

SCANNews



Spring 2010

Past-President's Message

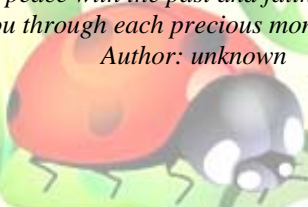
Last year seemed to go by at breakneck speed. While it was a challenging year for many of us, we can always gather up the lessons learned and move on, stronger and wiser. I hope the coming Spring will provide some renewal and relaxation for all of you.

Much gratitude goes out to MedImmune for their sponsorship of our educational dinner meetings; we enjoyed great topics and delicious meals. We are looking forward to working with Melissa Nichols from Ikaria and Megan Lewis from MedImmune in 2010.



*"May peace with the past and faith in the future
guide you through each precious moment of "today"*

Author: unknown



Please be sure to attend our educational dinner meeting scheduled for May 10th, 2010 at Rady Children's Hospital and Health Center. Please find the 2010 schedule for the bi-monthly offerings in at the back of the newsletter. Please remember to bring \$5 grocery cards to the meetings to donate to a needy NICU family at the end of the year!

Exceptional praise goes to my fellow board members...Kathy Hoang- 2010 President-Myreda Erickson-O'Brien Secretary, and Jan Hebert Treasurer. They have been a pleasure to work with for the past two years. Please welcome Lorena Gatchalian as our new incoming Secretary. We will all be busy planning our 2010 annual SCANN conference. Another outstanding day of education and camaraderie is in store for the November conference

I have enjoyed my tenure as President- in 2009, and I am looking forward to serving as your past President for 2010. The other board members and I have been busy planning the 2010 Annual SCANN Conference. We are very excited about what is in store for the November Conference. I hope to see all of you there!

We are fortunate to have Kathy Hoang from UCSD elected to the council as President.

We are looking forward to working with her this year.

We have planned some exciting upcoming social events and encourage all members to attend.

We will strive to continue to provide quality educational experiences and networking opportunities as our chapter grows. We would like to thank our members and look forward to continued growth and success for this organization.

Lorraine Lombardo RNC, BSN
Past-President, SCANN

President's Message

Spring is here and we are already busy planning for our annual conference in November and upcoming social events. Check out the SCANN website for updates: www.neonatanurses.com.

In May, we will be saying goodbye to our secretary, Myreda. She has been an essential part of our team and we wish her the best of luck on the East Coast.

I would like to welcome our new President-elect, Nicole Burns, from UCSD. We are excited to have her on our team.

Kathy Hoang, RNC, MSN
President, SCANN

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President-elect's Message

I am thrilled to be a part of SCANN and look forward to meeting all the members.

Nicole Burns, RNC, BSN
President-elect, SCANN

Dr. Paul Curtin's Talk on Quality Outcomes

The May 11, 2009, Dr. Paul Curtin spoke about quality outcomes in the NICU. He specifically talked about the 19 community and 21 regional NICU's involved in a project to reduce catheter associated blood stream infections. The project is completing its third year.

The project continues to have improving results with 29% reduction in the first year, 25% in year two and 19% in year three. As we all know this saves money, patient days and helps with quality outcomes in the NICU. The key measures in the study are creating a baseline of number of infections for a given unit. Catheter line insertion would follow a strict protocol. If the protocol is broken someone needs to "stop the line".

Dr. Curtin also spoke of high reliability organizations. The key points of high reliability organizations are: preoccupation with failure, reluctance to simplify interpretations, sensitivity to operations including latent failure of loopholes in systems. High reliability organizations encourage an open culture, for people to speak up about what is going right and wrong. The building of a high reliability organization includes incident reviews shortly after an incident, culture of reportability and real time feedback. (stop the line) Many of these methods were obtained from the airline industry.

The meeting was interesting and informative. The topic timely and useful for all NICU nurses.

Connie Kaplan

Dr. Fatayerji's Talk on NEC

On July 13, 2009, members of the Southern California Associations of Neonatal Nurses and nursing students from the University of San Diego were privileged to hear Dr. Nabil Fatayerji provide the most up-to-date research for treating and preventing Necrotizing Enterocolitis (NEC) at Palomar Medical Center. He touched upon the positive outcomes of NEC with the use of human breast milk, immunoglobulins, probiotics and prebiotics among others. He informed the audience that the results are promising and some of these treatments are even being implemented commercially (i.e. formulas with probiotic component). Since NEC is one of the most common and serious gastrointestinal disorders among hospitalized preterm infants (1-8% for NICU admissions with a 10-50% mortality rate), this topic was particularly relevant and informative for the neonatal nurses that attended this seminar. The students also appreciated the opportunity to learn more about NEC and the advancement/research in treatment/management with the use of bedside ultrasound and standardized feeding protocols.

Thank you to Melissa from MedImmune for sponsoring the dinner so that nurses and students alike can receive continuing education to provide optimal care for our special care infants based on evidenced-based practices.

