



# VA Research Currents

Update from Rehabilitation Research and Development...

## In rehabilitation, 'cure' increasingly within reach

By Mindy Aisen, MD, *Director, Rehabilitation R&D*

**T**he field of rehabilitation research is exploding with new knowledge and possibility. The opportunity for genuine functional recovery in several chronic impairments suddenly appears to be a near-term goal. Through its nationwide network of healthcare facilities, VA is in a unique position to advance this field through careful scientific investigation and data collection. However, we must expand our vision of what rehabilitation is and can be.

Cure, in rehabilitation, is often seen as the ultimate vision of a paralyzed person standing and walking without

assistance. The field of neural regeneration is closer than ever to realizing that dream. As studies move out of the laboratory, rehabilitation strategies will play an important role in augmenting pharmacological therapies.

We can also take advantage of new knowledge about brain plasticity. We now know that in some instances, forced use of paralyzed limbs can actually restore function. This shatters our notions about compensatory therapies in diseases such as stroke.

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## Opiates and chronic pain: Is more less?

The answer may be yes, according to investigators Michael Clark, PhD, and Ron Girona, PhD, of the Tampa VA Medical Center. They presented findings at a recent meeting of the American Pain Society suggesting that ongoing opiate treatment for patients with chronic pain does not improve functional outcomes, nor even reduce the subjective experience of pain.

The team studied nearly 250 veterans with chronic pain who were treated in the multidisciplinary pain clinic at the Tampa VAMC. Those taking opiates at admission to the program reported no greater pain intensity than those not on the drugs, yet reported more impairment in functioning. Pain-relief ratings for those on the drugs were unrelated to pain-intensity ratings.

Twelve months after the 19-day program—which gradually phases out opiate use—73 percent of the participants remained off opiate therapy. The 27 percent of patients who resumed opiate therapy did so almost immediately after the program, and at the 12-month follow-up reported more pain, greater pain-related impairment of functioning, and more depression than the opiate-free patients.

“They had a decrease in pain when they were off the opiates [during the program], then they went back on opiates [after the program] and their pain went back up,” noted Dr. Girona.

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## Study to test Dr. McCully's homocysteine theory

Findings from many studies over the past 20 years suggest that elevated blood levels of homocysteine—an amino acid—increase the risk of cardiovascular disease. But to date no large-scale clinical trial has confirmed this theory, first developed in the late 1960s by pioneering researcher Kilmer McCully, MD, now with the Providence VA Medical Center. Dr. McCully is the author of the book *The Homocysteine Revolution*.

Key evidence on homocysteine may be forthcoming from a new VA cooperative study, set to begin next month. More than 2,000 patients at 36 VA medical centers are expected to take part in research that will test whether lowering homocysteine levels cuts the risk of heart disease and death.

The patients, all with chronic or end-stage renal disease and elevated homocysteine, will be divided into two groups. The intervention group will receive daily doses of the three B-vitamins shown to lower homocysteine—folic acid, B-6 and B-12. The control group will receive a placebo. Patients will be monitored over four years for cardiovascular events and mortality.

Chairpersons of the study are Rex L. Jamison, MD, Palo Alto; and Michael J. Gaziano, MD, MPH, Boston.

## Recent publications and presentations

*Below is a sampling of recent publications by VA investigators. Due to space constraints, only VA authors and affiliations are noted. Send notification of upcoming publications and presentations to R&D Communications at [researchinfo@vard.org](mailto:researchinfo@vard.org) or (fax) (410) 962-0084.*

“Cost-Sharing for Prescriptions of Sildenafil and Finasteride: A Case Study in Veteran Patients.” Emily I. Yu, MPH; Peter A. Glassman, MBBS, MSc; Steven M. Asch, MD, MPH; Neil M. Paige, MD, MSHS; Leigh J. Passman, MD, PhD; Paul G. Shekelle, MD, MPH. **West LA.** *American Journal of Managed Care*, April 2001.

“Dietary and Serum Lipids in Individuals with Spinal Cord Injury Living in the Community.” Diana H. Rintala, PhD; Gladys P. Rodriguez, PhD. **Houston.** *VA's Journal of Rehabilitation Research and Development*, March/April 2001.

“The Evolution of Brain Activation During Temporal Processing.” Deborah L. Harrington, PhD. **Albuquerque.** *Nature Neuroscience*, March 2001.

“Girard’s Reagent P Derivative of Beta-Apol-8’-Carotenal: A Potent Photoprotective Agent.” Jeffrey R. Kanofsky, MD, PhD; Paul D. Sima, PhD. **Hines.** *Journal of Photochemistry and Photobiology*, April 2001.

