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Journal-related and Other Special Activities at the 2008 American Society of Anesthesiologists Annual Meeting

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17th Annual ANESTHESIOLOGY Journal Symposium: A Precarious Breath: Diagnosis and Management of Difficult Airways and Obstructive Sleep Apnea

Tuesday, October 21, 2008, 8:00 AM to 11:00 AM, Orange County Convention Center, Chapin Theater, Orlando, Florida

The 17th Annual Journal Symposium will be a multifaceted session that explores the latest scientific investigations of the human airway, how to predict and determine which airway may be difficult to manage, the physiologic manifestations and consequences of obstructive sleep apnea (OSA), and concepts in the perioperative management of OSA. Although many anesthetic techniques and devices have been developed to overcome the obstacles presented by the difficult airway, few have investigated the nature of the difficult airway and identified those factors that transform the easy airway into one that is difficult. At this Symposium, key factors that make the difficult airway difficult will be discussed. OSA has been a disorder few in the pediatric realm have considered serious until a striking relation between chronic intermittent nocturnal hypoxia and sleep-disordered breathing was recognized. The notion that sleep-disordered breathing may modulate opioid sensitivity in children has opened a whole host of concerns that will be addressed in this session. The pathophysiology and management of OSA in adults will be addressed, challenging current dogma and presenting new concepts. Each of the three lecturers will highlight the best science available to support their recommendations for optimally managing these challenging issues.

Presentations at the Symposium by our three invited lecturers, and interactive discussion with the authors of the selected scientific posters will address many of these questions regarding the factors that make a difficult airway difficult and OSA. The Symposium will be facilitated by Journal Editors Jerrold Lerman, M.D., from Women and Children's Hospital of Buffalo, State University of New York at Buffalo, Buffalo, New York, and University of Rochester, Rochester, New York; and Evan D. Kharasch, M.D., Ph.D., from Washington University, St. Louis, Missouri. The three invited speakers for this symposium are

- Shiroh Isono, M.D., Associate Professor of Anesthesiology, Graduate School of Medicine, Chiba University, Chiba, Japan: "Why Is This Difficult Airway Difficult?"
- Karen Brown, M.D., F.R.C.P.C., Professor of Anesthesia, Montreal Children's Hospital, McGill University Health Centre, Montreal, Canada: "Hypoxia and Opioid Sensitivity in Children"
- B. Tucker Woodson, M.D., F.A.C.S., Professor and Chief, Division of Sleep Medicine, Department of Otolaryngology and Communication Sciences, Medical College of Wisconsin, Director of the Froedtert Memorial Lutheran Hospital/Medical College of Wisconsin Sleep Disorders Program, Milwaukee, Wisconsin: "Diagnosis and Perioperative Implications of Obstructive Sleep Apnea"

These lectures will be followed by a walk-around poster discussion of eight posters selected for their relevance to the Symposium topics of the difficult airway and OSA. The text for each abstract can be found at the American Society of Anesthesiologists (ASA) abstract Web site or in the CD-ROM that is included in this issue of the Journal.

"Importance of the ASA Task Force Airway Management Risk Factors in Predicting Difficult Intubation" by Ling Qun Hu, R. Michael Boyer, R-Jay Marcus, Philip Robles, Robert J. McCarthy, Northwestern University Feinberg School of Medicine, Chicago, Illinois. The authors investigated the contribution of each of the 11 variables identified by the ASA Airway Task Force as predictors of a difficult airway. Based on the limited sample size, they determined that limited neck motion was a substantive risk factor. [A1242]

"Incidence, Predictors, and Management of Impossible Mask Ventilation (IMV): A Review of 40,000 Anesthetics" by Sachin Kheterpal, Lizabeth Martin, Amy Shanks, Kevin K. Tremper, University of Michigan, Ann Arbor, Michigan. The authors conducted a 4-yr prospective study to address the incidence, predictors, and management of IMV. They determined 70 cases (0.15% incidence) of IMV with four variables as

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predictors of IMV: male, Mallampati 3 or 4, history of sleep apnea, and neck radiation. Airway management was difficult, although only two required a surgical airway. [A1243]

"Incidence of a Difficult Airway in 19,500 Children Aged 0–17 Yr" by Juergen Schmidt, Thea Koch, University Clinics Dresden, Dresden, Germany. The incidence and severity of the difficult airway in children is poorly understood. A retrospective review of an 8-yr experience in 19,500 children demonstrated the greatest incidence of difficult airway in the neonate/infant (0.57%) with greater incidence in toddlers than in older children and adults. Most airways were managed successfully with a mask and/or laryngeal mask airway. [A1244]

