



# Autism Spectrum Disorders: Screening, Referrals, Treatment

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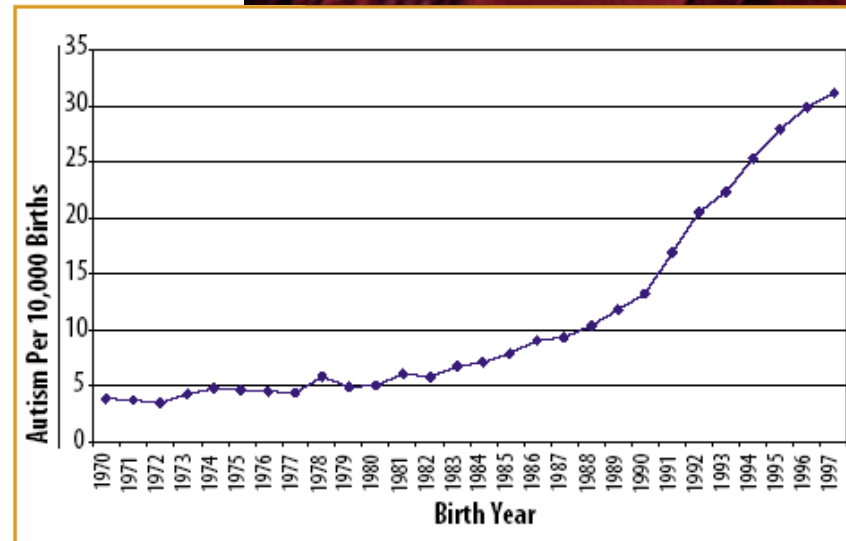
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# Objectives

- What are the defining characteristics of autism? What has DSM-5 changed?
- Practice guidelines for autism screening
- Medical referral and treatment
- Assessment and treatment of cognition, behavior and language

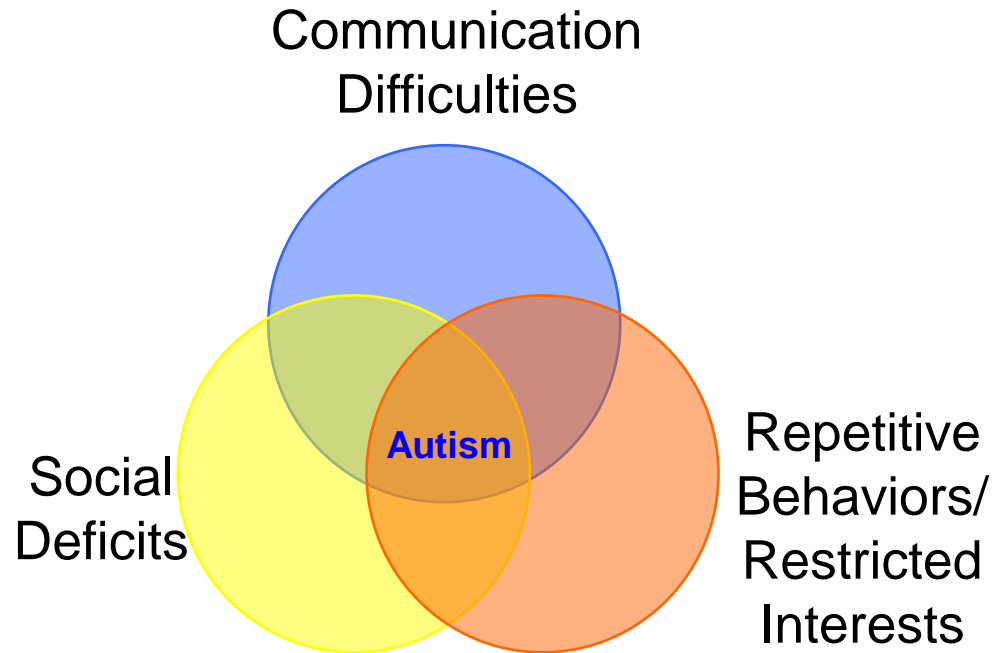
# Autism Spectrum Disorders Are....

