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Journal-related Activities and Other Special Activities at the 2009 American Society of Anesthesiologists Annual Meeting

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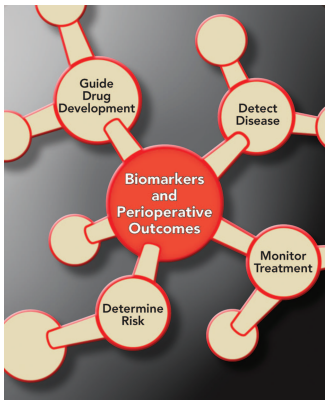

18th Annual Anesthesiology Journal Symposium: Biomarkers and Perioperative Outcomes

Tuesday, October 20, 2009, 8:00 AM to 11:00 AM, Room 395–396, Morial Convention Center, New Orleans, Louisiana

The 18th Annual Journal Symposium will be a multifaceted session that explores the latest scientific concepts and investigations of the role of biomarkers in perioperative outcome assessment. A wave of new biomarkers exploring central nervous system, kidney, inflammation and sepsis, and the cardiovascular system is under scientific development and clinical validation, and we are seeing a biomarkers revolution similar to the imaging revolution. Assessing the validity and clinical use of biomarkers is complex and requires considerable effort, but they may provide novel approaches for diagnosis and/or prognosis of clinical outcome, both in perioperative and critical care medicine.

This Symposium will have invited formal presentations which describe two different stories, and a third which presents conceptual approaches to reading the evolving biomarkers literature. The first story is that of an established biomarker, cardiac troponin, which occupies an important place in current cardiovascular medicine. The second story is that of an evolving domain, acute kidney injury, and the possibility to detect it by using new biomarkers. The third lecture will present the methodological approaches and concepts appropriate to readers of the diagnostic and prognostic biomarkers literature, whether as a clinical investigator or as a practitioner. 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 biomarkers and perioperative outcome. The Symposium will be facilitated by Journal Editors Bruno Riou, M.D., Ph.D., from University Pierre et Marie Curie, Paris, France, and Evan D. Kharasch, M.D., Ph.D., Washington University, St. Louis, Missouri. The three invited speakers for this Symposium are

- Lee A. Fleisher, M.D., Chairman, Department of Anesthesia, University of Pennsylvania Health System, Philadelphia, Pennsylvania: "An Established Biomarker: Cardiac Troponin"
- H. Thomas Lee, M.D., Ph.D., Assistant Professor, Department of Anesthesiology, College of Physicians and Surgeons of Columbia University, Anesthesiology Research Laboratories, New York, New York: "An Evolving Domain: Biomarkers of Acute Kidney Injury"
- Timothy T. Houle, Ph.D., Research Assistant Professor, Department of Anesthesiology, Wake Forest University School of Medicine, Winston-Salem, North Carolina: "How to Read a Paper on a Biomarker"

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

"Biomarkers of Brain Injury and Postoperative Cognitive Dysfunction after Major Noncardiac Surgery" by David L. McDonagh, Joseph P. Mathew, Daniel T. Laskowitz, Barbara Phillips-Bute, Mark F. Newman, Duke University Medical Center, Durham, North Carolina. The authors studied six serum biomarkers (BNP, CRP, D-dimer, MMP-9, NSE, and S100β) and observed that they do not predict postoperative cognitive dysfunction and are not associated with apolipoprotein 4 genotype. [A1621]

"NGAL as a Biomarker of Acute Kidney Injury in Cardiac Surgery: Impact of Baseline Renal Function" by David R

* Professor of Anesthesiology and Critical Care, Université Pierre et Marie Curie-Paris 6, Paris, France. † Russell D. and Mary B. Shelden Professor of Anesthesiology and Director, Division of Clinical and Translational Research, ‖ Professor, Department of Anesthesiology, Washington University School of Medicine, St. Louis, Missouri. ‡ Samir D. Gergis Professor of Anesthesia and Vice Chair for Research, Department of Anesthesia, The University of Iowa, Iowa City, Iowa. § Professor of Anesthesiology, Department of Anesthesia, University of Zurich, Zurich, Switzerland.

