

INTRODUCTION — WHAT IS SPA

The Society for Pediatric Anesthesia (SPA) was formed on October 18, 1986 during the Annual Meeting of the American Society of Anesthesiologists (ASA). At that time articles of organization and bylaws were adopted and a Board of Directors and Officers were elected.

This Society was organized for the following scientific and educational purposes: 1) To bring together in one group anesthesiologists who practice pediatric anesthesia. 2) To advance the study of pediatric anes-

thetia and contribute to its growth and influence. 3) To encourage research, education and scientific progression in pediatric anesthesia and serve as a forum for discussion. 4) To support the goals of the American Society of Anesthesiologists and to foster a formal relationship with that society. In order to accomplish these goals the Society decided to hold its annual meeting in conjunction with the Annual Meeting of the ASA. □

THE ANNUAL MEETING

The inaugural meeting of SPA took place in Atlanta, Georgia on Friday, October 9, 1987 and was attended by 200 members. The program was very exciting and a huge success. Divided into four segments, the program consisted of: 1) a scientific seminar, 2) a pro and con debate on controversial issues in pediatric anesthesia, 3) a consumer update on anesthesia equipment, and 4) a case management round table on questions that are of concern to the ordinary anesthesiologist practicing pediatric anesthesia. The Society provided a continental breakfast and (an outrageously good) lunch to all of the members in attendance.

THE MORNING SESSION

The morning session was a scientific seminar devoted to a single topic, namely, pulmonary artery hypertension in the newborn. Both the basic science and clinical implications of pulmonary artery hypertension were discussed by experts in pediatric medicine (Dr. William W. Fox, senior neonatologist at the Children's Hospital of Philadelphia, "Pulmonary Hypertension Syndromes in the Neonate"), pathology (Dr. Marlene Rabinovitch of the Hospital for Sick Children in Toronto, "The Structural Basis of Neonatal Pulmonary Hypertension"), and anesthesiology (Dr. Paul Hickey

of the Boston Children's Hospital, "Clinical Implication in the Operating Room"). Additionally, it featured the program's keynote speaker, Dr. Michael A. Heymann of the Cardiovascular Research Institute of the University of California, San Francisco who discussed "Control of Pulmonary Vascular Resistance in the Fetus and Newborn."

Dr. Rabinovitch opened the morning session by focusing on alterations in the pulmonary vascular bed which lead to the development of persistent pulmonary hypertension. Concentrating on mechanisms of development, she explained how changes in arterial size and wall thickness as well as changes in arterial number in relationship to alveolar number, lead to the development of persistent pulmonary artery hypertension. Dr. Rabinovitch also described some of her current research in which different stimuli, such as hypoxia or toxins, alter endothelial cells, causing the release of elastase which degrades collagen. This leads to the growth of smooth muscle cells and smooth muscle hypertrophy and causes normally non-muscular arteries to become abnormally muscularized.

Dr. Michael Heymann, the keynote speaker, followed in what was easily one of the best lectures delivered at this (or any) meeting. Dr. Heymann explained that the action and interaction of many products of

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WHO ARE THE OFFICERS OF SPA?

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Dues and Costs

The cost of the first meeting (guest speaker costs, meeting place expenses, and food) was underwritten by membership dues and by generous contributions by Nellcor Incorporated and Glaxo Incorporated. We hope to continue this policy of using membership dues and corporate donations to pay for the annual meetings in the future. Indeed, we believe that the dues structure of the organization is such that members will get "their money's worth."

Please note that a new fiscal year has started and members should send their dues of \$100 with an application form. Interested physicians can apply for membership by mailing the enclosed application form with \$100 to:

THE SOCIETY FOR
PEDIATRIC ANESTHESIA
515 Busse Highway
Park Ridge, IL 60068

Certificates of Membership

Certificates of membership were mailed in December; if you have not received one, please write and let us know.

