- **55** PRETERM NURSERY CAREGIVING PATTERNS: THE INFANT'S EXPERIENCE. Peter A. Gorski, Carol H. Leonard, John Martin, David Sweet, Sally A. Sehring, Pamela C. High and Robert Piecuch (Spon. by Roberta A. Ballard). Mount Zion Hospital and Medical Center, Department of Pediatrics, San Francisco, California.

As part of a study of preterm infant responses to intensive care nursery interventions, 6500 minutes of continuous behavioral and physiologic recording of 9 convalescing preterm infants were studied in 1982. Nurses were present for 20% of total observation time while no caregiver was present 71% of observed time. The median length of time spent by nurses at an infant's care area after completing and intervention was 64 seconds. Infants spent the majority of time in prone position with almost no time on their right or left sides. Thirteen percent of total observation time included some form of caregiver touching of infants. Medical and social categories of touch occurred with nearly equal frequency. Infants were touched and talked to significantly more often in supine position than in any other position, despite the relatively short time spent in supine. Infant sleep/wake state did seem to influence caregiver touching with social categories of touch predominant during waking states while medical touch occurred randomly in sleep as often as in awake states. These observations document baseline ICN caregiving patterns and describe caregiver-infant interactional experience of preterm infants.

- 56** NEURODEVELOPMENTAL FUNCTIONING OF GOOD AND POOR READERS IN URBAN SCHOOLS. Ruth L. Gottesman, Dorie Hankin, William Levinson and Pearl Beck. (Spons. by H.J. Cohen). Department of Pediatrics and Rose F. Kennedy Center, Albert Einstein College of Medicine, Bronx, New York.

This study investigated specific aspects of neurodevelopmental functioning in good and poor readers entering second grade, and followed their neurodevelopmental course and reading progress over a three year period. Poor readers at age seven performed significantly worse than good readers on assessment of gross and fine motor coordination and cortico-sensory functioning. Furthermore, the presence of soft signs at age seven was significantly predictive of reading achievement at age ten. Group differences in neurodevelopmental functioning disappeared by age ten and the presence of soft signs at ages eight and nine no longer was predictive of reading achievement. These findings have implications for pediatricians, educators and researchers exploring brain/behavior relationships.

- **57** USE OF AN INSTITUTIONAL ETHICS TEAM ON A PEDIATRIC SERVICE. Michael A. Grodin, Anne E. McDonald, William S. Markley, (spon. by Joel J. Alpert), Boston University School of Medicine, Boston City Hospital, Department of Pediatrics, Boston.

The increasing complexity and technology of hospital based medical practice and new moral, legal and administrative issues resulted in establishing in 1981 a multidisciplinary institutional ethics team at Boston City Hospital which was comprised of a physician/ethicist, attorney/social worker and administrator with a background in public health. An 18 month retrospective audit (7/81-12/82) of 390 cases brought to the team was undertaken to categorize problems by presenting dilemma, disciplines for resolution and those necessitating formal court adjudication. There were 241 adult medical, surgical and obstetric and 149 pediatric cases. Pediatric cases were categorized as Do Not Resuscitate (2), Brain Death (2), Termination of Life Support (14), Perinatal (1), Religious Conflict (2), Right to information (2), Emergency Informed Consent (122), and Elective Informed Consent (5). In accordance with team developed policy administration is involved in all consents. In the remaining pediatric cases the physician played the main role (86%), whereas legal (61%) and administrative (57%) concerns predominated the adult cases. Of the pediatric cases 99% were internally resolved while only 1% required court assistance indicating that a wide range of concerns can successfully be resolved within an institution. A multidisciplinary team approach to the resolution of complex ethical dilemmas appears feasible. Hospital policy develops as a result of committee activities and decreases the need for continued team participation.

- 58** A COMPLETE COMPUTERIZED PROGRAM FOR NUTRITIONAL MANAGEMENT IN THE INTENSIVE CARE NURSERY. R.G. Harper, E. Carrera, S. Weiss, M. Luongo, I. Winkler. Cornell U. Med. Coll., North Shore U. Hosp., Depts. of Ped. & Ob/Gyn, Manhasset.

