



Autism Spectrum Disorders

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Considering an Autism Spectrum Disorder?

Any Early Red Flags? Not smiling in response to being smiled at, or making eye contact
Does not develop shared attention with others
Does not respond to own name by 1 year of age
Poor social communication or lack of interest in other children

Consider a comorbidity or other diagnoses:

Intellectual Disability (ID), Global Developmental Delay (GDD), Learning Disorders
Speech and Language Disorders
Hearing or Vision Impairment
Neglect or Abuse
Other Neurologic Disorders (epileptic, infectious, auto-immune, neoplastic, metabolic)
Other Psychiatric Disorders (Anxiety, Depression, ADHD)

Diagnosis: Use DSM-5 diagnostic criteria which include presence or early developmental history of:

- 1. Impairments in Social Communication and Social Interaction** — three domains of impairment in this area should include A) deficits in social-emotional reciprocity, B) deficits in nonverbal communication for social interaction, and C) deficits in developing, maintaining, and understanding relationships.
- 2. Restrictive, repetitive, patterns of behavior, interests or activities** — including at least two of the following domains of A) stereotyped/repetitive movements, use of objects or speech, B) insistence on sameness, inflexible routines, ritualized patterns of behavior, C) highly restricted, fixated interests of abnormal intensity or focus, D) hyper or hypo-reactivity to sensory input or unusual interest in sensory aspects of the environment

May augment one's assessment with an age-appropriate screening tool:

M-CHAT (Modified Checklist of Autism in Toddlers) for age 16-30 months.

Found at <http://mchatscreen.com>

CAST (Childhood Autism Spectrum Test) for age 4-11 years, and AQ (Autism Quotient) for age 12-15 years.

Found at www.autismresearchcentre.com/arc_tests

Treatment:

Refer to further evaluation, Early Intervention and education:

If birth to 3 years old, contact the Family Health Hotline (800-322-2588) or the Washington State Early Learning Program at (<https://del.wa.gov>). They assist with evaluation and treatment of any developmental concerns.

If 3 years or older, contact the special education department in the local school system, and request an evaluation for an IEP. May ask for evaluation of intellect, academic progress, social and communication skills including pragmatic or social language, and occupational and adaptive function as all are relevant to the school setting.

Individually evaluate/address any deficits in the following areas (might consider a formal autism evaluation):

Speech and language deficits: consider referral to speech/language therapist

Social skills deficits: consider social skills groups or a speech/language therapist

Sensory sensitivities/motor abnormalities that impact function: consider referral to occupational or physical therapy

Maladaptive behavior that affects function: consider referral to a behavioral therapist, psychologist, or psychiatrist

Medical Evaluation:

1. Check hearing and vision. Check on dental status. Assure getting routine medical care.
2. Consider epilepsy if comorbid intellectual or global developmental delay, or decline in functioning.
3. Do genetic, metabolic, or other studies as indicated by presentation. Consider Fragile X testing.
4. Monitor closely for treatable medical problems like ear infections and constipation which can worsen symptoms.
5. Consider co-morbid psychiatric conditions (like ADHD, anxiety or depression) which can worsen functioning.

Primary References:

Johnson C, Myers S, Council on Children with Disabilities, "Identification and Evaluation of Children with Autism Spectrum Disorders," Pediatrics 120(5): November 2007: 1183-1215.

Myers S, Johnson C, Council on Children with Disabilities, "Management of Children with Autism Spectrum Disorders," Pediatrics 120 (5), November 2007: 1162-1182.

Treatments for Autism and Difficulties Associated with Autism

Treatment for Autism:

- Currently, there is no single treatment for autism, but a variety of approaches may fit the child's unique circumstances.

Speech and Language Therapy:

- Consider when communication is a key concern. Goal is to teach pragmatic or social language skills, rewarding any steps child makes in this direction. Alternative communication systems like Picture Exchange Communication System (PECS) may be needed if child remains non-verbal. The picture exchange system lets the child and others point to pictures representing things (like food) or activities (like using the bathroom) to communicate. Achieving a means of basic communication is often essential in improving function and reducing maladaptive behaviors.
- Speech/Language therapists are commonly available in most communities and/or schools.

Social Skills Training:

- Consider when this is appropriate to the child's developmental level. Social skills training often uses social stories, role-playing, and peer skills groups. Social stories are cartoon-like illustrations depicting social events (e.g., greeting new people, going to the store) or skills (e.g., asking for help when teased or distressed) to help children anticipate new events or practice skills. Social skills training may become a primary focus of the school environment to teach steps of how to interact with others, especially after basic communication skills are learned.
- May be available in communities and schools through the work of Speech and Language or other therapists.