"High Resolution Pulse Oximetry (HRPO) Detects Airway Obstruction: Screening Implications for OSAS" by Frank J. Overdyk, Haley E. Moore, Philip Rust, Andrew Chickoree, Qanta Ahmed, Medical University of South Carolina, Charleston, South Carolina. HRPO is a new variant on the pulse oximeter that provides a greater resolution, improved sampling rates and possibly identification of desaturation patterns in patients with obstructive sleep apnea syndrome (OSAS) who have not had a sleep study. This device seems to detect airway obstruction as evidenced by polysomnography and may provide a portable, at-home screen/monitor for OSAS. [A1245]

"Postoperative Events in Patients at Risk for Obstructive Sleep Apnea Undergoing Elective Surgery" by Bhargavi Gali, Francis X. Whalen, Darrell R. Schroeder, Mayo Clinic, Rochester, Minnesota. The authors sought to determine whether a screening test for OSA could predict postoperative and cardiorespiratory events that occurred after the postanesthesia care unit (PACU). They also determined whether respiratory events in the PACU could foretell post-PACU events. They concluded that this prospective cohort study demonstrated that both the preoperative screening and recurrent PACU respiratory events predicted a greater risk for desaturation and respiratory complications after PACU. [A1246]

"Derivation of a Simple Preoperative Sleep Apnea Prediction Score (P-SAP Score)" by Satya Krishna Ramachandran, Sachin Kheterpal, Amy Shanks, Tara Doherty, Kevin K. Tremper, University of Michigan, Ann Arbor, Michigan. The purpose of this study was to identify clinical predictors of OSA and to develop a model to predict OSA when sleep studies were not available. The results suggest that a model to predict OSA should include a history of snoring, diabetes mellitus, hypertension, male sex, age older than 43 yr, obesity, thick neck, Mallampati 3 or 4, and thyromental distance less than 6 cm. [A1247]

"Postoperative Complications in Patients with Obstructive Sleep Apnea, a Case–Control Study" by Frances Chung, Pu Liao, Balaji Yegneswaran, Santhira Vairavanthan, Toronto Western Hospital, Toronto, Ontario, Canada. In this retrospective case-controlled study, the authors sought to determine the incidence of perioperative respiratory complications in adults with OSA. They found that adults with OSA developed significantly greater incidence of respiratory complications that often required additional interventions. [A1248]

"Boussignac CPAP Immediately following Extubation Improves Lung Mechanics in Morbidly Obese Patients" by Patrick J. Neligan, Guarav Malhotra, Michael Fraser, Maurizio Cereda, Edward A. Ochroch, University of Pennsylvania, Philadelphia, Pennsylvania. The authors investigated the potential role for the Boussignac portable continuous positive airway pressure (CPAP) device immediately after extubation of morbidly obese patients after laparoscopic bypass surgery to attenuate the incidence of perioperative respiratory complications. They demonstrated that the Boussignac CPAP device improved spirometry during the first 24 postoperative hours. [A1249]

Best Abstracts of the Meeting: ANESTHESIOLOGY Editors' Picks

Monday, October 20, 2008, 8:00 AM to 10:00 AM, Orange County Convention Center, Room W230A, Orlando, Florida

New this year is a session sponsored by ANESTHESIOLOGY of abstracts selected by Drs. James C. Eisenach and Mark A. Warner as being of broad interest and scientific importance. These were selected from the top-rated abstracts as scored by each scientific subcommittee charged with choosing abstracts for presentation at the Annual Meeting. This session highlights 10 outstanding abstracts, which will be presented in traditional oral format followed by a brief discussion.