“The Gold Standard for Chronic Obstructive Pulmonary Disease.” Nicholas J. Gross, MD, PhD. **Hines.** *American Journal of Respiratory and Critical Care Medicine*, April 2001.

“The Military Environment: Risk Factors for Women’s Non-Fatal Assaults.” Anne G. Sadler, RN, PhD; Barbara Booth, PhD; Brian L. Cook, DO; Bradley N. Doebbeling, MD, MS. **Iowa City.** *Journal of Occupational and Environmental Medicine*, April 2001.

“A Novel, Cell-Specific Attenuation of a Herpes Simplex Virus Type 1 Infection in Vivo.” Thomas E. Kienzle, PhD; Robert E. Mrak, MD, PhD; William G. Stroop, PhD. **Central Arkansas.** *Acta Neuropathologica*, April 18, 2001 (online).

“A Trial of the Beta-Blocker Bucindolol in Patients with Advanced Chronic Heart Failure: (The Beta Blocker Evaluation of Survival Trial, or BEST).” Eric J. Eichhorn, MD; Michael R. Bristow, MD, PhD; Philip W. Lavori, PhD; et al. **Dallas (EJE), Salt Lake City (MRB), Palo Alto (PWL).** *New England Journal of Medicine*, May 31.

“The Type I Receptors ALK-1 and ALK-5 Play a Role in TGF $\beta$ -Mediated Signaling in Angiogenesis” (poster). James R. Hawker, PhD; Richard Jarvis, MS; Elizabeth Keschman, MS. **Central Texas.** Experimental Biology 2001 meeting, March 31 – April 4.

## Upcoming events

**Call for papers for Paralympic Congress**—The 6<sup>th</sup> Paralympic Congress will be held March 3 – 6, 2002, in Salt Lake City. The Congress, open to professionals and students from all disciplines, will explore how sport and exercise enhance the health and performance of people with disabilities.

Researchers interested in presenting papers at the Congress must submit abstracts by Oct. 1, 2001. Special consideration will be given to papers dealing with the following topics: exercise physiology and biomechanics; sport and exercise physiology; sports medicine; pedagogy and coaching; advocacy, legislation, ethics, and social-cultural issues; and technology and equipment adaptations. “VA investigators are strongly encouraged to submit abstracts,” said Laura Bowman, assistant director of VA Rehabilitation Research and Development.

More information is available by phone at (801) 212-3506 or on the Web at [www.6thparalympiccongress.org](http://www.6thparalympiccongress.org).

## PAIN (cont. from pg. 1)

There were no differences in pain history or physical status between those patients who remained off opiates and those who went back on. However, the patients who returned to opiate use had shown more symptoms of emotional dysfunction upon admission to the pain clinic.

According to Dr. Clark: “It’s possible that long-term opioid treatment may contribute to poorer treatment outcomes, perhaps by promoting increased physical deconditioning. At the very least, clinicians should exercise caution when considering opioid therapy for patients with chronic pain syndrome.”

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## 'ERICs': What they are, what they can do for you

**E**pidemiology—the study of the causes, distribution and control of disease in populations—is an important focus in VA. To foster epidemiologic studies of diseases affecting veterans—and to help apply the findings to patient care—VA's Cooperative Studies Program established three **Epidemiologic Research and Information Centers** (ERICs) in 1998.

The ERICs, based in Seattle, Durham and Boston, offer funding opportunities, operational support and technical help to VA investigators planning epidemiologic studies. "Our services can be especially helpful to clinicians who have limited epidemiologic experience but who have novel, VA-relevant research hypotheses," said Nicholas Smith, PhD, technical assistance coordinator for the Seattle ERIC.

Among the types of help offered by the three ERICs: advice on study design and implementation, as well as statistical analysis, for all types of epidemiologic research; access to VA and non-VA databases and guidance in "harvesting" them for epidemiologic studies; blood-storage capabilities; educational opportunities, such as summer courses and distance learning; and networking for epidemiologists.

For more information, including course schedules and deadlines for submitting proposals for ERIC funding, log on to <http://www.va.gov/resdev/ps/pscsp/eric/eric.htm>. This page will provide general information and link you to the individual websites of the three ERICs. ■

## Funding opportunities

**Prosthetics research**—VA's Rehabilitation Research and Development Service is seeking proposals for new research measuring functional outcomes for upper- or lower- limb prosthetics systems and individual devices. Proposals that seek to establish data-driven, evidence-based guidelines for prosthetic prescription are invited from eligible VA clinicians. Studies may be for up to two years and can be funded for up to \$100,000 over the two years.

