792 CHANGES IN RESIDENT NEONATAL ETHICAL ATTITUDES ASSOCIATED WITH PEDIATRIC TRAINING. C. L. Berseth, R. Durand, J. D. Kenny, (spon. by G. S. Gilchrist). Baylor College of Medicine, Dept. of Pediatrics, Houston, TX, University of Colorado Graduate School of Public Affairs, Colorado Springs, CO.

We previously demonstrated that Pediatric level 3 residents (PL3's) expressed attitudes of greater reluctance to resuscitate certain high risk infants than did Pediatric level 1 residents (PL1's) tested on the first day of training. We have followed our original group of PL1's at yearly intervals throughout residency training. Cumulative Guttman scaling procedures were employed to construct an attitude scale to measure the willingness of residents to resuscitate infants in a variety of clinical circumstances. A dynamic model of attitude change was tested using correlation and regression procedures. Residents demonstrated significantly increasing reluctance to resuscitate high risk infants over the first year of training compared to the first day of training ($p<0.01$), and again over the second year compared to the attitudes expressed at the end of the first year ($p<0.01$). This reluctance to resuscitate infants was accentuated by marriage ($p<.005$), but not by age, gender, or religious preference. There were no significant changes during the third year. These longitudinally acquired data support our original cross-sectional data demonstrating an association of Pediatric training and attitudes concerning neonatal resuscitation. These attitude changes are greatest during the first 2 years of training and may be accentuated by other personal factors.

●793 TRANSCUTANEOUS OXYGEN ($PtcO_2$) AND CARBON DIOXIDE ($PtcCO_2$) MONITORING IN SICK NEONATES USING A SIMPLE COMBINED SENSOR. Rama Bhat, Javier Diaz-Blanco, Urmila Dahiya, Dharmapuri Vidyasagar. Department of Pediatrics, University of Illinois Hospital, Chicago.

$PtcO_2$ and $PtcCO_2$ were monitored in 18 critically ill neonates using a combined sensor (Biochem International, Milwaukee). The in vitro response time of the electrode was less than 30 seconds. Electrode was calibrated using a 5% CO_2, 95% N_2 and 10% CO_2 with 21% O_2 at 43.5°C. The study was carried out in two phases. Arterial blood gases were obtained from umbilical artery catheter for correlation. During the second phase, a new sensor with smaller cathode and a teflon membrane was used. Data from both phases are shown below. Both $PtcO_2$ and $PtcCO_2$ correlated better with arterial values in the second phase. Arterial O_2 and CO_2 ranged from 37 to 286 mmHg and 14 to 51 mm Hg, respectively. No complications were noted during the study. We conclude that 1) combined sensor can replace the two separate heated sensors; 2) the better correlation seen in the second phase is due to the decreased oxygen consumption by the sensor and better mechanical stabilization of the membrane.

Phase I			b = slope		a = intercept		
No. of Cases	B. Wt. (G)	G. Age (wks)	Data Points	r	b	a	p
11	M 1591	32	101 O_2	0.55	0.41	32	<.0005
	S.D. 580	3.4	95 CO_2	0.68	1.44	14	<.0005
Phase II							
7	M 2058	34	82	0.93	0.65	14	<.00005
	S.D. 580	5.4	82	0.91	1.31	14	<.00005

794 A SYSTEM REPORT ON THE EVALUATION OF RESIDENTS BY FACULTY. Mary A. Black, Christopher A. Pack and George Baker (Spon. by William B. Weil). College of Human Medicine, Department of Pediatrics/Human Development, Michigan State University, East Lansing, MI.

A comprehensive system of resident evaluation was developed to provide a comparable system of evaluation across training sites by providing data on the clinical performance of residents for feedback and decision making, by providing data for feedback to faculty on their rating techniques, and producing an organizational model and packaged program for application in other settings.

An evaluation form which assesses twelve areas of professional behavior was developed. Faculty complete a form at the end of each rotation for the residents with whom they worked. Data from March 1980 to February 1981 were reviewed. Over 400 forms were distributed on approximately 90 residents on pediatric teaching services.

Analysis revealed both the mean and the mode of the evaluations to be 7.0 on a 9.0 scale with the evaluators essentially working within a five point range (5 to 9). In order to encourage compliance in returning the forms and improve the usefulness of the form by the full use of the nine point scale during assessments, the program director provides information on the system in a general faculty meeting as well as individual faculty feedback. The evaluations were used to provide feedback to individual residents on their performance and to "flag" poor performers for remedial work. Current studies are assessing the impact of the feedback.

