

Educational Update:

More success with early intervention

In what is considered a landmark study, professionals who first diagnosed two children as severely autistic now report that both children, who received therapy based on techniques developed at the Early Autism Project at UCLA, are now indistinguishable from non-disabled children. (The siblings' recovery is described by their mother, Catherine Maurice, in *Let Me Hear Your Voice*.)

Noting that the brain is still "plastic" in very young children, Richard Perry, Ira Cohen and Regina DeCarlo suggest that "in autistic children whose condition is as yet modifiable, rigorous behavioral therapy modifies the neural circuitry before the condition becomes permanent."

Ivar Lovaas' 1987 report that nearly half of the autistic children in his UCLA program apparently recovered within several years seemed incredible at the time, since few recoveries from autism had ever been reported. But additional educational programs are reporting similar results. The latest study is from the Murdoch Center in Australia, which reports significant improvements in students even though their program is far less intensive than the UCLA program.

UCLA enrolls students at an early age (preferably three or younger), and provides them with intensive, highly structured behavior modification. The program uses one-on-one training, is conducted by highly trained therapists, and requires that parents be trained as well so that the child's education is continuous.

Researchers at the Murdoch Center structured their program after the UCLA program, but were only able to provide about 20 hours per week of therapy (only half of what UCLA considers necessary). In addition, while the UCLA staff are all highly trained before starting to teach, the Australian researchers say they "have had to rely almost entirely upon on-the-job training." Furthermore, the Australian program has chosen to forego several of the mild aversives used by UCLA.

In spite of these differences, the Murdoch Center reports that four of nine children in their experimental group "have shown signs of approaching normal levels of functioning" after 24 months of therapy, compared to only one of five children in a control group. "The high achieving group," they say, "had begun to communicate, engage in appropriate play with toys and peers, display few tantrums, were toilet trained and were learning other self-help skills." They made substantial gains in language, IQ, and adaptive behavior, although behavior and language continued to be well below chronological age. Little change was seen in self-stimulatory behavior.

The researchers conclude that while the UCLA program is a model to strive for, "substantial gains are realizable in less than the ideal circumstances Lovaas describes."

Editor's note: for additional information, see page 6.

"Case study: deterioration, autism, and recovery in two siblings," Richard Perry, Ira Cohen, and Regina DeCarlo; *Journal of the Amer. Acad. of Child and Adolescent Psychiatry*, 34:2, February 1995. Address: Richard Perry, Department of Psychiatry, New York University Medical Center, 550 First Ave., New York, NY 10016.

—and—

"The Murdoch Early Intervention Program after two years," Jay S. Birnbrauer and David J. Leach; *Behaviour Change*, Vol. 10, No. 2, 1993, pp. 63-74. Address: either author at Department of Psychology, Murdoch University, Perth WA 6150, Australia.

Hand-mouthing stopped

Many retarded and autistic individuals exhibit chronic "hand-mouthing" behavior—that is, they place their fingers or hands in their mouths for long periods of time. Even minor hand-mouthing is unsanitary and unsightly, while more severe behavior can limit activities and lead to hand lesions and infections.

"In very severely handicapped individuals with minimal adaptive repertoires, hand-mouthing may be one of the few sources of reinforcement over which these individuals have reliable control," say Texas researchers Kirk Lockwood and Don Williams. "They may pursue mouthing to the exclusion of other activities that may provide alternative sources of reinforcement as well as training that may enable them to contact other sources of reinforcement." Thus, they say, a combination of treatment techniques—including mild aversives—may be necessary to suppress the behavior long enough to allow other reinforcers to be introduced.

The two researchers recently tested three behavior modification techniques (one aversive and two non-aversive) separately and in combination, to see how well they reduced the chronic, long-term hand-mouthing of a 24-year-old retarded man. The approaches were:

—water misting (in which a brief spray of room-temperature water was squirted at the subject when the behavior occurred);

—differential reinforcement of incompatible behaviors (DRI), in which the man received a reward for placing his hands on his lap, a behavior incompatible with mouthing; and,

—differential reinforcement of other behaviors (DRO), in which the man was reinforced for any appropriate, non-mouthing activities.

The researchers report that "implementing the DRO, DRI, and water misting procedures in combination resulted in an initial 85% rate reduction." Subsequent testing revealed that DRO and DRI, without water misting, were ineffective, while misting plus either other technique was highly effective.

"Direct care staff have implemented the DRI and contingent watermist procedures throughout the participant's waking hours

for nearly three years," the researchers conclude, "with almost complete elimination of hand-mouthing."

"Treatment and extended follow-up of chronic hand mouthing," Kirk Lockwood and Don E. Williams; *Journal of Behav. Therapy and Exp. Psychiatry*, 25, 1994, pp. 62-71. Address: Kirk Lockwood or Don E. Williams, Behavioral Services Division, Richmond State School, 2100 Preston Street, Richmond, TX 77469.

Rumination treated

Ruminative vomiting—regurgitating and re-swallowing food that has already been eaten—is a rare but serious behavior problem, most commonly seen in severely or profoundly retarded individuals. Attempts to treat the problem can be frustrating because it frequently involves multiple factors including food intolerances, digestive tract abnormalities, sensory or social reinforcement, and escape from undesirable tasks.

James Luiselli and colleagues recently developed a multi-component program aimed at eliminating ruminative vomiting in a 15-year-old autistic boy. Before treatment, the boy averaged nearly 70 incidents of rumination a day. Treatment consisted of:

—**Dietary control.** Foods consistently associated with the rumination were removed from the boy's diet, or restricted.

—**Satiation.** To ensure that the boy wasn't ruminating due to hunger, staff members offered him up to three portions of each food at each meal (later reduced to two portions), plus snacks during the day.

—**Avoidance of anxiety.** Since the boy appeared somewhat anxious about eating with other children, he was fed in a quiet area with no one present except a staff member. Later, the boy was gradually reintroduced into the group setting.

—**Pacing.** To eliminate the potential for vomiting due to too-rapid eating, the time between meal portions was increased.

—**Contingent response.** When the boy exhibited ruminating behavior, staff members ignored it and continued their activities. If he vomited, he was prompted to clean himself and change his clothing if necessary.

—**Medication.** The boy received 20 mg. of Pepcid (a medication used to treat gastrointestinal problems) twice a day during treatment.

While many of these steps had been used previously, the researchers note, they had not been effective in controlling the boy's behavior. However, when used together, they successfully reduced his incidents of rumination to less than one per day at a four-month follow-up.

"Behavioral medicine treatment of ruminative vomiting and associated weight loss in an adolescent with autism," James K. Luiselli, JoAnn Medeiros, Carol Jasnowski, Ann Smith, and Michael J. Cameron; *Journal of Autism and Dev. Disorders*, Vol. 24, No. 5, 1994. Address: James K. Luiselli, Psychol. and Educ. Resource Assoc., 40 Bronson Way, Concord, MA 01742.