

# NCS Awards Cerebrovascular Disease Fellowships

By Robert G. Kowalski

Critical care neurologists from Northwestern University and Stanford University have been awarded the first Career Development Fellowships by the Neurocritical Care Society, for research on higher goal hemoglobin after subarachnoid hemorrhage, and perihematomal edema related to intracerebral hemorrhage.

The two-year NCS fellowships, sponsored by an educational grant from Novo Nordisk Inc., awarded an \$85,000 annual stipend to Andrew M. Naidech, MD, MSPH and Chitra Venkatasubramanian MBBS, MD. The physicians were selected from among 15 applicants for the research funding.

Dr. Naidech is co-director of the Neurosciences Intensive Care Unit and Assistant Professor of Neurology and Critical Care at the Northwestern University Feinberg School of Medicine. Dr. Venkatasubramanian is a neurointensive care fellow at the Stanford University Medical Center's Stroke Center.

The fellowship awards, which were announced in June, are designed "to support early career development for neurointensivists interested in a clinical research career," said Michael N. Diring MD, the society's president.

Novo Nordisk agreed to fund the fellowships to help further research in hematological variables of brain injuries, said Brett Skolnik, PhD, who is senior director for new indications with the pharmaceutical firm.

"I think we were very concerned that we not put any limitations on it. ... Anything to do with the clinical management of hemorrhage patients," he said of the grant funding. "There is a lot of basic science that remains unknown in the ICU."

Proposals considered for the fellowships were patient-oriented clinical research projects conducted with human subjects, for which the investigator directly interacts with human subjects to clarify a problem in human

physiology, pathophysiology or disease. Eligible candidates were physicians interested in academic careers in neurocritical care and clinical research who completed residency training but were fewer than five years from



Andrew M. Naidech, MD, MSPH



Chitra Venkatasubramanian, MBBS, MD

completion of residency at the start of the fellowship.

"It was really essentially trying to come up with a way to support young researchers," Dr. Skolnik said. He added that Novo Nordisk is amenable to continuing its support of such grants through the NCS in the future. "It's clearly not intended to be a one-shot deal."

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Brett Skolnik, PhD  
Novo Nordisk

Andrew Naidech, MD, was selected for a research study he is leading on the safety and feasibility of higher goal hemoglobin after subarachnoid hemorrhage. The Hgb study is specifically designed to focus on patients with moderate subarachnoid bleeds, excluding WFNS Grade V patients and excluding Grade I patients, except those with thick clots (Columbia SAH CT Scores 3 and 4). Good-grade patients with thick clots are included because the clot can predict the onset of vasospasm, Dr. Naidech said. The study's target enrollment is 100 patients, of whom nearly 10 percent had been recruited in the first half of 2006, he said. "I don't know if we'll get there in two years," he said. "We'll certainly get to at least 50."

Dr. Naidech said he identified anemia as an area of SAH investigation after studying other potential complications of the disease while working as a critical care neurology fellow at the Columbia University Medical Center NICU from 2003 to 2005. Aspects of subarachnoid hemorrhage about which he already has published findings are troponin elevation and cardiac derangement, the incidence of rebleeding after SAH, the role of phenytoin exposure in cognitive outcome and a comparison of treatment with dobutamine and milrinone.

"Looking for medical complications (of SAH) ... was really the early part of my career," he said.

The exact role of hemoglobin concentration in SAH outcome remains unclear, but Dr. Naidech said he hoped the study would shed light on a possible mechanism involved. "Everyone asks me, 'Do you think it's oxygen delivery?'" he said. "Hopefully we'll be able to get some insight."

Anemia in subarachnoid hemorrhage patients often worsens in the days following the bleed and is not simply attributable to blood loss associated with ictus, Dr. Naidech said. "This is your head, not your retroperitoneum," he said. "The head's not that big. The bleed itself should not lead to anemia."

In the Northwestern study, patients will be randomized to hemoglobin-level groups of 10.0 g/dL or 11.5 g/dL from the time of enrollment until either 14 days after SAH onset or the time discharge, whichever is first. Hgb targets will be maintained by blood transfusion, although the efficacy of accomplishing this with erythropoietin is being analyzed in at least one other study, and the use of EPO in SAH treatment could be a focus of future study, Dr. Naidech said. "Maybe it (EPO) will work in subarachnoid hemorrhage," he said. "Serum EPO levels don't always correlate with CSF EPO levels"

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# Research Grants Awarded For Brain Hemorrhage Studies

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Dr. Naidech presented preliminary findings on the association of goal hemoglobin and SAH outcome at annual meetings of the American Stroke Association and American Academy of Neurology earlier this year. Those findings demonstrated that while higher goal Hgb levels lead to poorer outcomes in general critical care patients, the opposite may be true with SAH, in terms of mortality and risk of cerebral infarction.

Dr. Naidech, who is 34, earned his medical degree from the Temple University School of Medicine, and completed his neurology residency and a master's degree in public health (biostatistics) at the Tulane University School of Medicine. He is board certified in psychiatry and neurology, internal medicine and vascular neurology. Dr. Naidech joined the Northwestern medical school as a neuro-intensivist in 2005.

