



# Navigating Autism Services: Process, Treatment, and Resources in Arizona

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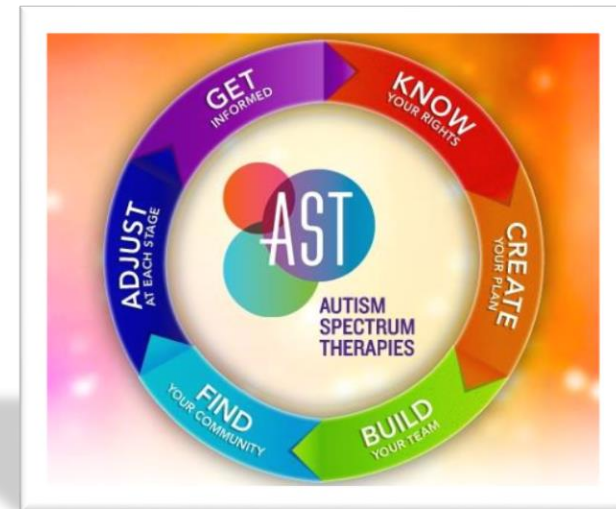


Autism



# Prevalence of Autism

- **In 2016, approximately 1 in 68 children in the United States has been identified with an Autism Spectrum Disorder (ASD).**
- In the 1980s autism prevalence was reported as 1 in 10,000. Autism knows no racial, ethnic, social boundaries, family income, lifestyle, or educational levels and can affect any family, and any child.
- Autism is almost 5 times more prevalent in boys than in girls.





# Economic Cost

- Lifetime cost for a person with ASD is estimated to be \$3.2 million.
- Total cost per year for children from birth to 17 years old with ASD were estimated to be between \$11.5 billion- \$60.9 billion in 2011.
- Children and adolescents with ASD compared to children and adolescents without ASD have increased medical expenditures on average between \$4,000-\$6,000 per year.
- Intensive Behavioral Intervention for children cost \$40,000-\$60,000 per child per year.





# Economic Cost

**Table 1. Age-Specific and Lifetime per Capita Incremental Societal Costs of Autism\***

Age Group, y	Average Per Capita Cost per Age Group			Total Per Capita Cost
	Direct Medical	Direct Nonmedical	Indirect	
3-7	35 370	10 805	43 066	446 203
8-12	6013	15 708	41 138	314 297
13-17	5014	13 550	38 453	285 082
18-22	2879	10 720	36 090	248 446
23-27	1574	27 539	51 740	404 260
28-32	1454	23 755	35 757	304 828
33-37	1389	20 492	30 852	263 662
38-42	1283	17 676	29 132	240 457
43-47	1440	15 248	26 600	216 439
48-52	1447	13 152	24 531	195 650
53-57	1290	11 292	17 776	151 790
58-62	1218	9489	0	53 535
63-66	1027	7908	0	35 738
Total lifetime costs	305 956	978 761	1 875 667	3 160 384

\*Costs presented in 2003 dollars. Costs for age 4 years and older are discounted to 2003 dollars using a discount rate of 3%. Life expectancy for men is age 66 years and for women, age 65 years.

Ganz, M, L., The lifetime distribution of the incremental societal costs of autism. *Archives of pediatrics & adolescent medicine*. 2007; 161, 343-349.

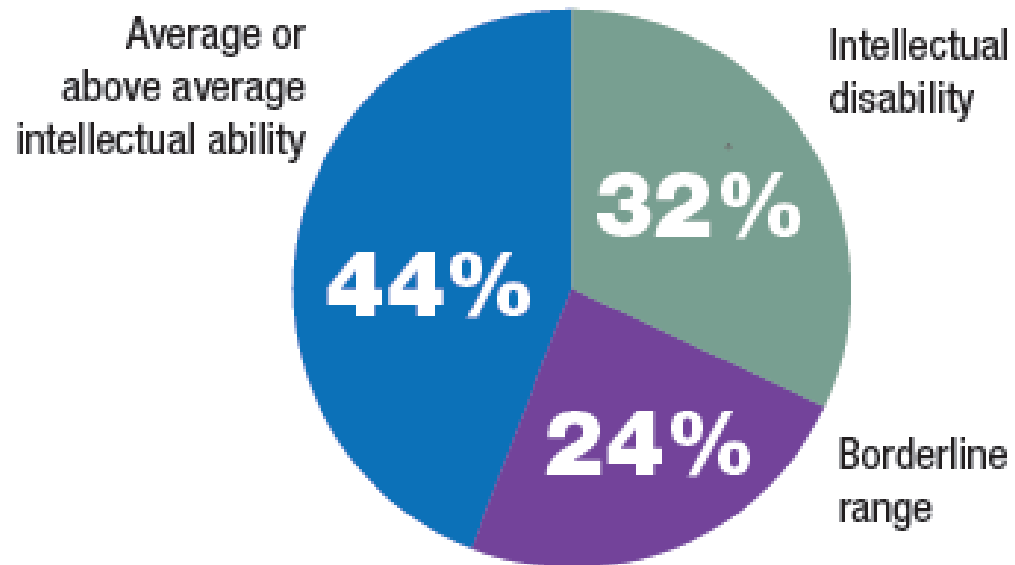


# Facts and Statistics

- Autism and comorbidity
  - Autism commonly occurs with other developmental diagnoses is 83%
  - Co-occurrence of one or more psychiatric diagnoses is 10%



