



Society for Pediatric Anesthesia NEWSLETTER

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Summer-Fall, 1996

President's Message

A Privilege of Service and Stewardship

By William J. Greeley, M.D.

The half-life of our medical knowledge — that is, the time it takes for half of what we know to become obsolete — is probably less than four years. One method to meet the demands of this fast knowledge turnover is to establish a network of cooperation and productive relationships during an educational exchange. I believe SPA is such an organization. SPA is committed to the continuous enhancement of our member's knowledge and skills.

This is my last newsletter column as SPA President. As President, my main goals for this Society were to organize the Society to: 1) foster a collaborative process; 2) exchange creative ideas among its members; 3) set strategic directions and targets using our Society's mission as a guidepost; 4) implement these strategic

plans; and 5) develop an effective Board of Directors and identify new leaders for the organization.

I am very proud of our Society's direction and recent accomplishments. With respect to our educational mission, our two meetings a year have been highly successful and well-attended, and we have established educational liaisons with the American Academy of Pediatrics (AAP) Section on Anesthesiology. In research, our contributions to the Foundation for Anesthesia Education and Research (FAER) Research Starter Grant have achieved the desired objectives (see the May 1996 *Anesthesiology* for the article by Zeev N. Kain, M.D., our first FAER awardee). The Society has now sponsored three FAER recipients.

Abstract presentations at our winter meeting were introduced to further support new knowledge in pediatric anes-



William J. Greeley, M.D.

thology as well as to provide a nurturing and supportive environment for junior faculty and pediatric fellows. Fiscally, our Society is sound, and the Society's administrative

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Upcoming SPA Meeting in New Orleans

The SPA 10th Annual Meeting will take place on Friday, October 18, 1996, at the New Orleans Marriott Hotel. As usual, this date is the Friday immediately prior to the American Society of Anesthesiologists (ASA) Annual Meeting.

The SPA Annual Meeting is designed for anesthesiologists and practitioners who care for infants and children in their practice of anesthesiology, and for scientists whose basic science and clinical research are based in pediatric anesthesia. The program will focus on important clinical issues in pediatric anesthetic management. The format will include formal lectures and panel discussions by leaders in the

field on such topics as development physiology, advances in technology/support, postoperative nausea and vomiting, and contemporary management issues.

The morning plenary session is devoted to "Developmental Physiology in Pediatric Anesthesia" and will be moderated by **David G. Nichols, M.D.**, Associate Professor of Anesthesia and Pediatrics, The Johns Hopkins University School of Medicine, Baltimore, Maryland. This session will include a presentation by **Walker Long, M.D.**, University of North Carolina, Chapel Hill, North Carolina, on "The Developing Heart." **Mark A. Hanson, D. Phil.**, The University College, London,

England, will address "Development of Respiratory Control."

Susan C. Nicolson, M.D., Associate Professor of Anesthesia at the University of Pennsylvania and Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, will moderate the second session, "Advances in Technology/Support." This session will include discussions of "New Methods of Cardiovascular Support (ECMO, LVAD, Inotropes and Ultrafiltration)" and "New Methods of Respiratory Support (Liquid Ventilation, High-Frequency Ventilation, Inhaled Nitric Oxide)" by **Peter C. Laussen, M.D.**, and

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Pediatric Anesthesiology 1997

Third Annual Winter Meeting Scheduled in San Antonio

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The Third Annual Winter Meeting of SPA and the American Academy of Pediatrics (AAP) Section on Anesthesiology will be held during the Presidents' Day weekend on **February 13-16, 1997**, at the Hyatt-Regency Hill Country Resort in San Antonio, Texas.

The first two Winter Meetings were each attended by more than 300 people and were very well-received (see summary of this year's meeting in this issue of the *SPA Newsletter*). The tentative program for the 1997 meeting has enlisted experts from anesthesia, pediatrics and surgical specialties. The curriculum includes: 1) a plenary session on current practices in neonatology and neonatal/infant anesthesia (this session will include an update on new therapies and outcomes in neonatal medicine, discussions on anesthesia for the ex-premature infant and discussions on postoperative pain relief for the infant); 2) state-of-the-art presentations in pediatric medicine of relevance to the pediatric anesthesiologist (this session will include updates on asthma, myopathies and upper respiratory infections); 3) presentations on management and complications of the pediatric airway; 4) presentations on managed health care; and 5) oral and poster discussions as well as abstract sessions moderated by experts in the field. Once again, the program will make use of real-time computerized audience polling to survey and display practice patterns and audience responses during sessions devoted to case presentations and controversies in pediatric anesthesia.

In addition to didactic presentations, registrants of the meeting will also be able to sign up for workshops. Scheduled workshops include: 1) airway management — light wand and laryngeal mask airway, fiberoptic techniques; 2) pain management — common regional blocks, upper and lower extremity blocks, management of the pediatric epidural space, pediatric

pain service administration and billing, advanced regional techniques; 3) computer/Internet use; 4) CPR and intraosseous infusion techniques; 5) alternate career options; 6) anesthesia management with limited resources; and 7) professional and career development.

San Antonio should provide a great respite from the middle of winter. The Hyatt-Regency Hill Country Resort is a modern, beautiful hotel with features that include an outdoor pool and the "Ramblin' River Ride" pool, complete health club and spa, tennis courts and an on-site 18-hole golf course and driving range. "Camp Hyatt/Rowdy's" offers a complete part-or full-day program for children aged 3-12 years. Other family activities include Sea World (2 miles), Fiesta Texas (10 miles) and downtown San Antonio (15 miles).

It should be a great place to bring the family, meet friends and colleagues, and learn some new things. Save the date and make plans to attend. The final meeting program will be mailed soon. For more information, contact: Society for Pediatric Anesthesia, P.O. Box 11086, 1910 Byrd Ave., Suite 100, Richmond, VA 23230-1086; telephone: (804) 282-9780; fax (804) 282-0090; e-mail: <75112.2053@compuserve.com>. □

Note Our New Address

Please note that the SPA Office has a new address:

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Candidates for Office

Elections Set for Annual Meeting in October

The following SPA members are candidates for officer and director positions on the SPA Board of Directors. Elections will be held at the SPA 10th Annual Meeting on Friday, October 18, 1996, in New Orleans. Candidates for the three director positions will be elected to four-year terms. Candidates for the offices of Secretary and Treasurer will be elected to two-year terms. As follows is background information about the candidates:

J. Michael Badgwell, M.D. (Director)

Chief, Pediatric Anesthesia, Children's Hospital at Texas Tech University Medical Center, Lubbock, Texas; Professor of Anesthesiology and Pediatrics, Texas Tech University; Residency (Pediatrics): University of California, San Francisco, California; Residency (Anesthesiology): Stanford University, Palo Alto, California, and Texas Tech University; Fellowship (Pediatric Anesthesiology): Hospital for Sick Children, Toronto, Ontario, Canada.



Ann G. Bailey, M.D. (Director)

Residency Director and Associate Professor of Anesthesia and Pediatrics, University of North Carolina Hospitals, Chapel Hill, North Carolina; Residency (Anesthesiology): University of North Carolina; Residency (Pediatrics): University of North Carolina, Chapel Hill, North Carolina.



Kristen L. Johnson, M.D. (Director)

Director, Department of Anesthesia, Children's Hospital of Oakland, California; Assistant Clinical Professor of Anesthesiology, Stanford University, Palo Alto, California; Residency (Pediatrics): University of California, San Diego, California; Residency (Anesthesiology): Stanford University; Fellowship (Pediatric Anesthesiology): Children's Hospital, Boston, Massachusetts.



Barbara W. Palmisano, M.D. (Director)

Associate Professor of Anesthesiology and Pediatrics, Medical College of Wisconsin and Children's Hospital of Wisconsin, Milwaukee, Wisconsin; Medical Review Officer, Anesthesia Group Leader and Pediatric Committee Co-Chair (term ending 1996), U.S. Food and Drug Administration, Rockville, Maryland; Residency (Pediatrics): Tulane University, New Orleans, Louisiana; Residency (Anesthesiology): University of California, San Francisco, California; Fellowship (Critical Care): Children's Hospital, Pittsburgh, Pennsylvania; Fellowship (Critical Care and Anesthesiology): University of California, San Francisco, California.