Help Wanted Future Projects

The Officers and Board of Directors are interested in the continuing involvement of the Society's membership. Members interested in running for office or participating in the newsletter are encouraged to write to us at the SPA office in Park Ridge. We hope to expand the newsletter next year and include features such as literature review and debates on controversial subjects.

The printing and mailing of this newsletter was made by an extraordinarily generous education grant from the COOK COMPANY.



The Officers and Board of Directors of SPA were elected at the first meeting of the Society in 1986. Myron Yaster, M.D., was elected President of the Society. Dr. Yaster is an assistant professor of anesthesiology, critical care medicine and pediatrics at the Johns Hopkins University. Robert K. Crone, M.D., was elected Vice-President and President-Elect of the Society. Dr. Crone is an associate professor of anesthesiology and pediatrics at the Harvard Medical

School. Dr. Crone is also a senior associate in anesthesia and medicine at the Children's Hospital of Boston and the director of the multidisciplinary intensive care unit and respiratory therapy at the Children's Hospital of Boston. Aubrey Maze, M.D., was elected Secretary of the Society. Dr. Maze, who is in private practice, is a member of Valley Anesthesia Consultants of Phoenix, Arizona. Dr. Maze is also chief of anesthesia at the Phoenix Children's Hospital.

The elected Board of Directors include: Dr. John Downes (Children's Hospital of Philadelphia), Dr. Theodore Striker (The Cincinnati Children's Hospital), Dr. Charles Lockhart (The Denver Children's Hospital), Dr. Charles Cote (The Massachusetts General Hospital), Dr. David Swedlow (Nellcor, Inc.), and Dr. Milton Alper (The Boston Children's Hospital). Appointed Directors include the President of the American Academy of Pediatrics Section on Anesthesiology, Dr. Juan Gutierrez and the chairman of the ASA's Committee on Pediatric Anesthesia, Dr. Raafat Hannallah. □

BECOME A MEMBER OF THE SOCIETY FOR PEDIATRIC ANESTHESIA

Since SPA was formed in October 1986, more than 700 physicians with an interest in Pediatric Anesthesia have applied for membership in the Society. The Board of Directors of SPA would like to encourage more of its colleagues to become active members of the Society. On page 5 of this newsletter is a membership application. Simply complete the application and mail it

along with your check for \$100.00 to the SPA office in Park Ridge, Illinois. Your membership and participation in SPA will enable the Society to continue bringing you the Annual Meeting and a Quarterly Newsletter, plus your support will allow SPA to expand its programs to bring you new information and technology on a timely basis. □

TIME TO RENEW MEMBERSHIP IN SPA FOR 1988

Members of the Society for Pediatric Anesthesia are asked to renew their membership in SPA for 1988. Complete lines 1, 2, 3, 5, and 6 of the application found

on page 5, check-off the renewal line and mail this form with your \$100.00 dues payment to the SPA office. □

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arachidonic acid metabolism can affect the pulmonary circulation in the perinatal period. Dr. Heymann pointed out, that the rapid increase in pulmonary blood flow with the onset of ventilation is most likely brought about by the local production of prostaglandin I_2 . This can be stimulated by purely mechanical factors, by the normally increasing concentrations of angiotensin II, by the O_2 -mediated release of bradykinin, or by other phenomena. The opposing pulmonary vascular effect, pulmonary vasoconstriction, is most likely caused by leukotrienes. These substances play a role in regulating fetal pulmonary blood flow. Inhibition of the production or action of leukotrienes allows for vasodilation. In conclusion, Dr. Heymann stated that it is probable that perinatal pulmonary vascular tone reflects a balance between local prostaglandin and leukotriene production.

Following a coffee break, Dr. William Fox described the differential diagnosis of pulmonary artery hypertension syndromes in the neonate and some of the newest treatment modalities currently being used. These include the use of rapid ventilation (rates greater than 100), fentanyl analgesia, and extra corporeal membrane oxygenation.

