depressed VA Patients", study will evaluate the efficacy, safety, durability of benefits and cost-effectiveness of rTMS in the resolution of Treatment-Resistant Major Depression (TRMD) with emphasis on the unique VA population of depressed patients that are commonly comorbid for substance abuse and/or Post-Traumatic Stress Disorder (PTSD). The primary objective is assess the efficacy of rTMS in veterans with TRMD to bring about remission of TRMD. Dr. Yesavage is the chairman of this 9 VA site study.
- Disentangling the Relationship between Traumatic Brain Injury, Posttraumatic Stress Disorder, and Other Mental Health Disorders in Iraq and Afghanistan Veterans: Several VA data sources will be used to (1) determine the association and distinguishing features among positive screens for TBI, PTSD, and comorbid disorders, (2) determine the sociodemographic and military service characteristics associated with a positive screen for TBI, and (3) describe predictors of attending a follow-up TBI assessment among those who screen positive for TBI as well as clinical outcomes of those receiving follow-up care.

### **Selected Publications**

- Yesavage JA, Friedman L, Ashford JW, Kraemer HC, Mumenthaler M, Noda A, Hoblyn J: Acetylcholinesterase inhibitors in combination with cognitive training in older adults. *Journal of Gerontology B: Psychological and Social Sciences* 63: 288-294, 2008
- Pa J, Boxer AL, Freeman K, Kramer J, Miller BL, Chao LL, Gazzaley A, Weiner MW, Neuhaus J, Johnson JK: Clinical-Neuroimaging Characteristics of Dysexecutive Mild Cognitive Impairment. *Annals of Neurology*, 65(4):414-23, 2009.
- Samuelson KW, Neylan TC, Lenoci M, Metzler TJ, Cardenas V, Weiner MW, Marmar CR: Longitudinal Effects of PTSD on Memory Functioning. *Journal of the International Neuropsychological Society*, 2009
- Lavretsky H, Zheng L, Weiner MW, Mungas D, Reed B, Kramer JH, Jagust W, Chui H, Mack WJ: The MRI brain correlates of depressed mood, anhedonia, apathy, and anergia in older adults with and without cognitive impairment or dementia. *Int J Geriatr Psychiatry*, 23(10):1040-50, 2008
- Spira AP, Friedman L, Aulakh JS, Lee T, Sheikh JI, Yesavage JA: Subclinical anxiety symptoms, sleep, and daytime dysfunction in older adults with primary insomnia. *Journal of Geriatric Psychiatry and Neurology* 21: 56-60; 149-153, 2008

### **Leadership**

Director – Jerome Yesavage, MD

Director, MIRECC Fellowship Hub Site – Ruth O'Hara, PhD

Associate Director, Research – Thomas Neylan, MD

Administrative Officer – Ed Wakabayashi

### **Contact**

Sierra Pacific MIRECC

Palo Alto VAHCS 151Y

3801 Miranda Ave

Palo Alto, CA 94304

650-852-3287