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Mcllroy, Gebhard Wagener, H. Thomas Lee, Columbia University, New York, New York. The authors showed that the relationship between NGAL and acute kidney injury after cardiac surgery depends on baseline renal function; the performance of the biomarker being better in patients with normal preoperative renal function. [A1622]

"Specificity of the Urinary Biomarkers KIM-1 or NGAL to Detect Perioperative Kidney Injury" by Jerry Morrissey, Amy London, Matthew Lambert, Jingqin Luo, Evan Kharasch, Washington University School of Medicine, St. Louis, Missouri. The authors showed that occult kidney cancer influences urine KIM-1 concentrations and thus confounds the use of this biomarker to detect acute kidney injury, while the biomarker NGAL is not affected. [A1623]

"Value of Plasma Proteome Analysis for Diagnosis of Early Sepsis After Liver Transplantation" by Catherine Paugham-Burtz, Miguel Albuquerque, Jacques Belghiti, Valérie Paradis, Jean Mantz, Hôpital Beaujon, Clichy, France. The authors studied the plasma protein profile of patients undergoing liver transplantation to identify a specific profile, and observed that a combination of five plasma proteins can help to diagnose postoperative infection. [A1625]

"Preoperative BNP Is Superior to Postoperative BNP for Predicting PostCABG Hospital Stay and Mortality" by Amanda A. Fox, Jochen D. Muehlschlegel, Charles D. Collard, Stanton K. Shernan, Simon C. Body, Brigham and Women's Hospital, Boston, Massachusetts. The authors observed that preoperative BNP better predicts hospital length of stay and 5-yr mortality than postoperative BNP in patients undergoing coronary artery bypass graft surgery. [A1620]

"Low Preoperative Endocannabinoid Levels Predict Early Cognitive Dysfunction after Cardiac Surgery" by Theresia Englmeier, Daniela Hauer, Markus Landinger, Florian Weis, Gustav Schelling, Ludwig-Maximilians University, Munich, Germany. The authors report that low plasma levels of the antiinflammatory and neuroprotective endocannabinoids may predict early postoperative brain dysfunction after cardiac surgery. [A1619]

"Genetic Predictors of Increased Pain after Thoracotomy" by E. Andrew Ochroch, Anil Vachani, Saarene Panossian, Peter A. Kanetsky, University of Pennsylvania, Philadelphia, Pennsylvania. The authors showed that several haplotypes of OPRM1 (a gene involved in μ opioid receptor) were associated with increased acute pain after thoracotomy. [A1624]

"Do Increasing Intraoperative Glucose Concentrations Worsen Outcomes After Cardiac Surgery?" by Alaa A. Abd-Elsayed, Somnath Bose, Dmitry Robertman, Meng Xu, Andra Duncan, Cleveland Clinic Foundation, Cleveland, Ohio. The authors observed that severe intraoperative hyperglycemia ($>$ 200 mg/dl) were significantly associated with prolonged intubation and serious postoperative infection after cardiac surgery. The risk of adverse outcome was not significantly modified with lower hyperglycemia. [A1618]

"Admission Serum Glucose and Poor Outcome after Emergency Coronary Bypass Surgery" by Robert Thiele, Edward C. Nemergut, Jacob Raphael, University of Virginia, Charlottesville, Virginia. The authors showed that elevated serum glucose at admission is associated with increased mortality in nondiabetic patients undergoing coronary artery bypass graft surgery, but not in diabetic patients. [A1626]

Best Abstracts of the Meeting: ANESTHESIOLOGY Editors' Picks

Monday, October 19, 2009, 8:00 AM to 10:00 AM, Room 252–254, Morial Convention Center, New Orleans, Louisiana

This is the second annual session of abstracts sponsored by ANESTHESIOLOGY and selected by Dr. Timothy J. Brennan and Dr. Alain Borgeat. The abstracts were selected based on broad interest and scientific importance, and were selected from the top-rated abstracts as scored by each scientific subcommittee that evaluated abstracts for presentation at the Annual Meeting. This session highlights 12 outstanding abstracts, which will be presented in traditional oral format followed by a brief discussion.