Michelle Chung, MSNc
University of San Diego
Hahn School of Nursing & Health Science
MEPN Class of 2010

The Late Preterm Infant

At a recently attended March of Dimes Conference neonatologist Lucky Jain, from Emory University, presented the often overlooked sequelae incurred by the late preterm infant. Research has shown that there has been a dramatic increase in the infants born from 33-37 weeks.

- Nationwide C-section rate is up.
- It is the common belief that most 34-36 weekers are mature and healthy. But, there is a small percentage of infants that suffer the consequences of early induction and c-section.
- Early delivery affects the ability of the ENaC protein to function effectively. ENaC moves fluid out of the lung. The ability of this protein to clear lung fluid peaks at 39-40 weeks.
- Additionally, inadequate surfactant production can lead to RDS and/or hypoxic respiratory failure, pulmonary hypertension, ECMO, pneumothorax, chest times, chylothorax.
- Late preterm births also experience temperature instability, hypoglycemia, jaundice, decreased feeding stamina.
- 34-36 weekers constitute the bulk of readmits from home for hyperbilirubinemia.
- The ECLS-K study shockingly revealed that there is a five fold increase in the need for special education for grades K-5 in late preterm infants.

We cannot afford to assume that late preterm infants respond the same as term infants. The evidence shows that as practitioners it is important to examine the research prior to making decisions that effect the most vulnerable of patients.

Monique Nowacki, RN, BSN

Article Review: “Aggressive Early Total Parental Nutrition in Low Birth Weight Infants”

Critical brain and body growth is taking place when VLBW infants are born. Our goal is to avoid potentially irreversible cognitive, motor and behavioral delays related to undernutrition. We strive to provide each infant with an essential balance of proteins, calories and lipids, which thereby promote cell division and myelination of developing brain cells.

Minimizing interruption to nutrient provision during the transfer from fetal to postnatal life is a major goal for VLBW infants. Maintaining a positive nitrogen balance is a foundational concept in the promotion of adequate nutritional support in the neonate. This refers specifically to providing the right amount of protein during the postnatal period to allow for tissue growth. Providing parental nutritional with AA's and IL's is the primary method to avoiding negative nitrogen balance in the VLBW infant, when initiation of enteral feedings is not indicated. In addition, it has been shown that VLBW infants require a minimum of 60 kcals/kg/day to maintain basal metabolism. 80-90 kcals/kg/day is required to support the same level of growth that would be taking place in utero.

In this study, the more traditional practice of gradually introducing VLBW infants to parental nutritional over several days is challenged. Instead this randomized clinical trial argues that early/aggressive TPN administration (ETPN) in the VLBW infant (501-1250g)/24-32 weeks is more efficient, and overall increases nitrogen retention and energy intake as compared to late TPM administration (LTPM). Infants in the ETPM group received 5-10% glucose solution for the first 48 hours of life. Then after 48 hours, AA's and IL's were initiated and gradually increased by 0.5g/kg/day to a maximum of 3.5g/kg/day. Triglyceride,

cholesterol, plasma bilirubin levels, serum glucose levels, creatinine and bicarbonate values were measured throughout to identify any potential complications associated with ETPN. In addition, the study followed incidences of ROP, IVH, PDA and BPD. The study period was seven days.

The results were as follows:

Nitrogen Balance:

ETPN – maintained a positive nitrogen balance throughout the study period

LTPN – in a negative nitrogen balance for first 48 hours

Caloric Intake:

ETPN – achieved greater than 60 kcals/kg/day throughout the study

LTPN – below 60 kcals/kg/day until 5 days of life

Triglyceride and Cholesterol Levels:

No significant differences in levels were determined between both groups

Plasma Bilirubin Levels:

No clinical difference between both groups

Serum Glucose Levels:

ETPN group had overall lower serum glucose levels. Both groups, however, maintained glucose levels within a normal range. (lower glucoses in the ETPN group are thought to be linked to the stimulatory effect of AA's on insulin secretion).

Weight Gain:

Average weight gain was similar in both groups (study limited to a 7 day period)

ROP, IVH, PDA, Sepsis, BPD:

No significant differences between both groups

This study concludes that aggressive intake of AA's and IL's can be tolerated immediately after birth. Results determined that this aggressive initiation of TPN does not carry major biochemical risks and was not linked to any significant metabolic or respiratory complications.

Jennifer McGee, RN, BSN

Care of Multiple Gestations: Introduction to Twinning and the Problems of Twin Gestations

Our March 8, 2010 meeting at UC San Diego Medical Center was presented by Frank Mannino, MD, the Medical Director of the NICU at UC San Diego Medical Center. Dr. Mannino reviewed the embryology of twinning, occurrence rates, complications, and placental differences. Artificial Reproductive Technology (ART) has contributed a great deal to the higher order multiples and prematurity rates. Higher order multiples have increased 500% with an increased incidence of ELBW infants and overall prematurity. 80% of ART babies are singletons, however. 42% of ART pregnancies are premature (4% in normal population).

Twins are either monozygotic or dizygotic. Monozygotic twins occur 1 in 300 births and in advanced maternal age and parity more often. There is a one egg one sperm combination that splits usually day 4-7 during development. These monozygotic monochorionic twins have a mortality of nearly 50% due to vascular connections. There is a higher incidence of fetal anomalies in monozygotic twins.

