460 TEMPORAL ASSOCIATION BETWEEN DTP VACCINATION AND SIDS. Larry J. Baraff, Wendy J. Ablon and Robert C. Weiss (Sponsored by James D. Cherry) UCLA School of Medicine, UCLA Hospital and Clinics, Department of Pediatrics, Los Angeles.

Because DTP, a reactogenic vaccine, is routinely given at two, four and six months of age, the period of highest incidence of SIDS (Sudden Infant Death Syndrome), this study was undertaken to determine if there is a temporal association between DTP immunization and SIDS. Parents of 145 SIDS victims who died in Los Angeles County between January 1, 1979 and August 23, 1980 were contacted and interviewed regarding their child's recent immunization and physician visit history.

Fifty-three infants had received a DTP immunization; 27 had been immunized within 28 days of death. Six deaths occurred within 24 hours, 17 within 1 week and 23 within 2 weeks of immunization. Deaths were significantly more frequent than expected within 24 hours and 7 days of DTP immunization.

Forty-six infants had a physician visit with no DTP immunization prior to death; 40 were seen within 28 days of death. Four deaths occurred within 24 hours, 22 within 1 week and 36 within 2 weeks of this visit. Deaths were significantly more frequent than expected during the first and second weeks post-physician visit when no DTP was given.

These data suggest that there may be a temporal association between both DTP immunization, and physician visits without DTP immunization, and SIDS.

461 SUBTYPING OF HAEMOPHILUS INFLUENZAE TYPE B BY OUTER MEMBRANE PROTEIN PROFILES: APPLICATION IN DAY CARE CENTER OUTBREAKS. Stephen J. Barenkamp, Robert S. Munson, Jr., Janet R. Gilsdorf and Dan M. Granoff, Washington Univ. School of Medicine, St. Louis, MO. and Univ. of Minnesota.

Haemophilus influenzae type b (Hib) may be subclassified into at least 11 different subtypes based on distinctive and stable outer membrane protein profiles as resolved by SDS-PAGE. We compared the subtypes of Hib isolates obtained from index patients, and their respective day care center (DCC) contacts, in 5 centers with 13 cases of invasive disease and 398 contacts. Subtyping was performed on 10 of the 13 isolates from index patients, and 67 of the 77 nasopharyngeal (NP) isolates from contacts. With one exception, invasive isolates from cases within the same center had homologous subtypes (the exception was in a DCC with 2 cases separated by 2 months). 55 of 67 NP isolates (82%) from contacts had subtypes homologous to their respective index isolates. Strains with heterologous subtypes probably represent background carriage (3.4% of all contacts). In the DCC with 2 cases caused by different strains, 23/67 contacts were colonized with the first strain, and 9/67 with the second strain. Carriage in many of the contacts persisted for 1-6 months, and in each child the subtype remained constant (up to 9 positive cultures). NP isolates from 4 household contacts of DCC carriers had homologous subtypes to those found in their respective DCC contacts. Subtyping of Hib by outer membrane protein profiles is an important epidemiologic tool, and provides a method for distinguishing between epidemic and nonepidemic Hib strains.

462 THE INCIDENCE OF NEONATAL ENTEROVIRAL DISEASE. Ivor D. Berkowitz, Marilyn A. Menegus, and Keith R. Powell (Spon. by David H. Smith), University of Rochester Medical Center, Strong Memorial Hospital, Rochester, NY.

In order to assess the frequency of serious enteroviral disease in the neonate the records of the Monroe County Health Department/Strong Memorial Hospital virus laboratory were reviewed for a 5-year period (1976-1980). Our laboratory is the only viral diagnostic facility for a community of 750,000 people with 10,000 live births/year. Enterovirus was isolated from 68 hospitalized infants $\leq$1 month of age and included 33 Echo, 2 Coxsackie A, 31 Coxsackie B, and 2 Enterovirus 71. Virus was isolated from the CSF of 22 neonates and 46 children with an undefined febrile illness.

Recognizing the fact that not all infected infants were cultured and that not all of the infected infants included were from Monroe County the approximate incidence of neonatal enteroviral disease was calculated using as a denominator live births in Monroe County during the "enterovirus season" (June-Nov.).

	Mean/1000	(range)
Hospitalized patients	2.7	(1.6-4.8)
Meningitis	0.92	(0.6-2.2)
Death	0.16	

These data suggest that enteroviral disease is more common in the neonate than generally appreciated.

