1320 INTRAPARTUM SUCTIONING IN MECONIUM (mec) STAINED DELIVERIES: BULB SYRINGE (BS) VERSUS DE LEE CATHETER (DL). Nicole Cohen-Addad, Molly Chatterjee, Amelia Bautista, and Kusumam Sidharthan (Spon. by Franklin C. Behrle). UMDNJ-New Jersey Medical School. Dept. of Pediatrics, Newark, NJ.

The combination of intrapartum suctioning with a DL and post natal tracheal suction of the newborn in mec stained deliveries has significantly decreased the neonatal morbidity and mortality from mec aspiration syndrome (MAS). For practical purposes, most obstetricians prefer to use the BS rather than DL. A comparative study of both methods done in kittens showed a greater efficacy of the DL over BS. We studied 60 mec stained deliveries from 12/81 to 12/83. Cases were randomly assigned to DL or BS. The results are as follows: (DL/BS): # of cases 31/29; mec in trach. 13/13; amt. of mec in trach. (ml) .27±.08/52±14, p=0.065; thick mec 8/9; MAS 4/5; respirator for MAS 3/2; O_2 hood for MAS 1/3; mortality from MAS 0/0; 1' Apgar <7 9/11; 5' Apgar <7 2/3; Vag. 25/16; Repeat C/S 1/1; C/S 3/10; Forceps,vacuum 3/3; Fetal distress 6/10; Nuchal cord 4/3; labor <10 hrs. 15/14; >10 hrs. 15/15. Thus, in humans there does not seem to be a significant difference between the two modes of intrapartum suctioning in regard to neonatal outcome. The difference in amount of mec recovered from the trachea did not reach statistical significance; it was nevertheless higher in the BS group. This group was possibly at greater risk for more severe disease since they had more fetal distress (10 vs 6) and included more C sections (11 vs 4), thus not benefiting from vaginal "squeeze" of the lungs at time of delivery. Therefore this study suggests that BS is as efficient as DL in intrapartum mec suctioning.

1321 VAGINAL DELIVERY AND BREECH PRESENTATION, RATHER THAN LABOR, IMPLICATED IN INTRACRANIAL HEMORRHAGE (ICH) IN ≤1500 NEONATES: A PRELIMINARY REPORT. Nicole Cohen-Addad, Kusumam Sidharthan, Lester Libfraind, Minerva Castillo, Tzong Wei, Franklin Behrle and Richard Koenigsberger. UMDNJ-New Jersey Medical School. Department of Pediatrics. Newark, N.J.

Thirty-two≤1500g consecutive infants were studied with head ultrasonograms at 1 hr of age and every 8 hrs for 3 days. The results are as follows: vaginal vertex 7/16; (# of cases with ICH total # of cases); breech 4/5; C/S in labor vertex 0/3; breech or transverse lie 2/3; C/S not in labor vertex 0/4, breech 1/1 (90% abruptio); vaginal in labor<10 hrs 5/8; in labor≥10 hrs 6/13; C/S in labor <10 hrs 0/4; in labor ≥10 hrs 2/2. No significant difference was found between ICH and no ICH groups for Apgar <7 at 1 and 5 min., temperature ≤97°F, pH <7.2, respirator use prior to ICH, pneumothorax, high PCO_2, exchange transfusion, bicarbonate, indomethacin, RBC/WBC # in CSF. Blood pressure changes rather than high or low values were associated with ICH. There was also no difference in the ICH grade distribution between modes of delivery. Seven of 14 ICH were diagnosed in the first hour of life and 13/14 within the first 24 hours. Thus prenatal rather than postnatal events seem to be implicated in the occurrence of ICH in ≤1500g neonates. Moreover the study suggests that vaginal and/or breech deliveries set the "to be born" at risk for ICH. All 3 patients born by C/S with ICH were breech. The other C/S cases in labor did not have ICH. Hence, breech rather than labor seems to be implicated. We speculate that ICH occurs during the head passage through the birth canal. We have no explanation for the breech born by C/S with ICH.

1322 EFFECT OF BENZYL ALCOHOL ON CORD BLOOD SERUM LACTATE DEHYDROGENASE (LDH): A POSSIBLE MARKER OF DRUG TOXICITY. Edwing A. Contreras, Philippe Samson, Edgar O. Ledbetter, and Fathy S. Messiha, (Spon. by Surendra K. Varma), Texas Tech University Health Sciences Center, Departments of Pediatrics and Pathology, Lubbock, Texas.

Benzyl alcohol (BA) is a preservative present in several medications including multiple dose vials for flush solutions. Neonatal BA toxicity consists of metabolic acidosis, CNS-depression, respiratory distress, cardiovascular collapse and death. The cardiac toxicity may be manifested by changes of serum LDH. This study reports the *in vitro* effect of BA on "H" and "M" isoenzymes of LDH in cord blood of 12 healthy neonates. The LDH of the "H" subunit was 733 IU compared to 3,113 for the "M" isoenzyme. The addition of BA to the enzymatic reaction mixture inhibited LDH in a dose-dependent fashion. A 39% and 61% inhibition of LDH isoenzyme "H" was produced by 60 mMol and 120 mMol of BA, respectively. The "M" isoenzyme was less sensitive to the BA effect, i.e., a concentration of 120 mMol BA was required to produce a 34% inhibition. The kinetics performed indicate that BA competitively inhibited the "H" subunit of LDH. The apparent K_m was increased by approximately 3.6 fold by the 120 mMol BA addition. The results show that the BA-produced inhibition of the "H" subunit was greater than that noted for the "M" isoenzyme. This inhibition, if found *in vivo*, may be utilized as a biochemical marker for BA-induced toxicity in the neonate.