Peter Rothstein, M.D. (Director)

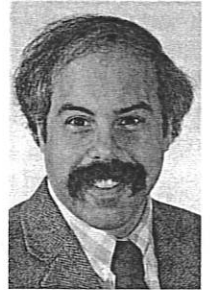
Division of Pediatric Anesthesia and Intensive Care, Babies and Children's Hospital-Columbia Presbyterian Medical Center, New York, New York; Professor of Clinical Anesthesiol-



ogy and Clinical Pediatrics, College of Physicians and Surgeons of Columbia University, New York, New York; Residency (Pediatrics): University of California, San Diego, California; Fellowship (Neonatology): Boston City Hospital; Residency (Anesthesiology): Massachusetts General Hospital, Boston, Massachusetts; Chair, Curriculum Committee, Council of Pediatric Anesthesiology Fellowship Programs.

Peter J. Davis, M.D. (Secretary)

Professor of Anesthesia and Pediatrics, Children's Hospital and University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania; Residency (Pediatrics): University of California, San Francisco, California; Chief Residency (Anesthesiology): Massachusetts General Hospital; Boston, Massachusetts; Fellowship (Pediatric Anesthesiology and Critical Care Medicine): Children's Hospital, Philadelphia, Pennsylvania; Editor of *SPA Newsletter*.



Anne M. Lynn, M.D. (Treasurer)

Professor, Anesthesiology and Pediatrics, University of Washington School of Medicine, Seattle, Washington; Associate Director, Department of Anesthesia and Critical Care, Children's Hospital and Medical Center, Seattle, Washington; Residency (Anesthesiology): University of Washington; Residency (Pediatrics): University of Washington, Seattle, Washington; Fellowship (Pediatric Intensive Care): Hospital for Sick Children, Toronto, Ontario, Canada; SPA Board of Directors, 1990-94; Chair, SPA Committee on Bylaws, 1992-94. □



Pediatric Anesthesiology 1996: Summary

Tampa, Florida, Meeting Draws 300 Physicians

By Mark A. Rockoff, M.D.
Boston, Massachusetts

The second presentation of Pediatric Anesthesiology, jointly sponsored by SPA and the American Academy of Pediatrics (AAP) Section on Anesthesiology was attended by more than 300 physicians on February 15-18, 1996, in Tampa, Florida. Welcoming remarks were delivered by SPA President William J. Greeley, M.D., Duke University Medical Center, Durham, North Carolina, and J. Michael Badgwell, M.D., Texas Tech University, Lubbock, Texas, Chair of the AAP Section on Anesthesiology.

The opening session was moderated by Dr. Badgwell and addressed the issue of trauma and children. This is a major public health concern since trauma is the leading cause of death in children. It results in more than 22,000 deaths annually in the United States in children less than 19 years of age and more than half of all deaths in children 1-15 years of age. In addition, an estimated 600,000 children are hospitalized annually with more than 30,000 survivors who sustain permanent disabilities. Thus, there is a need for anesthesiologists to be involved in the management of many of these patients.

The topic "Trauma in Children" was presented from many perspectives. Joseph Weinberg, M.D., LeBonheur Children's Medical Center, Memphis, Tennessee, Chair of the AAP's Committee on Pediatric Emergency Medicine, began with "Pre-Hospital and Emergency Room Care." J.J. Tepas III, M.D., University of Florida Medical Center, Jacksonville, Florida, discussed "O.R. Care — The Surgeon's Perspective," and Steven C. Hall, M.D., Children's Memorial Hospital, Chicago, Illinois, discussed "O.R. Care — The Anesthesiologist's Perspective." "ICU Care and Outcome" was reviewed by David G. Nichols, M.D., The Johns Hopkins Institutions, Baltimore, Maryland.

Karen Slay of Lubbock, Texas, then

discussed her grassroots campaign to seek legislative action to ban children from riding unrestrained in the back of open pick-up trucks. This is in response to the large number of pediatric injuries and fatalities that have occurred in Texas and throughout the country because of this activity.

Another scientific session was devoted to "Advances in Pediatrics/Anesthesia" and was moderated by Francis X. McGowan, M.D., Children's Hospital, Boston, Massachusetts. This consisted of three separate presentations, each with a state-of-the-art review of a clinical problem by a pediatric specialist, followed by comments regarding the anesthetic implications by a pediatric anesthesiologist.

Pamela L. Zeitlin, M.D., Ph.D., and Myron Yaster, M.D., both of The Johns Hopkins Institutions, Baltimore, Maryland, discussed "Pulmonary Advances in Cystic Fibrosis." Ernest A. Turner, M.D., Meharry Medical College, and Brenda C. McClain, M.D., Vanderbilt University, both in Nashville, Tennessee, discussed "Hematologic Advances in Sickle Cell Anemia." J. Geoffrey Stevenson, M.D., and Anne M. Lynn, M.D., both from Children's Hospital, Seattle, Washington, discussed "The Role of Echocardiography in the O.R." Finally, a superb update on "Pediatric AIDS" was given by Diane W. Wara, M.D., University of California, San Francisco, California.

Presentation of research and works-in-progress was an important part of the meeting as well. A number of sessions were devoted to oral abstracts. Moderators included Paul R. Hickey, M.D., Children's Hospital, Boston, Massachusetts; Randall C. Wetzel, M.B., The Johns Hopkins Institutions, Baltimore, Maryland; and Charles J. Coté, M.D., Children's Memorial Hospital, Chicago, Illinois.

A separate session highlighted the many abstracts displayed throughout the meeting in poster format. This session was moderated by Jeffrey Morray, M.D., Children's Orthopedic Hospital, Seattle,

Washington, and included discussions related to "Pain Control," led by Charles F. Berde, M.D., Ph.D., Children's Hospital, Boston, Massachusetts; "Drugs in Anesthesia Practice," led by Barbara W. Brandom, M.D., Children's Hospital, Pittsburgh, Pennsylvania; and "Other Interesting Clinical Observations," led by Frederic A. Berry, M.D., University of Virginia, Charlottesville, Virginia.

A number of prizes were given at a special awards session moderated by Patty J. Davidson, M.D., Ohio State University, Columbus, Ohio. John J. Downes, M.D., Chair of the Department of Anesthesia at Children's Hospital of Philadelphia, Pennsylvania, received the AAP's Robert M. Smith Award.

Ronald S. Litman, D.O., University of Rochester, Rochester, New York, presented his paper titled "Levels of Consciousness and Ventilatory Parameters in Young Children During Sedation With Oral Midazolam and Increasing Concentrations of Nitrous Oxide." Last year, his work was supported by a matching starter grant from SPA and the Foundation for Anesthesia Education and Research (FAER). It was also announced that Robert T. Wilder, M.D., Ph.D., Children's Hospital, Boston, Massachusetts, has been awarded the 1996 SPA/FAER Research Starter Grant. He will present his research on "Mechanisms of Tachyphylaxis to Local Anesthetics" at next year's winter meeting [see page 7].

Three awards were presented by the AAP for best papers by residents/fellows-in-training. All three recipients are at Children's Hospital, Boston, Massachusetts. First prize went to Andrew A. Zimmerman, M.D., for his paper titled "The Threshold for Low-Flow Cardiopulmonary Bypass as Assessed by Transcranial Doppler Sonography in Infants Undergoing Cardiac Surgery" (collaborators were P. Hickey and F. Burrows). Second prize went to Shoichi Uezono, M.D., for his paper titled "Regulation of Intercellular Adhesion Molecule-1

(ICAM-1) Expression on Cultured Human Pulmonary Vascular Endothelial Cells" (collaborators were F. McGowan, P. Hickey, G. Zund and S. Colgan). Third prize went to Elizabeth A. Eldredge, M.D., for her paper titled "Comparison of Intraoperative External Anal Sphincter Electromyography and Anorectal Manometry Monitoring During Surgical Release of Tethered Spinal Cord" (collaborators were S. Soriano, S. Nurko, R.M. Scott, L. Goumnerova, S. Bauer, M. Kelley, M. Darby and M. Rockoff).