# Facts and Statistics





# Autism Comorbidity



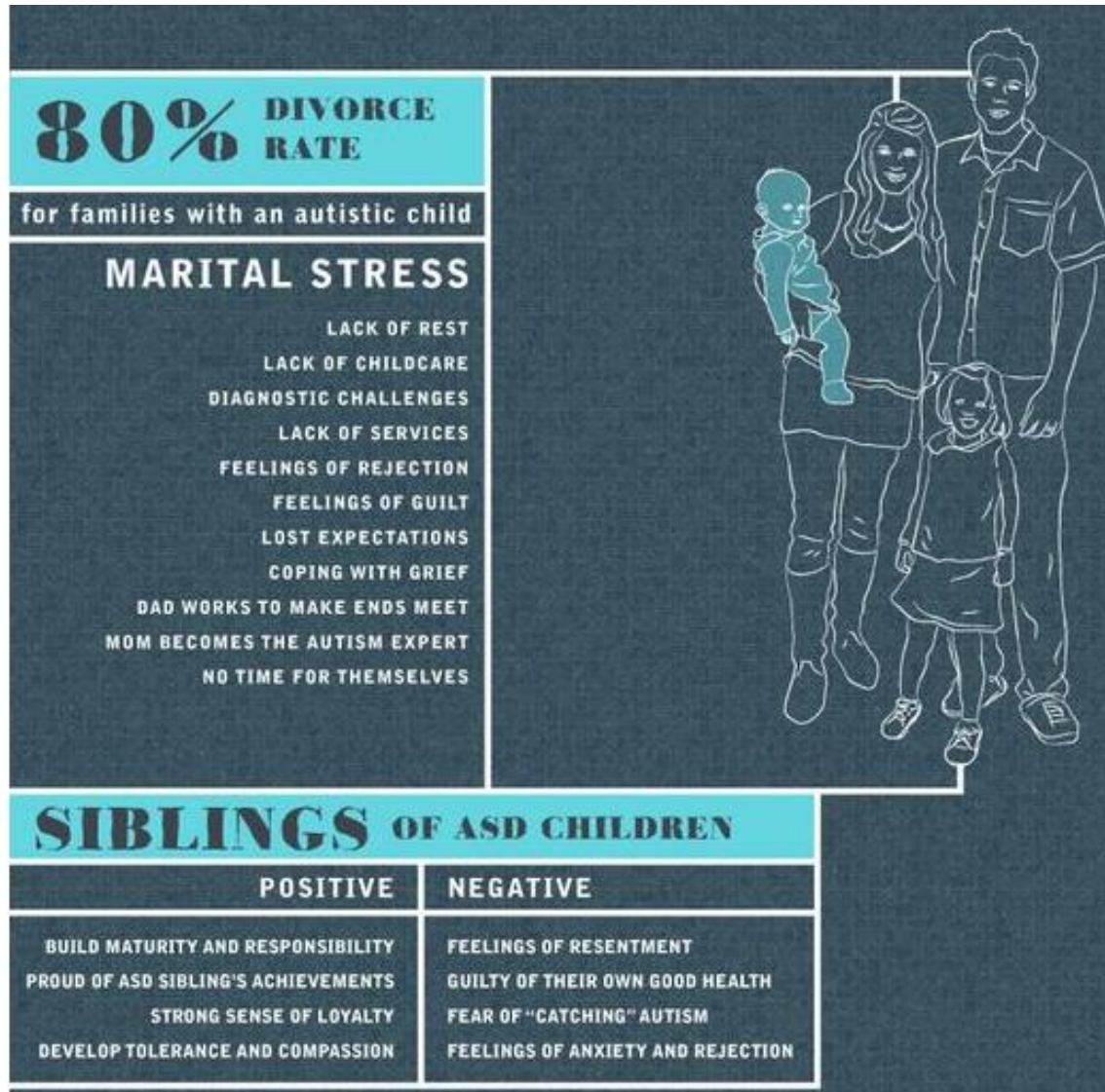
- It is estimated that as many as 1/3 of individuals with Autism also have epilepsy.







# Family Impact





# Risk Factors

Researchers and scientist believe that there is no single cause.