795 REVIEWING STUDENT PERFORMANCE DATA FROM PEDIATRIC CLERKSHIPS OFFERED IN MULTIPLE SITES. Mary A. Black and Andrea Doughty (Spon. by William B. Weil). College of Human Medicine, Department of Pediatrics/Human Development, Michigan State University, East Lansing, MI.

To monitor and maintain quality educational experiences in pediatric clerkships offered in five communities, a common set of objectives, evaluation procedures, and performance expectations were developed. Two goals of the evaluation program have been to provide data for: 1) determination of inter and intra-program comparability; and 2) grading decisions and feedback to students.

A package of evaluation techniques was developed and used in all five sites. Data were collected in the areas of interviewing, multiple choice examination, clinical problem solving paper cases, and instructors' ratings. Data for the 202 students from 1980-82 were reviewed utilizing analyses of covariance. Using clerkship entry assessments as pretest covariates: 1) differences were found between students who passed and those who had deficiencies on their final multiple choice exam ($p<.00001$), final paper cases ($p<.05$), and instructor ratings ($p<.00001$); 2) no differences were found between communities for the final multiple choice examination ($p<.293$) or paper cases ($p<.221$); significant differences by community were found in ratings by instructors ($p<.00001$).

The clerkships build on the strengths of communities without resulting in student performance differences in the cognitive areas. Investigation will be done to explore the community differences in instructor ratings.

796 ECONOMIC IMPACT ON DECISION MAKING. Walter C Boutwell and Eun H Kim. Santa Clara Valley Medical Center, Dept. of Pediatrics, San Jose, Ca. (Spon. by Ron Ariagno).

Circumcision in the patient population is not frequently performed for religious reasons. Its routine performance is discouraged as being medically unnecessary by written and verbal material provided to the mothers after delivery. Prior to September 1 1982 routine circumcision was provided without cost for medically indigent and public assistant patients at our facility. From that time until January 15 1983 a co-payment of $75.00 was required. After that time the original policy was re-established. No statistically significant effect was noted on the decision of parents to have their infant undergo this procedure in Hispanic (33/237, 13.6%) or Asian populations (11/84, 13.1%). However, the white population produced a significant decrease in incidence during the period of co-payment (37/56 v. 19/57 v. 53/72: $x^2 = 21.1$, $p<.001$). Approximately half of the parents were dissuaded by the financial requirements. Of these, few obtained circumcisions subsequently. Requiring co-payments for this elective procedure may produce a decrease in over $6 million of medical expenses in California state.

●797 A DIAGNOSTIC APPROACH TO CHILDREN WITH SUSPECTED OBSTRUCTIVE SLEEP APNEA (OSA). Robert T. Brouillette, Donna Hanson, Richard J. David, Linda Klemka, Anna Szatkowski, Sandra Fernbach, and Carl E. Hunt. Northwestern University, Departments of Pediatrics and Radiology, Chicago, IL.

Most children with OSA will benefit from tonsillectomy and adenoidectomy. Although polygraphic monitoring remains the definitive diagnostic technique, we wondered if all children suspected of having OSA require such evaluation. We therefore administered a standardized questionnaire to the parents of 23 children with polygraphically proven OSA due to adenotonsillar hypertrophy, 46 age and sex-matched normal children, and 23 children subsequently referred for possible OSA. Significantly increased frequencies of the following symptoms were found in the OSA group compared to the control group: difficulty breathing during sleep, 96% vs 2%; apneas observed by the parents, 78% vs 5%; snoring, 96% vs 9%; restless sleep, 78% vs 23%; chronic rhinorrhea, 61% vs 11%; and mouth breathing when awake, 87% vs 18%. Using discriminant analysis, an OSA score was derived which correctly classified all controls and 22 of 23 OSA patients. Considering the data from all groups, we found that (1) OSA scores > 3.5 were highly predictive of OSA requiring adenotonsillectomy, (2) no child with an OSA score < -1 had OSA, and (3) children with OSA scores between -1 and 3.5 require polygraphic monitoring to determine the severity of sleep-related airway obstruction and the need for surgical treatment. Use of the OSA score should decrease the need for polygraphic monitoring and facilitate selection of children for adenotonsillectomy.

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