

Use Science and the Scientific Method When Considering Treatments For Individuals On The Autism Spectrum



March 2008
Pat Schissel, LMSW
*President of AHA Association
and Adjunct at Adelphi
University Ammon School of
Education; In collaboration
with Dr. Marvin J. Schissel**

Autism is a spectrum disorder that varies in degree from mild to severe with a wide range of needs. AHA Association's mission is to attain appropriate educational programs, effective social skills training, increased social and recreational opportunities, meaningful employment, and sufficient and satisfactory independent living accommodations for those with High Functioning Autism (HFA), Asperger Syndrome (AS) and related conditions. To that end we work to increase awareness and knowledge of HFA/AS among the professionals who diagnose, treat, educate or provide services.

Parents of special needs children (and adult children) are a vulnerable population, too often open to easy answers and magic cures, and too often taken in by greedy salesmen in the guise of shoddy professionals. It is difficult to accept the fact that the autism spectrum is not amenable to simple answers or magic pills, even though they purport to help our offspring cope more easily with their worlds. Such claims about autism and Asperger's are no different than infomercials promising 20 pounds off in 20 days or "natural cures that your doctor doesn't know about". Yet hopeful people still throw out their money on these falsehoods.

The search for effective treatment is made more difficult because each individual on the autism spectrum is unique. There is no "one size fits all" treatment. Numerous interventions are being offered, including a wide variety of medicines, therapies, educational methodologies and nutritional approaches. While many of these methods reflect sound current practice, many of them do not. A parent, burning to take action, can easily be exploited by providers of costly, time-consuming, and physically demanding but unsound practices.

It is vital to study and learn what constitutes sound Science, and use this knowledge to make informed decisions.

The requirements of Science are poorly understood by most people. Treatment should produce measurable skill gains; accountability is essential. It is therefore necessary to have a sound framework of understanding, based on evidence-based scientific principles, to evaluate suggested interventions, criteria should be established to determine progress or a lack thereof. We strongly recommend that before accepting or recommending treatments you become familiar with the rules of scientific method. The following terms and definitions could be a useful start to incorporate scientific thinking into your daily life.

Scientific Method: Drawing conclusions based on collection of unbiased data.

Faith: Belief despite the absence of evidence.

Science: Belief based on evidence. It is risky to base treatment alone on faith in a method or a practitioner. Better to seek scientific evidence, and to understand the

sharply defined rules of what constitutes scientific evidence.

Anecdotes, Assertions, Testimonials: An anecdote is a story of an event, without evidence (*My son's diet is improving his social skills*). An assertion is a statement of effectiveness without evidence (*This diet will improve your son's social skills*). A testimonial is an anecdote without evidence affirming the worth of a treatment (*We went to Dr. X.: his diet is improving my son's social skills.*) Anecdotes, Testimonials, and unsupported Assertions, for good reason, have no place in the chain of scientific reasoning, and conclusions based upon them are not science but faith.

Placebo: A substance of no demonstrated therapeutic value used for the control group in controlled experiments to test the efficacy of another treatment.

Placebo Effect: The patient, treated with placebos but believing he is receiving valid treatment, reports and sometimes demonstrates improvement. Every medical intervention has some degree of this effect but the actual effect must be determined by controlled studies.

Double blind Study: This minimizes experimental bias and is considered the gold standard of controlled experimentation. A larger group is divided randomly into two groups: a control group receiving placebo treatment, and an experimental group getting the treatment to be studied. Double blind means that neither the experimenters nor the subjects know which group is getting the placebo and which the experimental treatment, so any preconceived notions burdening researchers or their subjects cannot be a factor.

Through AHA Association's support programs, website (www.ahaNY.org), mailing list and our newsletter, we make every effort to provide objective, up-to-date, reliable, evidence based information, and urge you to thoughtfully evaluate any proposed treatment.

**Dr. Marvin J. Schissel is on the scientific advisory board of the National Council on Science and Health (ACSH), and has written extensively on quackery for www.quackwatch.com and authored three books on a consumer's guide to dentistry.*