

522 RELIABILITY & VALIDITY OF A NEONATAL STABILIZATION SCORE (NSS). A PREDICTIVE TOOL OF MORTALITY OUTCOME IN TRANSPORTED NEWBORNS ≤ 1000 g. Angelo Ferrara, Yucel Atakent, Assefa Gebreselassie. New York University Medical Center, Dept. Peds., New York, N.Y.

A reduction in newborn (NB) mortality is contingent on efforts of NB stabilization. The study attempts to quantify stabilization into predictive scores (NSS). This tool may be useful to epidemiologist, health planners, in auditing NB care, etc. All (192) transported NB ≤ 1000 g moved from Level I hospitals in New York City during 5 years, i.e., 1977-81 inclusive, were studied. NSS were based on 5 components: vital signs, parenteral fluid, resp. care, lab tests, Rx. Each was rated 0, 1 & 2. Maximum score of 10 indicated excellent stabilization. Analyses included Mantel-Haenzel test (allowed for controlling BW & Apgar) & logistic regression (outcome on NSS). Results: (1) mortality rates were lower in those with higher NSS; odds of death was 2.43 times greater in NB with low NSS ($\chi^2 = 7$; $p < .01$), (2) by logistic regression, the inverse relationship of NSS & mortality was validated, ($r = .90$, $p < .005$). Finally, an interrater reliability test on error distribution on 16 charts followed a Poisson curve (discrepancies were rare).

TABLE ONE		N	NSS (≤ 5 ; ≥ 6)	% Died
≤ 750 g	Apgar ≤ 6	38	Low SS - 24	.79
			High SS - 14	.79
≤ 750 g	Apgar > 7	13	Low SS - 9	.78
			High SS - 4	.50
751-1000 g	Apgar ≤ 6	81	Low SS - 49	.73
			High SS - 32	.56
751-1000 g	Apgar > 7	60	Low SS - 42	.31
			High SS - 18	.06

523 EPIDEMIOLOGY OF SIDS IN UTAH: Francis A. Frost, Thomas J. Wells, Kathleen B. Glasheen, Peter C. van Dyck (Spon. by M. Simmons). Utah Dept. of Health and Dept. of Peds., Univ. of Utah Med. Ctr., Salt Lake City.

In Utah, the Sudden Infant Death Syndrome (SIDS) continues to be the leading cause of death in infants from one month to one year. 1982 statistics showed 175 post neonatal deaths with 82 attributed to SIDS. Although the cause of SIDS has been speculated, no single etiology or predictive factor has been determined. To identify which babies may be at risk, Utah SIDS counselors in 1977 began documenting demographic and epidemiological factors of each case they followed. This information was entered into the Dept. of Health's computer. In 1982, the State SIDS Program began a review of the first 5 yrs. data. Of 366 cases documented, 245 were males and 118 were females, a ratio consistent with most published studies. Sixty-four percent of SIDS deaths occurred in metropolitan areas in Utah. As previously reported by Standfast, there was a striking association between SIDS and cold weather. November, with 43 (11.7%) SIDS deaths, was Utah's peak month rather than January, as in other states. The average age of 12.8 wks. followed the national trend of 2-4 months. Mothers' ages ranged from 15-39 yrs. with the most frequent age being 21. One-hundred sixty-two cases (44.5%) of the infants had a cold or sniffles two weeks prior to death while 87 of the mothers had pregnancy complications. Of the cases reported, 81 (21.7%) were breast-fed at the time of death which supported evidence that breast-fed babies were not protected from SIDS. Although we found some variations in major risk factors, we conclude that Utah SIDS victims are similar to SIDS victims elsewhere.

524 THE ROLE OF HOST FACTORS IN NECROTIZING ENTEROCOLITIS (NEC). Robert Gaynes, Steve Palmer, William J. Martone, Cathy L. Holt, Dona S. Butcher, Loretta Frawley, Carl Perlino, William P. Kanto, Jr. (Spon. by Roger A. Feldman). CDC and Grady Memorial Hospital, Atlanta, GA. Recent hypotheses have suggested that NEC may occur more readily in the immature neonatal gastrointestinal (GI) tract than in the mature one. During an investigation of a NEC outbreak in a neonatal intensive care unit (NICU), we evaluated maternal toxemia, one of several factors that accelerate lung maturity as well as several other host factors, birthweight and postconception age (gestational age at birth plus postnatal age at onset of NEC) in a case-control study. Review of all NICU charts for a 3-month period identified 9 definite and 6 suspect NEC cases on the basis of histopathologic, clinical and x-ray findings. Low birthweight babies (< 1250 g) had the highest incidence of NEC. All definite and suspect NEC cases had hematochezia and distinctive x-ray findings. However, the definite NEC cases had the more severe clinical features and significantly lower birthweights and postconception age than suspect NEC cases. A case-control study using birthweight-matched controls showed that 0/15 mothers of the definite or suspect NEC cases had toxemia, compared with 5/15 mothers of the controls ($p=0.031$, Binomial Exact Test). These findings suggest that maternal toxemia may be protective for the development of NEC. Additionally, this report describes a relationship between NEC disease severity and postconception age.