SPA also presented two awards for the best papers by young investigators who have been out of training for less than three years. First prize went to Douglas G. Ririe, M.D., currently at Bowman-Gray School of Medicine, Winston-Salem, North Carolina, for his paper titled "Increased Sensitivity to Vecuronium in Children With Duchenne's Muscular Dystrophy" (collaborators were F. Shapiro and N. Sethna). Second prize went to Jennifer deVries, M.D., Children's Hospital, Akron, Ohio, for her paper titled "A Study of the Effects of a Parent's Presence in the Operating Room on Their Child's Experience" (collaborator was T. Vetter).

Throughout the meeting, a number of hands-on workshops were held. Lynne R. Ferrari, M.D., Massachusetts Eye and Ear Infirmary, Boston, Massachusetts, organized two workshops on "Airway Equipment and Techniques." Assisting her were Guy D. Dear, M.D., Duke University Medical Center, Durham, North Carolina; Joseph Frassica, M.D., D.M.D., University of Massachusetts Medical Center, Worcester, Massachusetts; Hernando DeSoto, M.D., University of Florida, Jacksonville, Florida; Scott D. Cook-Sather, M.D., Children's Hospital of Philadelphia, Pennsylvania; Robert J. Moynihan, M.D., University of California, Davis, California; and Charles D. Nargozian, M.D., Children's Hospital, Boston, Massachusetts.

Linda Jo Rice, M.D., Hartford Hospital, Hartford, Connecticut, organized three

workshops related to pain management. Brittany Vetter, Rachel Bailey and Kristin Bailey, children of pediatric anesthesiologists, served admirably as very cooperative models. Assisting Dr. Rice in one workshop devoted to "Common Regional Anesthesia Techniques" were Ann G. Bailey, M.D., University of North Carolina, Chapel Hill, North Carolina; Nancy Glass, M.D., Texas Children's Hospital, Houston, Texas; and Constance S. Houck, M.D., Children's Hospital, Boston, Massachusetts.

Allison Kinder Ross, M.D., Duke University Medical Center, Durham, North Carolina, Navil F. Sethna, M.D., Children's Hospital, Boston, Massachusetts, and Myron Yaster, M.D., Johns Hopkins Institutions, Baltimore, Maryland, assisted in a workshop devoted to "Advanced Regional Anesthesia Techniques." David E. Cohen, M.D., Children's Hospital of Philadelphia, Pennsylvania, Jeffrey L. Koh, M.D., Arkansas Children's Hospital, Little Rock, Arkansas, Blaine Miller, D.O., Children's Healthcare, Minneapolis, Minnesota, and Thomas R. Vetter, M.D., Children's Hospital, Akron, Ohio, assisted in a workshop devoted to "Organization of a Pain Treatment Service (Protocols, Procedures, Billing)."

Frank H. Kern, M.D., Duke University Medical Center, Durham, North Carolina, organized a workshop on "ICU Care (Ventilators, CPR, Interosseous Infusions)" and was assisted by Jayant K. Deshpande, M.D., Vanderbilt University Medical Center, Nashville, Tennessee; Salvatore R. Goodwin, M.D., University of Florida, Gainesville, Florida; Ira Cheifetz, M.D., Duke University Medical Center; and Charles Schleien, M.D., Jackson Memorial Hospital, Miami, Florida. Anne M. Lynn, M.D., Children's Hospital, Seattle, Washington, organized a workshop on "Echocardiography" and was assisted by J. Geoffrey Stevenson, M.D., Children's Hospital, Seattle, Washington, and Robert H. Friesen, M.D., Children's Hospital, Denver, Colorado.

One of the highlights of the meeting was the use of a computerized, audience-participation survey system. This technology was used throughout the meeting but especially during a survey on anesthesia practice trends conducted by Raeford E. Brown, Jr., M.D., Arkansas Children's Hospital, Little Rock, Arkansas, and David A. Lowe, M.D., St. Christopher's Hospital for Children, Philadelphia, Pennsylvania. Many questions were posed regarding common issues in the practice of pediatric anesthesiology, and the audience members were able to participate and see how their practices were similar or different from their colleagues' practices. This technology was also used during a novel, computer-interactive, audience-participation case presentation.

The meeting's final session was devoted to an "Anesthesia Practice Update," moderated by William J. Greeley, M.D., Duke University Medical Center, Durham, North Carolina. Jean A. Wright, M.D., Egleston Children's Hospital, Atlanta, Georgia, spoke on "Managing Rapid Change," Jerome H. Modell, M.D., University of Florida, Gainesville, spoke on "Contracted Care: Effect on Subspecialist Practice," and David S. Jardine, M.D., Children's Hospital, Seattle, Washington, demonstrated how "Information Can Be Put to Use: The Internet and Other Applications for Pediatric Anesthesiologists."

The meeting concluded with a very supportive message from Carden Johnston, M.D., Children's Hospital, Birmingham, Alabama, who is a member of the AAP Board of Directors and the newly elected Chair of the Council of Medical Specialty Societies. He emphasized the AAP's desire to assist pediatric anesthesiologists and other subspecialists in their goal to improve care for children. □

SPA Committees: Providing Input, Insight

By Francis X. McGowan, M.D.

One of the most positive aspects about SPA has been the genuine and proactive efforts of the "senior" members of the organization to involve new and junior members in organizational and educational activities. This can be seen in the Society's governance and committee structure as well as in planning and execution of the two yearly meetings: the winter meeting in February and the SPA Annual Meeting in October. Committees by name with their chairs and membership are listed below.

The SPA Bylaws mandate term limits on committee membership; as such, many of these positions will be turning over in the next two years. SPA wishes to extend its thanks to these current committee participants for their efforts and to encourage SPA members to volunteer in the area(s) that most interest them. This can be done by contacting the appropriate committee chair.

Executive Committee — William J. Greeley, M.D., Chair (President), Mark A. Rockoff, M.D. (Vice-President/President-Elect), Steven C. Hall, M.D. (Secretary), Linda Jo Rice, M.D. (Treasurer),

Charles H. Lockhart, M.D. (Immediate Past President — *nonvoting member*)

Committee on Education — (*shall include as a member the President-Elect of the Society*): Mark A. Rockoff, M.D., Chair (President-Elect), Ann G. Bailey, M.D., Patty J. Davidson, M.D., Jayant K. Deshpande, M.D., Claude Ecoffey, M.D., Lynne R. Ferrari, M.D., Dennis M. Fisher, M.D., William J. Greeley, M.D., Francis X. McGowan, M.D. (Winter Meeting Chair), Jeffrey Morray, M.D., Linda Jo Rice, M.D., Mark S. Schreiner, M.D., Robert Spear, M.D., Joseph R. Tobin, M.D. (Annual Meeting Chair), James P. Viney, M.D., Myron Yaster, M.D.

Committee on Membership — (*shall include as a member the Secretary of the Society*): Steven C. Hall, M.D., Chair (Secretary).

Committee on Finance — (*shall include as a member the Treasurer of the Society*): Linda Jo Rice, M.D., Chair (Treasurer).

Nominating Committee — (*shall be chaired by the Immediate Past President*): Charles H. Lockhart, M.D., Chair (Immediate Past President), William J. Greeley, M.D. (President), Lynda J. Means, M.D.

Committee on Publications — (*shall include as a member the Newsletter Editor*): Peter J. Davis, M.D., Chair (Newsletter Editor), Jayant K. Deshpande, M.D., Zeev N. Kain, M.D., Francis X. McGowan, M.D., David E. Cohen, M.D., Anne E. Dickison, M.D., Lawrence H. Feld, M.D., Brian J. Gronert, M.D., Howard B. Gutstein, M.D., Alan S. Klein, M.D., Stephen Rimar, M.D., Mehernoor F. Watcha, M.D.

Committee on Research — David G. Nichols, M.D., Chair, Susan C. Nicolson, M.D., Peter J. Davis, M.D., Francis X. McGowan, M.D., Jerrold G. Lerman, M.D., Myron Yaster, M.D.

Committee on Governmental Affairs — Juan Gutierrez-Mazorra, M.D., Chair.

Committee on Communications — Raeford E. Brown, Jr., M.D., Chair, Scott E. LeBard, M.D., Judy Margolis, M.D., Eugene B. Fried, M.D.

Committee on Bylaws — James P. Viney, M.D., Chair, Robert S. Greenberg, M.D., John J. Mulroy, M.D.