Letters of intent are due by **June 27, 2001**, and proposals are due by Aug. 29, 2001. Further details on this opportunity can be obtained at <http://www.vard.org/opps/prost.pdf>; or from Laura Bowman at (202) 408-3680 or [bowman@hq.med.va.gov](mailto:bowman@hq.med.va.gov).

### RR&D (cont. from pg. 1)

Also, body-weight-supported treadmill training has shown positive functional improvement in people with incomplete spinal injuries.

We should not limit our focus on cure to spinal-cord injury or disease. In the 1980s, cochlear implants successfully transferred sound waves into nerve impulses to be sent to the brain, bringing sound to people with profound deafness. As we embark on this millennium, retinal implants that actually restore sight to people with a variety of blinding disorders seem to be a possibility. Direct skeletal attachment of prosthetic limbs appear to be a near-term "man/machine interface" that may lead to improved performance and comfort, with decreased skin complications.

RR&D strives to create opportunity for VA investigators to play a role in

these advances. We have just finished a review of our Centers of Excellence that will expand our portfolio from nine to eleven and create cores of investigative activity in many of the

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areas mentioned above. The new Centers will be announced this month. We sponsor Career Development awards and partner with the Eastern Paralyzed Veterans Association to identify and fund one awardee each year in a clinically relevant spinal cord injury or disease priority area. Our

targeted solicitation in advancing rehabilitation sciences has resulted in eight new proposals that may not have otherwise been submitted. This month, we will partner with the National Center for Medical Rehabilitation Research to set a research agenda in the field of prosthetics.

We will continue to push VA investigators to pursue research beyond the traditional parameters of rehabilitation. While other agencies fund rehabilitation research, only VA focuses on the needs of veterans. And only VA has a strong clinical rehabilitation team coupled with the appropriate health-services and medical-research professions.

To move rehabilitation ahead requires the integration of the medical, scientific, and engineering disciplines. Never before has this been so true and the future so bright for bringing quality care to veterans with disabilities. ■

## Newsmakers

VA physician researchers **John T. Daugirdas, MD**, and **Todd S. Ing, MD**, are co-editors of the newly published third edition of *Handbook of Dialysis*, a practical guide for medical professionals published by Lippincott Williams & Wilkins. Dr. Daugirdas is associate chief of staff for Research at the VA Chicago Hospital Westside. Dr. Ing is program director of the Renal and Hypertension Section of the VA Hospital in Hines.

**Stephen A. Fausti, PhD**; **James A. Henry, PhD**; and **Mary B. Meikle, PhD**, all with VA's National Center for Rehabilitative Auditory Research (NCRAR) in Portland, were among the VA authors on three papers cited in the April issue of *The Hearing Journal* as part of the "Best of Audiology Literature" for 2000. In other news from the Center, NCRAR exhibitors received the "Outstanding Poster Award for 2001" at the annual conference of the National Hearing Conservation Association in February.

**Laura A. Petersen, MD, MPH**, is one of two researchers to receive this year's Outstanding Junior Investigator Award from the Society of General Internal Medicine. The award was presented May 3 at the group's annual meeting. Dr. Petersen, recipient of a Career Development Award from VA's Health Services Research and Development Service, conducts research at VA's Houston Center for Quality of Care and Utilization Studies. The SGIM cited her research productivity and creativity, along with her teaching and service record.

**John D. Piette, PhD**, Palo Alto, received the 2000 Under Secretary for Health's Innovation Award for his project on "Automated Telephone Disease Management to Improve the Quality of Diabetes Care." Dr. Piette is with VA's Center for Health Care Evaluation.

**Next R&D Hotline Conference**  
**Call: July 9, 12 – 12:50 p.m.**  
**(EST). Dial (877) 230-4050.**

## Clinical research course hosts 60 VA investigators

"It was very helpful to hear from faculty who had been involved in several multi-center trials and to have them teach from their actual experience," said Scott Mader, MD, of the Portland VA Medical Center about his participation in the VA's third annual Clinical Research Methods Course, held April 2 – 6 in Oakbrook, Ill.

Dr. Mader was one of 60 VA investigators, in various stages of their research careers, who attended the five-day course, intended to teach the basics of designing and conducting a scientifically valid study. The course covered a broad array of topics pertaining to clinical research.

The next course will be held in spring 2002. Details will be available as of September 2001 from William Henderson, PhD, director of the Hines (Ill.) VA Cooperative Studies Coordinating Center, at (708) 202-5853 or [henderson@research.hines.med.va.gov](mailto:henderson@research.hines.med.va.gov).

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