1366 GROUP SUPPORT FOR PARENTS OF HIGH RISK NEONATES: AN INTERDISCIPLINARY APPROACH. Andrew J Macnab Lorraine A Shekter & Nancy J Hendry. (Spon. by Syd Segal)

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Many parents find themselves emotionally and cognitively unprepared to relate to their sick newborns. We inform and involve parents by inviting them to informal group meetings staffed by an interdisciplinary team of social worker, nurse and physician. The group has met every week for 18 months. 330 parents have attended. Sessions are 1½ hours long and coincide with afternoon feeding in the regular nurseries. All parents receive a personal invitation. Nursery and post-partum staff are orientated to the purpose of the group. A relaxed and informal atmosphere encourages conversation and discussion. Common anxieties are shared and parents recognize the disturbance of their emotions and life-style to be normal. The physician deliberately arrives late and leaves early after giving a short talk and answering questions. Parents interests centre on a basic understanding of common conditions and treatment, the milestones of progress and ultimate outlook. Feeding and lactation are major concerns. We have no control group, but positive feedback, good attendance and a higher profile of social issues in the nursery support the apparent value of this group. Some parents become mutually supportive outside the group; particularly those with sicker infants. Concern that the depth of discussion could distress some parents appears unfounded. Veteran mothers have caused anxiety by inappropriate comment. With this preventive approach to parent care the social worker can identify parents at risk and initiate early counselling, and the time commitment by staff is low for the degree of support achieved.

1367 PRECURSOR-PRODUCT (PP) RELATIONSHIP BETWEEN RABBIT TYPE II CELL LAMELLAR BODIES (LB) AND ALVEOLAR SURFACE ACTIVE MATERIAL (SAM) AND SAM TURNOVER TIME (T). Martha W. Magoon, Aldo Baritussio, Jon Goerke, John A. Clements (Spon. by William H. Tooley).

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To estimate the turnover time of SAM in New Zealand white rabbits we inject 9,10-³H-palmitic acid and 2-¹⁴C-glycerol intravenously. From 1-48 h after injection, we kill the animals, lavage the lungs for SAM with saline, and isolate the LB by homogenization and sucrose density gradient centrifugation. The LB fraction yields 0.424±0.056 mg phospholipid/g lung (M±SE); SAM, 65±6% (M±SD) of material recoverable (n=19). LB and SAM have comparable phospholipid composition, isopycnic density, and surface activity. LB contain little DNA, no mitochondrial enzyme activity, and less than 5% contaminating microsomal and Golgi phospholipids. We measure specific activity (SA) (dpm/μmol phosphorus) of phosphatidylcholine (PC) and saturated PC (SPC) with each isotope in LB and SAM at each time point. By graphing the integral with respect to time of the difference between LB and SAM SAs against SAM SA, we obtain a plot, the slope of which is SAM turnover time and the shape of which tests the precision of the PP relationship. This analysis does not assume a pulse label and allows for possible recycling of tracer from SAM to LB.

LABEL	PHOSPHOLIPID	T(h)	(Corr. Coeff.)	HYSTERESIS**
³ H-palmitate	PC	11.1	(.92)	.25
¹⁴ C-glycerol	PC	7.4	(.80)	.47
³ H-palmitate	SPC	10.7	(.90)	.33
¹⁴ C-glycerol	SPC	7.4	(.80)	.47

**Relative area of loop enclosed by upslope and downslope of plot. 0=perfect PP relationship; 1=maximum departure from PP. These Ts are 3 to 6-fold shorter than previous estimates. Imprecision of the PP relationship is probably not due to experimental variability or to contamination of LB by other subcellular fractions. (Supported by NIH Grant HL-24075. J.A.Clements is a Career Investigator, Amer. Heart Assoc.).

1368 FACTORS AFFECTING THE NEONATAL AUTOPSY RATE. William M. Maniscalco (Spon. by Donald L. Shapiro) U. of Roch. School of Med., Strong Mem. Hosp., Dept. of Peds., Roch, NY

Autopsies of neonatal deaths are important because they help establish the cause of death, aid in counseling parents, and monitor diagnostic and therapeutic modalities in neonatal care. To determine clinical factors that may influence the decision to perform an autopsy, a retrospective chart review of 117 consecutive neonatal deaths in a tertiary care nursery was conducted. The overall autopsy rate of the neonatal deaths (78.6%) was significantly greater than the autopsy rate of adult deaths (36.8%) and non-neonatal pediatric deaths (66.3%) occurring in the same 24 month period at this institution. The percentage of neonatal deaths that was not autopsied was significantly greater among transported patients (30.9%) than among inborn patients (12.9%). Patients with birth weight <1000g, gestational age <28 weeks and those that died within 2 days of admission to the nursery were autopsied significantly less frequently if the patient was transported rather than inborn. Patients that died with major congenital anomalies had a significantly higher autopsy rate (91.2%) than those that died with other pre-mortum diagnoses, including RDS, perinatal asphyxia, or infections. Factors that did not influence the autopsy rate included sex, maternal age, race or marital status. Among inborn patients, birth weight and gestational age also did not affect the autopsy rate. These data suggest that the early separation of a mother from her sick newborn and the medical care team necessitated by infant transport adversely affects the process of autopsy request and consent.

