

Applied Behavior Analysis (ABA) and Autism

Much publicity has recently surrounded the Applied Behavior Analysis approach to the treatment of Autism. But what exactly is ABA? How do you know if an intervention program works? How do you select a behavior analyst in the first place, making sure you don't inadvertently choose someone who is not properly trained in the ABA methodology? What rights do clients of these services have to effective treatment? Recognizing the confusing number of claims and choices which clients and parents of autistic children face, this CCBS Autism Section addresses these questions (and more) to give consumers of ABA services the information needed to choose wisely.

[Applied Behavior Analysis for Autism by Gina Green, Ph.D., BCBA-D](#)

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Frequently Asked Questions about Autism and Behavior Analysis

Applied Behavior Analysis (ABA) is the most comprehensive and most effective approach to improving the lives of persons with autism and their families.

The following questions illustrate common misconceptions about the ABA approach to treating Autism:

- [Is ABA just a new fad?](#)
- [Is ABA comprehensive?](#)
- [Is ABA useful for managing anything other than "bad" behavior or severe behavior problems?](#)
- [Is ABA basically just early intervention?](#)
- [Is ABA an easy "miracle cure?"](#)
- [Is ABA a mechanical approach, which turns people into robots?](#)
- [What are the key features of ABA?](#)

ABA with persons with autism is not new and is not a fad

Research began in the early 1960s with the studies of Charles Ferster, Ivar Lovaas, Montrose Wolf and Todd Risley to name just the best known pioneers.

As long ago as 1981, applied behavior analysis was identified as the treatment of choice for autistic behavior. (See the literature review by Marion K. DeMyer, J. Hingtgen and R. Jackson.) [Here are some references.](#)

Recently, Johnny Matson and his colleagues counted more than 550 studies published in scientific journals showing the effectiveness of behavior analytic procedures with persons with autism.

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ABA is comprehensive

ABA has been effective for teaching a vast range of skills to people with disabilities as well as to many other people in every setting in which people live, study and work

- in their own homes
- in shops, restaurants, public transport
- in recreation and sporting activities
- in regular and special preschools, primary schools and high schools; in colleges [For an exciting and challenging review, see Ed Anderson's [Education that works: The child is always right](#).
- in business and industry
- in institutions, hospitals and correctional facilities.

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ABA is definitely not just useful for managing "bad" behavior or for people with severe behavior problems

Although ABA does provide the best methods for managing problem and aberrant behavior such as self-injurious, ritualistic, repetitive, aggressive and disruptive behavior, it does this through teaching alternative *pro-social* behavior.

Proper application of behavior principles and procedures also prevents behavior from becoming a problem.

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ABA is much more than early intervention

The most successful early intervention programs to be documented are based on applied behavior analysis, but a great deal of work has been accomplished throughout the age span as well.

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ABA is not easy and not a "miracle cure"; there are NO cures – psychological or medical

ABA is not easy and not a "miracle cure"; there are NO cures – psychological or medical. Anyone who has tried to do ABA knows it is not easy. However, when done properly, progress can be seen very quickly. Positive results make the effort worthwhile.

You will not find a shred of scientifically acceptable evidence that treatments using psycho-dynamic psychotherapies or holding therapy are effective. The theory behind them has been discredited.

There are no medical treatments for autism itself. Persons with autism, of course, have medical needs for which pharmacological and other medical treatments are appropriate.

In a recent review of autism in the *New England Journal of Medicine*, Dr. Isabelle Rapin concluded: "No drug or other treatment cures autism, and many patients do not require medication. However, psychotropic drugs that target specific symptoms may help substantially." She said further that: "The

most important intervention in autism is early and intensive remedial education that addresses both behavioral and communication disorders.” (p. 102)

“Many other ...(than educational/behavioral and medical)...interventions are available, but few, if any, scientific studies support their use. These therapies remain controversial and may or may not reduce a specific person's symptoms. Parents should use caution before subscribing to any particular treatment. Counseling for the families of people with autism also may assist them in coping with the disorder.” (From *NIMH Fact Sheet*)

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ABA is not mechanical

People are often told that behavior analysts are cold scientists who tell others what to do. In fact, behavior analysts know that successful programs require that they work collaboratively with all concerned. Being scientific means being guided by objective results and modifying procedures because other demands in the school or family must also be met and to make best use of the knowledge and skills of carers and the persons with autism as well.

