

Biomedical/Education Update:

New report on holding therapy

In a recently published study, Italian researchers Michele Zappella et al. say the controversial treatment known as "holding therapy" caused rapid improvement in two of ten autistic children they treated. Meanwhile, a new article by U.K. researchers Dawn Wimpory and Victoria Cochrane is highly critical of Zappella's statements about holding therapy's effectiveness.

Holding therapy involves "intrusive interaction" between parents and child. The parent holds the autistic child on his or her lap—forcibly, if the child does not cooperate—and makes close eye contact while talking with, tickling and touching the child.

Theories as to why holding therapy appears effective with some children vary from the restoration of a "maternal bond" to stimulation of the cerebellum, or changes in brain chemical levels caused by the child's struggles to be released. Temple Grandin, a recovered autistic woman who has done extensive research on the subject, believes that holding therapy may be similar to "breaking" a horse by getting it accustomed to touch. Researchers Michael Powers and Carolyn Thorwarth have used holding as a negative reinforcer, teaching autistic children to tolerate physical contact by increasing the amount of "holding" time required for them to earn free time.

In the current study, Zappella and colleagues report, one girl "had lost every trace of autistic behavior and was normal in every respect" after 12 months of holding therapy, and another girl's autistic behaviors had disappeared although her IQ score was still below average. The researchers say that six of the remaining children "improved to various degrees, but none of them was free from autistic behavior" at the end of the study. Two other boys did not appear to have improved at all.

U.K. article questions claims for holding

In a reply to an earlier research review by Zappella, Wimpory and Cochrane are highly critical of Zappella's statement that research shows holding therapy achieves results "much better than generally claimed for other therapies." Wimpory and Cochrane reviewed existing studies on holding, and say that the studies included children with mixed diagnoses, did not use control groups and/or baseline periods for comparison, reported more adverse effects or less positive effects than cited by Zappella, and/or mixed holding therapy with other techniques such as behavior modification. In particular, they say, the studies they reviewed made no claim that autistic participants lost their autistic symptoms and became "normal" following treatment.

Wimpory and Cochrane say a more definitive answer about holding therapy may come from a controlled study currently being conducted by U.K. researchers Newson, Jones and Meldrum. The study will compare six groups of matched children with autism, each receiving different forms of therapy, including holding therapy.

"Parental bonding in the treatment of autistic behavior," Michele Zappella et al.; *Ethology and Sociobiology*, 12, pp. 1-11, 1991. Address: Michele Zappella, Director, Servizio di Neuropsichiatria Infantile, USL 30, via Mattioli 10, I-53100 Siena, Italy.

—and—

"Criteria for evaluative research—with special reference to Holding Therapy," Dawn Wimpory and Victoria Cochrane, *Communication* (Journal of the Nat. Autistic Soc. of the U.K.), Vol. 25, No. 2, June 1991, pp. 15-17. Address not given.

Football mouthguards prevent self-injury

Custom-fitted plastic mouthguards similar to those worn by football players can successfully prevent severe lip-biting and tongue-biting, according to Stephen Finger and Donald Duperon of UCLA.

The two dentists, who tested different devices on three children who became severely self-injurious following encephalitis, say that the football-type mouthguards are more effective, easier to manufacture, and easier to clean than the hard acrylic devices they tested. More importantly, they say, the football mouthguards are much safer than the hard acrylic devices, which break much more easily and can be inhaled or swallowed.

"The management of self-inflicted oral trauma secondary to encephalitis: a clinical report," Stephen Finger and Donald Duperon; *Journal of Dentistry for Children*, Jan.-Feb. 1991, pp. 60-63. Address: Donald Duperon, Section of Pediatric Dentistry, UCLA School of Dentistry, Los Angeles, CA 90024.

More on Rett . . .

Evidence continues to mount that defects of the mitochondria—energy producing "factories" within cells—are linked to Rett syndrome, a progressive disorder which affects only girls (with a few possible exceptions) and which, in its early stages, can resemble autism.

Several research groups have previously reported finding structural abnormalities in the mitochondria of patients with Rett. Now researchers Steven Coker and Andrew Melnyk report on three girls whose mitochondrial structure appeared normal under light and electron microscopy. Further tests, however, revealed mitochondrial enzyme deficiencies in all three girls.

"Rett syndrome and mitochondrial enzyme deficiencies," Steven Coker and Andrew Melnyk; *Journal of Child Neurology*, Vol. 6, No. 2, pp. 164-166, April 1991. Address: Steven Coker, Dept. of Neurology, Loyola University Stritch School of Medicine, Section of Genetics, 2160 S. 1st Ave. Maywood, IL 60153.

Task Demonstration Model effective

The Task Demonstration Model is an excellent way to teach skills to developmentally disabled individuals, according to Kathryn Karsh et al.

The researchers tested two different techniques to teach six retarded individuals to read new words:

—TASK DEMONSTRATION MODEL (TDM), in which trainers present many examples of both correct and incorrect items while gradually increasing their similarity, thus forcing the student to make finer and finer discriminations. For instance, if trying to teach the word "fish," the trainer will assemble many sizes and typographical variations of the word "fish" and of incorrect words. The trainer will ask the student to discriminate between the correct word (in various forms) and the incorrect words, starting with least-similar incorrect word and working up to moderately similar and then very similar words. Non-essential features of the words, such as color or background, also are varied so that students do not focus on an incorrect feature.

The students first learn to match (for instance, placing the word "fish" on another word "fish," rather than on "bookcase.") Then they are taught to identify the correct sample ("touch the fish.")

—STANDARD PROMPTING HIERARCHY sessions, in which trainers offer increasing levels of prompts as needed to help students learn the correct answer. The trainer may repeat instructions, point to the correct answer, model the correct response, provide a partial physical prompt, or provide full physical prompting if needed.

Karsh et al. say that TDM "produced fewer errors in acquisition, generalization, and maintenance" of skills than the standard prompting technique. "The Task Demonstration Model was always as good as the Standard Prompting Hierarchy," they say, "and was usually better." Karsh says educators have used TDM successfully to teach number identification, time-telling, grocery selection, bus riding, and other skills.

The researchers add that whichever technique is used, students appear to do better when taught to match to a sample before being asked to identify an item. Many educators, they say, skip the match-to-sample step, but Karsh et al. say it is "easier to pick [a correct item] when a sample is there than when it is not, and matching-to-sample might be considered a prerequisite to identification."

"A comparison of the Task Demonstration Model and the standard prompting hierarchy in teaching word identification to persons with moderate retardation," Kathryn Karsh, Alan Repp, and Mark Lenz; *Research in Developmental Disabilities*, Vol. 11, pp. 395-410, 1990. Address: Kathryn Karsh, Educational Research and Services Center, Inc., 425 Fisk Avenue, DeKalb, IL 60115.