

Educational/Biomedical Update:

Massage therapy aids sleep, attention

A simple massage each night can significantly reduce sleep problems and stereotyped behaviors and improve autistic children's classroom performance, according to a new study.

Angelica Escalona and colleagues randomly assigned 20 autistic children between the ages of three and six to a massage group or a control group (which was read bedtime stories each night). A massage therapist trained the children's parents to perform a 15-minute, moderate-pressure massage of the children's arms and hands, legs, front, and back. After one month, the researchers compared the behavior and sleep patterns of the two groups.

The children receiving massages became more attentive during classroom work, Escalona and colleagues say, and exhibited fewer stereotypical behaviors both in the classroom and on the playground. In addition, they exhibited lower levels of fussiness, crying, self-stimulating behavior, and out-of-bed episodes during the night.

The researchers say that while the reasons for the benefits of massage aren't known, "massage therapy has been noted to enhance parasympathetic (vagal) activity, which is highly correlated with attentiveness."

"Brief report: improvements in the behavior of children with autism following massage therapy," Angelica Escalona, Tiffany Field, Ruth Singer-Strunck, Christy Cullen, and Kristen Hartshorn, *Journal of Autism and Developmental Disorders*, Vol. 31, No. 5, October 2001, 513-516. Address: Tiffany Field, Touch Research Institutes, University of Miami School of Medicine, P.O. Box 016820 (D-820), Miami, FL 33101.

Risperidone: positive results, but a warning

Studies continue to show that the drug risperidone (Risperdal) may be more effective in treating autism than other psychotropic drugs, but a new study adds to cautions about side effects.

In an open-label study, R. P. Malone and colleagues evaluated 13 children who took risperidone (at an average dose of 1.2 mg/day) for seven months, and then were weaned off it. The researchers say that "overall, the children had significant clinical improvement" as assessed by behavioral tests. However, two of the children developed developed temporary dyskinesia when the drug was discontinued. (Dyskinesia, a neurological disorder often caused by psychotropic drug use, results in abnormal, uncontrollable

muscle movements such as chewing or grimacing.) The researchers conclude that risperidone shows promise as an autism treatment, but that "further assessment of the risk of risperidone-related dyskinesias is indicated."

In a separate open-label study, Rasim Somer Diler and colleagues administered risperidone (average dose 1.53 mg/day) to 20 young autistic children. Four children withdrew from the study, two due to noncompliance and two due to an increase in agitation, anger, and aggression. Of the 16 children who completed the six-months study, the researchers say, 13 showed significant improvement, with the overall group showing positive changes on 11 of the 15 subscales of the Childhood Autism Rating Scale (CARS). Side effects included mild sedation in two subjects, weight gain in two, and restlessness in one.

"Risperidone treatment in children and adolescents with autism: short- and long-term safety and effectiveness," R. P. Malone, G. Maislin, M. S. Choudhury, C. Gifford, and M. A. Delaney, *Journal of the American Academy of Child and Adolescent Psychiatry*, Vol. 41, No. 2, 2002, 140-7. Address: Richard P. Malone, Department of Psychiatry, MCP Hahnemann University, Eastern Pennsylvania Psychiatric Institute, 3200 Henry Ave, Philadelphia, PA 19129.

—and—

"An open-label trial of risperidone in children with autism," Rasim Somer Diler, Sunay Firat, and Ayse Avci, *Current Therapeutic Research*, Vol. 63, No. 1, 2002, 91-102. Address not listed.

'KidTalk' program teaches social skills

Microsoft Research and the University of Washington's Autism Center have teamed up to create a computer program to teach social skills to individuals with Asperger syndrome or high-functioning autism.

The program, KidTalk, appears similar to an online chat room, with participants represented by "smiley-faces." The program offers participants scripts for different social occasions, and asks them to make social responses. When they respond appropriately, they receive points and smiling faces. When they are under- or over-responsive, their "smiley-face" icon moves away from the onscreen group. Sessions are moderated by a therapist who can offer advice privately.

The program's developers are currently using KidTalk to supplement face-to-face therapy sessions offered by Felice Orlich, a University of Washington neuropsychologist helping to develop the program. A pilot test of the program is underway.

"Microsoft, UW develop program to treat autism syndrome online," Allison Linn, *Seattle Times*, March 11, 2002.

Life expectancy lower for people with autism

Autistic individuals have a lower life expectancy than non-disabled people, according to a recent study.

Robert Shavelle et al. compiled data on 13,111 autistic subjects followed from 1983 to 1997. The subjects, all ambulatory, were selected from the database of the California Department of Developmental Services. Data on the date rate for subjects, and their causes of death, were compared to expected mortality rates and causes according to an analysis of data for the general California population.

The researchers report that "on average in [the autistic] group the mortality was more than double that of the general population." For autistic individuals with normal IQs or only mild mental retardation, deaths from seizures, nervous system dysfunction, drowning, and suffocation were all three times as high as for non-disabled controls. Subjects with more severe retardation were more than three times as likely as non-disabled controls to die from all causes of death except cancer and causes too statistically insignificant to be listed separately. (Accidental deaths other than drowning and suffocation were actually lower for autistic individuals, the researchers note, probably because "teenagers with autism may lack the same opportunities for risky behavior" compared to non-disabled teens.) The highest discrepancy was in the 5-to-10 age category, particularly for girls with autism, who had a 16.8 times higher standardized mortality rate during this age period than non-disabled controls.

The researchers say future investigations should focus in particular on the reason for high death rates due to epilepsy and drowning, and should also examine the possible contribution of medications that can cause long QT syndrome (a heart abnormality often linked to sudden death) to the elevated mortality rates seen in autism.

(Editor's note: David Strauss, a co-author of this study, is one of the researchers who reported in 1996 that the death rate of mentally retarded individuals in community settings is far higher than the rate for comparably disabled individuals in institutional care, possibly because of poorer access to health care providers knowledgeable about their medical needs—although increased drug use in the community is also a possible cause.)

"Causes of death in autism," Robert M. Shavelle, David J. Strauss, and Jane Pickett, *Journal of Autism and Developmental Disorders*, Vol. 31, No. 6, December 2001, 569-576. Address: Jane Pickett, Director, Autism Tissue Program, 99 Wall Street Research Park, Princeton, NJ 08540.