Ad Hoc Committee on Long-Range Planning — Mark A. Rockoff, M.D., Chair, Steven C. Hall, M.D., Jeffrey Morray, M.D., Harry G. Kingston, M.B.

Upcoming SPA Meeting in New Orleans

(Continued from page 1)

John H. Arnold, M.D., both of Children's Hospital, Boston, Massachusetts.

The afternoon program will begin with a "Practical Update." The topic will be on postoperative nausea and vomiting (PONV), and the session will be moderated by **Patty J. Davidson, M.D.**, Assistant Clinical Professor of Anesthesia, Ohio State University, Columbus, Ohio. **Alan Miller, M.D.**, Associate Professor of Neuroscience, Rockefeller University, New York, New York, will discuss the physiology of PONV. This will be followed by a pro-con debate on PONV prophylaxis between **Peter J. Davis, M.D.**, Professor of Anesthesiology and Pediatrics, University of Pittsburgh, Pitts-

burgh, Pennsylvania, and **Lynne G. Maxwell, M.D.**, Associate Professor of Anesthesia and Pediatrics, The Johns Hopkins University, Baltimore, Maryland.

The final part of the day's program will be a session on "Contemporary Management Issues" and will be moderated by **Jeffrey Morray, M.D.**, Children's Orthopedic Hospital, Seattle, Washington. As part of this session, **William J. Greeley, M.D.**, Associate Professor of Anesthesiology and Pediatrics, Duke University Medical Center, Durham, North Carolina, will discuss "Effective Perioperative Management of Decreasing Resources," and **Alan W. Grogono, M.D.**, Professor and Chair, Department of Anesthesiol-

ogy, Tulane University, New Orleans, Louisiana, will present "Academics With 'For Profit Management' — Implications for Sub-specialists."

The SPA 10th Annual Meeting will conclude with a special Honorary Lecture by **John J. Downes, M.D.**, Professor and Chief of Anesthesiology, Children's Hospital and the University of Pennsylvania, Philadelphia, Pennsylvania. Dr. Downes' talk is titled "Pediatric Anesthesia: Where We've Been, Where We're Going." The meeting will conclude with the annual membership business meeting and the election of new officers and directors. An evening reception will be held at the New Orleans Museum of Art. □

SPA-FAER Research Starter Grant Funds Tachyphylaxis Study

The third Research Starter Grant sponsored jointly by SPA and the Foundation for Anesthesia Education and Research (FAER) has been awarded to Robert T. Wilder, M.D., Ph.D., of Harvard University and Children's Hospital, Boston, Massachusetts. Dr. Wilder's project is titled "Mechanisms of Tachyphylaxis to Local Anesthetics."

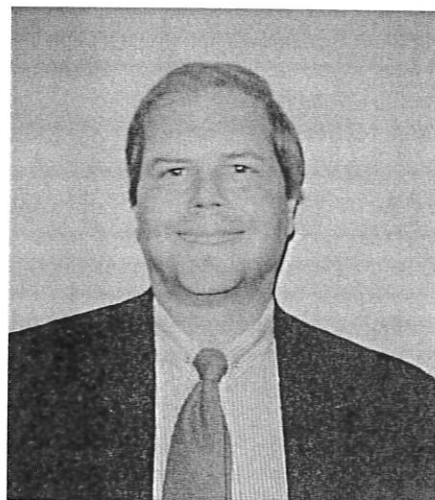
For this project, according to Dr. Wilder, "We have developed a rat model for tachyphylaxis to local anesthetics using repeated sciatic nerve blocks. Motor and sensory tachyphylaxis consistently develops over two to three blocks. The development of tachyphylaxis is proportional to the degree of thermal hyperalgesia developed from thermal sensory testing. Tachyphylaxis can be prevented by systemic administration of medications that prevent hyperalgesia, including NMDA antagonists and nitric oxide synthase inhibitors. This grant will extend

this work to determine the molecular sites of tachyphylaxis.

"We will place subarachnoid catheters to allow administration of medications to the spinal cord and compare dose-response curves generated by spinal and systemic administration. We will test the inhibitory medications mentioned above as well as arginine (the substrate for nitric oxide synthase), which is hypothesized to increase tachyphylaxis. Additionally, we will examine the role of the intracellular signaling enzyme protein kinase C in tachyphylaxis. These studies should clarify the molecular mechanisms of tachyphylaxis to local anesthetics and provide treatment strategies for this clinical problem."

Currently, two SPA-FAER Research Starter Grants (funded jointly by SPA and FAER) are available. They each provide \$25,000 for one year to support research projects related to pediatric anesthesia. For further information, contact:

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Rochester, MN 55905
Telephone: (507) 266-6866 □



Robert T. Wilder, M.D., Ph.D.

President's Message

(Continued from page 1)

management has been changed to reflect SPA's growth and development. I also believe our Society has fulfilled its citizenship role with its involvement in the American Society of Anesthesiologists, its concerns regarding issues of pediatric anesthesia fellowship and its relationship with the AAP.

Those of you who know me recognize that I do not dwell in the past but remain focused on the immediate present and near future. Despite the apparent bleakness of our future due to health care reform, I believe that SPA is well-positioned, and our best years lie ahead. I say that our best years lie ahead because I believe we are addressing the appropriate issues facing our profession and that we have culled the appropriate leadership to guide our organization for the extended future.

As I see it, successful medical organi-

zations in the future will have to develop new concepts and competencies in managing patient care, managing information, managing risk and providing innovation. I see SPA positioned to address all of these issues for pediatric anesthesiology. Our educational forums continue to address quality health care delivery at reasonable costs, the impact of information technology, the different concepts of network development in the integrated pediatric delivery system, the educational concerns of fellowship training and research, and the overall financial implications of changes in health care delivery for the anesthesiologist.

Most importantly, however, the future of SPA lies in its membership and leaders. The succession of leadership at SPA is most promising and stellar. Mark A. Rockoff, M.D., Boston, Massachusetts,

and Steven C. Hall, M.D., Chicago, Illinois, are very effective and innovative leaders who will continue the positive direction of our Society.

It has been a privilege serving and stewarding SPA as your President; an opportunity that is unique and for which I am most appreciative. It is my sincere hope that SPA, under my leadership, has promoted wisdom in your practices and workplace. I look forward to future contributions to SPA and my continued associations with our members. □

SPA 10th Annual Meeting Program

SPA 10th ANNUAL MEETING

October 18, 1996

New Orleans Marriott Hotel

New Orleans, Louisiana

MORNING SESSION

7 a.m. - 4 p.m.

REGISTRATION

Grand Ballroom Foyer

7 a.m. - 7:45 a.m.

CONTINENTAL BREAKFAST

Bissonet Room

7:45 a.m. - 8 a.m.

Introductory Comments and Welcome

William J. Greeley, M.D.,

President

Joseph R. Tobin, M.D.

Program Chair

Carondelet Room

8 a.m. - 10 a.m.

Developmental Physiology in
Pediatric Anesthesia

Moderator: David G. Nichols, M.D.

Carondelet Room

8 a.m. - 8:50 a.m.

The Developing Heart

Walker Long, M.D.

8:50 a.m. - 9:40 a.m.

Development of Respiratory Control

Mark A. Hanson, D.Phil.

9:40 a.m. - 10 a.m.

Questions and Answers

10:00 a.m. - 10:30 a.m.

COFFEE BREAK

10:30 a.m. - noon

Advances in Technology/Support

Moderator: Susan C. Nicolson, M.D.

Carondelet Room

10:30 a.m. - 11:05 a.m.

New Methods of Cardiovascular Support

Peter C. Laussen, M.D.

11:05 a.m. - 11:40 a.m.

New Methods of Respiratory Support

John H. Arnold, M.D.

11:40 a.m. - noon

Questions and Answers

noon - 1:30 p.m.

LUNCHEON

Bissonet Room

AFTERNOON SESSION

1:30 p.m. - 2:30 p.m.

Practical Update

Moderator: Patty J. Davidson, M.D.

Carondelet Room

1:30 p.m. - 2 p.m.

Postoperative Nausea
and Vomiting Physiology

Alan Miller, M.D.

2 p.m. - 2:20 p.m.