## **Strong Evidence**

- Advanced parental age
- Prematurely born or with low birth weight are at a greater risk
- Family history of ASD

## **Emerging Evidence**

- Family history of immune-associated conditions
- Genes/genetic mutations the occur before, during, and immediately after pregnancy
- Factors related to pregnancy:
  - Maternal infection
  - Maternal diabetes or obesity



# Why Act Early?

- Extremely limited or long waitlist for services.
- Neural circuits, which create the foundation for learning are most flexible during the first 3 years of life.
- Best practice and cost effective as it reduces financial cost and improves quality of life.
- Reduce cost by up to 2/3 with early identification and treatment.





# Demographics in Arizona

- Overall, the Arizona Developmental Disabilities Surveillance Program (ADDSP) identified 530 children with autism spectrum disorder





## *How many children were identified with ASD?*

- **1 in 64** children (or 15.7 per 1,000 8-year-olds) was identified with ASD.
- Boys were 4 times more likely to be identified with ASD than girls.
  - 1 in 40 boys was identified with ASD.
  - 1 in 167 girls was identified with ASD.



# When were children first diagnosed?

- On average, children were diagnosed at age 4 years and 11 months, even though children can be diagnosed as early as age 2 years.
- When looking at age of first diagnosis by subtype, on average, children were diagnosed with:
  - Autistic disorder at age 4 years and 10 months.
  - Pervasive developmental disorder-not otherwise specified (PDD-NOS) at age 4 years and 7 months.
  - Asperger disorder at age 6 years and 7 months.



# Eligibility for Special Education

- 74% of children either had an eligibility for autism special education services at school or had an ASD diagnosis.
- The remaining 26% of children identified with ASD had documented symptoms of ASD, but had not yet been classified as having ASD by a community provider.



# What can we do?

“What you do makes a difference, and you have to decide what kind of difference you want to make”





# What is Autism?

Autism Spectrum Disorders are characterized by:

- Neurobehavioral disorder that present varying degrees of impairment in:
  - Communication
  - Social interactions
  - Restricted, repetitive, and stereotyped patterns of behavior activities or interests.
- Challenging behaviors that may include aggression or self-injury.
- How ASD is manifested and how severely it affects an individual is unique to each case.



# How Does Autism Present?

Deficits in  
Social  
Skills

Difficulty  
with  
Changes

Communication  
Delays

Repetitive  
Behaviors

Processing  
Delays

Sensitive to  
Touch &  
Noises

Aggressive  
Behaviors



# Early Identification and Screening

- The American Academy of Pediatrics recommends administering a standardized autism specific screening tool on all children at the 18 month well child visit.
- In 2007, the recommendation was expanded to screen at 24 to 30 months of age to identify kiddos that may regress.
- Take home point: Screen as early as possible!



# Early Identification and Screening

- There is no medical test for ASD. A medical diagnosis is made after a thorough evaluation by a qualified team of professionals.
- Evaluations include clinical observations, parent interviews, development history, psychological testing, speech and language assessment.



# Early Identification and Screening

Screener	Ages	Format	Items	Time to Complete	Available Languages	Information and Free Downloadable Templates	Scoring Templates and Instructions
Checklist for Autism in Toddlers (CHAT)	18–24 mo+	Interview or questionnaire + observations	Section A: 9 yes/no parent questions Section B: 5 clinician observations	5 min	English, Dutch, Greek, Persian, Spanish, Swedish	<a href="http://autismresearchcentre.com/arc_tests">http://autismresearchcentre.com/arc_tests</a>	<a href="http://www.ny2aap.org/CHATscoring.pdf">www.ny2aap.org/CHATscoring.pdf</a>
Childhood Autism Spectrum Test (CAST)	4–11 yr	Parent-completed questionnaire	37 items	10 min	English, Dutch, French, Greek, Persian, Slovak, Slovenian, Spanish, Swedish	<a href="http://autismresearchcentre.com/arc_tests">http://autismresearchcentre.com/arc_tests</a>	<a href="http://www.autismresearchcentre.com/tests/cast_test.asp">www.autismresearchcentre.com/tests/cast_test.asp</a>
Modified Checklist for Autism in Toddlers, Revised with Follow-Up (M-CHAT-R/F)	16–30 mo	Parent-completed questionnaire	20 items	5–10 min	Arabic, Bangla, Chinese, Dutch, French, German, Greek, Gujarati, Icelandic, Japanese, Kannada, Kurdish, Portuguese, Sinhala, Somali, Spanish, Tamil, Turkish, Vietnamese, Urdu	<a href="https://www.m-chat.org/about.php">https://www.m-chat.org/about.php</a>	<a href="https://www.m-chat.org/_references/mchatdotorg.pdf">https://www.m-chat.org/_references/mchatdotorg.pdf</a>
Pervasive Developmental Disorders Screening Test-II, Primary Care Screener (PDDST-II, PCS)	18–48 mo	Parent-completed questionnaire	22 items	10–15 min	English, Spanish	Available for purchase at: <a href="http://www.pearsonassessments.com/haiweb/cultures/en-us/productdetail.htm?pid=076-1635-106&amp;Community=CA_Ed_AI_Early">http://www.pearsonassessments.com/haiweb/cultures/en-us/productdetail.htm?pid=076-1635-106&amp;Community=CA_Ed_AI_Early</a>	
Communication and Symbolic Behavior Scales Developmental Profile (CSBS DP) Infant-Toddler Checklist	9–24 mo	Broadband screener used to detect communication delays including in children with ASD	24 items	5–10 min	English, Chinese, German, Slovenian, Spanish	<a href="http://firstwords.fsu.edu/pdf/checklist.pdf">http://firstwords.fsu.edu/pdf/checklist.pdf</a>	<a href="http://firstwords.fsu.edu/pdf/Checklist_Scoring_Cutoffs.pdf">http://firstwords.fsu.edu/pdf/Checklist_Scoring_Cutoffs.pdf</a>
Screening Tool for Autism in 2-Year Olds (STAT)	24–36 mo	Screener is administered by trained examiners	12 activities that look at play, imitation, communication	20 min	not applicable	<a href="http://kc.vanderbilt.edu/triad/training/page.aspx?id=821">http://kc.vanderbilt.edu/triad/training/page.aspx?id=821</a>	