A series of papers by Montrose Wolf and his associates published between 1964 and 1967 illustrate these points very well. The articles describe how they worked first with “Dicky” when he was 3-1/2 years old in a hospital and made transitions from hospital to home and pre-school. Successful methods were developed in the hospital, the parents practiced them there, and then in stages Dicky returned home and was enrolled in a generic nursery school, where he acquired self-help, pre-academic and play skills. Many people were involved in planning and making those programs work.

And ABA does not turn people into robots

“... Anne-Marie is friendly and caring. She continues to make contact more easily with her peers and she is forming deeper relationships with them.... Anne-Marie feels close to her teachers and is sharing more of her thoughts with them now... Anne-Marie is a cooperative, helpful group member who has learned to take her share of responsibilityAnne Marie is a capable child who is eager to learn. It’s a pleasure to see Anne-Marie feeling comfortable and relaxed in her school environment and actively enjoying our various group activities with her classmates...” (Maurice, p. 286).

Anne-Marie was the older of two children who had been treated very successfully by ABA methods. These comments were made by her pre-kindergarten teachers in their end-of-year report. Other parents have reported similar outcomes.

[Catherine Maurice’s book, [Let Me Hear Your Voice. A Family’s Triumph over Autism](#), was published in 1993.]

Studies have shown that ABA programs are successful in generating spontaneous and creative behavior.

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What are the key features of Applied Behavior Analysis?

- The person's behavior is assessed through observations that focus on exactly what the person does, when the person does it, at what rate, and what happens before (antecedents) and what happens after behavior (consequences). Strengths and weaknesses are specified in this way.
- Skills that the person does not demonstrate are broken down into small steps.
- To teach each step:
 - A – give a clear instruction, provide assistance in following the instruction (for example "prompt" by demonstration or physical guidance), and use materials that are at the person's level.
 - B – get a correct response.
 - C – give a positive reinforcer (A consequence that will lead the person to do the behavior again in the future.)
- Many opportunities or trials are given repeatedly in structured teaching situations and in the course of everyday activities.
- Instruction emphasizes teaching a person how to learn -- to listen, to watch, to imitate.
- As the person progresses, guidance is systematically reduced so that the person is responding independently; prompts are faded out.
- As steps are acquired, the person is taught to combine them in more complex ways and to practice them in more situations.
- Problem behavior is not reinforced. The person is not allowed to escape from learning and is redirected to engage in appropriate behavior.
- The person's responses during every lesson are recorded. These data are used to determine if he or she is progressing at an acceptable rate. If not, that part of the program needs changing.
- The "therapist's" (teacher's, parent's) behavior is also observed continuously at first and then less frequently and as needed to ensure that procedures are being applied correctly and safely.
- **Recording client and therapist behavior is essential** because we need to SEE that the program is working as well as it can be. Even highly experienced behavior analysts need feedback in the form of detailed, rigorous performance data.
- Observing therapist behavior tells us that the procedures are being followed correctly and consistently.
- The information adds to our knowledge about the effectiveness of procedures and how to avoid and overcome problems that may arise in practice.

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Guidelines For Selecting Behavior Analysts

The demand for behavior analysts far exceeds the number of persons with the expertise required to provide effective ABA programs. Enabling families to access affordable and competent behavior analysts is an urgent problem, because this is not an area in which "do-it-yourself" programming is advisable. Often, however, particularly for persons living far away from services, parents will have to assume major responsibility for their children's intervention programs.

CCBS will not tell you who is, or who is not competent. Standards regarding the competent delivery of behavioral service have been identified, but they have not been fully implemented.

A useful starting point may be to view by state the [Certificant Registry](#) of those individuals credentialed as Board Certified Behavior Analysts or Board Certified Associate Behavior Analysts, maintained by the Behavior Analyst Certification Board.

Another valuable resource is the [Directory of Graduate Training Programs in Behavior Analysis](#) published by the Association for Behavior Analysis International (ABAI). ABA is the professional organization for the discipline. Although ABAI does not accredit or certify individuals, it does accredit graduate training programs.

In addition, The Autism Special Interest Group of ABAI has adopted guidelines for consumers of applied behavior analysis services to individuals with autism.

