

## LEARNING DISORDERS

### ASPARTAME AND LEARNING AND BEHAVIOR

The effects of aspartame on learning, behavior, and mood of 9-10-year-old normal children were examined in the Department of Nutritional Sciences, University of Toronto, Ontario, Canada. Measures of associative learning, arithmetic calculation, activity level, social interaction and mood were unaffected by treatment with Kool-Aid containing 1.76 gram/kg of carbohydrate (polycose) plus either aspartame (34 mg/kg) or the equivalent sweetness as sodium cyclamate and amino acids as alanine. In a second experiment in which children received a drink of cold, unsweetened strawberry Kool-Aid containing either 1.75 gram/kg of sucrose or 9.7 mg/kg of aspartame, the frequency of minor and gross motor behaviors was significantly less after the consumption of sucrose than after aspartame treatment. (Saravis S et al. Aspartame: effects on learning, behavior and mood, Pediatrics July 1990; 86: 75-83).

COMMENT: The authors concluded that the effects of aspartame on short-term behavior were more likely due to an "absence of metabolic consequences of providing sweetness rather than to neurochemical consequences related to its amino acid composition". The observed reduction in activity following sucrose ingestion is in agreement with some previous reports and adds to the controversy concerning hyperactivity and sugar. The tests in the above study that failed to show significant effects of aspartame included the Conditional Associative Learning Task, the Canadian Tests of Basic Skills, the Children's Depression Inventory and the State-Trait Anxiety Inventory for Children. The minor and gross motor behaviors which showed significant improvement with sucrose included the actometer measure, a modified self-winding wrist watch, and a video taped observation of behavior. The children in this study were normal and different responses may occur in patients with ADHD.

### HANDEDNESS, STUTTERING AND ALLERGIES

The relationship of left-handedness to allergic disorders and stuttering, using epidemiological data of two French samples, is reported from L'Institut National de la Sante et de la Recherche Medicale, Villejuif, France. A higher frequency of stuttering, but not of allergic disorders, occurred in left-handers. Extreme right-handedness was significantly associated with a lower frequency of allergic disorders. The Geschwind-Galaburda theory of cerebral dominance was not supported by these findings. Any significant association of allergic disorders with handedness disappeared after the exclusion of the extreme right-handers. On the contrary, stuttering was associated with left-handedness even after exclusion of extreme handedness. (Dellatolas G et al. An epidemiological reconsideration of the Geschwind-Galaburda theory of cerebral lateralization. Arch Neurol July 1990; 47:778-782).