# Diagnostic Process





# Diagnostic process

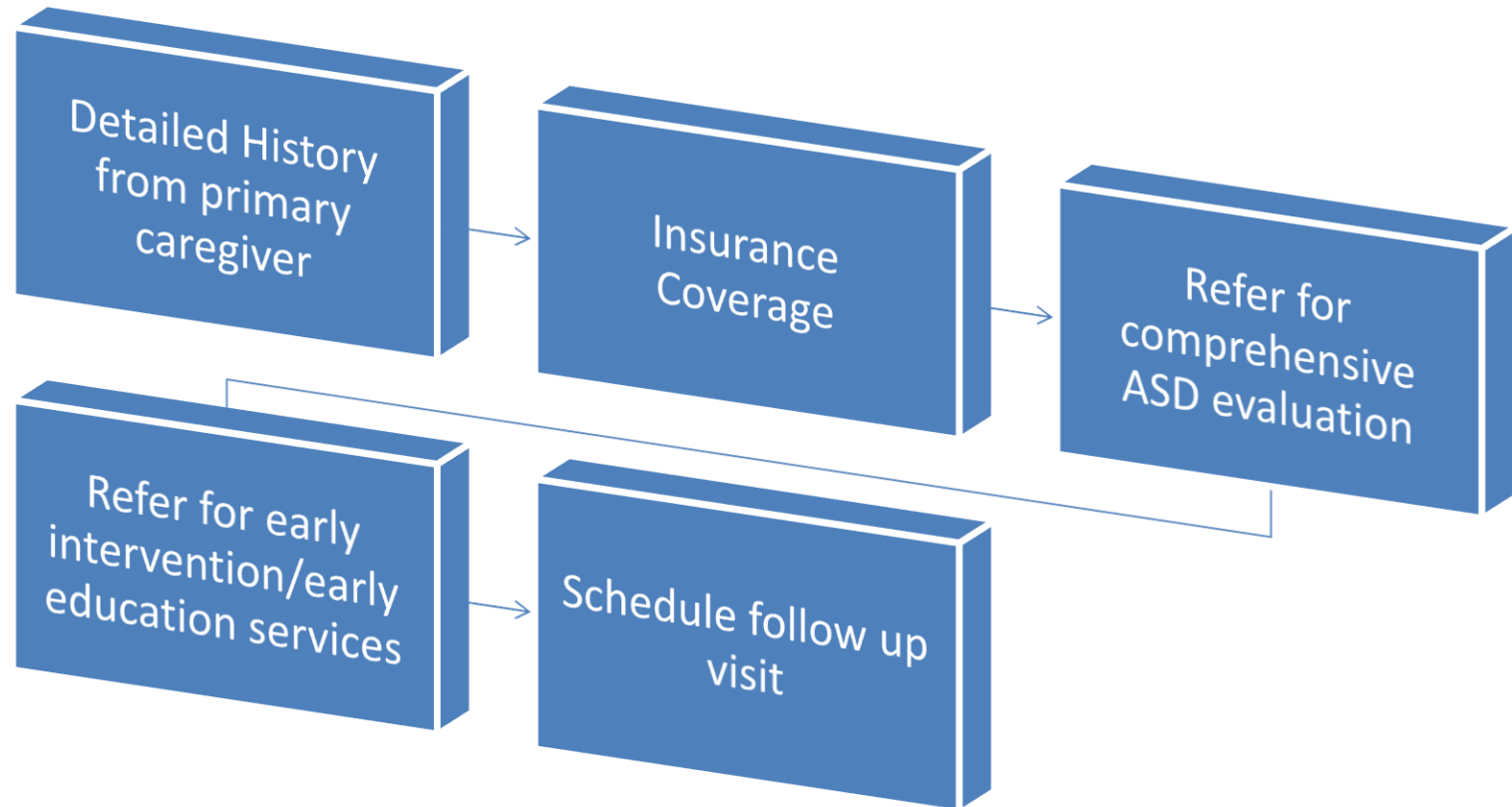
- Research has shown that a diagnosis of Autism as early as 24 months is reliable and valid.



