

Current Trends in Neonatal and Pediatric Respiratory Care

Though there are many similar therapeutic modalities and technologies that exist between pediatric and adult respiratory care, there are many self-evident differences, from the age-specific diseases themselves to the more obvious differences in anatomy and pathophysiology of the cardiopulmonary system of infants and children. The first RESPIRATORY CARE Journal Conference specific to infants and children was held over a decade ago in Cancún, Mexico in December 1990.^{1,2} The proceedings were published in the June and July 1991 issues of RESPIRATORY CARE, months after the inception of the National Board for Respiratory Care's (NBRC) Neonatal/Pediatric Respiratory Care Specialty credential examination in March of 1991.

The specialty of neonatal and pediatric respiratory care appears to have come full-circle over the past 12 years since those landmark events in 1991. This and the next issue of the Journal provide the proceedings from the 31st RESPIRATORY CARE Journal Conference, Current Trends in Neonatal and Pediatric Respiratory Care, held in August 2002 in Keystone, Colorado. These special issues of RESPIRATORY CARE will be published a few months after the release of the newly christened National Board for Respiratory Care's credentials for the specialty exam: RRT-NPS and CRT-NPS.

Many of the same diseases and topics that were discussed in Cancún in 1990 found their way to Keystone, Colorado, in 2002. Asthma, cystic fibrosis, respiratory distress syndrome, extracorporeal membrane oxygenation, and mechanical ventilation were main subjects at both conferences. However, advances in the management and treatment of neonatal and pediatric patients with these cardiopulmonary diseases have continued to grow by leaps and bounds over the last decade.

As a prime example, surfactant therapy was a relatively new technology and therapy to the world of neonatology during that 1990 Journal Conference.³ The use of surfactants today is an established staple of care in neonatology. Another good example in the advancement of technology and treatment can be seen in the technologies and methods of airway clearance discussed in the two conferences. The technologies discussed in 1990 in Cancún focused primarily on *classic* chest physiotherapy, controlled breathing techniques, and the "New Vision" positive expiratory pressure (PEP) therapy.⁴ Though these technologies and techniques are still prevalent in airway clearance today, they

have taken a back seat to modalities such as oscillating PEP and high-frequency chest wall oscillation in clinical practice and patient preference.⁵

Health care in the 21st century frequently results in infants and children with cardiopulmonary disease being managed and treated in both tertiary care children's hospitals and community hospitals. Trying to stay current on the management, treatment, and technologies involved can be overwhelming for even the most informed clinician. An intriguing article from the 1990 Journal Conference, which was written by Dean Hess and is well worth reading again, was specifically directed at the implications of neonatal/pediatric respiratory care for the *traditional* adult practitioner.⁶

The purpose of the 2002 Journal Conference was to gather recognized experts in pulmonary medicine, neonatology, emergency medicine, and critical care for their views, experience, opinions, and surveillance of the literature on the current trends in treating neonatal and pediatric respiratory diseases. The conference proceedings were structured in a format to achieve 3 goals: (1) to review the current trends in the management and treatment of the most common cardiopulmonary diseases in the neonatal and pediatric population, (2) to take an evidence-based look at the technologies and equipment used to treat or monitor the neonatal and pediatric population, and (3) to provide a reference for both the traditional clinician in a children's hospital and the non-traditional practitioner in other hospital settings.

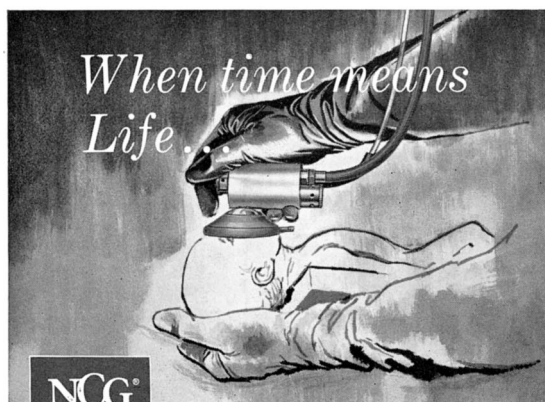
We hope that these reviews and their discussions will assist and inform clinicians who treat infants and children with cardiopulmonary disease on the current state of the art of these topics and technologies. We are grateful to RESPIRATORY CARE Journal and the American Respiratory Care Foundation for the support and sponsorship of this conference and look forward to further advances in the treatments and technologies for neonatal and pediatric respiratory care over the next decade.

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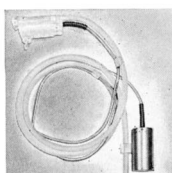
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