

Neurodevelopmental Disorders: Implications for Support in Health Care and School Systems

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Disclosure

- The presenter has no financial relationship to this program.

Objectives

1. Use the basic ASD and FASD intervention principles to provide families with appropriate recommendations.
2. Apply the basic outline of social story intervention for individuals with FASD and ASD.
3. Provide families and other clinicians with reliable, evidence-based sources for additional information regarding FASD and ASD.

Agenda

1. Brief Review of Neurodevelopmental Disorders
2. Principles of Key Interventions
 - A. Behavioral Analysis
 - B. Social Stories
3. Resources and Additional Information

Neurodevelopmental Disorders

- Lifelong disabilities manifesting as core deficits across the following domains:
 - Physical/Motor
 - Development
 - Cognition
 - Behavior/Social/Emotion
 - Academic/Learning

Autism Spectrum Disorder (ASD)

- Autism spectrum disorder (ASD) is a neurodevelopmental disorder represented on a spectrum of severity with two core impairments: social communication and restricted/repetitive behavior

1. Social Communication Impairments (3)	2. Restricted/Repetitive Behaviors (<2/4)
(A) Social-emotional reciprocity	(A) Stereotyped or repetitive motor movements or speech
(B) Nonverbal communication	(B) Insistence on sameness
(C) Development/Maintenance of Social relationships	(C) Highly restricted, fixated interests
	(D) Unusual interest in sensory aspects of the environment

Theoretical Underpinnings of ASD

- The hallmark of ASD is social communication impairment.
 - Lack of social motivation
 - Failure to find social stimuli rewarding
 - Impaired attention processing networks