Dr. Paul Hickey concluded the seminar by discussing the clinical implications of all of this in the operating room. Dr. Hickey divided his lecture into two parts. The first dealt with neonates at risk who require anesthesia (e.g., diaphragmatic hernia) and the second with children with congenital heart disease. Dr. Hickey stressed the importance of preventing hypoxia, acidosis, hypercarbia and hypothermia in these children, since all of these things can exacerbate pulmonary artery hypertension.

CONTROVERSIES IN PEDIATRIC ANESTHESIA — I WHEN DOES THE NEWBORN REQUIRE ANESTHESIA?

The second segment of the program was devoted to controversies in pediatric anesthesia and used a debate format. Dr. Aubrey Maze of the Phoenix Children's Hospital, and the Society's Secretary, was the moderator. The first topic, "When does the newborn require anesthesia?", is one of enormous public and professional concern. Indeed, it was the feature subject in *Redbook* magazine and of editorials in *Anesthesiology*, *The Journal of Pediatrics*, and *Pediatrics* in the month preceding the SPA meeting. The debate was preceded by a short introduction by Dr. K.J. ("Sunny") Anand, a research fellow at the Boston Children's Hospital. Dr. Anand's discussion centered on some of his ongoing research on whether full term and premature newborns perceive pain as well as the neuro-endocrine stress responses to pain in infants. Dr. Anand also pointed out that the failure to provide

anesthesia for newborn surgery significantly affects post-operative outcome. Dr. Jerrold Lermann of the Hospital for Sick Children in Toronto took the position that newborns always require anesthesia for surgery. Dr. Lermann gave a historical review of the issue and highlighted current information on the use of fentanyl and the minimum alveolar concentration (MAC) of several potent inhalational agents in fullterm and premature infants undergoing surgery. Dr. Jack Downes of the Children's Hospital of Philadelphia, on the other hand, took the position that the newborn requires the same principles of management that govern adult anesthesia and that some children, because of their clinical conditions, may not be candidates for anesthesia because they can not tolerate it. Furthermore, Dr. Downes provided some historical insight into the whole question of defining the anesthetic state and its relationship to blocking pain, particularly in hemodynamically unstable patients.

CONTROVERSIES IN PEDIATRIC ANESTHESIA — II SHOULD WE STILL USE SUCCINYLCHOLINE?

This debate was followed by a second one on "The Use of Succinylcholine in Children—A Drug Whose Time Has Come?", and was moderated by Dr. Joan Carroll of the LeBonheur Children's Hospital. Dr. Fritz Berry of the University of Virginia at Charlottesville took the position that succinylcholine was the muscle relaxant of choice in pediatric practice because it is the relaxant with the most rapid onset and shortest duration of action available. Dr. Berry also advocated pretreatment with atropine and a defasciculating dose of a non depolarizing muscle relaxant prior to succinylcholine administration. In this way, most of the problems related to succinylcholine will be attenuated or abolished. Dr. Barbara W. Brandom of the Children's Hospital of Pittsburgh stated that there were better alternative drugs to succinylcholine and that these alternatives had fewer side effects. Additionally, Dr. Brandom pointed out that in infants succinylcholine was not a particularly good muscle relaxant and its use may be associated with the development of pulmonary edema. Other side effects associated with the use of succinylcholine include arrhythmias, hemoglobinuria, masseter spasm, and pain.

AFTERNOON SESSION II CONSUMER REPORT — AN UPDATE ON PEDIATRIC ANESTHESIA EQUIPMENT

The third segment of the meeting was moderated by Dr. Dennis Fisher of the University of California San Francisco and dealt with "An Update on Pediatric Anesthesia Equipment." Dr. William McIlvaine

of the Children's Hospital of Denver, in perhaps the most entertaining discussion of the day, spoke about the principles involved in selecting the anesthesia circuit for pediatric patients of different weights and sizes. In essence, Dr. McIlvaine felt that if an anesthesiologist knows what he is doing, has a system with a minimum number of parts and connections, and pays attention to his patient, it doesn't really matter what system one uses.