ASD Subtype	Median* Age of Diagnosis
Autistic disorder	3 years, 10 months
Pervasive developmental disorder-not otherwise specified (PDD-NOS)	4 years, 1 month
Asperger disorder	6 years, 2 months



# Diagnostic Process







# Diagnostic Process/Medicaid

- Refer the child to the Arizona Early Intervention Program (AzIEP)
- AzIEP will contact the child's parent/guardians to arrange comprehensive diagnostic evaluation.
- <https://des.az.gov/services/disabilities/developmental-infant>



# Diagnostic Process

- Who can conduct a comprehensive evaluation?
  - A qualified licensed practitioner:
    - A physician with a specialty in psychiatry or neurology
    - A physician with a subspecialty in developmental pediatrics, developmental behavioral pediatrics or a related discipline.
    - A physician with a specialty in pediatrics or other appropriate specialty with training, experience or expertise in ASD and/or behavioral health
    - A psychologist
    - An advanced practice registered nurse with training, experience, or expertise in ASD
    - A clinical social worker, working within their scope of practice, and is qualified and experienced in diagnosing ASD



# Diagnostic Process/Medicaid

- What does a comprehensive evaluation consist of?
  - Autism Diagnostic Observation Schedule-Second Edition (ADOS-2)
  - Autism Diagnostic Interview-Revised (ADI-R)
    - Other Tools to determine medical necessity
      - Cognitive/developmental tests
      - Adaptive Behavior tests
      - Symptom questionnaires



# Arizona's Autism Insurance Bill

## 4<sup>th</sup> State to Mandate Insurance Coverage for Autism Treatment

- Effective July 1, 2009

### **Autism services required to be covered:**

- Diagnosis
- Behavioral therapy services



## Coverage

- Coverage for behavioral therapy (e.g., ABA) is limited to individuals with autism less than 16 years of age and is subject to annual dollar caps:
- Under the age of 9 = \$50,000/year
- Between the ages of 9 and 16 = \$25,000/year.

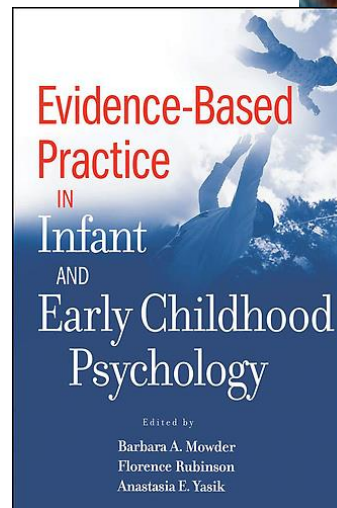
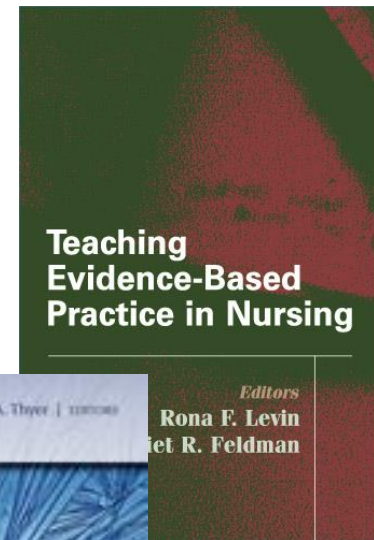
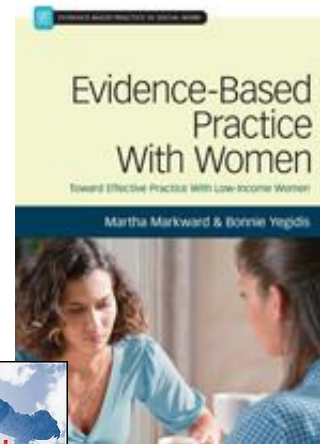


# Treatments for ASD

- Evidence Based Practice:

- Used in....