Controversy: PONV

Prophylaxis: Pro vs. Con

Pro: Peter J. Davis, M.D.

Con: Lynne G. Maxwell, M.D.

2:20 p.m. - 2:30 p.m.

Questions and Discussion

2:30 p.m. - 3 p.m.

COFFEE BREAK

3 p.m. - 4 p.m.

Contemporary Management Issues

Moderator: Jeffrey Morray, M.D.

3 p.m. - 3:30 p.m.

Effective Perioperative Management
of Decreasing Resources

William J. Greeley, M.D.

3:30 p.m. - 4 p.m.

Academics With "For Profit
Management": Implications
for Subspecialists

Alan W. Grogono, M.D.

4 p.m. - 4:30 p.m.

Honorary Lecture on the
10th Anniversary of SPA
Introduction

Myron Yaster, M.D.

Pediatric Anesthesia: Where We've Been;
Where We're Going

John J. Downes, M.D.

4:30 p.m. - 5 p.m.

Business Meeting

7 p.m. - 10 p.m.

SPA BUFFET RECEPTION

New Orleans Museum of Art



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Society for Pediatric Anesthesia
1996 ANNUAL MEETING REGISTRATION FORM
New Orleans Marriott Hotel, New Orleans, Louisiana
October 18, 1996

The SPA 1996 Annual Meeting registration fees are: SPA members, including resident members - \$125; non-SPA members - \$225 (includes \$125 meeting registration and \$100 immediate SPA membership to qualified individuals); international non-SPA members (outside the United States and Canada) - \$175

(includes \$125 meeting registration and \$50 international SPA membership). Registration fee includes meeting syllabus, continental breakfast, luncheon, coffee breaks and buffet reception. Extra buffet reception tickets for spouses or guests may be purchased in advance at the cost of \$45 per person.

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Literature Reviews

The following literature reviews have been selected from recent issues of international journals concerning pediatric and surgical studies that may be of interest to the pediatric anesthesiologist.

High prevalence of muscular ventricular septal defect in neonates.

Roguin N, Du ZD, Barak M, Nasser N, Hershkowitz S, Milgram E. *J Am Coll Cardiol.* 1995; 26(6):1545-1548.

Reviewed by *Stephen Rimar, M.D.*

This study is a nice attempt to better quantify the incidence of a common congenital defect in neonates. Ventricular septal defects (VSDs) are usually asymptomatic and often close spontaneously. Since the reported rates of spontaneous closure vary between 50 percent and 75 percent in small defects, the prevalence of ventricular septal defects should be higher in neonates. The study included 1,053 neonates, and muscular VSDs were found in 56 neonates, a prevalence of 53.2 per 1,000 live births. All neonates were asymptomatic, only six had a systolic murmur, and 88.9 percent had defects that closed spontaneously within one to 10 months. The authors postulate that these defects may be caused by environmental factors or, in many cases, delayed physiologic development.

The relationship between intelligence and duration of circulatory arrest with deep hypothermia.

Oates RK, Simpson JM, Turnbull JAB, Cartmill TB. *J Thorac Cardiovasc Surg.* 1995; 110:786-792.

Reviewed by *Stephen Rimar, M.D.*

Children who had congenital heart defects repaired with the use of deep hypothermia and circulatory arrest (N=114) were assessed for intellectual and neurophysiologic function at an average of nine to 10 years after the operation. These children were compared with 54 who had atrial septal defects repaired with the use of cardiopulmonary bypass. Although there was no significant difference in intelligence quotient between the groups, a relationship between intelligence quotient

and arrest time was found. The authors conclude that deep hypothermia with circulatory arrest for cardiac operations in children does not fully protect the brain, with a linear relationship existing between the amount of impairment and duration of circulatory arrest.

Plasma concentration after high dose (45 mg/kg) rectal acetaminophen in children.

Montgomery C, McCormack J, Reichert C, Marsland C. *Can J Anaesth.* 1995; 42(11):982-986.

Reviewed by *Lawrence H. Feld, M.D.*

The authors measured venous plasma concentration resulting from 45 mg/kg of rectal acetaminophen in 10 ASA 1, 15 kg pediatric patients undergoing minor surgery with a standardized general anesthetic. Plasma samples were taken at t=0 and every 15 minutes thereafter to 420 minutes. No plasma concentration associated with toxicity was identified. The maximum plasma concentration was 88 ± 39 micromoles/liter and time to peak plasma concentration was 198 ± 70 minutes (mean \pm SD). At 420 minutes the mean plasma concentration was 46 ± 18 micromoles/liter. At three hours, a 45 mg/kg rectal dose of acetaminophen resulted in peak plasma concentrations comparable to 10-15 mg/kg of oral acetaminophen. The authors conclude that the delayed and irregular absorption of acetaminophen after rectal administration leads to unpredictable plasma concentrations. The authors further state that rectal acetaminophen will not be consistently effective for providing rapid onset of analgesia in children. If repeated doses are given, clinicians are to be cautioned that there is a possibility of a longer duration of action as well as the need for increased dosing intervals and the possibility of drug accumulation.

Cardiac status and health-related quality of life in the long term after surgical repair of Tetralogy of Fallot in infancy and childhood.

Bos E, Hess J. *J Thorac Cardiovasc Surg.*

1995; 110:883-891.

Reviewed by *Stephen Rimar, M.D.*

The long-term results of surgical repair of Tetralogy of Fallot were assessed by means of extensive cardiologic examinations of 77 patients approximately 15 years after surgical repair in infancy and childhood. The authors demonstrated that the long-term results of surgical repair of Tetralogy of Fallot in infancy and childhood are good in terms of health assessment and exercise capacity. Eighty-two percent of long-term survivors described their health as "excellent" or "good," and 79 percent had an almost normal exercise capacity. Anatomic and electrophysiologic findings, however, were not as good. Fifty-eight percent of the patients had substantial dilatation of the right ventricle with severe pulmonary regurgitation, and 72 percent had ventricular or supraventricular arrhythmia on 24-hour ECG.

Respiratory manifestation of gastroesophageal reflux disease in pediatric patients.

Bauman NM, et al. *Ann Otol Rhinol Laryngol.* 1996; 105:23-32.

Reviewed by *Howard B. Gutstein, M.D.*

This paper is an interesting and informative review of the respiratory manifestations of reflux. The authors point out that the incidence of reflux has increased over the past several decades, probably due to improved diagnosis of the disease and increased suspicion based on respiratory and other findings. Manifestations of reflux may involve the gastrointestinal, respiratory and neurobehavioral (rarely) systems. Several case reports are presented that outline the difficulties in diagnoses and treatment of these problems. The discussion section presents a succinct review of the anatomy and pathophysiology underlying reflux. Respiratory symptoms of recurrent pneumonia, bronchitis, asthma, apnea, stridor and chronic cough are reviewed in detail. In addition to direct damage, bronchospasm, apnea and cardiovascular responses may also be mediated by esophageal and laryngeal reflexes. The anatomic abnormalities that

can predispose children to reflux, such as TEF and laryngeal clefting, are also reviewed. Algorithms for the workup of these patients and detailed explanation of the tests used are provided, which should aid in the interpretation of data obtained from these tests. It is also pointed out that reflux resolves, generally within the first two years of life, although interim anti-reflux treatment may be required to treat symptomatic disease and prevent sequelae in some infants. Conservative therapy, dietary modifications, pharmacologic therapy and surgical therapy are considered in outlining rational stage treatment plans for symptomatic children.

Ambulatory tonsillectomy and adenoidectomy.

Gabalski EC, et al. *Laryngoscope*. 1996; 106 (Jan):77-80.

Reviewed by **Howard B. Gutstein, M.D.**

This paper is a prospective study of more than 500 patients aged 14 or younger undergoing tonsillectomy with and without adenoidectomy. These patients were observed for five to six hours postoperatively. In this particular study, no complications were encountered during the fifth or sixth postoperative hours. The authors recommend that postoperative observation may safely be reduced to four hours. However, a bleeding episode occurred in the eighth postoperative hour that was controlled using silver nitrate. The complication rate during the first postoperative week was an extraordinarily low rate of 0.37 percent. It should be noted that the patients selected for this study were all healthy ambulatory patients. ASA class information was not provided. Also, it was unfortunate that the patients were not stratified by age, as others performing similar studies have suggested that complications may be more common in younger patients. Previous studies have shown higher incidences of bleeding of up to 14 percent. The reasons for these discrepancies were not explored. Unfortunately, anesthetic conditions that might contribute to this phenomena such as anesthetic agents and stomach suctioning

were not controlled in this study.