1369 POSTNATAL CLEARANCE OF TRANSPLENTAL PHENCYCLIDINE TRANSMISSION IN THE HUMAN. Richard D. Marble, Richard G. Thomas, Melvyn L. Sterling, A. Robert Jeffcoat (Spon. by Beverly C. Morgan).

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Phencyclidine (PCP) is a street drug commonly abused by young adults. To date transplacental transmission of PCP has not been demonstrated in humans. A known chronic PCP abuser was followed during pregnancy. Hypertonicity and irritability were noted in the newborn at one hour of age, and with vertical nystagmus and poor feeding were observed intermittently until 8 days of age. Cord blood PCP level was 36ng/ml by radioimmunoassay (RIA), and became negative by 4 days of age. Urines were positive qualitatively by enzyme multiplied immunoassay technique (EMIT) to 8 days of age and quantitatively by gas chromatography with nitrogen phosphorus detection (GC) and RIA for 10 days. GC was specific for PCP while RIA also detected metabolites. Urine PCP concentration was unrelated to urine pH (range 4.5-6.9). Colostrum and breast milk were negative for the first 3 days, but became positive immediately following a treadmill exercise test concurrent with a 12 fold increase in maternal serum PCP concentration. Transplacental transmission of PCP does occur and may result in identifiable symptoms of toxicity in the human neonate. Continued detectable renal clearance in the absence of detectable serum levels suggests that significant body stores of PCP result from intrauterine exposure. Although GC and RIA are more sensitive tests, EMIT appears to be an adequate screening test for intrauterine PCP intoxication.

1370 THE MICROENVIRONMENT OF PREMATURE INFANTS UNDER A PLEXIGLASS DOME AND PLASTIC BLANKET. Keith H. Marks, Robert K. Williams, Henry C. Groff, M. Jeffrey Maisels.

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We measured air temp (T_a-micro), relative humidity (rh) and air velocity (V) surrounding 6 non-distressed premature infants, <11 days old, 28-36 wks, in the thermoneutral zone in a forced convection incubator. Core temperature (T_e), mean skin temperature (T_{sk}), abdominal heat flux (q) and O₂ consumption (V̇O₂) were also measured. Results are means at thermal equilibrium:

	Naked	Dome	Bubble Blanket
T _a -micro (°C)	32.0	32.9*	32.8*
rh (%)	32.7	31.6	33.0
V (cm/sec)	0-10	Unmeasurably low	
T _e (°C)	36.9	37.1*	37.1
T _{sk} (°C)	35.5	35.9*	35.9*
q (mw/cm ² -hr)	94.3	73.1*	82.0
V̇O ₂ (ml/kg/min)	7.57	6.71	6.83*

* p < 0.05 vs naked infant

Under these environmental conditions: (1) the air under the dome or bubble blanket is warmer and less turbulent. (2) rh measurements are confounded by T_a-micro. (3) Abdominal heat flux is reduced and is associated with an increase in T_e and T_{sk}. (4) V̇O₂ is reduced when the infants are covered. These data help to clarify the mechanisms and support the use of a heat shield in the management of premature infants.

● 1371 PHARYNGEAL AIRWAY OBSTRUCTION IN INFANTS WITH MIXED AND OBSTRUCTIVE APNEA. Oommen P. Mathew, John L. Roberts and Bradley T. Thach.

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We investigated the site of obstruction in infants with periodic complete airway obstruction by monitoring heart rate, abdominal excursion, nasal and oral airflow, and pharyngeal pressure. Pharyngeal pressure was recorded with a saline filled silastic catheter inserted 5cm into one nostril. Apneic spells (absent airflow >20sec or <20sec with heart rate <100/min) were classified as central (CA: no respiratory effort), obstructive (OA: effort with no airflow), and mixed (MA: >2sec CA plus OA). We identified 58 MA and 10 OA spells in 6 infants (GA 26-32wks). The pharyngeal position of the catheter tip (below the soft palate and above the glottis) was periodically confirmed by the characteristic pressure wave pattern seen during swallows. The site of obstruction was shown to be above the catheter tip (i.e. pharynx) if pressure changes during obstructed respiratory efforts were conducted to it and below the tip (i.e. hypopharynx or larynx) if pressure was not conducted. The site of obstruction was above the catheter tip in all 27 spells in 3 infants and in 35 of 41 spells in the remaining 3 infants. In 5 of 6 spells in 3 infants the first effort was obstructed above the tip but subsequent efforts were obstructed below and in one spell all efforts were obstructed below the tip. Therefore, although the hypopharynx and/or larynx possibly became involved in occasional spells, we conclude that the pharynx was the most common site of obstruction in these infants. (Funding: NIH grant #HD 10993).