Monozygotic twins have a higher occurrence of shared vascular connections, most often arterial-arterial, which can lead to Twin-to-Twin Transfusion Syndrome (TTT). Untreated TTT Syndrome has a 70-100% mortality rate. Complications of this syndrome include CNS damage leading to Periventricular Leukomalacia (PVL), hydrops fetalis, and congestive heart failure in both the twins, one for high output failure and the other for volume overload. Fetal DIC and infarcts can be seen in organs as well. Reverse diastolic flow on ultrasound is an ominous sign for these babies. TTT is now treated with laser ablation of the vascular connections, a risky procedure, but often life saving when successful. Other

complications seen less often with twins include acardiac twin (monozygotic) and fetus papyraceus (monozygotic and dizygotic).

Dizygotic twins are created from 2 eggs and 2 sperm often the result of the use of drugs to induce ovulation. Dizygotic twins have better outcomes due to their separate vascular circulations. These can be identical or fraternal depending on the point in development that the twinning occurred.

Maternal complications with twinning include hyperemesis gravidarum, anemia, pregnancy induced hypertension (PIH), lack of cordonant growth, vilamentus insertion of the cord, and very often prematurity. 93% of triplets deliver less than 37 weeks and 36% of triplets deliver less than 32 weeks in prematurity.

Multiples continue to be a challenge but a fun part of our patient population. Ongoing research into best management will hopefully lead us to improved treatments and outcomes.

Jan Hebert, UCSD

SCANN Mission and Philosophy

The mission of SCANN is to support and promote neonatal nursing by:

- ✚ Educational offerings for continuing education, a venue for networking with nursing colleagues in the community, and an atmosphere for sharing of information about current methods and new trends in neonatal nursing and medicine.
- ✚ A method for monitoring current legislative activity that affects nursing, and nursing care of our patients and their families.
- ✚ Participation in community service activities; these activities focus on the well-being of infants, children and their families.

- ✚ Promote professionalism in nursing and a positive nursing image.

Lorraine Lombardo RNC, BSN
Past-President
SCANN

Sharp Mary Birch has changed its name to include “and Newborns”. This is to let the community know that in addition to providing state of the art care to women with high risk pregnancies, we are here to provide excellence in neonatal care for premature and term infants.

The National Children’s Study

Thousand Will Participate, Millions Will Benefit!

As the largest child health study ever conducted in the United States, the National Children’s Study will follow 100,000 children from before birth to age 21 to identify genetic and environmental factors that contribute to health disorders and conditions of childhood and adult-hood. The goal is collect information that will help prevent and treat some of the nation’s most pressing health problems, including prematurity, birth defects, autism, diabetes, ADHD, asthma and obesity.

The NCS will allow researchers to determine the things that are harmful, harmless, and helpful to children’s health and development. The NCS is one of the richest research efforts in the nation and will form the basis of child health guidance, interventions, and policy for generations to come.

The National Children’s Study has begun in California! A total of 12,000 children will participate in CA in 3 study centers: Northern CA (UC Davis), Los Angeles-Ventura (UCLA) and Southern/Central CA (UCI). Each study center investigates multiple counties. Orange County is one of

the 7 Vanguard locations conducting a pilot phase of the study. They started enrolling participants in April 2009. The Pilot phase will go for one year.

After learning from the experiences of the Vanguard locations and pilot phase of the study, other NCS teams will start recruiting. The San Diego National Children’s Study is currently slated to begin enrolling study participants in spring 2011. A total of 1000 children born in 14 targeted San Diego County neighborhoods will be enrolled over a 4 year period.

For more information, visit the National website at www.nationalchildrensstudy.gov.

For San Diego County NCS information, contact Carolyn Shaputnic RNC, MPH at cshaputnic@ucsd.edu.

Carolyn Shaputnic RNC, MPH
National Children’s Study
San Diego



Neonatal Educational Opportunities

Neonatal Symposium
April 14-16, 2010
St. Augustine, FL
www.neonatalsymposium.com

Neonatal & Pediatric Nutrition: Update
2010
Contemporary Forums
May 17-19, 2010
San Diego, CA
www.contemporaryforums.com

AWHONN
Annual Convention
June 12-16, 2010
Nashville, Tennessee
www.awhonn.org

National Neonatal Nurses Conference
September 12-15, 2010
Savannah, Georgia
www.neonatalnetworks.com

National Association of Neonatal Nurses
(NANN)
Embracing the Power of Change:
Advancing Leading Learning
September 19-22, 2010
Las Vegas, Nevada
www.nann.org

SCANN 2010 Educational Meeting Dates

Monday January 11th, 2010- Kaiser
Monday March 8th, 2010- UCSD
Monday May 10th, 2010- Rady
Monday July 12th, 2010- Palomar
Monday September 13th, 2010- Mary Birch

SCANN 2010 Annual Conference
Monday November 1st, 2010
Hilton Torrey Pines
La Jolla, CA
www.neonatenurses.com

Upcoming Social Events

May 2010 (exact date TBD)
Padres Game at Petco Park
San Diego, CA