Occupational and Physical Therapy:

- Consider when there are functional problems with adaptive skills or with muscle control. Occupational therapists (OTs) are often effective in improving function impaired by sensory sensitivities by modifying the environment. OTs may also assess and work on improving adaptive skills or skills of daily living. Physical therapists (PTs) can be helpful if the child has muscle control abnormalities which impair function.
- OT and PT providers are commonly available in communities

Medical Assessment:

- Consider medical, neurological, psychiatric, medication-induced, and trauma-related causes of maladaptive behaviors, especially if there are sudden changes in function. Rule out pain (head or ear aches, constipation) as a trigger for any new behaviors, particularly since

children with autism are not typically very good at communicating distress and may exhibit maladaptive behavior when medically distressed.

Behavior Therapy:

- Consider addressing core deficits associated with autism and to reduce maladaptive behaviors. Intensive behavioral therapy and related training methods (which are the components of Applied Behavior Analysis or "ABA") have been shown to improve many autism symptoms by teaching and reinforcing social and communication skills and by reducing maladaptive behaviors. Any behavioral program should be tailored to a child's needs, build on the child's interests, offer a predictable schedule, teach tasks as a series of simple steps, actively engage the child's attention in structured activities, and provide regular reinforcement of behavior. Efficacy of interventions should be tracked by establishing a baseline and monitoring progress, with interventions adjusted accordingly. Parental involvement is a major factor in treatment success — parents help identify target skills and behaviors, and are often trained to continue the therapy at home.
- Maladaptive behaviors can be reduced via a functional analysis of behavior, which includes characterizing the behavior, the setting, provoking, and reinforcing factors. The behavior is then modified by changing these factors. See also "Treating Maladaptive Behavior Using Functional Analysis," and "Autism Resources: Information for Families."
- Behavior therapists may be available in either a school or in the community.

Psychotropic Medications:

- If aggression, self-injury, irritability, or mood swings are severe, consider Risperidone or secondarily Abilify after reviewing "Psychotropic Medication Considerations for Children with Autism."

Co-morbid Psychiatric Disorders:

- Conditions such as ADHD, anxiety or depression do occur in children with autism, but avoid attributing core autism spectrum symptoms (e.g., poor eye-contact, flat affect, social withdrawal, repetitive behavior, rigidity, or concrete thought process) to a psychiatric diagnosis without noting if there had been a change from baseline. Use evidenced-based therapies for psychiatric disorders to the extent they are developmentally appropriate. Consider psychotropic medications when appropriate for a condition, but first review "Psychotropic Medication Considerations for Children with Autism."

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Treating Maladaptive Behavior for the Developmentally Disabled Using Functional Analysis

Identify the behavior

Character (what they do)

Timing (especially noting provoking and reinforcing factors)

Frequency (times per day or per week)

Duration (i.e. 30 minute behaviors are different than 30 second behaviors)

Analyze and make hypotheses about the function of the behavior

- **Communication.** This is the primary etiology to investigate if a child lacks communication skills. Maladaptive behavior may communicate physical discomfort like pain, constipation, reflux or a new illness. It may also communicate an emotional discomfort like boredom, anxiety, anger, frustration, sadness, or over-excitement.
- **Achieving a goal.** How does performing the behavior benefit the child, what does he/she gain? This might include escaping an undesired situation, avoiding a transition, acquiring attention, or getting access to desired things like toys or food.
- **No function.** If there is no function identifiable for the behavior, this suggests causes like seizures, medication side effects, sleep deprivation, and other medical or psychiatric disorders.

Modify the environment by changing provoking and reinforcing factors

- Enhance communication—consider using an alternative communication system, such as a picture-exchange communication system (PECS) for non-verbal children.
- Use simple, concrete sentences and questions with child. Remain calm.
- Increase structure — provide schedule of day's events, use routines, anticipate transitions. Consider social stories to practice routines, especially to prepare for new situations. Teach the child how to ask for help and how to tell adults when they need a break.

- Modify demands — match the task to their IQ, developmental stage & language ability. Limit time for tasks, schedule fun activities after less preferred ones.
- Allow child access to a time-limited escape to a calm, quiet place if overwhelmed.
- Reinforce positive behavior with attention and praise, find out what child finds rewarding (special activity, food, favorite toy, a gold star, etc.)
- Avoid reinforcing maladaptive behavior with attention or other gains.
- Schedule special, non task-driven, time for child and parents together that is honored and not conditional on other behaviors.

