	Phos. Excretion mg/24 hr/1.73 M^2	Phos. Clearance ml/min/1.73 M^2	Urinary CAMP 24 hr nanomoles	Urinary CAMP 24 hr μmoles per gm creat
Mean ± S.E.M.				
Day 1	7.86 ± 2.56	0.09 ± 0.03	53.2 ± 10.89	2.37 ± 0.41
Day 2	443.50 ± 77.12	3.49 ± 0.62	208.6 ± 37.00	6.93 ± 0.96

This 3–4 fold increase in cyclic AMP could reflect increasing PTH renal responsiveness and/or increasing secretion of PTH. One and 3 day old infants and adults were given a one hour PTH infusion (5 μ/Kg/hr) measuring urinary cyclic AMP in time periods before and after the infusions. Peak increases in responses from baseline of cyclic AMP were 1.64 ± 0.34, 7.15 ± 1.15 and 36.30 ± 0.73 μmoles/gm creatinine mean ± range on first day, third day and adults respectively with similar relationships of increasing phosphate excretion and decreasing % TRP. Thus, the development of newborn renal responsiveness to parathyroid hormone is on the cellular cyclic AMP level suggesting increasing maturation of the enzyme adenyl cyclase which forms cyclic AMP from ATP.

Pseudohypoparathyroidism without clinical stigmata. ROBERT M. CORWIN, GAETANO VISCO, and WILLIAM H. BERGSTROM. *State Univ. of New York Upstate Med. Ctr., Syracuse, N. Y.*

Five cases of pseudohypoparathyroidism without the usually associated clinical stigmata of short stature, mental retardation, brachydactylia and moon facies have recently been identified in Syracuse. Four of the cases are in the same family. The familial proband was a 12 year old, previously asymptomatic girl who, following a grand mal seizure, was found to have hypocalcemia, hyperphosphatemia, an elevated alkaline phosphatase and radiologic hyperparathyroidism. She was refractory to parathyroid extract but did respond to large doses of calciferol. Her father, brother, and two of her three sisters were clinically and biochemically normal. However, her 46 year old mother and 20 year old sister had biochemical pseudohypoparathyroidism. Investigation of this family has also revealed a maternal uncle with pseudohypoparathyroidism and a 79 year old healthy maternal grandfather with biochemical evidence of hyperparathyroidism. The fifth case is that of a tall, thin, highly intelligent black male who has been followed for 12 years with a history of grand mal seizures controlled with anticonvulsant medications (Dilantin, Phenobarbital and Mysoline). After a wrist injury, x-rays revealed unsuspected bone resorption. Subsequent studies disclosed hypocalcemia, hyperphosphatemia, elevated alkaline phosphatase, and generalized osteitis fibrosa cystica. He was refractory to parathyroid extract but did respond to large doses of calciferol with complete healing of the bone lesions. These five cases are presented to re-emphasize the fact that pseudohypoparathyroidism need not be associated with clinical stigmata.

Improved prognosis in congenital hypothyroidism treated before three months. Behavior concerns of parents of treated cretins. ALAN KLEIN, STEPHANIE MELTZER, and FREDERIC M. KENNY (Intr. by T. K. Oliver). *Univ. of Pittsburgh Med. Sch., Pittsburgh, Pa.*

We explored the possibility that a critical period exists during the first few months of life, when treatment should be started in order to obtain a normal IQ. Previous publications have not fractionated the first 6 months of therapy for comparison of IQ results by a single test procedure. Thirty-one cretins were tested by Stanford Binet after age 3 years. A significantly higher percentage had IQ > 85 when treated before 3 months (Chi-Square $p < 0.02$) indicating that thyroprevia is most harmful during the period that CNS neuronal number is increasing.

Age in Months When Treated	<3	3-4	5-6	>7
Number of patients with IQ > 85	7	1	2	0
Number of patients with IQ < 85	2	7	6	6

Questionnaires disclosed twice as many behavior concerns in parents of cretins with IQ < 85 than in those with IQ > 85 whose parents had no more worries than those of age matched normals. Parents had anxiety about punishment of these children who were characterized as "high strung, stubborn, contrary" and whose "feelings were easily hurt." Concern was high regarding future education and jobs.

Since clinical diagnosis of cretinism is difficult during the first 2 months of life, and since it is as common (1:8,000 live births) as phenylketonuria (1:10,000), a routine screening procedure is warranted. Systematic psychological counseling should be an integral part of therapy.

Placental transfer of thyronines and thyrotropin in sheep. JEAN H. DUSSAULT, JOSEPH J. DISTEFANO, and DELBERT A. FISHER. *UCLA Sch. of Med., Harbor General Hosp., Torrance, Calif.*

Data in a number of species suggest that placental transport of thyronine is limited in extent. Data regarding placental passage of TSH is indirect but suggests little or no transfer. The present studies were conducted to quantify T4, T3 and TSH transfer directly in both the maternal-fetal and fetal-maternal directions. Indwelling exteriorized fetal catheters and maternal jugular vein catheters were placed in pregnant sheep. Simultaneous tracer doses of 131-I-T4 and 125-I-T4 were injected into the fetus and mother, respectively, in one study (6 animals); 131-I-T3 and 125-I-T3 in another (6 animals); and 131-I-BTSH and 125-I-BTSH in a third (5 animals). Serial blood samples were collected for periods up to 96 hours. These were extracted with butanol (for T3 and T4) or ppt with specific BTSH antibody (for TSH), and counted in a double isotope counting system to assess placental transfer of labeled hormones. There was no significant transfer of labeled T4 or TSH. However significant transfer of labeled T3 occurred in both the fetal-maternal and maternal-fetal directions. By assessing maternal and fetal T3 kinetic data and assuming exchange between two compartments it was possible to quantify this transfer. Fractional transfer rates were 0.045 and 0.0023 hr.-1 in the fetal-maternal and maternal-fetal directions respectively. Since hormone pools and turnovers were measured it could be estimated that about 2 μg T3 were transferred daily in both directions. This approximated 0.5% and 2.0%, respectively, of total daily maternal and fetal thyronine turnover. These data further support the view that the fetal pituitary-thyroid axis functions autonomously of the maternal system.

Neonatal and early childhood hyperthyroidism: An expression of hereditary Graves disease. DOROTHY R. HOLLINGSWORTH, C. CHARLTON MABRY, and JOHN M. ECKERD. *Univ. of Kentucky, Lexington, Ky.*