Bridgman's compression for Ba at 62 kb is 0.345 compared to our x-ray value of 0.359 ± 0.005. Below the transition, at 49 kb, Bridgman's compression is 0.288; ours is 0.300 ± 0.005. In both instances our measurements indicate 4 percent greater compression than Bridgman's, but they confirm his volume transition and its magnitude.

Diffraction measurements at pressures up to the 59-kb transition (at room temperature) indicate only the presence of the normal body-centered cubic structure. We observed no discontinuity in d values in the vicinity of 17 kb. This casts serious doubt on the existence of a transition at this point (*4*).

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Serum Uric Acid in Young Mongoloids

Abstract. *A highly significant increase ($P < .005$) in average uric acid level was found in the blood serum of 25 mongoloids in the age range of 2 to 12 years, with a mean age of 6 years, when levels were compared with those in nonmongoloid, mentally retarded children. These data confirm our previous results with 40 mongoloids whose mean age was 23.7 years, and indicate that elevated uric acid levels are present throughout most of the life of these subjects.*

We have shown previously (*1*) that serum uric acid levels are elevated in mongolism. Since only four of the mongoloids were less than 10 years of age (age range 6 to 47, mean age 23.7 years), a sampling of younger mongoloids was needed. Inasmuch as the Fort Wayne State School has no mental retardates under 6 years of age, blood samples were obtained from children at the Northern Indiana Children's Hospital, South Bend, Indiana (*2*).

Sixteen male mongoloids and nine female mongoloids were matched with respect to age and sex to other nonmongoloid mental retardates, who were not suffering from any known metabolic disturbances. All subjects were on the same institutional diet and other environmental conditions were similar. None were receiving any medication known to affect serum uric acid. One blood sample from each fasted subject was obtained by venipuncture or heel puncture, and the serum was frozen immediately and later stored in the deep freeze at the Fort Wayne State School.

Uric acid in the serum was determined by an ultramicro modification of the method of Eichhorn *et al.* (*3*). In each determination 25 μl instead of 0.3 ml of serum were used, and all volumes were decreased proportionately. Optical density was measured in a Beckman DU spectrophotometer at the absorption maximum of 710 mμ exactly 10 minutes after the addition of phosphotungstic acid. The average standard deviation of triplicate or quadruplicate determinations was ± 0.07 mg/100 ml for the 50 samples of serum examined.

In Table 1 are listed the mean values of triplicate or quadruplicate determinations. The average amount of uric acid in the serum of the mongoloids was 5.42 mg/100 ml, which is significantly higher ($P < .005$) than the average level of 3.87 mg/100 ml in the other retardates (*4*). Uric acid levels were not related significantly to age or sex in either group. These data confirm our previous results (*1*), and indicate that elevated uric acid levels are present throughout most of the life of the mongoloid.

In the present study, the average uric acid levels (5.42 and 3.87 mg per 100 ml for mongoloids and nonmongoloids, respectively) are both lower than those observed previously (*1*) in older subjects (6.36 and 5.06 mg per 100 ml, respectively). These differences can not be explained on the basis of methodology, since a micromodification of the method used previously was used in this study. One explanation may be that the food served at the Northern Indiana Children's Hospital has a lower purine content than that served at the Fort Wayne State School. Because of this variable, average uric acid values are significant only when groups are compared under the same environmental conditions (*5*).

Table. Uric acid levels (mg/100 ml serum).

Age	Mongoloids	Others
	Males	
2	5.78	6.07
3	4.75	3.67
4	6.48	3.71
4	5.49	3.61
4	4.20	3.20
4	4.17	3.16
5	6.82	5.15
6	4.85	4.14
6	5.56	4.23
6	4.48	3.31
7	5.61	1.71
8	3.07	3.45
8	4.90	2.90
8	6.15	5.96
9	5.30	4.30
12	4.77	4.02
	Females	
3	5.92	5.04
3	4.66	3.31
4	4.36	3.72
5	5.32	3.01
5	7.79	3.91
7	9.62	4.09
7	5.35	2.88
9	6.26	2.06
10	4.06	4.51

Range (and average):	
Male mongoloids:	3.07–6.82 (5.15)
Other males:	1.71–6.07 (3.91)
Female mongoloids:	4.06–9.62 (5.93)
Other females:	2.06–5.04 (3.61)
Average (all mongoloids)	5.42
Average (all nonmongoloids)	3.87

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