Granisetron reduces vomiting after strabismus surgery and tonsillectomy in children.

Fugii Y, Tanaka H, Toyooka H. *Can J Anaesth*. 1996; 43(1):35-38.

Reviewed by **Lawrence H. Feld, M.D.**

Granisetron is a selective 5HT₃ receptor antagonist and has a more potent and longer activity against vomiting associated with chemotherapy than ondansetron. This was a randomized, placebo-controlled study looking at 50 patients (4-10 years old) who were given a single dose of either placebo or granisetron 40 µg/kg IV following induction of a standardized general anesthetic. The incidence of retching was 36 percent and 12 percent (placebo versus granisetron, respectively). The corresponding frequencies of vomiting were 32 percent and 8 percent, respectively. Four children who had received placebo required another rescue antiemetic drug (reglan) whereas none who had received granisetron needed this agent.

Prognosis with preoperative pulmonary function and lung volume assessment in infants with congenital diaphragmatic hernia.

Antunes MJ, Greenspan JS, Cullen JA, et al. *Pediatrics*. 1995; 96(6):1117-1122.

Reviewed by **Mehernoor F. Watcha, M.D.**

In this study, 25 neonates having congenital diaphragmatic hernia without other anomalies underwent pulmonary function testing before and after diaphragmatic hernia repair. In nonsurvivors, the preoperative highest oxygen index was 51 ± 21 percent, lung compliance was 0.11 ± 0.04 ml/cm water/kg, and FRC was 4.5 ± 1.0 ml/kg. The FRC in all nonsurvivors was <9 ml/kg. The authors concluded that preoperative assessment of FRC may predict fatal pulmonary hypoplasia in infants with congenital diaphragmatic hernia. However, two of the 15 survivors had an FRC <9 ml/kg. There are not enough data in this study to make a recommendation of withholding surgery in this patient population if the FRC is <9 ml/kg.

Butorphanol: An opioid for day-care paediatric surgery.

Splinter WM, O'Brien HV, Komocar L. *Can J Anaesth*. 1995; 142(61):483-486.

Reviewed by **Lawrence H. Feld, M.D.**

This is an interesting study designed to compare butorphanol to morphine in 156 ASA 1 children undergoing orchidopexy or inguinal herniorrhaphy. After induction, patients were given 150 µg/kg morphine or 30 µg/kg butorphanol in a randomized, blinded fashion. Patients were followed four hours postoperatively with assessment of pain, vomiting and respiratory depression. The choice of opioid did not affect recovery time from anesthesia. Postoperative analgesic requirements were similar between the groups. Ten minutes after arrival in the PACU, the butorphanol subjects had a lower pain score. Postoperative vomiting was less among the butorphanol subjects (14 percent versus 28 percent, $p=0.03$). Two morphine patients required admission to the hospital because of vomiting. The authors conclude that butorphanol has only a few advantages over morphine in the population studied. It is interesting to note that although equally effective in treating pain, there appears to be an antiemetic effect of butorphanol that might make this an attractive alternative to the more traditional medications. It is unclear whether this benefit is significant enough to offset the increased costs of butorphanol over morphine.

Technology assessment of non-surgical closure of patient ductus arteriosus — An evaluation of the clinical effectiveness and costs of a new medical device.

Human DG, McIntyre L, Gniewek A, Hanna BD. *Pediatrics*. 1995; 96(4, Part 1):703-706.

Reviewed by **Mehernoor F. Watcha, M.D.**

This study compared clinical outcome, hospital stay and costs of 20 patients who underwent surgical PDA ligation, with the first 20 nonsurgical procedures for PDA closure. In the control group (surgery), the average cost was \$4,667. In the 20 patients who underwent nonsurgical

(Continued on page 12)

Literature Reviews

(Continued from page 11)

closure of the PDA, costs were similar (\$4,690). The authors conclude that non-surgical closure of PDA can be recommended from both efficacy and cost perspectives.

Does surgical subspecialization in pediatrics provide high-quality, cost-effective patient care?

Snow BW, Cartwright PC, Young MD. *Pediatrics*. 1996; 97(1):14-17.

Reviewed by *Mehernoor F. Watcha, M.D.*

This study compares hospital charges and complication rates for uretero-neocystostomy procedures performed by general urologists and fellowship-trained pediatric urologists. Hospital charges were significantly less for patients under the care of a pediatric urologist, as were complication rates. The authors conclude that pediatric urology subspecialization offers high-quality, cost-effective pediatric patient care. They also speculate that similar findings may be noted for other subspecialties. With the current trend of managed care companies that insist on having generalists provide all care to patients, subspecialists need to demonstrate that the potential for increased complications may outweigh any initial cost savings. Although these reports may appear self-serving, they are necessary if we can convince these institutions that, in the long run, it is in their interest to use specialists. In the new environment of health care payments, pediatric anesthesiologists will also need to demonstrate that the high quality of care they provide is more cost-effective.

Comparison of topical anesthetics without cocaine to tetracaine-adrenaline-cocaine and lidocaine infiltration during repair of lacerations—Bupivacaine-norepinephrine is an effective new topical anesthetic agent.

Smith GA, Strausbaugh SD, Harbeck-weber C, et al. *Pediatrics*. 1996; 97(3):301-307.

Reviewed by *Mehernoor F. Watcha, M.D.*

This study included 240 patients who were randomly assigned to receive topical

tetracaine-adrenaline-cocaine, lidocaine infiltration or bupivacaine. The bupivacaine-norepinephrine solution provided effective wound anesthesia during laceration repair, particularly for lacerations of the face and scalp.

Pediatric oncology procedures: To sleep or perchance to dream?

Berde CB. *Pain*. 1995; 62:1-2.

Reviewed by *David E. Cohen, M.D.*

This article is an editorial summarizing the issues around oncologic procedures aided by either cognitive behavior techniques or general anesthesia.

Parents' management of children's pain following "minor" surgery.

Finley GA, McGrath PJ, Forward SP, McNeill G, Fitzgerald M. *Pain*. 1996; 64:83-87.

Reviewed by *David E. Cohen, M.D.*

The aim of this study was to evaluate the prevalence, severity and parents' management of pain in a pediatric outpatient population. Parents of 189 children (2-12 years) completed a three-day pain diary of their child's pain and medication use. Myringotomy tubes appeared to cause little pain. Tonsillectomy, strabismus and other procedures resulted in one-half of the children reporting clinical significant pain during the reporting period. Of the children with significant pain, on postop day 1, 11 percent did not give any pain medications; on postop day 2, 8 percent gave no medications. Less than 50 percent of parents with children in significant pain gave more than three doses of pain medications on these days. Sixty-eight percent had been instructed to use acetaminophen as necessary. This study demonstrates that parents are hesitant to use pain medications for a variety of reasons. Additionally, many short procedures are associated with significant pain.

Lansoprazole reduces preoperative gastric fluid acidity and volume in children.

Mikawa K, Nishina K, Maekawa N, Asano M, Obara H. *Can J Anaesth*. 1995; 42(6):467-472.

Reviewed by *Lawrence H. Feld, M.D.*

The authors looked at the efficacy of lansoprazole, a proton pump inhibitor, in reducing acidity and volume of gastric juice in 100 healthy inpatients aged 3-11 years undergoing elective surgery. These patients were divided into four groups to receive lansoprazole-lansoprazole, placebo-placebo, placebo-lansoprazole or lansoprazole-placebo. For each treatment regimen, the first medication was administered at 9 p.m. on the night before surgery and the second at 5:30 a.m. on the day of surgery. After induction, an orogastric tube was placed and gastric juice aspirated and then analyzed for volume and pH. Lansoprazole increased the gastric fluid pH and decreased the gastric volume regardless of whether it was administered before or after placebo. The most effective regimen was to have two consecutive doses of lansoprazole. With the incidence of pulmonary aspiration of gastric contents as low as 1 in 10,000, routine administration of lansoprazole prophylactically does not make sense. Clearly, for patients at high risk for aspiration such as patients with the Zollinger-Ellison Syndrome or patients with airway difficulties, lansoprazole may offer a real benefit.

