†1153 PNEUMOCYSTIS CARINII ANTIGEN AND ANTIBODY IN CHILDREN WITH PNEUMONIA. Linda L. Pifer, Frank A. Shann,* Frank Anderson,* Carol C. Edwards* and Diane R. Woods,* Dept. of Peds., University of Tennessee Center for the Health Sciences, LeBonheur Children's Medical Center, Memphis, TN and Goroka Base Hospital, Papua, New Guinea.

Serologic profiles of Pneumocystis carinii (PC) based upon incidence of antigenemia & IgG antibody (AB) titers in pediatric patients in Papua, New Guinea (NG) & Memphis, TN support the ubiquity of PC. PC IgG AB was titered by an enzyme-linked immunosorbent assay & antigenemia was detected by a counterimmunoelectrophoresis test, both developed in our laboratory. Antigen (AG) used in the ELISA test was derived from cell culture-grown PC. NG children with pneumonia (N=188) had higher anti-PC titers than U.S. controls (N=50). Those with PC AG (+) pneumonia had highest titers (geometric mean titer = 277), suggesting a specific immune response to PC. Those with PC AG (-) pneumonia (GMT=139) had higher titers than matched U.S. controls (GMT=60), perhaps reflecting more environmental exposure or differences due to socioeconomic status. The extent to which PC is responsible for morbidity in multiple-agent pneumonias remains to be elucidated. Since PC is treatable, this represents a high priority goal, as the decision to treat might influence survival in critical cases. Mean AB titers were all significantly different (p=<.050). This suggests the potential usefulness of serologic methods in documenting the involvement of PC in childhood pneumonia & in defining its epidemiology. These tests may provide a means for differentiating among pediatric pneumonias due to PC, Chlamydia, & cytomegalovirus, which may be clinically indistinguishable.

1154 TRIMETHOPRIM IN PEDIATRIC UTI. Solomon Rajkumar, Yogendra Saxena, Venkatesalu Rajagopal, (Spons. by Qutub H. Qazi) State University of NY, Downstate Medical Center, Dep. of Peds., Brooklyn, NY.

To ascertain the efficacy of Trimethoprim (TMP) as a single therapeutic agent in the treatment of UTI in children, a prospective study was designed to compare TMP against sulfamethoxazole (sulfa), trimethoprim-sulfamethoxazole (TMP-sulfa) and ampicillin. Eighty children with 100,000 colonies of the same organism grown in 2-3 consecutive clean catch specimens were randomly assigned to each treatment group for 10 days therapy in following doses: TMP 10 mg/kg; sulfa 150 mg/kg; TMP-sulfa 8/40 mg/kg; and ampicillin 100 mg/kg.

	TMP	Sulfa	TMP-sulfa	Ampicillin
No. of Pts.	21	19	20	20
Cure	20 (95%)	17 (89%)	18 (90%)	13 (65%)
Failure	0	0	0	5 (25%)
Relapse	1 (5%)	2 (12%)	1 (5%)	1 (5%)
Recurrence	2 (10%)	3 (14%)	1 (5%)	0
Transient depression of WBC 4500	1 (5%)	4 (21%)	3 (15%)	0

Also, TMP produced 67% cure rate in another 9 children who had either failures or relapses from other treatments. Two patients developed skin rashes, one each in ampicillin and TMP-sulfa groups. Two other patients had diarrhea with ampicillin treatment, one of which was severe enough to discontinue ampicillin. None of the patients treated with TMP had skin rashes or diarrhea.

Above results indicate that TMP is a safe, efficacious alternative to TMP-sulfa, sulfa, and ampicillin in the treatment of UTI.

†1155 NON-PROTECTIVE LEVELS OF TETANUS TOXOID ANTIBODIES IN INFANTS DURING THE FIRST 18 MONTHS OF LIFE. Stanley E. Read, Zulaika Ali and Hugo F.M. Reid. Hospital for Sick Children, Toronto, Mount Hope Hospital, Trinidad and Public Health Laboratory, Trinidad.

Tetanus toxoid antibody levels were followed serially from birth to 18 months of age in 30 infants in Trinidad ranging in birth weight from 900 to 3,000 grams. Antibody levels were measured by ELISA and by the mouse protection test (Connaught Laboratories, Toronto). Twelve of the 30 infants had no detectable antibodies (<0.01 units/ml) during some part of this period. In 5 of the 12 infants there were no detectable passive antibodies (<0.01 units/ml) until after initiation of their immunization. Protective antibody levels were present following the first immunization in 4 of the 5, and following the second immunization in the fifth. These infants were susceptible to tetanus for the first 3 to 6 months of life, depending on the time of initiation of immunization. Seven infants had no detectable tetanus toxoid antibodies for periods ranging from 3 to 9 months prior to their booster at 18 months. In 5 of the 7, the passive neonatal titers at birth were high (1.5 - 12.5 units/ml). Of the 18 who had protective levels throughout this period, 15 had passive titers at birth between 0.01 and 1 units/ml. Three had passive titers of >1.5 units/ml. There was no correlation between the gestational age at birth or the time of initiation of immunization and the tetanus toxoid antibody response. Measurement of passive neonatal levels may be important in determining when an immunization program sould be initiated.