"Sleep Apnea as the Main Risk Factor for Postoperative Delirium in Elderly Knee Arthroplasty Patients" by Madan M. Kwatra, William D. White, Duke University Medical Center, Durham, North Carolina. Postoperative delirium is a major concern in the elderly and is associated with increased mortality and morbidity. There is no effective therapy, since the pathophysiologic mechanism for delirium is unknown. These investigators examined in elderly patients undergoing elective knee arthroplasty which factors can correlate with the occurrence of postoperative delirium. Using the *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition,* criteria, delirium was diagnosed in 25% of patients. Among preexisting diseases in this population, only sleep apnea was significantly associated with the occurrence of postoperative delirium. This study opens new insights into the risk factors associated with postoperative delirium and warrants further investigations to refine our understanding of this problem. [A1594]

"Temporal Trends in Postoperative Sepsis following Elective Surgery in a Nationwide Sample in the US" by Brian T. Bateman, Edward A. Bittner, Massachusetts General Hospital, Boston, Massachusetts. Sepsis has been widely investigated in the intensive care unit setting, and is known to be associated with increased mortality and morbidity. However, the impact of postoperative sepsis

has been to date poorly documented. This group has collected a very large number of admissions (> 2,000,000) for analysis. The authors found that the incidence of postoperative sepsis increased from 0.3% in 1997 to 0.9% in 2006. However, the in-hospital mortality rate declined from 44.4% in 1997 to 34% in 2006. This study clearly raised two major questions: How to explain the increase in severe postoperative sepsis? And why is there a decline of in-hospital mortality? Future studies focusing on these issues are warranted. [A1595]

"Statin and Farnesyltransferase Inhibitor Improved Survival Following LPS Challenge in Mice" by Shohei Shinozaki, Young-Ming Yu, Alan J. Fischman, Ronald G. Tompkins, Masao Kaneki, Massachusetts General Hospital, Shriners Hospital, Boston, Massachusetts. Prior treatment with statins, hydroxy-methyl-glutaryl-Coenzyme A reductase inhibitors, reduces the incidence and mortality of sepsis. Inhibition of isoprenylation, such as farnesylation, has been proposed to mediate the lipid-lowering–independent beneficial effects of statins in patients with sepsis. These authors investigated the effects of statin and farnesyltransferase inhibitors on survival following lipopolysaccharide challenge in mice. After lipopolysaccharide injection, animals were treated with simvastatin or a farnesyltransferase inhibitor (FTI-277), or vehicle twice daily for 3 days. Both simvastatin and FTI-277 treatment improved survival two-fold after lipopolysaccharide injection compared to vehicle. Improved survival with these inhibitors was accompanied by decreased apoptotic changes in the spleen and liver. These findings suggest that inhibition of protein farnesylation may contribute to the protective effects of statins against endotoxin-induced mortality. Furthermore, farnesyltransferase inhibitors may be a potential molecular target to treat patients with endotoxemia. [A1596]

"ABCB1 Gene Modulates the Intensity of Postoperative Pain in Children" by Chantal Mamie, Michela Rebsamen, Michael A. Morris, Alfredo Morabia, Hôpitaux Universitaires de Genève, Geneva, Switzerland. Despite considerable progress in pain medicine, the causes of interindividual variability in intensity of postoperative pain are not understood. Genetic factors are suggested. P-glycoprotein 1 (MDR1), coded by the ABC1 gene, is known to transport opioids across the blood-brain barrier in the brain-to-blood direction. Impairment of MDR1 could result in an increase of opioid concentration in the brain. A cohort of 137 children aged 4–16 yr were followed after orthopedic or abdominal surgery with postoperative morphine patient-controlled analgesia for the first 24 h. Outcome was postoperative pain intensity at different times. A significant trend of high pain at rest 30 min after extubation across genotypes was found, suggesting the 3435C/T single nucleotide polymorphism of the ABCB1 gene influenced postoperative pain intensity in children: TT homozygotes seemed protected against high pain while CC homozygotes had exacerbated pain perception. Genotyping for the ABCB1 3435C/T single nucleotide polymorphism may predict pain responses in operated children allowing adaptation of the patient-controlled analgesia prescription. [A1597]