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How To Evaluate Intervention Programs

J.S.Birnbrauer
August 1999

Evaluating Claims About Treatments for Autism

Gina Green has written an excellent chapter by that name in Maurice, Green and Luce ([1996, Chapter 2](#)). She describes types of evidence and explains why subjective evidence – testimonials, anecdotes and personal accounts – are not reliable.

Testimonials alone are simply too ambiguous to be the basis for making critical decisions about which treatment program to choose. Resources and time are too scarce to be wasted on treatments that have not been shown to be effective.

Now, we have a substantial body of controlled quantitative research on programs of treatment for autism. Now there has been ample time to properly investigate currently popular treatments, but most of these programs have not been. Advocates of treatments should be asked to:

1. Describe the exact purposes of the treatment – what is it intended to achieve?
2. Describe exactly how the treatment is conducted – there should be no mystery or secrecy about the methods and procedures being used.
3. Describe how treatment effects were measured – what numerical data were collected and how were they collected?
4. Show before and after data collected by independent – unbiased – evaluators; and
5. Show follow up data – do the persons maintain gains? do they continue to improve? do they regress?

Only applied behavior analysis is able to answer those questions convincingly. Gina Green argues the case in the next chapter entitled "Early Behavioral Intervention for Autism: What Does Research Tell Us?" Then, in Chapter 4, Tristram Smith answers the question, "Are Other Treatments Effective?" His conclusions are:

“Nonbehavioral special education classes, individual therapies, and biological interventions (except major tranquilizers) have not been established as effective treatments for children with autism. Some treatments, especially Facilitated Communication and psychoanalysis, are quite harmful and definitely should be avoided. Major tranquilizers offer an alternative to behavioral treatment for managing disruptive behavior, but they can cause major side-effects and therefore are a last resort rather than a first-line intervention. Several other biological treatments (Prozac, Anafranil, naltrexone, and B6 with magnesium) may be effective but require further research.

In short, behavioral treatment has much more scientific support than any other intervention for children with autism. Consequently, if behavioral treatment is available, or if families are in a position to set up their own behavioral treatment program, the best initial course of action may be to concentrate exclusively on carrying out behavioral treatment as well as possible, rather than looking for ways to supplement it with other treatments.” (Maurice, Green & Luce, 1996, Page 56).

In this published paper, [Smith T. (1999). [Outcome of early intervention for children with autism. Clinical Psychology: Research and Practice](#), 6, 33-49], Tris Smith has carefully studied peer-reviewed outcome investigations of ABA programs, Project TEACCH, and Colorado Health Sciences. He found that the latter two programs have shown little improvements for most of the children, but some subgroups may have benefited.

In contrast, he found convincing evidence that ABA programs increase adaptive behavior and reduce maladaptive behavior. He also noted that these programs may substantially raise IQ and other standardized test scores, while reducing the need for special services. However, he cautioned that the quality of the research on IQ, other test scores, and school placement does not permit firm conclusions; replications of this research are needed.

For up to date evaluations of biological interventions, see <http://www.autismbiomed.com/home.html>.

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Rights of Clients

A committee of behavior analysts have prepared a position paper that has been adopted by the Association for Behavior Analysis International. [See Van Houten *et al.* The right to effective behavioral treatment. *Journal of Applied Behavior Analysis*, 1988, vol. 21, pp. 381-384. This document is also available from the [Association for Behavior Analysis International](#).]

The position paper asserts that all persons with special needs have the following rights:

1. The right to a therapeutic environment.
2. The right to services whose overriding goal is personal welfare
3. The right to treatment by a competent behavior analyst
4. The right to programs that teach functional skills
5. The right to behavioral assessment and ongoing evaluation
6. The right to the most effective treatment procedures available.

The right to treatment by a competent behavior analyst is elaborated as follows:

“In cases where a problem or treatment is complex or may pose risk, individuals have a right to direct involvement by a doctoral-level behavior analyst who has the expertise to detect, analyze and manage subtle aspects of the assessment and treatment process that often determine the success or failure of intervention. A doctoral-level behavior analyst also has the ability, as well as the responsibility, to insure that all individuals who participate in the delivery of treatment or who provide support services are trained in the methods of intervention, to assess the competence of individuals who assume subsequent responsibility for treatment, and to provide consultation and follow-up services as needed.”

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