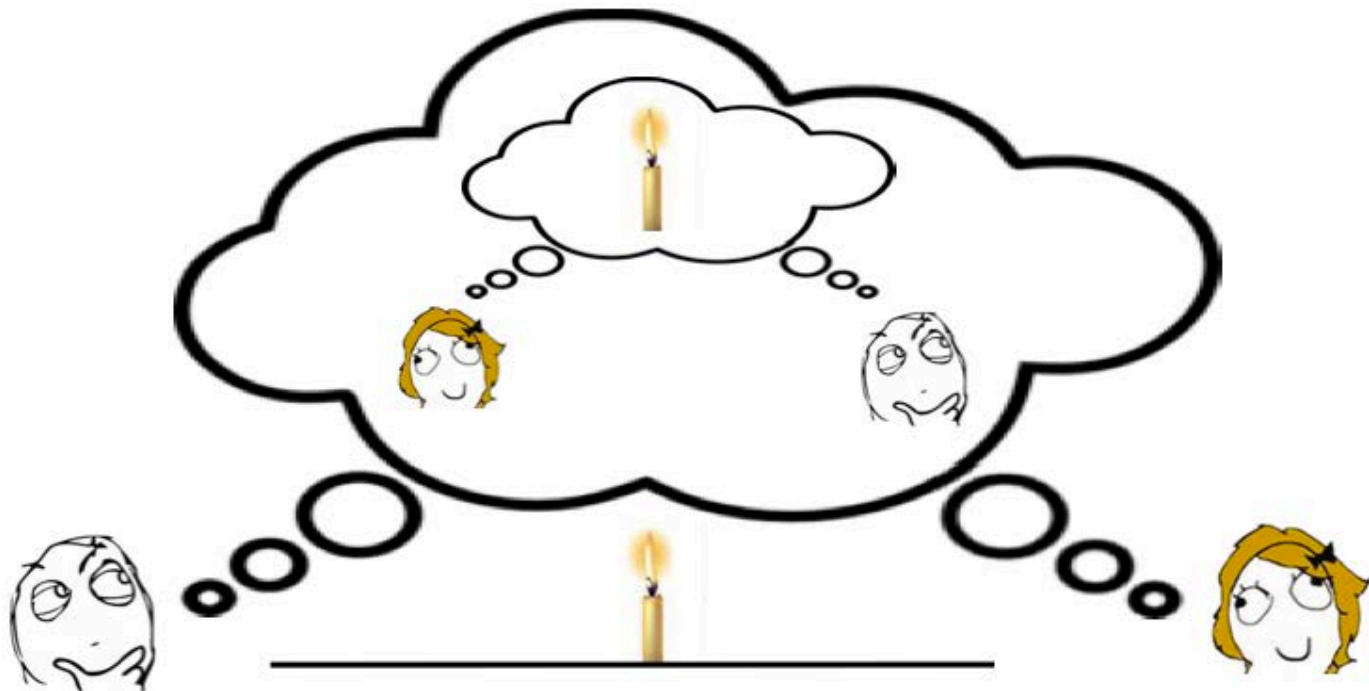
Theoretical Underpinnings of ASD

1. Difficulty understanding others as independent agents of communication
2. Impaired “theory of mind,” or the ability to understand others in terms of their beliefs, desires, and intentions, and how these beliefs may differ from theirs.



Primary Goal for Treatment for ASD

- **GOAL** = Support children to attend and respond to social opportunities in their environment



Common Challenges for Children with ASD in Community Settings

- Communication (e.g., use of language, back and forth conversation, nonverbal communication, nonliteral language)
- Shifting attention
- Sensory processing and motor differences
- Emotion and behavioral regulation

Fetal Alcohol Spectrum Disorders

- Fetal Alcohol Syndrome (FAS) is a permanent birth defect syndrome caused by exposure to alcohol in utero
- Disorders across the spectrum are characterized by physical, cognitive, and behavioral deficits.

Fetal Alcohol Spectrum Disorder (FASD)

Fetal Alcohol Syndrome (FAS)

Partial Fetal Alcohol Syndrome (PFAS)

Alcohol Related Neurodevelopmental Disorder (ARND)

Alcohol Related Birth Defects (ARBD)

Theoretical Underpinnings of FASD

- The hallmark to FASD is damage to the central nervous system.
 - Malformations and reductions of grey and white matter
 - Alterations in brain activation
 - Alterations in functional connectivity



Primary Goal for Treatment for FASD

- **GOAL** = Support and explicitly teach affect regulation and behavior management skills



Common Challenges for Children with FASD in Community Settings

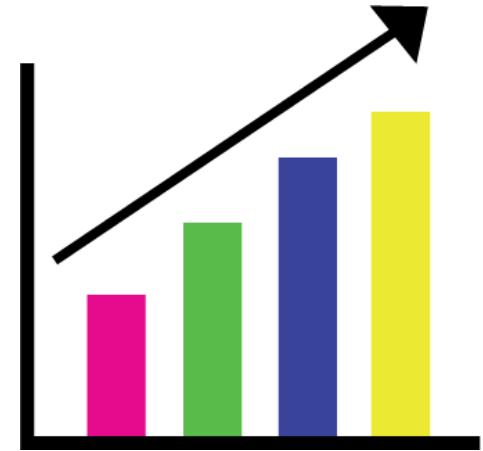
- Hyperactivity, impulsivity, and attention difficulties
- Memory deficits
- Disruptiveness
- Poor social skills
- Difficulty understanding rules and authority

Principles of Key Interventions

- The main goal of interventions is to help individuals function more successfully in their environments
1. **Behavior analysis** = arrange environments to increase the likelihood of target behaviors and decrease the likelihood of problem behaviors
 2. **Social Stories** = explicitly teach children the roles and expectations of their social environments

Why do these strategies work?

- **DIRECT**
 - Objective measurement of behavior
 - Explicitly teaches as the target behavior
- **STRUCTURED**
 - Use of procedures based on principles of behavior
 - Schedules of reinforcement
- **REPETITIVE**
 - Environment becomes a “controlled” variable
 - Teaching opportunities can occur numerous times in naturalistic, artificially created environments, or stories



Principles of Key Interventions

- Behavior Analysis:
 - There is a functional relationship between behavior and one more of its controlling variables:
 1. **Antecedent** = conditions or stimulus changes that occur prior to the behavior
 2. **Consequence** = changes that follow the behavior
- Assumption = Most behaviors are learned and maintained via consequences and antecedents

Principles of Key Interventions

1. Identify antecedent variables that can be altered to set up the learner for success
2. Identify reinforcement contingencies to be altered so that the problem behavior is no longer reinforced
3. Identify reinforcers to that the replacement behavior increases



Antecedent Interventions

- Antecedent interventions: environmental adjustments are made prior to the behavior in a way that allows the learner to engage in a target behavior and be successful.
- Interventions consist of:
 - Planning ahead
 - Using the child's strengths