"Isoflurane-induced Oligoapoptosis in Neonatal Rhesus Macaque Brain" by John W. Olney, Ansgar M. Brambrink, Michael S. Avidan, Nuri B. Farber, Stephen A. Back, Washington University School of Medicine, St. Louis, Missouri. It was previously observed that anesthetic drugs trigger apoptosis of glial cells as well as neurons in rodents. In this study, investigators examined isoflurane-induced apoptosis on postnatal Day 5 in a rhesus macaque brain with an emphasis on evaluating glioapoptosis. During extensive physiologic monitoring, postnatal Day 5 rhesus macaques were exposed to isoflurane for 5 h at concentrations that maintained a light surgical plane of anesthesia. The brains from these postnatal Day 5 macaques were compared to controls that were exposed to room air. Brain sections were evaluated for markers of apoptotic cells, including cells selectively marked for glia. In the isoflurane-exposed brains, there was an increase in cells dying by apoptosis in cerebrocortical gray matter regions and in white matter cortical and subcortical regions. White matter cell profiles were characteristic of glial cells. Further evaluation indicated that these apoptotic glial cells were immature oligodendrocytes. Exposing infant rhesus macaque brains to isoflurane for 5 h caused a 10-fold increase in oligodendrocyte apoptosis. The potential impact on myelination and neurocognitive function requires further study. [A1598]

"Perioperative Visual Loss: Incidence Trends 1996 to 2005" by Steven Roth, Yang Shen, Melinda Drum, University of Chicago, Chicago, Illinois. Perioperative visual loss is a devastating complication in surgical patients. These investigators evaluated the Nationwide Inpatient Sample and selected principal procedure codes for eight commonly performed in-patient surgical procedures and for perioperative visual loss. This resulted in the selection of over 5 million hospital discharges from 1996–2005. Logistic regression models examined the data in 2-yr increments. For all surgical procedures, odds ratios for ischemic optic neuropathy and cortical blindness did not change over the evaluation period, but retinal vein occlusion decreased. The overall incidence of postoperative visual loss declined from 1996–2005. The odds of developing ischemic optic neuropathy have not changed during this period. Further study will evaluate whether these changes are a result of modified anesthetic and surgical practice. [A1599]

"Persistent Neuronal Degeneration in Hippocampal CA1 following Experimental SAH in the Rat" by Frederick W. Lombard, Motomu Kobayashi, Huaxin Sheng, Zhiquan Zhang, David S. Warner, Duke University Medical Center, Durham, North Carolina. Cognitive dysfunction affects a majority of patients who survive after subarach-

noid hemorrhage (SAH). In previous studies using a rat model of SAH, visual spatial memory correlated with hippocampal CA1 neuronal survival 5 weeks after SAH. In this study, investigators examined damaged neurons using neuronal staining after experimental SAH. Forty days after SAH, there was a decreased number of intact neurons and an increased number of damaged neurons in the SAH group. These results indicate that even 40 days after SAH, neuronal degeneration in the hippocampus is occurring. These data suggest that prolonged treatments for several weeks may improve functional outcome after SAH. [A1600]

"Identification and Role of Estrogen Receptor Alpha Novel Splice Variants Isolated from Heart" by Ligia Toro, Rong Lu, Enrico Stefani, Pallob Kundu, University of California, Los Angeles, Los Angeles, California. The estrogen receptor has been implicated in sex-specific differences in cardiac physiology and pathophysiology. Estrogen's diverse effects on tissues are mediated by estrogen receptor alpha. Thus far, the specific estrogen receptor subtypes present in cardiac tissue have not been examined. Tissue from the heart was examined for novel estrogen receptor messenger ribonucleic acid. These messenger ribonucleic acid variants were examined for estrogen binding and for binding of other proteins related to estrogen's actions. Two novel spliced variants were identified in the part of the receptor that binds estrogen. These variants were greater in the heart as compared with other tissues, such as ovary and uterus. This natural isoform of the estrogen receptor regulates the wild-type receptor function, and may also contribute to the diverse action of estrogen observed in tissues, especially in the heart. [A1601]

"Noxious Stimulation Response Index (NSRI): Validation of a Novel Anesthetic Depth Index" by Martin Luginbuehl, Peter M. Schumacher, Hugo Vereecke, Heyse Björn, Michel M. Struys, Bern University Hospital, Bern, Switzerland. There is still no valid assessment of pain during surgery. Recently this group of investigators presented an index (NSRI) based on a sequential hypnotic-opioid interaction model. Forty-five patients received remifentanil target-controlled infusion and different propofol target-controlled infusion concentrations. At each propofol concentration, the observer assessment of alertness and sedation score (OAAS/S), and the presence or absence of eyelash reflex and of a movement response to a 2-s tetanic stimulation of the volar forearm were recorded. Bispectral index and acoustic evoked potential index were also recorded. From the predicted propofol and remifentanil effect site concentrations recorded immediately before stimulation, NSRI values were computed. The NSRI best predicted loss of response to painful stimulus. NSRI may be a promising anesthetic depth indicator, supplementing electroencephalography-derived parameters. [A1602]