"Anesthetic Technique and the Cytokine Response to Primary Breast Cancer Surgery" by Catherine A. Deegan, Donal J. Buggy, Denis C. Moriarty, Daniel I. Sessler, Brian P. Kavanagh, Mater Misericordiae University Hospital, Dublin, Ireland. Breast cancer, a common malignancy, is often treated primarily with surgery. There is clinical evidence suggesting that choice of anesthetic technique may alter the immune response to surgery and the success of this primary treatment. These investigators examined the effect of surgery on circulating cytokines in 32 women undergoing breast cancer surgery who were randomly assigned to sevoflurane general anesthesia plus postoperative opioid analgesia, or to paravertebral nerve blockade supplemented with propofol anesthesia. They observed that paravertebral block favorably influenced this cytokine response, with greater increases in interleukin (IL) 10, thought to be antitumorigenic, and decreases in IL-1β and IL-8, thought to be tumorigenic,

compared with general anesthesia. Ongoing studies by this and other groups may help to guide the choice of anesthetic technique for cancer surgery and improve long-term outcome and survival. [A841]

"Preoperative Executive Function and Depression Predict Postoperative Delirium" by Nathaniel H. Greene, Deborah K. Attix, Stephanie L. Macy, Terri G. Monk, Duke University School of Medicine, Durham, North Carolina. Postoperative delirium increases morbidity and mortality. The risk factors for this acute problem may be overlapping but unique compared with those of postoperative cognitive dysfunction. These investigators performed extensive preoperative testing of 52 patients scheduled to undergo major noncardiac surgery with general anesthesia, and 7 of these patients developed postoperative delirium. The presence of preoperative depression and lower performance on an executive task that measured sequencing and cognitive flexibility were independent predictors of postoperative delirium. Larger population studies built on these observations may lead to guidelines for preoperative screening and interventions to minimize the incidence of postoperative delirium. [A842]

"Mechanisms of Induction of Ischemic Tolerance with Erythropoietin" by Steven Roth, John C. Dreixler, Afzhal R. Shaikh, Daniel M. Rosenbaum, University of Chicago, Chicago, Illinois. Perioperative ischemic optic neuropathy remains a devastating problem. This research builds on original observations by this group that cytokine erythropoietin can protect against such ischemic injury. They showed that protection against ischemic injury to the retina by a preceding brief period of ischemia (ischemic preconditioning) can be prevented by scavenging erythropoietin in the eye. They also found that erythropoietin caused this protection by a pathway involving Akt2, but not by mitochondrial adenosine triphosphate–sensitive potassium channels. Further study on the mechanisms of erythropoietin against ischemic optic neuropathy may lead to preventive strategies for this crippling clinical problem. [A843]

"Antibody Blockade of Potassium Channels in the Thalamus Reverses Desflurane-induced Unconsciousness" by Michael T. Alkire, Amanda M. Franciscus, Emily L. Hahn, University of California at Irvine, Irvine, California. Loss of consciousness from general anesthetics most likely occurs by actions at many sites and mechanisms but may involve a few key circuits. This group of investigators, who have pioneered the role of the central medial thalamic nucleus as one of those key circuits, examined the effects of Kv1.2 potassium channels at this site in hypnosis induced by sevoflurane. They chose this target because of its importance in the regulation of the natural sleep state and selectively blocked the activity of these channels by microinfusing specific antibodies to them in the central medial thalamic nucleus of sevoflurane anesthetized rats. If the injection was placed within 1 mm of this nucleus, consciousness was temporarily restored for several minutes despite the continued presence of the anesthetic. These studies add further to our understanding of key regulators of consciousness in this circuit and their interaction with general anesthetics. [A844]

"Epidemiology of Anesthesia-related Deaths in the United States, 1999–2004" by Guohua Li, Margaret Warner, Barbara Lang, Lin Huang, Lena Sun, Columbia University, New York, New York. The rarity of anesthesia-related deaths renders study of risk factors difficult, particularly because most data are captured by case reports, closed claims, or data from individual hospitals. These authors screened the International Classifications of Diseases codes to identify those specifically attributed to anesthesia and applied them to a census of death certificates maintained by the National Center for Health Statistics over the 1999–2004 time period. There were more than 300 deaths per year related to anesthesia, with 11% of these listing anesthesia as the underlying cause of death and the remainder listing anesthesia as a contributing cause. Nearly half of the anesthesia-related deaths were attributed to an overdose of anesthetics, and the anesthesia-related mortality rate, twice as great for men as for women, increased markedly after age 65 yr. This study provides a standard methodology for prospectively examining anesthesia-related deaths and helps to define key components of the causes of such deaths. [A845]