- Medicine
    - Nursing
    - Social Work
    - Education
    - Psychology





# Treatments for ASD

Google “autism treatment” and over 150,000,000 results.

autism cure - Google Search

http://www.google.com/search?client=safari&rls=en&q=autism+treatment&ie=UTF-8&oe=UTF-8&hl=en&sugexp=lesk38&gs\_lf=3&q=XXV0u

Google autism cure

About 7,040,000 results (0.32 seconds)

Ads related to autism cure

**CBR: New Autism Research | Cordblood.com**  
www.cordblood.com/  
Study Using Cord Blood for Autism Researching Possible Autism Therapy

**Marital Arts for Autism - Improve Attention & Confidence**  
www.maritalartsforautism.com/Autism  
Sign Up for a Free Lesson Today.

**Doctors announce FDA-approved trial to cure autism with cord blood ...**  
www.foxnews.com/.../doctors-announce-fda-approved-trial-...  
by Jessica Doyle - More by Jessica Doyle  
Aug 21, 2012 - Researchers announced Tuesday the beginning of a FDA-approved clinical trial that uses umbilical cord blood stem cells to 'cure' autism.

**Can Autism be Cured? | Dr. Mark Hyman**  
drhyman.com/blog/2010/05/12/can-autism-be-cured/  
by Mark Hyman - In 214 Google+ circles - More by Mark Hyman  
May 12, 2010 - TODAY MOST PEOPLE BELIEVE that Autism is a genetic brain disorder. I'm here to tell you that this isn't true. The real reason we are seeing ...

**MMS, or how to cure autism with bleach. Brought to you by ...**  
leftbrainrightbrain.co.uk/.../mms-or-how-to-cure-autism-with-bleach-...  
May 30, 2012 - There are so many strange theories about autism which come and go that one doesn't have the time to read up on all of them. Such is the case ...

Reverse Autism - 7 STEPS  
www.parentreversingautism.com/  
A parent's guide to help your child heal and recover. Start today!

S&L Therapy  
www.sandtherapy.com/  
Pediatric Speech & Language Therapy Evaluations, Therapy, Consultations  
Upper Level, 68 Harvard Street  
(617) 823-1366 - Directions

Autism Stem Cell Therapy  
www.stem-cell-regeneration.com/  
Stem Cells from Adipose for Autism, Cerebral Palsy, ADHD, Brain Injury

Curing Autism at Amazon  
www.amazon.com/books  
Save on Curing autism!  
Qualified orders over \$25 ship free

ABA Autism Treatment  
www.rethinkautism.com/  
Teach Using ABA Lesson Videos.  
Start Your Free Trial Today!

Chewable or Capsule-ADHD

autism treatment - Google Search

http://www.google.com/search?client=safari&rls=en&q=autism+treatment&ie=UTF-8&oe=UTF-8&hl=en&sugexp=lesk38&gs\_lf=3&q=XXV0u

Google autism treatment

About 169,000,000 results (0.23 seconds)

Ads related to autism treatment

**CBR: New Autism Research | Cordblood.com**  
www.cordblood.com/  
Study Using Cord Blood for Autism Researching Possible Autism Therapy

**ABA Autism Treatment - Teach Using ABA Lesson Videos**  
www.rethinkautism.com/  
Start Your Free Trial Today!

**S&L Therapy | sandtherapy.com**  
www.sandtherapy.com/  
Pediatric Speech & Language Therapy Evaluations, Therapy, Consultations

**Autism Society - Treatment Options**  
www.autismspeaks.org/living-with-autism/treatment-options/  
Treatment Options ... Autism Ribbon Discovering that your child has an autism spectrum disorder can be an overwhelming experience. For some, the diagnosis ...  
Nonmedical Interventions - Biomedical Treatments - Communication - Login

**How is Autism Treated? | What is Autism? | Autism Speaks**  
www.autismspeaks.org/what-autism/treatment  
Image Courtesy UNC Medical Center. Each child or adult with autism is unique and, so, each autism intervention plan should be tailored to address specific ...  
Applied Behavior Analysis (ABA) - The Early Start Denver Model - PRT

**Autism Treatments - Therapies, Medications, and Alternatives**  
www.webmd.com/brain/autism/autism-treatment-overview  
Apr 12, 2010 - WebMD provides in-depth autism treatment information including



# Treatments for ASD

CLAY BATH  
BLEACH ENEMAS  
CAMEL MILK  
RAPID PROMPTING  
CHELATION THERAPY  
FECAL TRANSPLANT  
REBIRTHING







# Treatments for ASD

## National Standards Project



### NSP 1

- 775 articles
- Research conducted in the field from 1957-2007
- Ages 0-22
- Peer Reviewed

### NSP 2

- 389 articles
- Research conducted in the field from 2007-2012
- Across the lifespan
- Peer Reviewed