Antecedent Interventions

1. Maximize the likelihood of the behavior
 - For example, when a child eats a good breakfast, they are more likely to be focused at school
 - Lower the difficulty of a task as you are introducing a new skill



Set Table

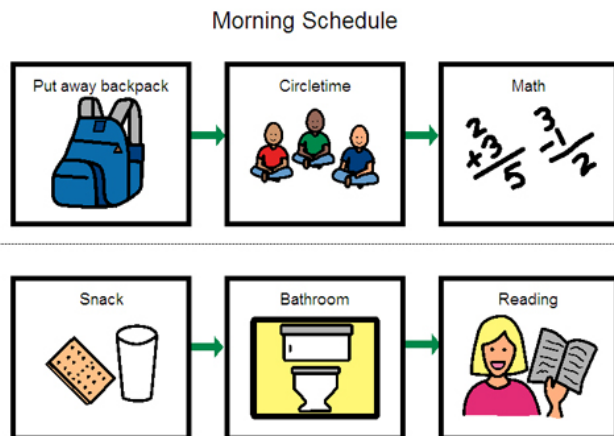
Antecedent Interventions

2. Modify the environment

- Create a routine
- Is the classroom prepared for the child?

3. Increase prompts for desired behavior

- More frequent reminders
- Visual supports



Visual Schedule for a Dental Visit

Visual Schedule for a Dentist Visit



1 Put hands on stomach



2 Feet out straight



3 Open mouth wide



4 Hold mouth open



5 Count teeth



6 Take X-Rays



7 Clean teeth



8 Spit into sink

Common Strengths for Individuals with Neurodevelopmental Disorders

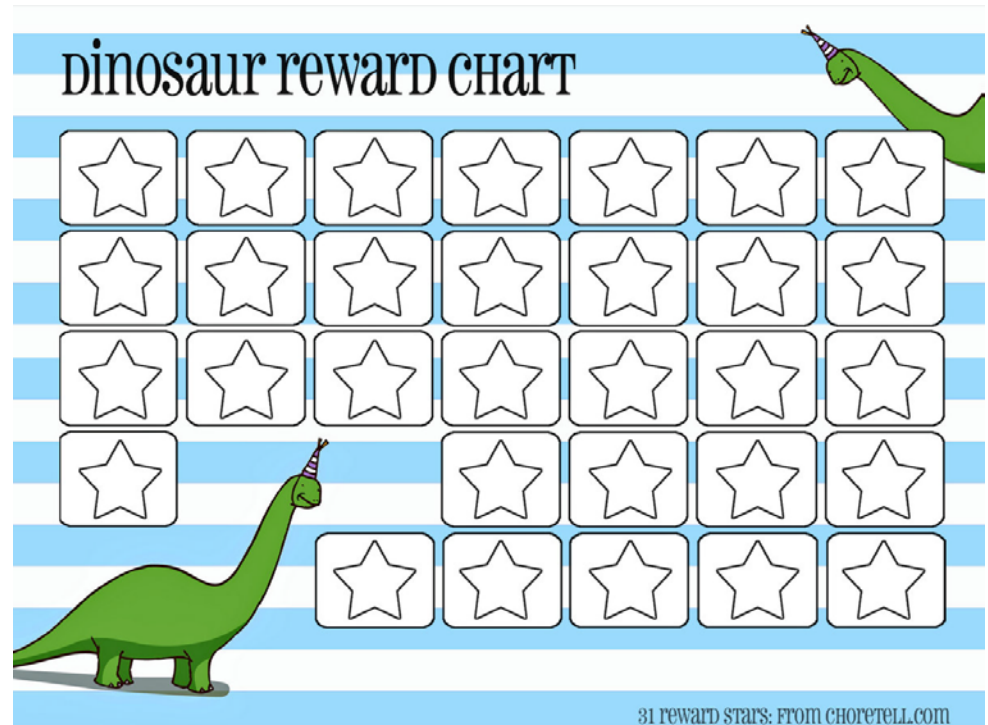
- Responsiveness to direct, clear, and concise instructions
- Strong visual skills
- Ability to understand concrete concepts, rules, and patterns
- Intense concentration or focus, especially on a preferred activity
- Ability to learn problem solving skills

Behavioral Interventions

- Behavioral interventions: strategies to increase target behaviors and decrease problematic behaviors
 1. Positive Reinforcement
 2. Contingency Contract
- Positive Behavior Support is one example of behavioral interventions used in many school settings.

