

Biomedical/Education Update:

“Do” vs. “don’t”

Successful behavior modification can sometimes be as simple as saying “do” rather than “don’t,” according to a new study by John Adelinis and Louis Hagopian.

The researchers worked with a 27-year-old autistic, moderately retarded, and minimally verbal man who was severely aggressive. A functional analysis showed that the man’s aggression often occurred when caregivers interrupted his inappropriate behaviors, which included lying on the floor, eating non-food items, and improperly touching other people.

Adelinis and Hagopian tested the effects of two different types of verbal interventions, “do” and “don’t” requests, on the man’s response to interruption of his aggressive behaviors. (For instance, if he lay on the floor inappropriately, a “do” request would be, “Please sit in the chair [or perform some other act incompatible with the undesirable behavior],” while a “don’t” request would be, “Don’t lie on the floor.”) The researchers found that the man’s aggression was significantly lower under the “do” condition than under the “don’t” condition. Moreover, his aggression continued to be low when the “do” condition was introduced on his living unit.

Adelinis and Hagopian suggest that individuals may learn to respond differently to “do” and “don’t” requests because “do” requests are typically rewarded by caregivers, while “don’t” requests commonly are limited to interrupting inappropriate behavior.

“The use of symmetrical ‘do’ and ‘don’t’ requests to interrupt ongoing activities,” John D. Adelinis and Louis P. Hagopian, *Journal of Applied Behavior Analysis*, Vol. 32, No. 4, Winter 1999, pp. 519-523. Address: Louis Hagopian, Neurobehavioral Unit, Kennedy Krieger Institute, 707 N. Broadway, Baltimore, MD 21205.

Risperidone: benefits, risks for toddlers

A new study indicates that the drug risperidone (Risperdal) can reduce autistic behaviors in very young children, but may cause heart arrhythmias.

David Posey et al. gave risperidone to a 29-month-old boy and a 23-month-old boy, at doses of 1.25 mg for one child and 0.5 mg for the other. They report that the drug alleviated severe behavior problems including aggression, self-injury, screaming, and sleep problems, and improved both children’s social behavior and eye contact. Drug treatment, the researchers say, significantly enhanced the children’s response to their therapy programs.

However, they note that an EKG performed on the second child after drug therapy began showed tachycardia and a prolonged QT interval. These heart rhythm abnormalities abated when the drug dose was lowered, and did not return when the dosage was raised later. Posey et al. suggest that children receiving risperidone should receive EKGs before and during treatment.

Risperidone can also cause neurological problems, sedation, weight gain (a very frequent side effect), breast milk production in males, and possibly liver function abnormalities.

“Case report: Risperidone in the treatment of two very young children with autism,” David J. Posey, Kelda H. Walsh, Gregory A. Wilson, and Christopher J. McDougle, *Journal of Child and Adolescent Psychopharmacology*, Vol. 9, No. 4, 1999, pp. 273-276. Address: Christopher J. McDougle, James Whitcomb Riley Hospital for Children, 702 Barnhill Drive, Room 3701, Indianapolis, IN 46202-5200.

Rett: variations seen

Late last year (see ARRI 13/4), researchers identified the gene responsible for causing Rett syndrome, a progressive disorder that almost exclusively affects girls and can resemble autism in its early stages. The defect involves a mutation of the gene that makes the protein MeCP2, which plays a role in “silencing” other genes.

In a recent report, the research team that identified the gene defect notes that to date, they have identified ten different mutations (among 18 unrelated families) of the MeCP2 gene. Different types of mutations, they say, can cause symptoms ranging from mild to fatal. So can different expressions of the same mutation: one family they studied included a mother with only mild neurological symptoms and learning problems, a severely affected son who died at one year of age, and a daughter and one other female relative with classical Rett syndrome.

“The indications for mutation testing, therefore,” the researchers say, “have to include older females who do not meet diagnostic criteria for Rett syndrome and female infants with neurodevelopmental problems—with or without a period of normal development—as well as males with unexplained death during the neonatal period.”

“Rett syndrome and beyond: Recurrent spontaneous and familial MECP2 mutations at CpG hotspots,” Mimi Wan, R. E. Amir, H. Zoghbi, Uta Francke, et al., *American Journal of Human Genetics*, Vol. 65, 1999, pp. 1520-1529. Address: Uta Francke, Howard Hughes Medical Institute, Stanford University Medical Center, Stanford, CA 94305-5323.

Vitamin C helps protect against dangerous vaccination reactions

Research on the possible link between vaccinations and autism has many parents reconsidering vaccinating their children and/or looking for ways to make vaccinations safer. A recent study recommends that parents ensure that their children receive supplemental vitamin C before being vaccinated.

Citing instances of severe reactions or even death following routine infant inoculations, physician Alan Clemetson says, “Animal observations have shown that the blood histamine concentration is increased following the injection of vaccines or toxoids, and this is most likely responsible for the problems.” Clemetson notes that increased tissue histamine levels can cause side effects ranging from rashes to convulsions, and suggests that children who receive numerous vaccinations in a short time may be at increased susceptibility to histamine-related reactions because of the cumulative effect of vaccine toxins.

Inadequate vitamin C intake, Clemetson notes, also elevates histamine levels, as do many illnesses. Conversely, studies show that vitamin C supplementation can protect against the toxic effects of infections and toxins. Because sub-optimal levels of vitamin C are common, Clemetson says that any infant, child, or adult receiving multiple vaccinations should receive supplementary vitamin C before or at the time of the vaccination. He also recommends that vitamin C be given by injection to any infant who convulses or has other severe reactions within a day or two after a vaccination. (He also warns against vaccinating sick children, who are more vulnerable.)

Clemetson cites the work of physician Archie Kalokerinos, who dramatically reduced the death rate among the poorly nourished aboriginal Australian children he treated by giving them vitamin C before vaccinations. He also cites a study showing that when rats were given potentially lethal doses of tetanus toxin, all those not supplemented with vitamin C died, while those receiving supplemental vitamin C survived.

Editor’s Note: I recommend vitamin C after a vaccination, as well! Also vitamin A—see page 6. The measles virus destroys vitamin A.

“Vaccinations, inoculations and ascorbic acid,” Alan B. Clemetson, *Journal of Orthomolecular Medicine*, Vol. 14, No. 3, 1999, pp. 136-142. Address: Alan B. Clemetson, 3839 State Drive, New Orleans, LA 70125-4252.