†1156 SHORT-COURSE AEROSOLIZED RIBAVIRIN (Rib) FOR RESPIRATORY SYNCYTIAL VIRUS (RSV) INFECTION. William J. Rodriguez, Hyun W. Kim, Carl D. Brandt, Robt J.Fink, Pamela R. Getson, Margan J. Chang, Nalini Singh-Naz, Julita Arrobio, Thomas M. Murphy, Vincent McCarthy, Robt H.Parrott. Children's Hospital & The George Washington Univ., Washington DC

From 12/83 thru 3/84, 30 children 1-33 months of age were enrolled in a study of Rib therapy for RSV lower respiratory tract infection. 20 patients (pts) received Rib and 10 placebo (plac). There were no significant differences between the groups in chronological or gestational age or in days ill prior to admission. Among pts with pneumonia, 17% of 6 plac pts and 64% of 11 Rib pts had multiple lobes involved (p=0.06). Plac pts received 42.25-94.75 hrs of aerosol therapy (mean 58.62), while Rib pts received 36.35-95.6 hrs (mean 55.74). 77% of all pts were discharged within 5 days of starting treatment. Severity of illness was evaluated daily using a visual scale of 0 (normal) to 4+ (most severe). Rib pts initially had a mean severity score 0.5 higher than plac pts. By Day 2 the rate of improvement was significantly greater than plac pts (p=.007); by Day 3 this difference in group improvement rates was even more substantial (p=.001). By Day 5, Rib pts showed 33% improvement in number with râles, while no improvement was noted in plac pts (100% still had râles). The rate of improvement in O_2 saturation from first to last day of treatment was statistically significant for only Rib pts (p=.02). On Day 3, 13 (65%) Rib pts vs 5 (50%) plac pts shed $\leq$0.5 logs/ml of virus in nasal washes. No side effects or toxicity were associated with aerosol therapy. A short course of Rib treatment ($\sim$3 days) proved safe and beneficial.

†1157 **STAPHYLOCOCCAL ADHERENCE TO POLYVINYL CHLORIDE (PVC) AND HEPARIN-BONDED POLYURETHANE (HBP) CATHETERS IS SPECIES SPECIFIC AND IS ENHANCED BY FIBRONECTIN (FN).** P.B. Russell, J. Kline, M.C. Yoder, R.A. Polin. Dept. of Peds, Univ. of Pa. Sch. of Med., and The Children's Hosp. of Phila., Phila., PA.

Intravenous (IV) hyperalimentation has improved the survival and outcome of the LBW infant, however, long-term placement of IV catheters has been associated with the development of catheter related sepsis. Fibronectin, a large glycoprotein (MW 440,000), has a binding site for Staphylococcal protein A and modulates bacterial adherence to mucous membranes in vivo. We determined the in vitro adherence of labelled (H^3-leucine) coagulase positive (CPS) (N=3 strains) and coagulase negative (CNS) (N=3 strains) staphylococcus to PVC and HBP catheters incubated at 37°C in phosphate-buffered saline (pH 7.4). Bacterial adherence was measured at five intervals (0.25, 0.5, 1, 2, 4 hours). Similar experiments were performed following PVC and HBP catheter preincubation with 0.5 ug/ml FN. In addition, we determined the binding of C^{14}-labelled purified FN to PVC and HBP catheters in vitro. After four hours of incubation, PVC catheters bound significantly more CNS than CPS ($p < 0.01$), while HBP catheters bound significantly more CPS than CNS ($p < 0.01$). FN significantly increased adherence of CPS to PVC ($p < 0.01$) catheters and CNS to HBP ($p < 0.01$) catheters. PVC catheters bound significantly more FN ($p < 0.01$) than HBP catheters. In summary, 1) the adherence of staphylococci to commonly used indwelling catheters appears species specific and 2) staphylococcal adherence to IV catheters may be enhanced by fibronectin. Catheter composition and its bacterial adherence characteristics may influence the spectrum of nosocomial pathogens to which the infant is susceptible.

1158 LYMPHOCYTE FUNCTION AND T-CELL SUBSET RATIO DURING CYTOMEGALOVIRUS INFECTION OF MICE. Matthew S. Sell, James F. Bale, Jr., (spon. by Edward F. Bell), University of Iowa College of Medicine, Department of Pediatrics, Iowa City, Iowa.

Cytomegalovirus (CMV) infections of humans and animals have been associated with altered cell-mediated immunity and enhanced susceptibility to secondary bacterial and fungal infections. In previous experiments, we observed that helper to suppressor lymphocyte (H:S) ratios were reduced during sublethal murine CMV (MCMV) infection. To correlate H:S ratios with T-lymphocyte function, we sublethally infected 3-wk old Balb/c mice with MCMV and measured the response of peripheral blood lymphocytes (PBL) to concanavalin A (Con A).

Day after infection		1	3	5	9	16	30
H:S ratio	MCMV	0.9	0.8	0.6	0.7	1.2	1.1
	Control	2.3	1.9	2.7	1.5	1.8	1.2
% reduction of Con A response		0	70	97	76	57	0

Results indicate that PBL response to Con A was reduced in MCMV infected mice on days 3, 5, 9 and 16, and corresponded to reductions in the H:S ratio. Alterations in H:S ratios preceded changes in lymphocyte function, and both abnormalities correlated closely with recovery of infectious virus from PBL, spleen and bone marrow. These results demonstrate that reduced H:S ratios during acute MCMV infection are accompanied by an impaired response of PBL to Con A. These observations may be relevant to the association between CMV and opportunistic infections in human organ transplant recipients.