Positive Reinforcement

- Positive reinforcement – verbal praise, access to preferred item/activity given immediately after a target behavior occurs to increase that behavior



Contingency Contract

- Contingency contracts = document that specifies the contingent relation between the completion of a specified behavior and access to a specified reward such as access to a favorite activity

GEORGE'S HOMEWORK CONTRACT

DATE: January 30, 2001

STUDENT: I agree to finish my homework, including my corrections, at least 4 out of the 5 days this week.

SIGNED George Hamilton

TEACHER: I will let George choose a prize from the basket on Friday afternoon.

SIGNED Mrs. Johnson

Contingency Contracts

1. Description of the task

- Who is doing the task?
- What is the task?
- When is the task completed?
- How well should the task be completed to earn a reward?

2. Description of the reward and who gives the reward

3. Task record

- Record the progress of the contract
- Provision of interim rewards

1. FEEDING THE DOG

- Martin will feed the dog
- 1 scoop of dog food
- Every morning at 7:00 am.
- When Martin feeds the dog every morning he will get to choose a dessert for his lunch.

2. Brownie, rice crispy, candy from Dad

3. Task record

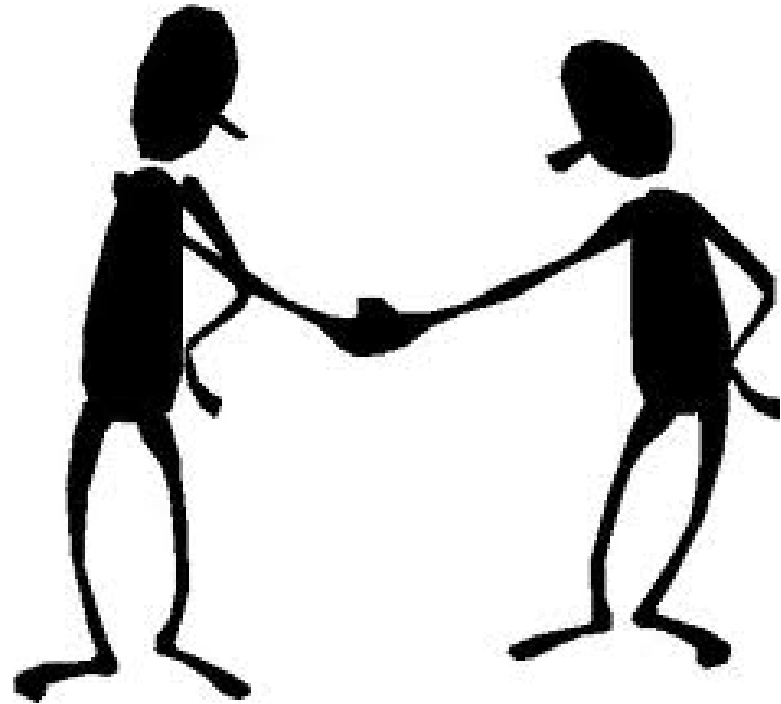
- Dad will put a sticker on the calendar for each day Martin feeds the dog
- When Martin feeds the dog every day for 1 week he gets to choose a movie to watch on Friday night.

Social Stories Interventions

- Building social skills involves the explicit teaching and reinforcement of desired, specific social skills:
 - Good communication (e.g., introducing oneself to others)
 - Awareness and expression of feelings
 - Making eye contact
 - Recognition of nonverbal communication
 - Politeness
 - Conversation skills
 - Handling teasing, conflicts, interpersonal problems

Social Stories Interventions

- A social story breaks down these social skills and often uses visual cues to help someone learn these skills
- Social stories help individuals navigate nonverbal rules and social expectations.
- Interventions must be specific and ever changing based on the situation and child



Social Stories

Sentence	What is it	Example
Descriptive	Answers the “wh” questions	Teachers ask questions.
Perspective	Refers to the opinions, feelings, ideas, or beliefs of others	Teachers like it when students raise their hands to answer questions. I feel angry when the teacher calls on someone else first.
Directive	Offers responses	When I am angry I can take three deep breaths, ask to go for a walk, etc.
Affirmative	Enhances the meaning of the previous sentence	It is important to stay safe when I become angry.
Control	Provide personal clarity	I can do this. I can calm down.
Support	Identifies how others can help	An adult can remind me to use my coping skills when I am angry.