Next, Dr. Gene Betts of the Children's Hospital of Philadelphia spoke about the problems of monitoring pulse oximetry. Dr. Betts stated that pulse oximetry has revolutionized anesthetic monitoring and that all patients should have their oxygen saturations continuously monitored during surgery. How to position a probe in a very small infant is often a problem and Dr. Betts demonstrated a novel approach used in Philadelphia in which a disposable probe is modified for application on the tongue.

The final speaker of this session was Dr. Richard Kaplan of the University of Florida at Gainesville. Dr. Kaplan reviewed the problems of end tidal capnography as it relates to the rapid respiratory rates, small tidal volumes, and different anesthesia circuits seen in pediatric anesthesia practice. Dr. Kaplan concluded with a cautionary note on the use of this technology, particularly in very small infants.

AFTERNOON SESSION III COMMON PROBLEMS IN PEDIATRIC ANESTHESIA

The last and final session of the meeting was a round table discussion in which various speakers discussed how they approached problems seen in every day practice. The moderator of this session was Dr. Jeffrey Morray of the Children's Hospital of Seattle. The first speaker, Dr. Susan Watson of the LeBonheur Children's Hospital discussed how to prepare a child with sickle cell anemia for surgery. After an exhaustive review, Dr. Watson pointed out that it is unclear if the present success with these patients is due to new pre-operative transfusion regimens or to the overall improvement in anesthetic care currently available. Dr. Watson's practice is to pre-operatively transfuse patients for major surgery, until hemoglobin S levels concentrations are less than 40 percent of the total hemoglobin concentration. Dr. Watson does not routinely transfuse for minor procedures such as myringotomies, etc.

Dr. David Nichols, of the Johns Hopkins Hospital, then discussed what is the bane of every anesthesiologist's life who deals with children, namely, what to do with the child with an upper respiratory tract infection (URI). Dr. Nichols presented data that indicated that the average child has almost 100

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URIs before the age of five, and children living in crowded conditions and using day care facilities have an almost 60 percent chance of having an URI in any two week interval. The risk of anesthesia in these children relates to airway hyper reactivity (which may last 7 weeks) and a presumed (but never verified) increased incidence of atelectasis and post intubation croup. In Dr. Nichols' view, it is neither reasonable nor cost effective to cancel surgery and he would proceed with anesthesia as long as the child was afebrile and had a normal physical chest exam ("no wheezing, rhonchi, etc"). In response to questions from the audience, Dr. Nichols stated that he does not obtain chest x-rays or any other laboratory exams to help him decide on whether to proceed.

The next speaker, Dr. Steven Hall of the Children's Memorial Hospital in Chicago, discussed what to do with the child who develops masseter spasm following succinylcholine administration. It is Dr. Hall's opinion, that these children should receive a muscle biopsy, particularly if the spasm was associated with other signs and symptoms of malignant hyperthermia, such as tachycardia, arrhythmias, high CO₂ production, acidosis and so forth. Furthermore, it is only if these associated signs and symptoms are present, would he recommend cancelling surgery.

The final speaker of the day was Dr. James Viney of the Primary Children's Medical Center in Salt Lake City. Dr. Viney discussed several of the myriad problems associated with the management of "preemie graduates" and his strategy for dealing with them. Dr. Viney also focused on a growing "epidemic", namely, the Neonatal Intensive Care Unit survivor with severe chronic lung disease. Dr. Viney went on to discuss the advantages and disadvantages of regional versus general anesthesia in this patient population.