A comparative study of cognitive behavior therapy versus general anesthesia for painful medical procedures in children.

Jay S, Elliott C, Fitzgibbons I, Woody P, Siegel S. *Pain*. 1995; 62:3-9.

Reviewed by *David E. Cohen, M.D.*

Eighteen pediatric cancer patients (aged 3-12 years) were studied after two bone marrow aspirations, one aided by cognitive behavior techniques and one by general anesthesia. No significant differences were noted in pain, fear or anticipation of next procedure. Initially, more distress was noted in the cognitive group; more symptoms were noted after the general mask anesthesia in the 24 hours post procedure. This study suggests there is a need for larger studies, studies examining propofol anesthesia and studies that look at the cost-effectiveness of the interventions.

A revised measure of acute pain in infants.

Taddio A, Nulman I, Koren BS, Stevens B, Koren G. *J Pain Symptom Management*. 1995; 10:456-463.

Reviewed by *David E. Cohen, M.D.*

This paper reports an adaptation of the CHEOPS and the behavioral pain scale for use in infants. Test subjects were 96 infants from 2-6 months old undergoing immunizations with and without EMLA[®] cream. Aspects of facial expression, crying and body movements were scored. Interrater reliability and construct validity appeared to be present.

Massive opioid resistance in an infant with a localized metastasis to the mid-brain periaqueductal gray.

Collins J, Berde CB, Holcombe EG, Nachmanoff D, Kinney H. *Pain*. 1996; 63:271-275.

Reviewed by *David E. Cohen, M.D.*

Extraordinary doses of opioids (2680 mg MSO₄ equivalents/hr IV) were needed to achieve adequate analgesia in a 4-month-old with systemic metastasis and a localized metastasis to the dorsal mid-brain periaqueductal gray (PAG). Escalation in opioid requirements during the last week of life progressed from 0.04mg/kg/hr to 493 mg/kg/hr IV MSO₄ equivalents. The authors postulate either that the PAG lesion destroyed opioid-specific cell bodies or acted as a marked stimulus for aversive (fear-like or pain-like) behaviors normally generated in the PAG and, in this case, interpreted as being representative of pain.

Visualizing the pediatric airway: Three-dimensional modeling of endoscopic images.

Dunham ME, Wolf RN. *Arch Otol Rhinol Laryngol*. 1996; 105:12-17.

Reviewed by *Howard B. Gutstein, M.D.*

This paper is an interesting, although somewhat technical description of a computer system that is used to create a three-dimensional model of the pediatric airway from serial images obtained by conventional rigid endoscopy. After sifting

through all the technical jargon, the bottom line is that by using a conventional endoscope hooked up to a movie camera and a videocassette recorder, and by then processing the images using standard image analysis software, it is possible to recreate and accurately identify lesions such as subglottic stenosis and innominate compression in three dimensions. These images could be a great aid to the surgical and medical management of stenotic and distorted airways.

Premedication for ambulatory surgery in preschool children: A comparison of oral midazolam and rectal thiopentone.

Lyons B, Cregg N, Conway F, Casey W, Doherty P, Moore K. *Can J Anaesth*. 1995; 42(6):473-478.

Reviewed by *Lawrence H. Feld, M.D.*

Seventy-five ASA 1 and 2 children, aged 6 months to 5 years were randomized to receive oral midazolam 0.5 mg/kg, rectal thiopentone 35mg/kg, or no premedication. Anxiety and sedation scores and patient acceptance of both premedicant and mask at induction were recorded using a four-point scale. Times to recovery and discharge and parental satisfaction with the premedication was also noted. The authors' data suggest that the children receiving rectal thiopentone had higher sedation scores and were more accepting of the mask than were the other two groups. Acceptance scores of both premedications were similar. Times to spontaneous eye-opening and discharge were longer in the thiopentone group. The authors found that premedication with rectal thiopentone provided superior induction scores than to oral midazolam, but thiopentone pre-medication was associated with a one-hour-longer recovery period.

Determinants of success and failure of EMLA.

Lander J, Hodgkins M, Nazarali S, McTavish J, Ouellete J, Friesen E. *Pain*. 1996; 64:89-97.

Reviewed by *David E. Cohen, M.D.*

Two hundred fifty-eight children (aged

5-18 years) undergoing venipuncture or I.V. placement underwent a double-blind, placebo-controlled study to evaluate EMLA[®] cream's effectiveness. EMLA was applied for 90 minutes. EMLA was successful (i.e., no pain) 84 percent of the time for venipuncture and 51 percent for I.V. placement. Lower anxiety was associated with a positive response to the medication and to placebo. Clearly, EMLA works as a local anesthetic; the anxiety of the patient has an important effect in the degree of success.

Midazolam for caudal analgesia in children: Comparison with caudal bupivacaine.

Naguib M, El Gammal M, Elhattab Y, Seraj M. *Can J Anaesth*. 1995; 42(9):758-764.

Reviewed by *Lawrence H. Feld, M.D.*

Caudal midazolam! Rectal, nasal, oral — but caudal? Are we not getting carried away? The authors enrolled 45 children undergoing inguinal herniorrhaphy and divided them randomly into three groups: Group 1 received 0.25 percent bupivacaine 1 ml/kg caudally; Group 2 received 0.25 percent bupivacaine 1 ml/kg with midazolam 50 µg/kg caudally; Group 3 received caudal midazolam 50 µg/kg only with 0.9 NS (PF). There were no differences in quality of pain relief, postoperative behavior or analgesics required between the midazolam group and the other two groups. Time to first analgesic administered was longer in the bupivacaine-midazolam group as compared to the other two groups. The bupivacaine-midazolam group received fewer postoperative analgesics than the bupivacaine group. The side effects such as motor weakness, respiratory depression or prolonged sedation were not observed in patients who received caudal midazolam only. The authors conclude that caudal midazolam 50 µg/kg provides equivalent analgesia as compared to bupivacaine 0.25 percent.

In an accompanying editorial (*Can J Anaesth*. 1995; 42(9):755-757), Gorske succinctly states that midazolam does not

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Literature Reviews

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offer an advantage over low-concentration bupivacaine for postoperative analgesia in children undergoing inguinal herniorrhaphy. In addition, there are potential unknown risks associated with midazolam's use in the epidural space. There apparently exists only incomplete toxicology data in animals, and there is a lack of controlled clinical trials in adult subjects. There is also the absence of information regarding long-term follow-up for epidural midazolam.

Perioperative ketorolac tromethamine in postoperative hemorrhage in cases of tonsillectomy and adenoidectomy.

Gallagher JE, et al. *Laryngoscope*. 1995; 105:606-609.

Reviewed by **Howard B. Gutstein, M.D.**

Ketorolac has been a somewhat controversial drug in T&A patients due to the theoretical risk of postoperative bleeding. This study was a noncontrolled (unfortunately) retrospective chart-review of 258 patients undergoing tonsillectomy with or without adenoidectomy. One hundred sixty-nine of these patients received ketorolac. The instances of postoperative hemorrhage among patients who received ketorolac was 10.1 percent compared to 2.2 percent in patients who received only narcotics. Patients who received ketorolac had an earlier time to oral intake, and discharge time was not significantly affected. Unfortunately, this study did not control for either age or physical condition of the patients. It is possible that ketorolac could have been used in children who were sick or had a history of apnea associated with their tonsillar hypertrophy. While the data are worth keeping in mind, better-controlled, randomized prospective trials are needed to accurately evaluate the safety of ketorolac use for tonsillectomy.

Oral clonidine premedication reduces vomiting in children after strabismus surgery.

Mikwa K, Nishina K, Maekawa N, Asano M, Obara H. *Can J Anaesth*. 1995; 42(11):977-981.

Reviewed by **Lawrence H. Feld, M.D.**

In this study, 140 children aged 3-12 years undergoing strabismus surgery were divided randomly into four groups: placebo (control), diazepam (4 µg/kg), clonidine (2 µg/kg) and clonidine (4 µg/kg). These authors demonstrated that the incidence of vomiting in the group of patients was lowered after the 4 µg/kg dose (11 percent) versus the placebo group (37 percent) and the diazepam group (34 percent). The clonidine 2 µg/kg dose did not differ significantly from the placebo group (29 percent versus 37 percent, respectively). The authors suggest that clonidine at 4 µg/kg not only acts as an excellent anxiolytic and serves to blunt the cardiovascular response to laryngoscopy, but also serves to act as an antiemetic.