525 ABNORMAL ANTHROPOMETRIC MEASURES IN CHILDREN EXPOSED TO ENVIRONMENTAL TOXINS. Lynn R. Goldman, Mary M. Magnant¹ and Beverly Paigen. (Spon: Bertram Lubin) ¹Dept. Anthropology, SUNY, Buffalo and Children's Hosp. Med. Ctr, Oakland, CA.

Initial studies of children living near the hazardous waste site, Love Canal, showed that several health problems and low birthweight were more prevalent compared to control children. To determine whether growth was affected by exposure to environmental toxins, stature for age and weight for age percentiles (SAPR and WAPR) were determined for 493 Love Canal and 428 control children. For prepubertal children, a dose-response effect was seen with longer exposure associated with greater decreases in SAPR and WAPR. Those born and spending at least 75% of their lives in the Love Canal area were most affected: SAPR was $46.6 \pm SE 2.2$ for exposed compared to 53.0 ± 1.0 for controls ($p=0.004$) and WAPR was $50.1 \pm SE 2.2$ for exposed compared to 54.0 ± 1.0 for controls ($p=0.05$). Multiple linear regression analysis showed that white and black males and black females were most affected. The difference in stature could not be accounted for by differences in mid-parent stature, socioeconomic class, nutrition, birthweight, or chronic illness leaving exposure to the Love Canal area as the most likely cause. Differences seen in prepubertal children were not seen in pubertal children nor in parents who grew up in the Love Canal area suggesting a possible cohort effect. We conclude that anthropometric measures are valid and sensitive tools in assessing health impact of hazardous waste sites on children.

526 HEPATITIS B SURFACE ANTIGEN (HB_sAg) POSITIVITY IN PATIENTS ADMITTED TO AN URBAN PEDIATRIC HOSPITAL. Bess G. Gold, Alan Williams, Roger Dodd, Margan J. Chang, Naomi Luban, Mollie Miedzinski, & Mildred Johnson. Children's Hospital National Medical Center, Washington, DC, and American Red Cross, Bethesda, Md.

Children admitted to a large, urban pediatric hospital were screened for HB_sAg using a micromethod modification of Auscell. Sera from 2,865 children were obtained from 2,966 hospital admissions and 1,021 admissions to the short stay surgery unit (representing 74% sampling of all admissions). Sera positive on the screening assay were confirmed with Auszyme and/or Ausria. 15 sera (0.4% of all) were positive. One child with frequent readmissions accounted for 4 positives. Therefore, 12 children (0.3% of patients) were positive for HB_sAg. Their ages ranged from 0.5 through 17 years (mean 7 years). 4 (33%) had Hispanic or Asian surnames. 7 (58%) were admitted to surgical services and 5 (42%) to medical services. Of 7 whose data are currently available, 6 (86%) were HB_sAg positive and 1 (14%) was anti-HB_e positive. Although fewer children with HB_sAg were admitted to our hospital than predicted from the (adult) literature, we observed frequent (86%) HB_sAg positivity. This suggests a high potential for infectivity.

527 PHYSICAL ACTIVITY AND ADIPOSITY IN CHILDREN AND THEIR PARENTS. Lawrence D. Hammer, Stanford University, Dept. of Pediatrics, Stanford, CA (sponsored by Ruth T. Gross).

Emphasis has been placed on the importance of exercise in the prevention and treatment of obesity. The relationships of physical activity, caloric intake, socioeconomic status (SES), and race to parental and childhood adiposity were studied using data from the National Health and Nutrition Examination Survey, 1971-1974 (NHANES I). Subjects in this analysis included all children aged 1-19 years who had at least one parent included in the survey ($n=3656$ parent-child pairs). Highly significant correlations of parent-child adiposity were found ($p \leq .001$). Correlations were higher in the 12-19 year old group ($r=.33$ for girls and $r=.20$ for boys), than in the 1-11 year old group ($r=.16$ for both sexes). Children whose adiposity (as measured by the log body mass index) was greater than 95 percentile for age and sex were classified as obese. These obese children reported significantly less physical activity than the nonobese children ($p \leq .0001$), yet their caloric intake, SES, and race did not differ. Parents of obese children were fatter than other parents in the sample ($p \leq .0001$). Like their children, these parents reported significantly less regular exercise than the parents of the nonobese ($p \leq .005$), with no difference in caloric intake, SES, or race. Obese children in the NHANES I came from households in which parents and children were less physically active than in other households, yet these households were not different with respect to SES, race, and caloric intake. Exercise appears to play a role in the prevention of obesity in children and their parents.