462A NEONATAL STABILIZATION SCORE(NSS) & OUTCOME(MORTALITY) Madhu Bhogal, Angelo Ferrara. NYU/Bell. Dept. of Peds. NYC

233pt. charts of '79 were reviewed (total of surnames (A→E). Five criteria of managem't were evaluated (resp. care, environ care, lab data, IV & meds) & each item could receive a score of 0, 1, or 2. An optimal NSS is 10. Neonates were sent from 27 hosp. which were grouped into 4 types of hosp: I-A with residency program or organized neonatal teaching; I-B Basic care provided with no residency prog; II-A Teaching hosp. of higher level of care; & II-B Care ↓ II-A. There was no signif. diff. in wt. distribution of NB transported from the 4 types of hosp. Wt. specific groups were analyzed. Results: 1) The mean stabilization scores were signif. lower in I-B hosp. compared to others (F^{3}_{8}=47.6, P<.001) 2) Signif.↑ in survival were noted in I-A (compared to I-B hosp). This was true only for wt. <1500g. 3) NSS were consistently high in level II hosp. & there was no significant mortality between II-A & II-B in all wt. categories. Fig. I: NEONATAL STABILIZATION SCORE($\bar{X}\pm$1SD)(%Survival)

	IA(N=7Hosp)	IB(N=7)	IIA(N=6)	IIB(N=4)
<1500	N=29(79.3%)	N=22(50%)	N=7(57%)	N=14(71%)
	5.9 ± 2.0	3.9 ± 1.6	7.6 ± 2.7	8.9 ± 1.7
1501-2500	N=29(86.2%)	N=35(94%)	N=9(91%)	N=8(88%)
	7.8 ± 3.9	4.1 ± 1.7	8.4 ± 2.6	7.6 ± 2.6
>2500	N=24(96%)	N=21(100%)	N=12(83%)	N=13(85%)
	7.9 ± 2.3	5.6 ± 2.5	8.9 ± 2.4	7.9 ± 2.1
TOTAL	N=82(87%)	N=78(83%)	N=28(79%)	N=35(80%)
	7.2 ± 3.0	4.4 ± 2.0	8.4 ± 2.5	8.2 ± 2.1

● **463** CELLULAR IMMUNE RESPONSES TO VARICELLA-ZOSTER (VZ) IN THE AGED. Bryan L. Burke, R. Craig Davis, Daniel J. Marmer, Owen W. Beard, and Russell W. Steele. Univ. of Arkansas for Medical Sciences, Dept. of Pediatrics, Little Rock.

Skin test reactivity and in-vitro lymphocyte stimulation responses to V-Z were examined in a large normal population ranging in age from 6 months to 93 years. Emphasis was on evaluation of specific immune competence of the aged. V-Z antigen was prepared from an infected culture of diploid cells. Positive V-Z skin test reactivity by age was as follows: 0-12 mo.(non-immune) 0%; 1-10 yr.-100%; 10-20 yr.-100%; 20-30 yr.-96%; 30-40 yr.-92%; 40-50 yr.-72%; 50-60 yr.-39%; and 60-100 yr.-9%. Thus, waning of cellular immunity as examined by skin delayed hypersensitivity began at age 40. Skin test responses to phytohemagglutinin (PHA) however, remained positive into the 10th decade. In-vitro lymphocyte stimulation responses to V-Z were usually positive (stimulation index $\geq$ 2.5) until age 60 after which time levels as observed with non-immune individuals were often demonstrated. These in-vitro results appear more sensitive in discriminating susceptibility to reactivation disease. Similar data were observed in a large group of cancer patients who, at a younger age, have depressed reactivity and likewise represent a high risk group for V-Z infection. Antibody as measured by FAMA (fluorescent antibody to membrane antigen) remained positive into the 9th and 10th decades, especially with a history of reactivation (Zoster) V-Z infection; on the other hand, skin test and in-vitro responses were rarely positive in those individuals. Thus, cellular as contrasted with humoral deficiency may account for a propensity to reactivation of varicella-zoster virus.

464 PRENATAL CARRIAGE OF GBS: IMPORTANCE OF THE GUT AS A RESERVOIR. Hugh C. Dillon, Elizabeth Gray, Mary Ann Pass and Barry M. Gray. University of Alabama in Birmingham, Department of Pediatrics, Birmingham, Alabama.

Studies on the natural history of group B streptococcal (GBS) infection, initiated in 1977, have revealed an attack rate of neonatal sepsis of 4/1000 live births. Intrauterine and intrapartum acquired infections were demonstrated; sources of late onset infection remain less certain. We now report a longitudinal study of prenatal carriage involving 2541 women enrolled over a 3 year period, from whom anal and vaginal cultures were taken. Carrier rates, according to culture site, were: anal only, 17%; vaginal only, 4%; anal and vaginal, 15%, with an overall rate of 36%. Overall rates calculated yearly for 1977, 1978 and 1979, were 37%, 36%, 33%, respectively. The serotype distribution (3 yr total) was: Type III (31%); II (24%); Ia (23%); Ib (10%) and Ic (6%). Among 310 instances of simultaneous anal-vaginal carriage, serotype concordance was 85%. Further analysis of data by positive site for 913 carriers revealed the importance of the gut as a reservoir for GBS. 89% had positive GBS anal cultures (± pos vaginal) compared to 52% with positive GBS vaginal cultures (± pos anal). The gut is the likely source for birth canal colonization, and may also be an important source of GBS in infants who develop late onset disease.