# Treatments for ASD

Established	Emerging	Unestablished
<p>Several<sup>a</sup> published, peer-reviewed articles</p> <ul style="list-style-type: none"><li>• SMRS scores of 3, 4, or 5</li><li>• Beneficial intervention effects for a specific target</li></ul> <p>These may be supplemented by studies with lower scores on the Scientific Merit Rating Scale.</p>	<p>Few<sup>b</sup> published, peer-reviewed articles</p> <ul style="list-style-type: none"><li>• SMRS scores of 2</li><li>• Beneficial intervention effects reported for one dependent variable for a specific target</li></ul> <p>These may be supplemented by studies with lower scores on the Scientific Merit Rating Scale.</p>	<p>May or may not be based on research</p> <ul style="list-style-type: none"><li>• Beneficial intervention effects reported based on very poorly controlled studies (scores of 0 or 1 on the Scientific Merit Rating Scale)</li><li>• Claims based on testimonials, unverified clinical observations, opinions, or speculation</li><li>• Ineffective, unknown, or adverse intervention effects reported based on poorly controlled studies</li></ul>



# Treatments for ASD

## **Unestablished Literature Support**

- Animal Assisted Therapy
- Auditory Integration Training
- Concept Mapping
- DIR/Floor time
- Facilitated Communication
- Glute-free/Casein Free Diet
- Movement based intervention
- Sensory Intervention Package
- Shock Therapy
- Social Thinking Intervention



# Treatments for ASD

## Emerging Literature Support

- Augmentative and Alternative Communication Devices
- Developmental Relationship Based Treatment
- Exercise Alone
- Exposure Package
- Functional Communication Training
- Imitation Based Intervention
- Initiation Training
- Language Training
- Massage Therapy
- Multi Component Package
- Music Therapy
- Picture Exchange Communication System
- Reductive Package
- Sign Instruction
- Social Communication Intervention
- Structured Teaching
- Technology-Based Intervention
- Theory of Mind Training



# Treatments for ASD

## Established Interventions

- Behavioral Intervention
- Comprehensive Behavioral Package for Young Children
- Modeling
- Naturalistic Teaching
- Peer Training
- Pivotal Response Training
- Self-Management
- Story Based Intervention
- Schedules
- Cognitive Behavioral Intervention Package
- Scripting
- Parent training