Consult with a behavioral specialist to facilitate process and support family

- Behavior modification specialists can make tailored suggestions for the family's situation.
- If behavior is at school, consult with the school psychologist for a behavioral intervention.

If strategies are insufficient or behavior is severe, or places child or others at risk of harm, consider augmentation with medications

- See Care Guide sections, “Psychotropic Medication Considerations in Children with Autism” and “Non-Specific Medications for Disruptive Behavior and Aggression.”

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Applied Behavioral Analysis (ABA) Tip Sheet

What is ABA?

ABA is a type of therapy that helps children improve communication and social skills as well as decrease or eliminate a range of problematic behaviors. Applied Behavior Analysis focuses on understanding behavior as a function of an individual's environment and then modifying behavior to achieve a range of goals. ABA uses the principles of learning to teach skills that improve behavior and communication related to core impairments associated with autism. ABA has the most empirical support of any treatment for autism spectrum disorder (ASD). It is also very time and labor intensive and very expensive.

What behaviors or skill deficits can be addressed with ABA?

ABA techniques have been shown to have efficacy for specific problem behaviors as well as academic tasks, adaptive living skills, communication, social skills, and vocational skills. In framing the need to parents, schools or an insurance company, consider both the need for *skill acquisition* and/or *reducing problem behaviors as goals*. Skills that can be improved include functional communication, social interaction, flexibility in play, frustration tolerance, self-care, affect regulation and relaxation strategies. Common behavioral targets include tantrums, physical aggression, property destruction, self-stimulation, pica, elopement/escape behaviors, and inappropriate social interactions/boundaries. Because most children with ASD tend to learn tasks in isolation, generalization beyond an ABA setting is an important goal.

How do I help my patient and families access ABA?

The route to receiving ABA therapy varies depending on the type of insurance coverage, but it generally begins with a referral to, and evaluation by, an approved provider. Which individual or disciplines have been "approved" for determining the appropriateness of ABA varies by insurance carrier. It can be a challenging process to get a prescription for ABA and locate a provider who does this work, however, coverage is beginning to improve.

What if my patient is covered by a Medicaid managed care plan (eg. Apple Health)?

Because of federal mandates, children with public insurance often have an easier time accessing ABA compared to children with private insurance. For children under age 20 diagnosed with ASD who are covered by Medicaid or one of the associated managed care plans, the Washington State Developmental Disability Council (DDC) (www.ddc.wa.gov) recommends that parents or caregivers contact the Health Care Authority (aba@hca.wa.gov OR 800-562-3022) for assistance accessing ABA. The general process as outlined by the DDC involves.

- a) a referral from a health care professional or caregiver for testing and comprehensive evaluation at a Center of Excellence (www.hca.wa.gov/free-or-low-cost-health-care/apple-health-medicaid-coverage/autism-and-applied-behavioral-analysis)
- b) the writing of an order for ABA services (usually in the form of a letter or embedded in encounter documentation)
- c) assessment by a qualified board certified behavior analyst (BCBA) and development of a treatment plan
- d) and then submission of plan for authorization by HCA. Re-authorization is typically required by BCBA at a 3-6 month interval.

What if my patient is covered by private insurance?

Washington Autism Alliance and Advocacy (www.washingtonautismadvocacy.org/updates) has Resource Coordinators to assist families in accessing private health insurance benefits for their children. Public employees and military personnel (Tricare) should contact their plan or benefits manager for guidance on how to apply for ABA.

David Camenisch, MD MPH

Psychiatric Medication Considerations for Children with Autism

- Medications do not improve core autism features; *i.e. there is currently no “autism medication.”*
- Consider augmenting behavioral or counseling treatments with medications if there is moderate to severe distress and dysfunction in an area noted to be medication responsive.
- Use a single medication appropriate to a diagnosis or target symptom. Start low and increase slowly.
- Track the target symptom’s response to interventions.
- Be skeptical about the utility of medicines that “work” for only a couple of weeks before a dose increase seems to be required — it is not safe to increase medicine doses indefinitely beyond the normal dosage range.
- If an intervention isn’t reducing symptoms, taper and remove the medication, then reevaluate. Be vigilant about stopping any medication that is not clearly helpful.
- A history of past benefit from a medication does not necessarily mean there is continued benefit from ongoing use. Periodic attempts to wean off a previously helpful medication (such as annually) will reveal if ongoing use of that medicine is desirable.
- Do not exceed maximum dose recommendations for typically developing children. Note children with autism typically experience more adverse effects than others do from psychotropic medications.