Social Stories

 **Being a Good Listener**
by: Sasha Hallagan

Communication Symbols
Mayer-Johnson
LLC. All Rights
Reserved Worldwide.
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My friends are happy when I am a good listener.

← Descriptive



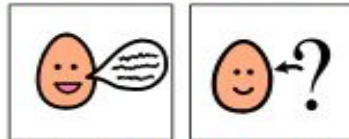
Sometimes I forget to be a good listener and don't pay attention.

← Perspective



Being a good listener means looking like I am listening. I sit facing towards my friend. I look at his face. I don't look all around.

← Directive



I nod my head while they are talking and say things like "okay" or "yeah." I ask questions about what they were talking about.

← Control



If I have good listening behavior, people will like talking to me more.

← Affirmative/Support

Social Story

My name is John and I go to school everyday during the week. Sometimes there is a change in our schedule. I don't like changes in our schedule. I wish I could go to school every day. When I do not understand I can ask my mom: "What are we doing today?" I can listen and do something different that day. It is important for kids to be flexible because sometimes we have appointments during the week. I can be flexible and do something different, and then the next day I can go to school. Mom will put my schedule on the fridge so I know what to expect for the day. Mom may remind me to look at the schedule when I am worrying about the schedule for the day.

Intervention Summary for FASD and ASD

Common Challenges	Intervention
Communication	Provide visual supports, limit language/keep language short and simple
Attention	Isolate the most relevant information, support attention, break down steps
Difficulty Understanding Social Cues	Teach in context, be explicit, teach components of social interactions (social stories)
Emotion and Behavior Regulation	Clear expectations, teach coping skills/replacement behaviors, praise positive behaviors
Difficulty with Time Management	Use timers, give extra time, give concrete instructions
Memory/Organizational Problems	Consistency and predictability, give plenty of time, use visual aids/organizers
Difficulties with Transitions	Routines, visual schedules, planned changes (predictable surprises)

School Resources: Toolkits

- Autism Speaks School Community Toolkit

http://www.autismspeaks.org/sites/default/files/school_community_tool_kit.pdf

- An Educator's Guide to Asperger Syndrome

https://researchautism.org/wp-content/uploads/2016/11/An_Educators_Guide_to_Asperger_Syndrome.pdf

- American Academy of Pediatrics Toolkit

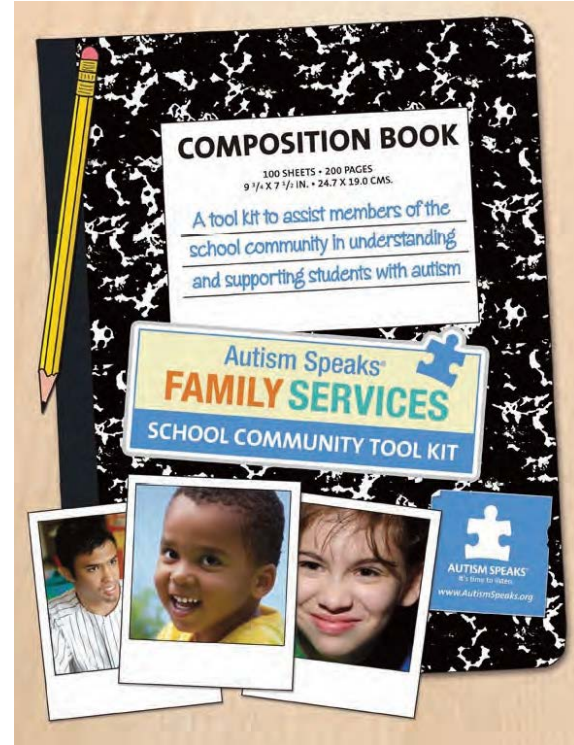
<https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/fetal-alcohol-spectrum-disorders-toolkit/Pages/The-Toolkit.aspx>