"A Phase I SAD Study Evaluating the Safety, Pharmacokinetics and Pharmacodynamics of CNS 7056" by L.J. Antonik, D.R. Goldwater, G.J. Kilpatrick, G.S. Tilbrook, K.M. Borkett, Johns Hopkins Hospital, Baltimore, Maryland. The ideal hypnotic for anesthesia and sedation is still not available. These investigators examined the pharmacokinetics and pharmacodynamics of CNS 7056, a new benzodiazepine derivate. A Phase-1, double-blind, randomized, single-dose escalation study was conducted, comparing CNS 7056 and midazolam. Pharmacodynamic parameters were assessed with the modified observer's assessment of alertness/sedation and bispectral index. The results showed that plasma clearance of CNS 7056 was about three times greater than that for midazolam. The pharmacokinetic behavior of CNS 7056 was linear and dose-dependent. As compared with midazolam, onset and offset of CNS 7056 were more rapid. No serious side effect was observed. This first study warrants further investigation to refine the potential use of CNS 7056 in clinical practice. These preliminary results suggest CNS 7056 may be a valuable drug for sedation and perhaps anesthesia. [A1603]

"Predictive Factors for Persistent Postoperative Pain: The Copenhagen Stuttgart Hernia Study" by Eske K. Aasvang, Eliza Gmaehle, Reinhard Bittner, Henrik Kehlet, Copenhagen University, Rigshospitalet, Copenhagen, Denmark. Persistent postherniotomy pain is a major problem, and there is to date no knowledge about predisposing factors to identify groups at risk. In a prospective cohort study, 19 potential predisposing risk factors were investigated in 463 patients using a standardized questionnaire including pain, depression screening, pain coping strategies, and pain-related impairment. The main outcome was pain-related impairment at 6 months postoperatively (follow-up rate of 95.5%), assessed by the validated activities assessment scale (AAS). A correlation between persistent postherniotomy pain and preoperative pain-related impairment, heat pain response, nerve injury, and pain intensity at 30 days was found. These results suggest that patients with high preoperative pain response should be operated on with the surgical procedure less likely to inflict nerve damage. Laparoscopic surgery is suggested in this context. [A1604]

"Medication Management in Chronic Pain Malpractice Claims" by Dermot R. Fitzgibbon, Edward Michna, James P. Rathmell, Linda S. Stephens, Karen B. Domino, University of Washington, Seattle, Washington. Previous studies indicated an increase in chronic pain liability related to medication management by anesthesiologists. Because of this trend, characteristics of medication management claims from the ASA Closed Claims Project were investigated. Medication management claims were compared to other chronic pain claims from 2005–2008. Fifty-one claims were for medication management among 294 chronic pain claims. Compared to other

chronic pain claims, patients tended to be younger and male, and back pain was the primary chronic pain diagnosis. Death was the most common outcome. Opioids were prescribed in 68% of the cases. Risk factors for medication misuse occurred in 83% of the opioid management claims. The authors conclude that most anesthesia malpractice claims for medical management problems involved chronic pain patients with a history of risk behaviors associated with addiction and medication misuse. [A1605]

2nd Annual ANESTHESIOLOGY/FAER Session: Simulation in Anesthesia Practice

Tuesday, October 20, 2009, 1:00 PM to 3:00 PM, Room 386–387, Morial Convention Center, New Orleans, Louisiana

Simulation plays an increasing role in training of physicians. In addition, simulation is considered an essential element of patient safety programs, human factors research, and more recently as a method to assess performance and maintain practice skills and competence. The implementation of simulation training into Maintenance of Certification in Anesthesia (MOCA) will be described with the procedures and expectations for training center accreditation. Simulation has stimulated a renewed interest in learning strategies, curriculum design, and performance assessment. The scenario is the key element of a simulation curriculum. One of the presentations will describe the steps to assure that the content and construct of the scenario is valid, and that the participant scores are both valid and reproducible as measures of skill. These two session will describe the curriculum expectations as well as the potential limitations of a simulation-based performance assessment. One of the sessions will describe two innovative programs, the virtual environment, and simulation as a method to improve clinical and translational research.