"It's a really big honor," Dr. Naidech said of the neurocritical care fellowship award. "I hope this research will continue to broaden and define the field."

Chitra Venkatasubramanian was selected for her research on the natural history and predictors of perihematomal edema in spontaneous intracerebral hemorrhage.

The study's aim is to enroll 25 patients with supratentorial ICH, and monitor progression of associated edema with serial magnetic resonance imaging over a period of three weeks after the hemorrhage occurs. One subsequent goal is to identify potential biomarkers that correlate with edema volume and severity, such as Matrix metalloproteinases. "We don't have a good panel of biomarkers," for ICH, she said. "I don't know which biomarkers are going to be useful."

Enrollment will be limited to patients with hemorrhage volumes of 20 to 75 cubic centimeters. "They are the ones who stand to benefit," she said. "My focus is not on studying the natural history of the extremes."

Study patients will undergo MRI imaging, with contrast, at 48 hours, and 7, 14 and 21 days after ICH onset. "It's a very difficult dataset to collect," she said. The Stanford center treats 60 to 75 ICH patients a year, a group from which study candidates will be recruited, she said.

Dr. Venkatasubramanian, who is 32, earned her MBBS degree in medicine in 1996 and MD in internal medicine in 1999 from the Coimbatore Medical College, Dr. M.G.R

Medical University, India. She completed an internal medicine residency in India, and a neurology residency at the Stanford University Medical Center, where she continues as a fellow at the institution's stroke center. She is board certified in the United States in psychiatry and neurology. Dr. Venkatasubramanian said she first became interested in ICH during her training in India.

"Intracerebral hemorrhage is much more common in Asian countries," she said. "There wasn't any therapy for ICH."

"This award from the Neurocritical Care Society gives a unique opportunity to pursue and academic career in this exciting and expanding field of neurocritical care," she said.

## Neurocritical Care Advocacy A New Challenge

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The websites of the American Medical Association ([www.ama-assn.org](http://www.ama-assn.org)), the American Academy of Neurology ([www.aan.com](http://www.aan.com)), the Society of Critical Care Medicine ([www.sccm.org](http://www.sccm.org)), and the American Academy of Neurological Surgeons ([www.aans.org](http://www.aans.org)) all have a wealth of information about each society's main advocacy goals. The AMA is the reigning heavyweight of all medical societies, and has a powerful political action committee (AMPAC) associated with it. The AANS formed its own political action committee in August of 2005. A political action committee will allow an organization to lobby, which means that the organizations can contribute money directly to the campaigns of pro-medicine candidates for the U.S. Senate and House of Representatives. The ability to contribute to campaigns, which has some controversial implications, is related to an organization's tax status.

The Society of Critical Care Medicine has a vibrant advocacy committee, and is focusing efforts recently on maintaining its website, including the popular and informative online advocacy tool known as Capwiz. It has useful links to up-to-date legislative information and easy navigation to contact your federal representatives. The SCCM website also features many useful links to advocacy resources.

One of the most engaging programs for gaining advocacy experience is the Donald M. Palatucci Leadership Forum, which is held annually by the American Academy of Neurology. Several NCS members are graduates. This intensive skills-development program includes invaluable sessions on action planning, media relations, and interacting with legislators. To apply to this year's Palatucci Forum go, to [aan.com/advocacy](http://aan.com/advocacy) and follow the links, but hurry as the deadline is September 1<sup>st</sup>, and the program is becoming increasingly prestigious. The AAN also has an organized advocacy event called "Neurology on the Hill" each spring. Several key issues are identified and members are brought to Washington D.C.

There, a training session is provided, members are split into groups based on their congressional districts, and then they make the rounds to their U.S. Senators' and Representatives' offices to deliver the AAN's messages. These are just two of the many advocacy activities that the AAN offers to members.

With so few neurointensivists, the burden falls heavily upon each of us. Think of every media appearance, speaking engagement, or lecture as an opportunity to promote the field of neurocritical care. Use your membership in other medical societies to gain advocacy experience, and then network within those societies to increase awareness of what we have to offer as a subspecialty. And certainly, vote in the upcoming midterm elections, even if it is *in absentia*, to afford you the opportunity to have a voice with you federal legislators for the next few years, should a pressing issue arise that you want to discuss with them!

Speaking of the elections, the advocacy column will now be a regular feature in *Currents*; therefore, in the next issue's topic will be how public policy affects our practice, and a timely legislative update to coincide with the midterm elections. This will likely include the legislation currently entertained on quality and safety issues, health information technology and "Pay for Performance," as well as a few other areas of interest, including the recent demise in the Senate of some malpractice reform legislation. Active participation from the membership is encouraged. Suggestions for articles and member comments are welcome. Some of the topics considered in future issues include: certification, coding and reimbursement, grassroots advocacy, carving out a role for neurointensivists amongst other intensivist groups, international practice issues, or our role in disaster preparedness movements. Future plans also include incorporating expert opinions and guest author contributions to meet the needs of the members.