"Causes of Mortality after Noncardiac Surgery: Interrelationship Between Beta Blockers and Anemia" by Nasser Al Kemyani, Keyvan Karkouti, Duminda Wijeysundera, Gregory Hare, W. Scott Beattie, Toronto General Hospital, Toronto, Ontario, Canada. Mortality after noncardiac surgery exceeds 2% in many studies, and the role of perioperative β blockade to reduce cardiac related mortality is uncertain. Using propensity analysis, these investigators examined the role of perioperative β blockade and its interaction with hemoglobin concentration in 90-day mortality after noncardiac surgery in 5,000 patients. They found that β blockade and anemia were independent risk factors for a composite outcome of death and myocardial infarction. Propensity analysis showed an increased risk of this outcome, particularly when patients who were given β-blockers had postoperative decreases in hemoglobin more than 30%. The authors speculated that β blockade prevented one or more of the compensatory responses to acute anemia. [A846]

"Estrogen Is Renoprotective in Cardiac Arrest" by Takaaki Nakano, Patricia Hurn, Michael Hutchens, Oregon Health and Science University, Portland, Oregon. Anesthesiologists have led research for several decades in resuscitation and improving outcome after resuscitation. These researchers have previously shown that acute kidney injury after cardiac arrest is less common and less severe in females than in males, and that estrogen is the mediating factor. In this study, they showed that acute kidney injury after potassium chloride–in-

duced cardiac arrest and resuscitation was reduced by estrogen supplementation in ovariectomized mice, and that the degree of protection was greater if the supplementation reached physiologic concentrations of estrogen. These results are important in understanding the modulatory role of estrogen on injury to the kidney after cardiac arrest and could potentially lead to novel approaches for the prevention of such injury. [A847]

"Natriuretic Peptide Gene Variants Independently Predict Ventricular Dysfunction after CABG Surgery" by Amanda A. Fox, Charles D. Collard, Stanton K. Shernan, Kuang-Yu Liu, Simon C. Body, Brigham and Women's Hospital, Boston, Massachusetts. Severe ventricular dysfunction affects nearly 1 in 8 patients undergoing primary coronary artery bypass graft surgery and is associated with increased morbidity and mortality. These authors investigated polymorphism in the genes coding natriuretic peptides synthesized by myocytes in response to increased wall tension and noted previously as independent markers for postoperative ventricular dysfunction. Using single nucleotide polymorphism analysis of more than 600 patients undergoing primary coronary artery bypass grafting, they observed that genetic variation in the genes for natriuretic peptides independently predicted in-hospital severe ventricular dysfunction. This study carries important implications for preoperative testing and therapeutic intervention to assess risk and potentially decrease the incidence of severe ventricular dysfunction, respectively, after this surgery. [A848]

"Immediate Postoperative Noninvasive Ventilation Improves Lung Mechanics following Bariatric Surgery" by Patrick J. Neligan, Gaurav Malhotra, Michael Fraser, Maurizio Cereda, Edward A. Ochroch, University of Pennsylvania, Philadelphia, Pennsylvania. Laparoscopic bariatric surgery in morbidly obese patients is associated with an increased risk of perioperative pulmonary complications due to the morbid obesity in these patients. This study examined whether the timing of biphasic positive airway pressure (BiPAP) application affected pulmonary function after this surgery. Forty morbidly obese patients were randomly assigned to receive BiPAP beginning in the operating room immediately after endotracheal extubation, or beginning in the postanesthesia care unit 30 min later, a common clinical practice. They observed a postoperative reduction in pulmonary function as measured by spirometry in both groups, but a clinically relevant lesser reduction in patients who received BiPAP in the operating room immediately after endotracheal extubation. These data suggest the need for larger studies to determine whether even a short delay in ventilatory support after surgery in morbidly obese patients increases their risk of pulmonary complications. [A849]

"A Novel Pharmacologic Strategy to Potentiate Relaxation of Human Airway Smooth Muscle" by George Gallos, Yi Zhang, Sang-Woo Pak, Jay Yang, Charles W. Emala, College of Physicians and Surgeons of Columbia University, New York, New York. Reactive airway disease remains a problem in the perioperative period, and previous research by this group demonstrated the presence of ionotropic γ-aminobutyric acid type A ($GABA_A$) channels on airway smooth muscle cells, which might be harnessed to produce airway relaxation. In this study, they used guinea pig tracheal rings and human airway smooth muscle to show that muscimol, a $GABA_A$ agonist, potentiated the relaxant effects of the β-adrenoceptor agonist isoproterenol. These data support the development of a novel treatment for severe bronchospasm using $GABA_A$ agonists. [A850]

ANESTHESIOLOGY/FAER Session: Anesthesia and the Developing Brain: Implications for Obstetrics and Pediatrics

Tuesday, October 21, 2008, 1:00 PM to 3:00 PM, Orange County Convention Center, Room W230A, Orlando, Florida