1323 IV LIPID ADMINISTRATION IN THE PREMATURE INFANT. 2. HYPERTRIGLYCERIDEMIA (HTG). Richard J. Cooke and Marlene Buis. Univ. of Tenn. CHS, Depts. of Pediatrics and OB-GYN, Memphis, TN. (Spon. by Henrietta S. Bada)

During a study to evaluate the effect of Liposyn® 20% on essential fatty acid status, we compared plasma triglycerides (TG) in two groups of infants. Group 1 (N = 8) received Liposyn 20% 0.34 gm/kg infused over 4 hours daily for 5 days. Group 2 (N = 16) received Liposyn 20% 0.68 gm/kg infused over 8 hours daily for 5 hours. Birth weight, gestation, postnatal age, daily caloric intake and clinical features were similar in both groups. Plasma for TG analysis (ACA TG Kit, DuPont) was drawn pre- and post-infusion at 4 ± 1 (#1), 6 ± 1 (#2), and 8 ± 1 (#3) days of age. The rate of the infusion was monitored every 30 minutes by the investigators. No significant differences were noted in pre-infusion TG concentrations during the study. The changes (post-infusion minus pre-infusion) (mean, SD) in plasma TG are outlined.

	#1	#2	#3
Group 1	57 ± 43	71 ± 35	51 ± 51
2	59 ± 52	101 ± 74	103 ± 74

Mean plasma TG increases in group 1 are greater than in group 2 (P <.01 Student t-test). 2/8 infants in group 1 and 8/16 infants in group 2 developed HTG (TG >200 mg/dl) (P <.01, Fisher Exact Probability Test). We conclude that the frequency of HTG is greater in infants receiving 4% versus those receiving 2% of their estimated caloric requirement in the form of linoleate.

1324 INTRAVENOUS LIPID ADMINISTRATION IN THE PREMATURE INFANT. 1. EFFECT ON ESSENTIAL FATTY ACID STATUS (EFAS). Richard J. Cooke, Paulus Zee, and Yu-Yan Yeh. Univ. of Tenn. CHS, Depts. of Pediatrics and OB-GYN, and St. Jude Hospital, Memphis, TN. (Spon. by Henrietta S. Bada)

Rapid changes occur in essential fatty acid status (EFAS) during fat-free parenteral nutrition (Pediatr Res 4:309A, 1983). We therefore evaluated the effects of IV Liposyn 20% administration on EFAS and compared them to the control group (group 1). Infants received either 0.34 gm (group 2) or 0.68 gm (group 3)/kg of lipid daily for 5 days providing 2% or 4% of the estimated caloric requirement (120 cal/kg/day) in the form of linoleic acid. Mean birth weight (1410, 1400, and 1470 gm in groups 1, 2, and 3, respectively), gestation (31.2, 31.4, and 30.9), daily caloric intake during the study (51.2, 50.2, and 49.3 cal/kg) and clinical features were similar. EFAS was assessed at 4 ± 1 (#1, before starting PN), at 6 ± 1 (#2), and 8 ± 1 (#3) days of age. Triene/tetraene ratio (T/T; mean, SD) is expressed as weight % of fatty acid in plasma phospholipids. The results are outlined.

	N	#1	#2	#3
Group 1	19	.08 ± .06	.17 ± .16	.40 ± .24
2	8	.10 ± .05	.07 ± .02	.06 ± .02
3	8	.05 ± .02	.03 ± .02	.05 ± .04

Baseline (#1) T/T ratio is similar in all groups. T/T ratios in groups 2 and 3 do not change significantly and remain lower than in group 1 (P <.01, 2-way ANOVA). We conclude that 1) IV lipids prevent rapid changes occurring in EFAS during PN; 2) 2% is as effective as 4% linoleate in maintaining baseline T/T ratio.

1325 LINOLENATE SUPPLEMENTATION AND LINOLEATE-ARACHIDONATE CONVERSION. Paulus Zee, Richard J. Cooke, Yu-Yan Yeh. Univ. of Tenn. CHS, Depts. of Pediatrics and OB-GYN, and St. Jude Hospital, Memphis, TN. (Spon. by Henrietta S. Bada)

To evaluate the effect of linolenic acid supplementation on linoleic-arachidonic conversion during PN, preterm AGA infants were randomized to receive Liposyn 20% (group 1, N = 8, 0.5% linolenate) or Modified Liposyn 20% (group 2, N = 8, 5% linolenate). Mean birth weight (1470, 1350 gm in groups 1 and 2, respectively), gestation (30.9, 30.8 weeks), age at the beginning of the study (4.6 days), daily nutrient intake during the study (45, 48 cal/kg) and clinical features were similar. 0.68 gm/kg of lipid was infused daily for 5 days. Blood sampling was done before the study began (4 ± 1 days, #1), at 6 ± 1 (#2), and 8 ± 1 (#3) days of age. The results (mean, SD) expressed as weight % of plasma phospholipid are outlined.

	Arachidonate		Triene/Tetraene Ratio	
Groups	1	2	1	2
#1	18.2 ± 2.1	15.6 ± 1.4	.05 ± .02	.09 ± .09
#2	16.8 ± 1.2	16.3 ± 1.7	.03 ± .02	.05 ± .02
#3	16.0 ± 1.4	14.2 ± 2.2	.05 ± .04	.05 ± .02

Plasma linoleate was similar in both groups. Although baseline (#1) arachidonate is greater (P <.05) in group 1, no significant differences are noted thereafter. Triene/tetraene ratio remains normal throughout the study. Thus linolenate supplementation, at 5% of the total lipid intake does not inhibit linoleate arachidonate conversion or adversely affect essential fatty acid status.