- FASD Tips and Strategies by Age

<http://come-over.to/FAS/PDF/TorontoStrategiesParents.pdf>

Autism Speaks School Community Toolkit

- Info about Autism
- School Community
 - Peers/Classmates
 - Bus drivers
 - Custodial staff
 - Paraprofessionals
 - School Nurses
- Strategies to support communication, social interaction, positive behavior, organizational skills, sensory needs



American Academy of Pediatrics' Fetal Alcohol Spectrum Disorders Toolkit

- About FASDs
- Identification, Diagnosis, and Referral
- Patient Management
- Practice Management
- Sample Forms (i.e., integrated care plan)
- In-Depth Provider Training
- Resources



a program to enhance the health & development of infants & children

**Fetal Alcohol Spectrum
Disorders Program**

A program of the American Academy of Pediatrics in cooperation with the Centers for Disease Control & Prevention

Healthcare Resources: Toolkits

- NOFAS Toolkit for Treating Patients with FASDs

<https://www.nofas.org/wp-content/uploads/2014/04/dds-article-with-our-story.pdf>

- Autism Speaks Dental Guide Toolkit

<https://www.autismspeaks.org/sites/default/files/documents/dentalguide.pdf>

- Skills to prepare your child
- Visual schedule
- Handout for the dentist
- Additional dental forms

Resources: Handouts

- FASD Handout for School Systems

<https://www.nofas.org/wp-content/uploads/2014/05/Fact-sheet-teachers.pdf>

- Autism Basics Brochure

https://www.autismspeaks.org/sites/default/files/autism_brochure.pdf

- Asperger's Syndrome Basics

https://www.autismspeaks.org/sites/default/files/docs/asperger_syndrome_basics_handout.pdf

FASD Handout for School Systems

National Organization on Fetal Alcohol Syndrome

Educating the public, professionals, and policymakers about alcohol use during pregnancy



FASD • What School Systems Should Know About Affected Students

Students with Fetal Alcohol Spectrum Disorders (FASD) have special learning needs and face a wide range of behavioral challenges.

Characteristic Facial Features of a Child with FASD

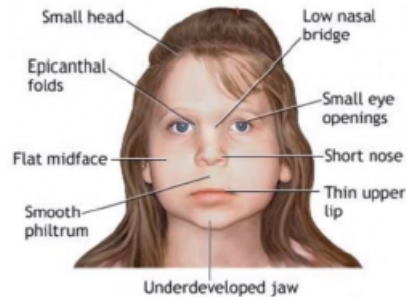


Image courtesy of the National Library of Medicine, NIH

How does FASD affect learning and behavior?

Students with FASD have problems receiving and processing information. They often cannot store what they learn or lack the mental capacity to use new information they have been given.

While students with FASD have IQ scores that range from 29 to 140, their overall level of adaptive functioning (i.e. ability to perform daily life skills) is often much lower than would be expected.

(Teresa Kellerman)

Educators can play a critical role in determining whether children with FASD reach their maximum potential.

Common challenges for educators who teach students with FASD include:

- Hyperactivity, impulsivity, attention and memory deficits
- Inability to complete tasks, disruptiveness
- Poor social skills
- Need for constant supervision
- Disregard for rules and authority.

Successful strategies for educating children with FASD include:

- Using concrete, hands-on learning methods
- Establishing structured routines
- Keeping instructions short and simple
- Providing consistent and specific directions
- Repeating tasks again and again
- Providing constant supervision

According to the Substance Abuse and Mental Health Services Administration, FASD affects 1 in 100 live births.

Recognizing FASD can be a challenging task.

Most students with FASD are unidentified or go misdiagnosed as most people with FASD do not have the characteristic features associated with fetal alcohol syndrome. The majority of students with FASD are not significantly developmentally disabled, and they can be articulate and skilled at performing specific tasks.

Students who exhibit behavior or learning problems may require psychoeducational testing to identify possible presence of central nervous system damage.

For more information on FASD, go to www.nofas.org



Additional Resources

- Skillstreaming – to increase pro-social skills

<http://www.skillstreaming.com/>

- Model Me Kids: Videos for Modeling Social Skills

www.modelmekids.com

- Carol Gray Social Stories

<http://carolgraysocialstories.com/>

- FRIEND (Fostering Relationships in Early Network Development) Program

www.autismcenter.org

- Wrightslaw: From Emotions to Advocacy

www.wrightslaw.com

Questions



Contact Info

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