WHAT'S IN THE FUTURE

In summary, it was clear to everyone present that the program appealed to the diverse interests of the Society's membership and established a benchmark of excellence. It is the hope of the Officers and Board of Directors of SPA that this "tradition" of excellence will continue into the future. The 1988 meeting, to be held on Friday, October 7, 1988, in San Francisco (one day prior to the ASA's Annual Meeting) is already well into the planning stage. Some of next year's speakers include: Dr. Chuck Berde, Dr. Bill Greeley, Dr. Fritz Berry, Dr. Jeff Morray, Dr. Susan Nicholson, Dr. Etsuro Motoyama, Dr. Bill Feaster, Dr. Patty Gibbons, Dr. Randal Wetzell, Dr. Al Hackel, Dr. Bob Creighton, and Dr. Will McGill. The keynote speaker will be Dr. Gabriel Pasternak, Associate Professor of

Neurology at The Sloan Kettering Hospital, who will discuss "Opioid Receptors and Their Ontogeny." SPA has also arranged to obtain Continuing Medical Education

(CME) for the 1988 meeting. This hopefully will encourage even more of our members to attend. □

TENTATIVE PROGRAM FOR THE SOCIETY FOR PEDIATRIC ANESTHESIA MEETING

October 7, 1988

- 7:15 - 8:15 Registration and Continental Breakfast.
- 8:15 - 8:30 Introduction: Myron Yaster, MD, SPA President (Johns Hopkins Hospital) and Robert Crone, MD, SPA Vice-President (Boston Children's Hospital)
- PAIN IN THE CHILD — MECHANISMS AND MANAGEMENT.**
- 8:30 - 9:00 The Neuroendocrine Response to Pain.
- 9:00 - 9:30 The Stress Response - How is the Newborn Different?
- 9:30 - 10:30 Keynote Speaker: Opioid Receptors. Gabriel Pasternak, MD, Sloan-Kettering Hospital.
- 10:30 - 10:45 Coffee Break.
- 10:45 - 11:15 Opioid Pharmacokinetics in the Infant and Child.
- 11:15 - 11:45 Clinical Implications.
- 11:45 - 12:15 Panel Discussion.
- 12:15 - 1:30 Luncheon.
- 1:30 - 2:30 Controversies in Pediatric Anesthesia I.
- PREMEDICATION — PREINDUCTION
WHAT'S THE BEST TECHNIQUE?**
1. Rectal induction.
 2. Parent in the induction room.
 3. Oral premedication.
 4. Intravenous.
- Panel Discussion.
- 2:30 - 3:30 Controversies in Pediatric Anesthesia II.
- MONITORING: WHO NEEDS IT AND WHEN?**
1. Guidelines for monitoring regional analgesia.
 2. Post-operative monitoring for infants at risk for apnea.
 3. Who needs oximetry post operatively?
- Panel Discussion.
- 3:30 - 3:45 Coffee Break.
- 3:45 - 4:00 Malignant Hyperthermia Registry.
- 4:00 - 5:00 Controversies in Pediatric Anesthesia III.
- DISCHARGE CRITERIA FOR AMBULATORY SURGERY.**
1. Regional Anesthesia.
 2. Children under 6 months of age (?following narcotic administration)
 3. Post-op croup (± racemic epi)
- 5:00 - 5:45 Business Meeting.
- 5:45 - 6:30 Wine and Cheese Reception.

Application for Membership



515 BUSSE HIGHWAY
PARK RIDGE, IL 60068
(312) 825-5586

Please print or use typewriter. Check (U.S. funds only) must accompany application.

I hereby make application for:

Active (M.D./M.B./D.O. anesthesiologist) \$100 _____ Annual Renewal _____ (Complete Lines 1-6)

1. Name _____
2. Preferred Mailing Address _____

3. Business Phone (Include area code) _____
4. Hospital Appointment _____
5. Name of Hospital(s) _____

6. Hospital Address _____

7. Percent of Time Involved in Pediatric Anesthesia _____
8. Percent of Time Involved in Pediatric Critical Care _____
9. Percent of Time Involved in Other (List) _____
10. Professional Certification _____

11. Research Areas _____

12. _____

(Signature of Applicant)

(Date)

SPA | Society for
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