Recent findings suggest that commonly used general anesthetics and hypnotics may cause detrimental effects to the immature mammalian brain manifested as developmental neuroapoptosis and long-lasting cognitive deficits. The focus of our discussion will be on clinical and laboratory studies of the effects of anesthetics administered during neonatal life and young childhood on brain development and cognitive function. The Session will be moderated by

- Vesna Jevtovic-Todorovic, M.D., Ph.D., Harold Carron Professor of Anesthesiology and Neuroscience, University of Virginia Health System, Charlottesville, Virginia: "General Anesthetics-neurotoxins for the Developing Brain"
- Lena S. Sun, M.D., Professor of Anesthesiology and Pediatrics, Vice Chairman, Columbia University, New York, New York: "Clinical Studies of Anesthetic Neurotoxicity: Past, Present, and Future"
- Piyush M. Patel, M.D., Professor of Anesthesiology, University of California, San Diego, San Diego, California: "tPA Reduces Isoflurane Induced Neuronal Apoptosis and Dendritic Spines Loss in Rat Neonatal Neurons"

"Effects of Isoflurane on Hippocampal Neurogenesis in Neonatal Rats" by Greg Stratmann, Kavel Visrodia, Laura May, Jeffrey W. Sall, Yohan Shin, University of California at San Francisco, San Francisco, California. Exposure of neonatal rats to isoflurane at 7 days of age reduced the number of new neurons in the dentate gyrus of the hippocampus acutely and 4 h after exposure. However, there was no difference in neurogenesis 32 days after exposure. Whether this transient suppression of neurogenesis leads to the previously demonstrated cognitive dysfunction in isoflurane exposed neonatal pups remains to be clarified. [A1412]

"tPA Reduces Isoflurane Induced Neuronal Apoptosis and Dendritic Spines Loss in Rat Neonatal Neurons" by

Piyush Patel, Brian Head, Hemal Patel, John Drummond, David Roth, University of California at San Diego, San Diego, California. In neurons isolated from neonatal rat pups, isoflurane increased neuronal death at 7 days of age. Simultaneously, the release of tissue plasminogen activator (tPA) from these neurons was reduced. Application of tPA significantly reduced this neuronal death. The data suggest that part of the neuronal death that occurs in neonatal rodents exposed to isoflurane is due to a reduction in tPA release and the subsequent signaling of proBDNF *via* the p75 neurotrophin receptor. [A1413]

"Preventing Anesthesia-induced Developmental Neuroapoptosis: Temperature Regulation Approach" by John W. Olney, Megan M. Straiko, Davide Cattano, Chainllie Young, Catherine Creeley, Washington University School of Medicine, St. Louis, Missouri. Exposure of neonatal rat pups to isoflurane, ketamine, or ethanol resulted in robust neuroapoptosis when the temperature of the pups was maintained in the normothermic range. However, hypothermia at approximately 25°C significantly reduced this anesthetic induced apoptosis. These results offer a potential therapeutic avenue through which anesthetic induced neuroapoptosis might be reduced. [A1414]

"Exposure to Anesthesia and the Risk of Developmental and Behavioral Disorders in Young Children" by Charles J. DiMaggio, Lena Sun, Athina Kakavouli, Guohua Li, Columbia University, New York, New York. Children who had inguinal hernia repair within 4 yr of age are at heightened risk of developmental and behavioral disorders in comparison with children from the same birth cohort. The excess risk of these disorders in children exposed to anesthesia and surgery cannot be completely explained by lower birth weight and other demographic factors, suggesting that anesthesia and surgery might contribute to the behavioral disorders. [A1415]

"Relationship between Exposure to Anesthesia and Subsequent Learning Disabilities in Children" by Robert T. Wilder, Randall P. Flick, Juraj Sprung, David O. Warner, Slavica K. Katusic, Mayo Clinic, Rochester, Minnesota. In a population-based cohort investigation, the risk of the development of learning disabilities in children who were subjected to a single anesthetic exposure was not different in comparison to a control group of children. With two or three anesthetic exposures, the risk of learning disabilities was significantly greater. Moreover, with multiple exposures, total duration of anesthesia in excess of 2 h was associated with increased learning disabilities. However, it is not clear whether the learning disabilities were related to anesthesia, surgery, or a combination of both. [A1416]

