

ABA Treatments for Autism Spectrum Disorders: Features, Cost Benefits, and Research

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ABA Spectrum
Creating Connections... Inspiring Possibilities



Introduction

- Executive Director and Owner - ABA Spectrum Therapy, LLC
- Board Certified Behavior Analyst
- 15+ years' experience in autism treatment, program design, practitioner and parent training
- Academic Associate at Arizona State University –Applied Behavior Analysis Program
- Autism Specialist for Leander Independent School District
- Thank you for this opportunity!



What is Behavior analysis?



Grew out of the scientific study of principles of learning and behavior. Founded in 1938

Subject matter: behavior interacting with the environment

- **Behavior:** anything done by living organisms
- **Environment:** Physical and social events preceding and following occurrences of a behavior that may influence the likelihood the behavior will reoccur over time

Experimental, and applied branches

Large research literature (basic and applied)

Textbooks, journals, university training programs, professional practice

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Applied behavior analysis (ABA)



Well-developed scientific discipline that focuses on principles of behavior and procedures discovered through research (e.g., positive reinforcement) to improve socially significant behavior to a meaningful degree

Hundreds of controlled studies show that focused and comprehensive ABA treatments are effective for building skills and reducing problem behaviors in people with ASD of all ages

- Other proven applications:
 - Business and industry, regular and special education (all levels), child rearing, traumatic brain injury, dementia, health and fitness, sports, spinal cord injuries, eating disorders, substance abuse, psychiatric disorders, driver and pedestrian safety, and more

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Costs of ASD without effective treatment



- Estimated costs of all services, ages 3 – 55/65 years:

\$3.5 million per person (1996 Pennsylvania figures; Jacobson, Mulick, & Green, 1998)

\$3.2 million per person (2003 national average; Ganz, 2007)

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Costs of ASD without effective treatment



- Health care costs:

Compared to people with and without other developmental, mental health, and medical conditions, people with ASD have substantially more

- Outpatient visits
- Physician visits
- Time per physician visit
- Psychotropic medications prescribed
- Hospitalizations

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Behavioral difficulties account for large proportions of health care costs for people with ASD



- Self-injurious, aggressive, and obsessive behaviors increase likelihood of hospitalization. That risk increases with age and over time (Mandell, 2007).
- In adults, problem behaviors (e.g., aggression, overactivity) predict psychotropic medication use and hospitalization (Tsakanikos et al., 2007).
- Communication and social interaction difficulties, resistance to change and new situations, and lack of cooperation with health care procedures contribute to longer physician visit times (Myers et al., 2007).

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Comprehensive ABA treatment for ASD: Key features



- More controlled studies and larger effects than standard treatments for young children with ASD
- Designed and overseen by qualified professional behavior analysts; delivered by those professionals or behavior technicians and caregivers they train and supervise
- Multiple treatment targets in multiple domains (social, communication, self-care, motor, problem behaviors)
- Multiple ABA procedures implemented across environments
- Decisions based on frequent analysis of data from direct observation and measurement of treatment targets
- Dosage (intensity) and all other aspects of treatment highly individualized

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Comprehensive ABA treatment for ASD: Cost benefits



- Savings to all Pennsylvania service systems combined, per person, lifetime:
 - Normal-range functioning achieved: \$1.5 million
 - Partial effects: \$1 million (Jacobson, Mulick, & Green, 1998)
- Savings to Texas education system, per person, 18 years: \$208,500 (Chasson, Harris, & Neely, 2007)
- Savings from expanding Ontario's government-funded coverage of comprehensive ABA treatment from 1/3 of children to all children with ASD under age 6, per person, lifetime: \$34,479 Canadian (Motiwala, Gupta, & Lilly, 2006)

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Position Statements from Professional Organizations



- Surgeon General
- American Academy of Pediatrics
- Maine Administrators of Services for Children with Disabilities (MADSEC)
- New York State Department of Health

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Vanderbilt Study – Tower Watson



- Since our previous review in 2011, there has been a significant increase in the quantity and quality of studies investigating behavioral interventions. These new studies add to the prior report and strengthen our ability to make conclusions about the effectiveness of behavioral interventions. Of the 45 comparative studies of behavioral interventions (29 Randomized Controlled Trials-RCT) in the 2011 review, we considered only 2 as good quality. Among the new studies described in this current review, 19 studies are good quality, and 48 of the 65 included studies are RCTs.

Evidence from the original report and this update suggests that early behavioral and developmental intervention based on the principles of ABA delivered in an intensive (>15 hours per week) and comprehensive (i.e., addressing numerous areas of functioning) approach can positively affect a subset of children with ASD. Across approaches, children receiving early intensive behavioral and developmental interventions demonstrate improvements in cognitive, language, adaptive, and ASD impairments compared with children receiving low-intensity interventions and eclectic non-ABA-based intervention approaches.

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Review of Interventions for Autism



- The Agency for Healthcare Research & Quality
- Evidence-Based Practices for Children, Youth, and Young Adults with Autism Spectrum Disorder
- National Standards Project
- Centers for Medicare and Medicaid Services (CMS)
- The National Professional Development Center on Autism Spectrum Disorder (NPDC)

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Resources



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