Pediatric laryngotracheal reconstruction with cartilage grafts and endotracheal tube stenting: The single-stage approach.

Cotton RT, et al. *Laryngoscope*. 1995; 105:818-821.

Reviewed by **Howard B. Gutstein, M.D.**

This paper provides a succinct and readable outline and rationale for single-stage reconstruction for children suffering from severe subglottic stenosis, written by one of the pioneers of the procedure. The procedure as outlined comprises five stages: 1) characterization of the stenosis, 2) expansion of the lumen, 3) stabilization of the enlarged lumen framework, 4) healing of the surgical site, and 5) decannulation. The rationale behind the single-staged reconstruction is to combine and compress stages 3 through 5 into a brief period of postoperative intubation, as opposed to performing a tracheotomy or long-term stenting for several months. This technique is not limited to specific types of laryngotracheal stenosis and, in general, requires one to two weeks of postoperative intubation in an intensive care setting. Factors in patient selection, timing and postoperative treatment are also reviewed quite concisely. This paper will be a valuable resource for anesthesiologists managing these patients either

intraoperatively or postoperatively in the intensive care unit.

Evaluation of portable infrared end-tidal carbon dioxide monitor during pediatric interhospital transport.

Bhende MS, Karr VA, Wiltsie DC, Orr RA. *Pediatrics*. 1995; 95(6):875-878.

Reviewed by **Mehernoor F. Watcha, M.D.**

In 50 patients undergoing transport, a portable infrared end-tidal carbon dioxide monitor was used. All three esophageal tube positions and 48 tracheal tube positions were correctly identified. In the two false-negative cases, instrument malfunction occurred because of blood backing into the tubing. The device was evaluated as being too large, inconvenient and hard to secure in small infants.

Reflex sympathetic dystrophy: Changing concepts and taxonomy.

Stanton-Hicks M, Janig W, Hassenbusch S, Haddox JD, Boas R, Wilson P. *Pain*. 1996; 63:127-133.

Reviewed by **David E. Cohen, M.D.**

This article summarizes a consensus conference that reviewed the taxonomy regarding reflex sympathetic dystrophy (RSD). Because the link between nociceptive neurons and postganglionic sympathetic activity is not always present and sympathetic measurements are often normal, an effort was made to change the nomenclature. The proposed terms are complex regional pain syndrome type I (RSD) and complex regional pain syndrome type II (causalgia). Changing the name may be a step in the direction that emphasizes the need for multidisciplinary action in what was formerly known as RSD.

Lack of analgesic effect of 50 and 100 mg oral tramadol after orthopedic surgery: A randomized, double-blind, placebo and standard active drug comparison.

Stubhuag A, Grimstad J, Breivik H. *Pain*. 1995; 62:111-118.

Reviewed by **David E. Cohen, M.D.**

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Newsletter Editor's Message

By Peter J. Davis, M.D.



Francis X. McGowan, M.D.



David E. Cohen, M.D.



Anne E. Dickison, M.D.



Lawrence H. Feld, M.D.



Brian J. Gronert, M.D.



Howard B. Gutstein, M.D.

My tenure as editor of the *SPA Newsletter* now comes to an end. I would like to take the opportunity to thank the following people who have been instrumental in bringing this newsletter to the readership for the past six years: Francis X. McGowan, M.D., David E. Cohen, M.D., Anne E. Dickison, M.D., Lawrence H. Feld, M.D., Brian J. Gronert, M.D., Howard B. Gutstein, M.D., Zeev N. Kain, M.D., Alan S. Klein, M.D.,

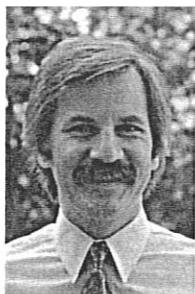
Stephen Rimar, M.D., and Mehernoor F. Watcha, M.D. In addition, a special thanks goes to Denise M. Jones, Director of Communications at the American Society of Anesthesiologists Executive Office. Ms. Jones' support and advice have been instrumental in designing, developing, publishing and distributing this newsletter.



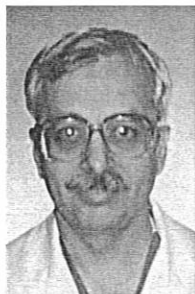
Zeev N. Kain, M.D.



Alan S. Klein, M.D.



Stephen Rimar, M.D.



Mehernoor F. Watcha, M.D.



Denise M. Jones

Literature Reviews

(Continued from page 14)

Tramadol (50 and 100 mg), acetaminophen + 60 mg codeine, and placebo were compared after orthopedic surgery in 144 patients after total hip replacement. The codeine combination was significantly better than the tramadol and placebo. No difference was noted between the placebo and either dose of tramadol. This well-done analgesic trial questions the use of tramadol.

Ondansetron is a better prophylactic antiemetic than droperidol for tonsil-

lectomy in children.

Splinter WM, Rhine EJ, Roberts DW, Baxter M, Gould HM, Hall LE, MacNeill HB. *Can J Anaesth.* 1995; 42(10):848-851.

Reviewed by **Lawrence H. Feld, M.D.**

This is a randomized, double-blinded study comparing the effects of ondansetron (150 µg/kg) and droperidol (50 µg/kg) on vomiting after outpatient tonsillectomy in 276 healthy children aged 2-12 years. All patients received a standard general anesthetic. Rescue antiemetics were given to

all patients who vomited twice and also those who vomited four times. The patients were followed for 24 hours after surgery. The frequency of in-hospital emesis was 16 percent in the ondansetron patients and 30 percent in the droperidol group. The ondansetron patients required fewer rescue antiemetics (5 percent versus 13 percent). The overall incidence of emesis was 45 percent in the ondansetron group and 57 percent in the droperidol group. What is also interesting is that the

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Literature Reviews

(Continued from page 15)

effect of both prophylactic antiemetics was limited. The incidence of vomiting the day after surgery was surprisingly high and similar with both groups.

Premature infant pain profile: Development and initial validation.

Stevens B, Johnston CC, Petryshen P, Taddio A. *The Clinical Journal of Pain*. 1996; 12:13-22.

Reviewed by *David E. Cohen, M.D.*

This article presents a behavioral pain scale designed for premature infants, called the premature infant pain profile (PIPP). The PIPP includes seven items, each scored on a four-point scale. Gestational age, behavioral state, increase in heart rate, decrease in oxygen saturation and three facial characteristics are scored. The authors note that normal ranges for different groups and utility in certain illnesses have not been established.

Latex hypersensitivity in children—

Clinical presentation and detection of latex-specific immunoglobulin E.

Kwitken PL, Sweinberg SK, Campbell DE, Pawlowski NA. *Pediatrics*. 1995; 95(5):693-699.

Reviewed by *Mehernoor F. Watcha, M.D.*

The authors performed a retrospective case analysis of 35 patients with latex allergy. The majority of patients had life-threatening reactions; however, 60 percent had reactions outside of the operating room setting, and 40 percent had primary diagnosis outside the previously recognized high-risk groups (spina bifida and genitourinary malformations).

Effects of morphine, pentobarbital and amphetamine on formalin-induced behaviors in infant rats: Sedation versus specific suppression of pain.

Abbott FV, Guy ER. *Pain*. 1995; 62:303-312.

Reviewed by *David E. Cohen, M.D.*

This was a laboratory study looking at intraplantar injection of formalin in rats 1-20 days old. Morphine 1 mg/kg completely suppressed specific and nonspecific behavior. Pentobarbital 10 mg/kg produced a similar degree of sedation and suppression of nonspecific measures, had a weak effect on pups less than 1 week old and none in older pups. Amphetamine 2 mg/kg suppressed nonspecific and specific measures during the second week. Morphine produced analgesia in rats (1-day-old) similar to the neurological maturity of a 25-week human fetus. The effects of morphine and pentobarbital were different, emphasizing the need to distinguish between analgesia and sedation. □