

Research Excellence at the San Francisco VA Medical Center



CARDIOVASCULAR DISEASE (CVD)

- Defined novel pathways by which infection and inflammation lead to CVD.
- Demonstrated that micro-clots break the blood-brain barrier, causing brain damage.
- Demonstrated that beta blockers given before and after surgery reduce mortality for patients with heart disease risk.
- Demonstrated that Cystatin C, a novel test for kidney function, is better than creatinine, the standard test, at predicting health outcomes.

PTSD

- Demonstrated that PTSD is linked to increased risk of CVD, dementia, accelerated aging, and death after surgery.
- Demonstrated that PTSD is accompanied by structural/functional changes in the brain.
- Demonstrated that men's and women's immune systems respond differently to PTSD.
- Developed techniques that increase use of VA mental health services among OEF/OIF Veterans.

BONE DISEASE AND TRAUMA

- Defined new pathways by which menopausal bone loss can be prevented, and by which bone density can be increased.
- Developed a therapy to speed nerve regeneration that improves fracture healing.
- Defined the mechanism by which space flight decreases bone density.

WOMEN'S HEALTH

- Demonstrated that the risks of postmenopausal hormone therapy outweigh the benefits, and that the subsequent drop in postmenopausal hormone therapy was associated with a decrease in ductal carcinoma in situ (DCIS).
- Developed a way to predict which patients with DCIS are at risk of more invasive tumors.
- Demonstrated that high breast density confers increased risk of breast cancer and increased risk from postmenopausal hormone therapy.
- Demonstrated that mammograms are not effective in 40-49 year-old women, and actively cause harm in frail elderly women.

GERIATRICS

- Identified leading potentially modifiable risk factors associated with Alzheimer's disease.
- Demonstrated a link between traumatic brain injury and increased risk of dementia in older Veterans.
- Demonstrated that in older patients, screening is often directed to seriously ill people who would not benefit, but not to the healthy elderly. This work has changed guidelines and medical school education.
- Developed a predictor identifying which elder hospital patients will have new-onset disability, allowing earlier intervention.
- Developed a tool that predicts likely years of good health in the elderly.

PSYCHIATRY

- Identified EEG patterns of brain function that predict full-blown psychosis within two years.
- Demonstrated, using EEG, a probable cause of auditory hallucinations in schizophrenic patients.
- Demonstrated that the error-monitoring center of the anterior cingulate cortex in the brain is defective in schizophrenia, which interferes with learning new skills.
- Developed the first neuroscience-informed cognitive training that improves brain plasticity and markers of cognitive function, and demonstrated that this training improves social functioning in patients with schizophrenia and may be preventative in patients at risk.

IMMUNOLOGY

- Conducted first clinical trial demonstrating that a drug regimen can maintain remission in Systemic Lupus Erythematosus.
- An SFVAMC investigator is leading the definitive trial in lupus of a T-cell therapy, shown to induce remission of lupus in mice, which has now been approved for therapy in lupus and rheumatoid arthritis.

SMOKING

- Demonstrated that integrating smoking cessation with PTSD therapy increases cessation compared with separate therapy.
- Demonstrated that among smokers who drink, smoking cessation programs work better in coordination with alcohol cessation programs.
- Demonstrated the efficacy of hypnosis in smoking cessation.