"Cognitive Development in Children and Age at the Time of First Anesthetic Exposure: A Pilot Study" by Cor J. Kalkman, Linda M. Peelen, Tom P. de Jong, Gerben Sinnema, Karel G. Moons, University Medical Center, Utrecht, The Netherlands. In this pilot study of children undergoing urologic surgery during general anesthesia, neurocognitive development was evaluated by a validated parental questionnaire. Deviation in the scores was greater in children who underwent anesthesia and surgery before 2 yr of age in comparison to those who underwent anesthesia and surgery after 2 yr of age. Based on these pilot data, a properly powered prospective cohort study would require the study of at least 1,200 children. [A1417]

6th Annual Celebration of Research

Monday, October 20, 2008, 12:30 PM to 2:00 PM, Orange County Convention Center, Room W415BC, Orlando, Florida. Lunch will be provided!

This year's Celebration of Research will take place on Monday during the Annual Meeting. James C. Eisenach, M.D., Editor-in-Chief of ANESTHESIOLOGY, will serve as moderator. Featured speakers will be the 2008 recipient of the ASA Excellence in Research Award, Zeljko J. Bosnjak, Ph.D., Professor of Anesthesiology and Physiology, Vice Chairman of Research, Medical College of Wisconsin, Milwaukee, Wisconsin, and the recipient of the 2008 Presidential Scholar Award, John H. Eisenach, M.D., Assistant Professor of Anesthesiology, Mayo Clinic, Rochester, Minnesota. The recipients of the 2008 Residents' Research Awards will also be introduced during the Celebration event.

8th Annual Foundation for Anesthesia Education and Research Honorary Lecture: "Critical Thinking," Steven L. Shafer, M.D., Professor of Anesthesiology, Columbia University, New York, New York

Monday, October 20, 2008, 2:00 PM to 3:00 PM, Orange County Convention Center, Room W415BC, Orlando, Florida

The Foundation for Anesthesia Education and Research (FAER) will present its 8th Annual FAER Honorary Research Lecture. FAER has created this annual lectureship as a means of recognizing outstanding scholarship by an anesthesiologist in an effort to encourage young anesthesiologists to consider careers in research and teaching, which are crucial if anesthesiology is to maintain its reputation as a medical specialty continuously striving for excellence in patient care.

Dr. Shafer's research interest is the clinical pharmacology of intravenous anesthetic drugs. He has published extensively on the pharmacokinetics and pharmacodynamics of most of the intravenous hypnotics and opioids used in anesthetic practice. However, his interest is less in the drugs themselves than in the mathematical models that characterize drug behavior. These include conventional pharmacokinetic and pharmacodynamic models, inverse

models (used to drive target-controlled infusion systems), bayesian models (used to handle model uncertainty), models of drug interaction, and models that relate drug behavior to *in silico* pharmacogenetics. His work has resulted in more than 100 research publications, numerous editorials, several dozen book chapters, and seven patents.

Dr. Shafer's lecture, titled "Critical Thinking," will explore a framework for evaluating evidence and illustrate the traps and consequences of noncritical thinking within that framework.

The 2008 FAER Panel: "Anesthesia and the Elderly Brain: What the Anesthesiologist Needs to Know"

Monday, October 20, 2008, 3:00 PM to 5:00 PM, Orange County Convention Center, Room W415BC, Orlando, Florida

Participants will discuss the importance of geriatric anesthesia with the trend for more elderly patients, normal aging of the brain, postoperative delirium, and cognitive dysfunction.

Moderator:

Arnold Berry, M.D., Professor of Anesthesiology, Emory University School of Medicine, Atlanta, Georgia

Panel Members:

"The Graying of the Surgical Patient: Trends You Need to Understand," Jeffrey H. Silverstein, M.D., Vice-Chair for Research, Department of Anesthesiology, Mount Sinai School of Medicine, New York, New York

"Why Can't I Remember Where I Put My Car Keys? What Happens to the Older Brain?" Christopher J. Jankowski, M.D., Assistant Professor of Anesthesiology, Mayo Clinic, Rochester, Minnesota

"Postoperative Delirium in the Elderly: Does Anesthesia Care Play a Role?" Frederick E. Sieber, M.D., Director, Department of Anesthesiology, Johns Hopkins Bayview Medical Center, Associate Professor, Johns Hopkins Medical Institutions, Baltimore, Maryland

"Postoperative Cognitive Dysfunction: Is It the Surgery or the Anesthesia?" Deborah Culley, M.D., Assistant Professor of Anesthesiology, Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts