43 PERIVENTRICULAR LOW DENSITY AS A PREDICTOR OF NEUROBEHAVIORAL OUTCOME IN VERY LOW BIRTH WEIGHT INFANTS. Cecelia Daum, Allan Danziger, Diane Kurtzberg, Holly Ruff and Herbert G. Vaughan, Jr. (Spon. by Michael Cohen). Albert Einstein College of Medicine, Depts. of Pediatrics, Neuroscience and Radiology, Bronx, New York.

The recent use of CT scanning for assessment of cerebral pathology in the high-risk newborn, has disclosed the frequent occurrence of periventricular low density (PVL), especially in low birth weight infants. It is unclear, however, whether PVL reflects the relative immaturity of poorly myelinated white matter or depicts leukomalacia with the likelihood of an adverse neurologic outcome. In this study we report a preliminary correlation of CT findings with subsequent neurobehavioral outcome in a group of 44 infants weighing <1500 Gm at birth. CT scans were taken at 40 weeks post conceptional age and developmental followup employing the Bayley Scales was obtained on each infant over a period ranging from 7 months to 2 years. MDI or PDI scores below 84 were considered deviant. 14 of 16 infants without PVL or with mild low density localized to the frontal and/or occipital region were normal on followup. All of the 16 infants with diffuse PVL as an isolated finding had deviant mental and/or motor function. Of an additional 10 infants who exhibited PVL combined with increased ventricular size or intracranial hemorrhage, nine had abnormalities of mental and/or motor performance. It appears, therefore, that the presence of diffuse PVL with or without evidence of additional intracranial pathology at 40 weeks PCA may be indicative of potentially adverse neurobehavioral outcome.

44 THE RELATIONSHIP BETWEEN ILLNESS AND LEARNING IN ADOLESCENTS. Shelley R.Doctors, Harvey Polcek (Spon. by Michael I. Cohen). Albert Einstein Coll.Med., Montefiore Hosp. Med. Ctr.,Div. Adol. Med., Dept. Ped., Bronx, N.Y.

Although recent studies have focused on the psychosocial effects of illness in adolescence, little attention has been given to the impact of such illness upon learning. This study was undertaken to determine the relationship between the chronicity, severity, and discomfort of illness and the capacity to acquire new knowledge. 24 hospitalized adolescents (ages 12-19) participated in a group educational experience on the subject of VD. Their knowledge of content was measured before and after the learning experience by the administration of multiple choice tests. Each teenager was then evaluated as to reading ability (WRAT), severity of illness (Seriousness of Illness Rating Scale), chronicity of disease (physician assessment), and perception of pain (McGill Pain Questionnaire). Pre and post testing revealed that changes in knowledge had a significant negative correlation with the patients' perceptions of the oppressiveness of their pain ($P<.05$). Adolescents who described their pain in highly evaluative ways ("troublesome", "distressing") learned less in the standard situation than those who did not. There were no significant correlations between achievement and age, sex, reading grade, or chronicity or severity of illness. This study would suggest that the ability of the ill teenager to learn is more controlled by his subjective evaluation of the pain than by objective ability or severity or chronicity of illness.

45 FOLLOW UP EVALUATION OF NEONATES TREATED WITH DRUGS AND HYPERVENTILATION FOR SEVERE PERSISTENT PULMONARY HYPERTENSION (PPHN) Willa H. Drummond, Michael B. Resnick, Ernest A. Keil, Becky J. Williams and Donald V. Eitzman. University of Florida, College of Medicine, Department of Pediatrics, Gainesville, Florida.

12 infants were treated for PPHN from 1978 to 1980; nine survived. We were able to evaluate 5 of 7 [$\bar{x}$BW=2.1 kg, $\bar{x}$GA=37 (32-40), $\bar{x}$5m Apgar=7] infants now >6 months old, who are being followed by their referring pediatricians. Surviving infants suffered episodes of hypo and hyperoxia 5/5, hypotension 3/5, and hypo and hypercarbia 5/5. An electrocardiogram, vectorcardiogram, and echocardiogram, chest x-ray, arterial blood gas, ophthalmologic exam, computerized brain scan (CAT), Bayley Scale of Infant Development, and physical examination by a pediatric cardiologist were done on each patient. No child was completely normal. Abnormalities include evidence of residual or previously undiagnosed cardiopulmonary disease in 3/5, minor CAT scan abnormalities in 3/5, and severe abnormality in 1/5, developmental delay in two children, severe in one (DQ<50) and borderline (DQ=86) in another, and optic atrophy in one child. None had evidence of retrolental fibroplasia or bronchopulmonary dysplasia. We conclude that these salvaged babies constitute a very high risk population for ongoing difficulties, whose followup needs include expensive multidisciplinary testing and treatment. Organized followup for these children must be developed. PPHN should be an identified risk category for enrollment in state Crippled Children's funding programs.

46 EFFECTS OF NEONATAL INTENSIVE CARE (NIC) ON MATERNAL ATTITUDES, ANXIETY, AND PERCEPTIONS OF INFANT TEMPERAMENT. C. Drew Edwards and Robert G. Dillard, (Spon. by J. L. Simon) Bowman Gray School of Medicine, Department of Pediatrics, Winston-Salem, NC.

51 mothers of one year old infants were interviewed by a social worker and completed the State-Trait Anxiety Inventory and the Toddler Temperament Scale (TTS). 34 of the infants had received NIC. 17 of these babies had below average development (Bayley Scale scores $<$ 84); 17 had Bayley scores $\geq$ 84. 17 infants had no neonatal problems and Bayley scores $\geq$ 84. All 3 groups were matched for maternal race, education level, and parity.

There were no significant differences in response to questions about maternal attachment, depression, concerns about future infant development or death, or need for special precautions to protect their infants' health. Group mean scores for state and trait anxiety levels were not significantly different. However, there was a significant inverse relationship between motor development and state anxiety in mothers whose babies showed below average development ($r = -.34$). Maternal responses to the TTS showed that delayed NIC babies react more negatively to strange situations than control infants ($p < .05$). Similar but non-significant trends were seen for other variables on the TTS.

At one year, there is little evidence that NIC or developmental delay have a significant effect on maternal attitudes and anxiety levels. There is suggestive evidence that infants with below average development are more likely to exhibit negative temperamental characteristics than control infants.

47 THE EFFECTS OF PARENTAL COOPERATION ON MAINTENANCE OF WEIGHT LOSS IN OBESE CHILDREN. Leonard H. Epstein, Rena R. Wing, Randi Koeske, Deborah J. Ossip, and Frank Andrasik (Spon. by Dorothy Becker). University of Pittsburgh School of Medicine, Western Psychiatric Institute and Clinic, Department of Psychiatry, Pittsburgh.

Maintenance of health behavior change is one of the most difficult problems in preventive medicine. The present study evaluated the effects of including obese parents as weight loss participants in the treatment of obese 6-12 year old children. Seventy-six families with at least one obese child and parent were randomly assigned to one of three treatment groups: Group I included both the parent and child as weight loss targets; Group II had only the child as the target, and Group III did not specify either as the target. Participants were provided an eight-month behaviorally oriented treatment designed to change both eating and exercise habits, and a two year follow-up. Child results showed highly significant ($p<.01$) changes from pretreatment to the 8 month follow-up in relative weight across all three groups, with Groups I (17.1%) and II (18.7%) showing superior changes compared to Group III (13.8%). At the two year follow-up, all groups were still significantly less (10%) than at pretreatment, with no differences across groups. However, very different patterns of maintenance emerged, with all the children in Group I who were non-obese at the 8 month point still non-obese (7/7), while 40% of children in Groups II (4/10) and III (2/5) were still non-obese ($p<.05$). These results clearly show that weight loss can be maintained in obese pre-adolescents, and that active parental involvement is an important component.

48 DEVELOPMENTAL INTERVENTION EFFECTS ON $TcPO_2$ AND HEART RATE IN LOW BIRTH WEIGHT INFANTS Fonda D. Eyler CeCe Meyers, Deborah J. Hellrung, Michael B. Resnick, Robert M. Nelson, and Donald V. Eitzman. U of Fla, Col of Med, U of Nebraska, Col of Med, and Utah Dept of Health, Depts of Peds, Gainesville, Omaha, and Salt Lake City.

Developmental intervention has been proposed as a way of preventing some of the problems that occur in low birth weight infants (LBWI). There is a paucity of data demonstrating the effects of these strategies on the well being of these infants. This study included 12 randomly selected LBWI receiving care at the U of Fla: x BW = 1233 gms; x GA = 30 wks.; x age at testing = 6 days. $TcPO_2$ and heart rate (HR) were recorded each minute during 45 minute sessions which included baseline and recovery periods and in random order 15 minutes each of routine nursing treatment and developmental intervention. Routine treatment consisted of traditional care. Developmental intervention consisted of responsive interactions with infants from a multisensory integrated protocol. Infants served as their own controls, and providers of care were unaware of $TcPO_2$ or HR during the study.

$\bar{x}$ HR and $TcPO_2$ values during the developmental intervention sessions did not differ from baseline values. The developmental session had fewer episodes of $TcPO_2 \leq 40$ torr (1 vs 21) and HR > 180 (3 vs 20) than did traditional care sessions ($X^2 p=<.01$). These data demonstrate that developmental intervention based on an infant responsive model did not adversely affect $TcPO_2$ or HR in these LBWI.