In many of the presentations, the efficacy of a simulation-based curriculum is reported. Many of these studies describe how simulation is used to enhance skills communication, teamwork, decision-making, and psychomotor tasks. Simulation training is used to train anesthesiologists in "speaking up across authority gradients," patient-care "hand-offs," "just-in-time" airway management skills, as well as in decision making about caesarian section and cricothyroidotomy. These topics will be discussed in the abstracts that will be presented after the three invited speakers.

A number of the presentations illustrate the broad applications of simulation, including lectures by invited speakers that will be accompanied by the presentation of 12 posters selected for their relevance to the session topic. The three invited speakers for this session are

- David Murray, M.D., Professor of Anesthesiology, Director of Simulation Center, Washington University School of Medicine, St. Louis, Missouri: "Setting Performance Standards for a Simulation-based Anesthesia Assessment"
- Randy Steadman, M.D., Professor and Vice Chair of Anesthesiology, Director of Simulation Center, David Geffen School of Medicine at University of California-Los Angeles, Los Angeles, California: "Simulation Centers Accreditation: High Quality Training Endorsed by the ABA and ASA"
- Jeffrey M. Taekman, M.D., Assistant Professor of Anesthesiology, Duke University School of Medicine, Durham, North Carolina: "High-Fidelity Simulation/Virtual Environments to Improve the Safety and Efficiency of Clinical Trials"

"Speaking up across authority gradients: Are these simulator lessons retained and transferred?" by May C.M. Pian-Smith, David Birnbach, Marjorie Steigler, John T. Sullivan, Daniel Raemer, Massachusetts General Hospital, Boston, Massachusetts. In this abstract, 40 anesthesia residents were trained in speaking up across authority gradients. Before and after training, the residents reviewed videos of relatively contraindicated actions during obstetric anesthesia care. The training improved their effectiveness in speaking up across authority gradients. [A1615]

"Comparing Inter-Rater Reliability of Global and Checklist Scores for Novices in Simulated Scenarios" by Lauryn R. Rochlen, Christine S. Park, Jeremy VandenBerg, Robert J. McCarthy, Northwestern University Feinberg School of Medicine, Chicago, Illinois. In this abstract, 22 first-yr anesthesiology residents were assessed on their performance during 6 simulated scenarios at Day 0 and Week 6 of training. In the assessment of novice anesthesiology residents, there was greater interrater variability using global rating scales as compared with the performance checklists. [A1617]

"Simulation Impact on Decision Making and Cricothyrotomy Skills" by Bruno Borges, Sylvain Boet, Heinz Bruppacher, Viren Naik, Hwan Joo, Saint Michael's Hospital, Toronto, Ontario, Canada. In this abstract, 19 anesthesiologists aged <45 yr and 17 aged >45 yr were assessed on performance in a simulated "cannot intubate, cannot ventilate" scenario before and after video-assisted expert debriefing focused on communication, decision-making, and cricothyrotomy skills. The lower cricothyrotomy scores and longer performance times of the >45 yr group suggests that, as anesthesiologists age, teaching of technical skills may need to be modified to account for changes in psychomotor skill. [A1608]

"Simulation of Hyperkalemic Cardiac Arrest to Assess Residents' Pediatric Resuscitation Skills" by Kimberly J. Howard-Quijano, Marjorie A. Stiegler, Yue Ming Huang, Cecilia Canales, Randolph H. Steadman, David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, California. In this abstract, 21 anesthesia residents participated in a simulated pediatric cardiac arrest scenario to assess their pediatric resuscitation skills. Although correct maneuvers were initiated, implementation was not ideal for age- or weight-specific treatments. The results suggest that anesthesiology residents need additional pediatric resuscitation training. [A1611]

"Effect of Just-in-Time simulation training on Pediatric resident performance of intubation in PICU" by Akira Nishisaki, Shawn Colborn, Sujatha Devale, Ron M. Walls, Vinay M. Nadkarni, The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania. In this abstract, the performance of pediatric residents on airway management in the pediatric intensive care unit was evaluated before and after a 14-month, just-in-time, multi-disciplinary, simulation-based overtraining. The training improved resident procedural participation. No impact on success or adverse events was found. [A1614]