Some medications to consider include:

Risperidone: FDA approved for children 5-16 years of age with irritability, aggression, self-injury, and quick mood swings associated with autism. Use if behavioral therapy is yielding inadequate results on severe symptoms. Can have many adverse effects including weight gain, dystonia, sedation, neuroleptic malignant syndrome, tardive dyskinesia and both cholesterol and glucose elevations. Suggest start at 0.25-0.5mg/day, usual effective dosage is less than 2mg/day. Requires glucose, lipid panel, and AIMS monitoring (see page 58).

Aripiprazole: FDA approved for children aged 6 to 17 years for symptoms of aggression toward others, deliberate self injury, temper tantrums and quick mood swings associated with autism. Has same adverse effects and monitoring needs as risperidone, including probability of weight gain. As a newer agent, less autism research and clinical experience exists relative to risperidone. Effective in 2-15mg/day range of dosing. No generic formulation.

Stimulants: Consider if an ADHD comorbidity, though they may have less benefit on ADHD symptoms than children without autism. They have more adverse effects than children without autism, including more irritability, insomnia, and social withdrawal. Best studied of this group is methylphenidate. If used, start with 2.5mg/dose or 0.125mg/kg bid to tid.

SSRI’s: Consider if an anxiety or depression comorbidity. Are shown to not improve any of the core autism features. SSRI’s have increased rates of adverse effects including agitation, irritability, elation, and insomnia than for children without autism.

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Autism Resources

Information for Families

Books families may find helpful:

- Children with Autism: A Parent's Guide (2000), by Michael D. Powers
- A Parent's Guide to Asperger Syndrome and High-functioning Autism: How to Meet the Challenges and Help Your Child Thrive (2002), by Sally Ozonoff, Geraldine Dawson, and James McPartland

Websites families may find helpful:

- Autism Speaks
www.autismspeaks.org
(advocacy, diagnostic, treatment and support resources)
- Autism Center – University of Washington
<http://depts.washington.edu/uwautism>
(advocacy, diagnostic, treatment and support resources)
- ARC Washington State – Parent to Parent (peer mentorship program) http://arcwa.org/getsupport/parent_to_parent_p2p_programs

Resources for Teaching Social Skills

All Ages:

- The Social Skills Picture Book: Teaching Play, Emotion, and Communication to Children with Autism (2003), by Jed Baker (Future Horizons)
- The New Social Story Book, Illustrated Edition (2000), by Carol Gray (Linguisticsystems)

Preschool-Kindergarten:

- Skillstreaming in Early Childhood: Teaching Prosocial Skills to the Preschool and Kindergarten Child (1990), book and program forms booklet, by Ellen McGinnis and Arnold Goldstein (Research Press)
- Do, Watch, Listen, Say (2000), by Kathleen Ann Quill (Thinking Publications)

Elementary Grades (1st through 4th):

- Social Star: General Interaction Skills (Book 1), Social Star: Peer Interaction Skills (Book 2), and
- Social Star: Conflict Resolution and Community Interaction Skills (Book 3), by Nancy Gajewski, Patty Hirn, and Patty Mayo (Thinking Publications)
- Skillstreaming the Elementary School Child: New Strategies and Perspectives for Teaching Prosocial Skills (1997), by Ellen McGinnis and Arnold Goldstein (Research Press)
- Comic Strip Conversations (1994), by Carol Gray (Thinking Publications)

Secondary Grades and Adolescents:

- SSS: Social Skills Strategies Book A and SSS: Social Skills Strategies Book B (1989), by Nancy Gajewski and Patty Mayo (Thinking Publications)
- Navigating the Social World: A Curriculum for Individuals with Asperger's Syndrome, High Functioning Autism and Related Disorders (2001), by Jeanette McAfee, MD (Future Horizon)
- Inside Out: What Makes the Individual with Social-Cognitive Issues Tick? (2000), by Michelle Garcia Winner (Thinking Publications)

Board Games and Online Games:

- 10 Say and Do Positive Pragmatic Game Boards (Super Duper Publications)
- The Non-Verbal Language Kit (ages 7-16, Linguisticsystems)
- <http://do2learn.com> (free games that teach about feelings and facial expressions)

Picture Exchange Communication System (PECS) resource:

- <http://do2learn.com> (has pictures that can be printed out for arranging a visual daily schedule)

This resource page is now available in Spanish at www.seattlechildrens.org/pal



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