A computerized program in BASIC, which integrates the infant's fluid and nutritional requirements per gestational age and weight with the infant's post-partum age, was developed utilizing the Apple II microcomputer, floppy disks and the Epson printer. Daily requirements of fluids, proteins, fat, CHO, vitamins, minerals and trace elements are electronically calculated. For reference purposes, the program displays the composition, indications, and administration routes for IV, hyperalimentation solutions, mature human milk and 14 commercial formulas. Safety limits to prevent overload or deficient formulations are strategically displayed warning the physician about possible complications and gradually orienting him towards achievement of adequate nutritional balance in the patient. The flexibility of the program allows for modifications in the data base according to the clinical situations. The program improves the efficiency of the arduous daily formulation of nutritional needs, reduces the possibility of human error, facilitates the calculation process and diminishes time spent on the calculations.

- 59** REFLEX MODIFICATION IN THE HUMAN NEONATE. Howard S. Hoffman,* Michelle E. Cohen,* and Endla K. Anday.* (Spon. by Maria Delivoria-Papadopoulos). Dept. of Psychology, Bryn Mawr College, and Dept. of Pediatrics, University of Pennsylvania School of Medicine, Philadelphia, PA, 19104

To learn about the sensory processes initiated by a stimulus, newborn infants were exposed to one of several reflex modification procedures in which various pure tones either preceded or accompanied a mild eye blink eliciting tap to the glabella. The eye blink eliciting device consisted of a miniature solenoid with a teflon striker which could deliver a controlled tap. A miniature photoreflexive densiometer attached to a TDH 39 earphone assessed the eye blinks. With this arrangement tones and taps controlled by a computerized system could be delivered by the experimenter. Fifteen full-term appropriate for gestational age infants with an uncomplicated pregnancy and delivery history were studied at 13½-90 hours of age while they were in a light sleep; 15 adults served for comparison. Three identical experiments were conducted: Exp. I examined the manner in which blink amplitude varied as a function of tap intensity; Exp. II examined the manner in which blink amplitude varied when tone accompanied a tap; Exp. III examined the augmentation of tap elicited blinks to tones with frequencies between 500 and 4000 Hz. All infants and adults exhibited increasing blink amplitude as the intensity of tap increased and when the tone presentation accompanied a tap, but adults exhibited more inhibition of tap elicited blinks when the tap was preceded by a tone. Infants failed to show blink augmentation until tone frequency was 1000 Hz or more, whereas adults responded with augmentation in the range of frequencies presented. These findings have several implications for the interpretation for the manner in which neonates process sensory input.

- 60** EARLY DEVELOPMENTAL SEQUELAE OF INTRAVENTRICULAR HEMORRHAGE (IVH) IN PRETERM INFANTS. M. Hoffman-Williamson, J. Bernbaum, A. Daft, H.K. Rosenberg, (Spon. by W.W. Fox) Univ. of PA, Sch. of Med., Dept. of Peds, Children's Hosp. of Phila., Phila. PA.

The effect of IVH on a preterm infant's development is unclear. The purpose of this study was to document developmental outcome of infants with IVH. From a cohort of 154 infants with BW < 1750 g, we analyzed 62 survivors who had both ultrasound (US) and 12 mos. developmental (dev) data and 24 children with US data who expired. 59 children missing either US or dev. data were omitted. US were graded from 0-4. Bayley scales were used to assess development. Overall, there were major mental delays (MDI < 69) in 5%, minor delays (MDI < 85) in 11% and normal devel. in 84%. There were major motor delays (PDI < 69) in 16%, minor delays (PDI < 85) in 19% and normal devel. in 65%. Infants were grouped according to their worst grade of IVH. 100% of those with major mental delays had greater than Gr 2 IVH. Of the children with minor mental delays, 29% had Gr 1, 57% had Gr 3, & 14% had Gr 4. Of those with major motor delays 40% had Gr 0, 10% Gr 2, 40% Gr 3 & 10% Gr 4. Of those with minor motor delays, 25% were Gr 0, 17% Gr 1, 8% Gr 2, 25% Gr 3 & 25% Gr 4. The table demonstrates the mean developmental scores for each IVH grade.

Grade	0(n=25)	1(n=8)	2(n=11)	3(n=30)	4(n=12)
xMDI	95	99	96	89	84
xPDI	88	96	92	87	66* p<.02
Expired	6	1	2	7	8

Conclusions: 1) Children with grade 1 & 2 IVH do not differ in dev. from children with Gr 0. 2) Though children with 3 & 4 IVH account for a higher percentage of delays, such bleeds do not preclude normal development. 3) IVH status alone is not an accurate predictor of developmental outcome.