"A Handoff Training and Improvement Initiative: The Curriculum Design" by Arna Banerjee, Jason Slagle, Audrey Kuntz, Matthew Weinger, PACU Handoff Project Team, Vanderbilt University Medical Center, Nashville, Tennessee. In this abstract, trained registered nurses assessed the quality of handoffs between 118 anesthesia providers and 124 postanesthesia unit registered nurses before and after simulation-based handoff training. A significant improvement in quality of actual handoffs between anesthesia providers and registered nurses was found after training, and may advance patient safety through more effective communication. [A1606]

"Does Every Code Need a Reader? Observed Improvement of Rare Event Management with Read Checklist" by Amanda Burden, Marc C. Torjman, Tejal Raju, Greg Staman, Cooper University Hospital, Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey, Camden, New Jersey. In this abstract, nine anesthesiology residents were evaluated on their use of cognitive aids during rare and catastrophic event management. Introduction of an individual to read the cognitive aid aloud enabled residents to make better use of the cognitive aid, as compared with those who tried to think, act, and read the cognitive aid alone. [A1609]

"Accuracy of Self Assessment for Crisis Resource Management Before and After Video Review" by Sylvain Boet, Mathew D. Bould, Heinz R. Bruppacher, Deven B. Chandra, Viren N. Naik, Saint Michael's Hospital, Toronto, Ontario, Canada. In this abstract, 24 anesthesiology residents evaluated their own nontechnical skill performance in a simulated crisis scenario before and after reviewing a video of their performance. No correlation was found between expert assessment and self-assessment, either before or after video review. [A1607]

"Benchmarking Skills of Anesthesiology Residents Using Multisource Ratings and Medical Simulation" by Seshadri Mudumbai, David M. Gaba, Jack Boulet, Steven K. Howard, VA Palo Alto Health Care System/Stanford University, Palo Alto, California. In this abstract, the top and bottom cohort of a third-yr anesthesiology resident class was determined by attending, surgeon, nurse, and peer rating of overall clinical ability. Seven residents subsequently participated in seven simulated scenarios each, and their scores were found to correlate with ability ranking. Results suggest that multisource evaluation combined with simulation may be an assessment technique more directly related to actual medical ability. [A1613]

"Medical Student Performance in Simulated Acute Medical Scenarios" by James Fehr, Julie Woodhouse, David Murray, Washington University, St. Louis, Missouri. In this abstract, senior medical students were evaluated on their performance during nine simulated acute care scenarios. Students were more proficient at managing scenarios that simulated more common critical events. The results suggest that scenarios with lesser performance are areas of possible simulation-based training intervention to improve skill. [A1610]

"The 5-min Rule for Perimortem Cesarean Delivery: Should We Move to the Operating Room?" by Steven Lipman, Brendan Carvalho, Sheila Cohen, Stanford University School of Medicine, Stanford, California. In this abstract, eight timed stat cesarean section simulations were performed to assess the feasibility of delivering a fetus in the operating room within 5 min of maternal cardiac arrest. Results suggest that delivery within 5 min cannot be achieved if the patient is moved to the operating room, and delivery should therefore be performed in the patient's room. [A1612]

"High-Fidelity Simulation as an Experiential Model for Teaching Root Cause Analysis" by Sadeq A. Quraishi, Stephen J. Kimatian, W. Bosseau Murray, Elizabeth H. Sinz, Oregon Health and Science University, Portland, Oregon. In this abstract, 45 anesthesiology residents were randomized to receive root cause analysis training before or after participation in simulated scenarios in which medical errors occur or receive no root cause analysis training. Root cause analysis training resulted in retention of knowledge and increased positive attitude towards systems improvement. [A1616]

7th Annual Celebration of Research

Monday, October 19, 2009, 12:30 PM to 2:00 PM, Convention Center, New Orleans, Louisiana. 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 2009 recipient of the ASA Excellence in Research Award, William L. Young, M.D., Professor and Vice Chair, Department of Anesthesia and Perioperative Care, Professor of Neurologic Surgery and Neurology; Director, Center for Cerebrovascular Research, University of California, San Francisco, and the recipient of the 2009 Presidential Scholar Award, Mihai V. Podgoreanu, M.D., F.A.S.E., Assistant Professor of Anesthesiology, Duke University School of Medicine, Durham, North Carolina. The recipients of the 2009 Residents' Research Awards will also be introduced during the Celebration event.

Additional information regarding journal-related activities and FAER-related activities will be included in the Celebration of Research booklet distributed at the 2009 Annual Meeting.