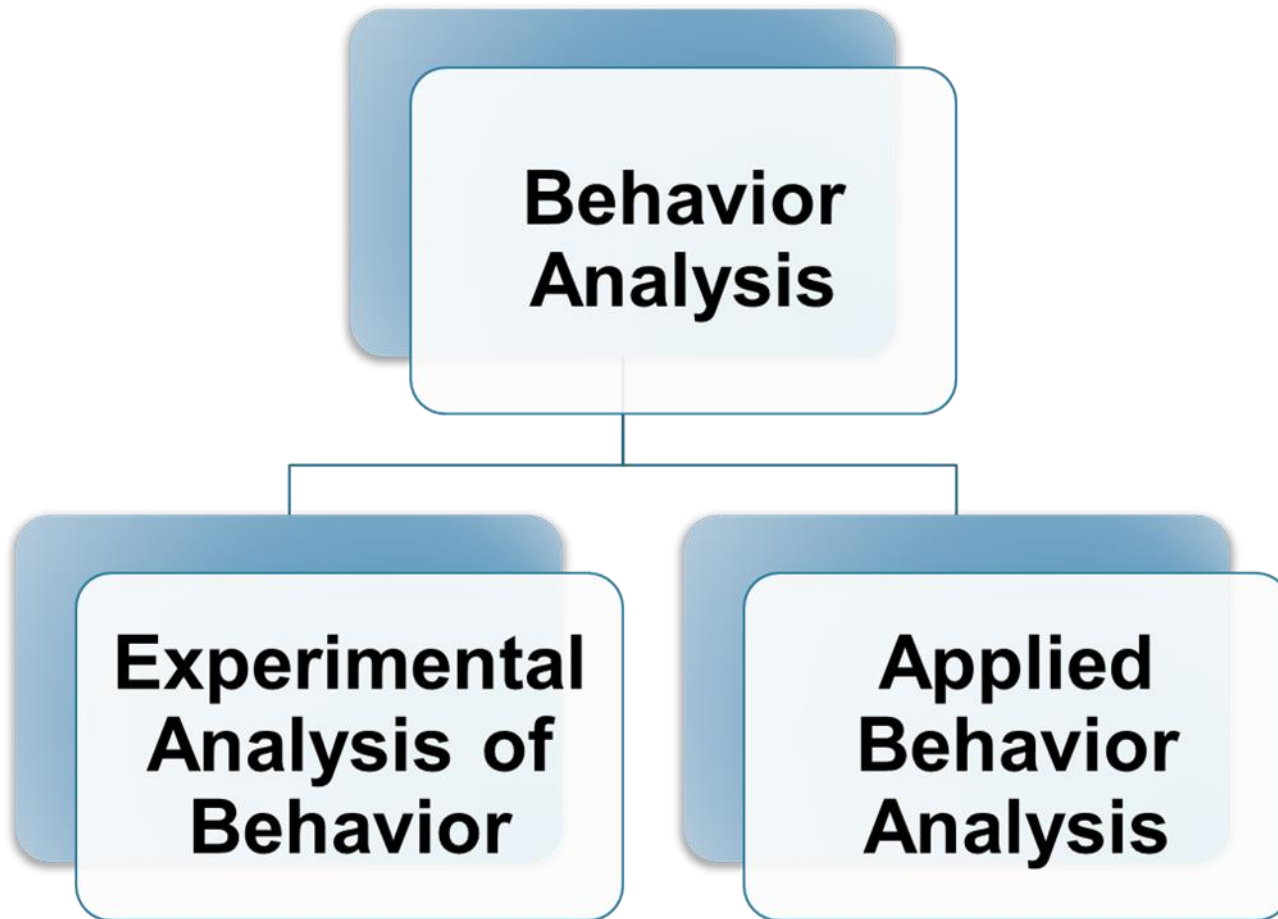


# Treatments for ASD

Where is Applied  
Behavior  
Analysis/ABA?



# Treatments for ASD





## Treatments for ASD

Modeling

Token Systems

Schedules

Discrete Trial Teaching

Reinforcement

Naturalistic

Teaching

Prompting





*ABA is often seen as the gold standard of autism treatment*

# **APPLIED BEHAVIOR ANALYSIS (ABA)**



# Applied Behavior Analysis

- It is the science of behavior
  - ABA is a scientific approach to behavior change
- Focuses on how ENVIRONMENT impacts behavior
- Focuses on the improvement of socially significant behaviors
- Decades of research to support methodologies and strategies we use in the field of ABA



# Applied Behavior Analysis

## What it IS....

- Science of behavior (application)
- Involves MANY techniques
- Used with MANY different populations
- Large corporations
  - OBM

## What it is NOT.....

- Just table top work
- Only discrete trial training
- Only flashcard drills and edibles/food
- Something that only occurs in a therapy room



# How ABA Helps

- ABA has been used to help individuals acquire many different skills, such as language skills, self-help skills, and play skills.
- ABA can help to decrease maladaptive behaviors such as aggression, self-stimulatory behaviors, and self-injury.
- ABA can teach toilet training, improve sleep routines, and help address difficult eaters



# About Autism Spectrum Therapies

Founded in 2001, AST is one of the leading providers of Applied Behavior Analysis in the country. Led by a talented team of clinicians, AST utilizes evidence based practices with a family focused approach to ensure the best possible results.





# Our Locations

AST Provides Services in the following locations:

## **Arizona**

Greater Phoenix Area

## **Northern California**

Greater Bay Area

Sacramento

## **Southern California**

Greater Los Angeles Area

Inland Empire

Greater San Diego Area

Orange County

## **Illinois**

Greater Chicago Area

## **Louisiana**

Greater New Orleans Area

Greater Baton Rouge Area

## **New Mexico**

Albuquerque

## **Washington State**

Greater Seattle Area

## **Michigan**

Dearborn and Surrounding



# Our Clinical Practice

- Individualization

Our service is not one size fits all. We tailor each program to meet the needs of the individual. Programs are customized to include play based/naturalistic strategies and verbal behavior methodologies

- Family centric

We recognize how critical the family is to any program. We prioritize parent training and participation, and always consider the family's needs in our design.

- Ethical

We hold ourselves to the highest of standards - because we believe that is what every client deserves.



# AST Insurance Advocacy

- AST is in network with most insurance companies
- We have an outstanding team dedicated to navigating the insurance process and informing clients each step of the way
  - Our goal is to help families cut through the red tape and receive top quality services as soon as possible





# AST Technology

- Industry leader in utilizing technology for several aspects of our services:
  - Data Collection
  - Programming
  - Reporting
  - Training
  - Family feedback



# AST Training

- Comprehensive initial training (40+ hours)
  - Conducted using multiple modalities
  - Meets RBT requirements
- Multiple levels of ongoing support
  - Continued ongoing training
  - Frequent evaluation on skill competencies and professional development goals
- Opportunities for growth and development



# Helpful Resources and References



# Resources

- Resources for families:
  - [www.autismspeaks.org](http://www.autismspeaks.org)
  - <http://www.raisingarizonakids.com>
  - <http://phxautism.org>
  - <http://autismtherapies.com/blog/>



# Resources

- Scientific Research/References related to Autism
  - <https://www.cdc.gov/ncbddd/autism/research.html#howmany>
  - <http://www.asatonline.org/>



# Thank you for your time!

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