- Heterogeneous and a *Spectrum*
  - IQ (46% of ASD  $\geq 85$ )
  - Co-morbidity (Leyfer, 2006)
- Common and increasing
  - 1 in 50 (CDC, 2013)
  - 5:1 = Males: Females
  - All races, but disparities in identification and services



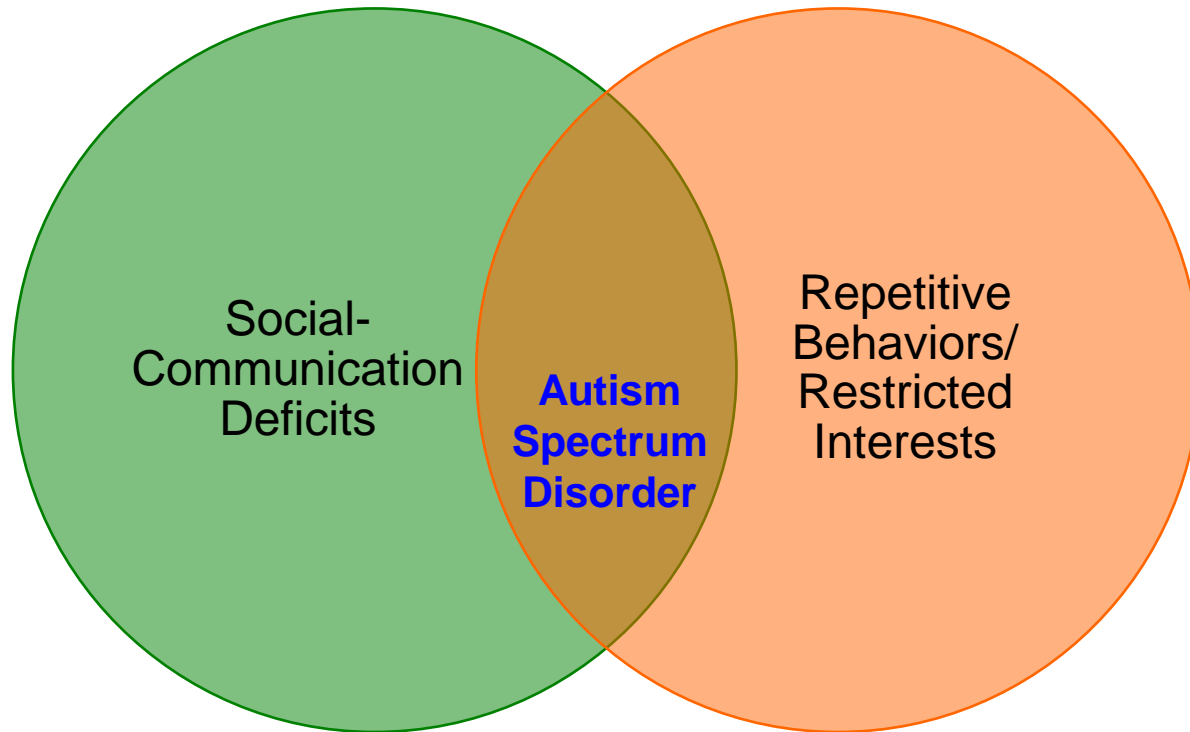
# DSM-IV Autism Triad of Impairments

- Social: limited social reciprocity; no sharing interest/attention with others
- Communication: delayed language; difficulty initiating/sustaining conversations
- Repetitive behaviors: motor stereotypies; restricted interests



In DSM-IV: Autism, Asperger's Disorder, Pervasive Developmental Disorder-Not Otherwise Specified

# DSM-5 ASD: Dyad of Impairments



In DSM-5: Autism Spectrum Disorder (with qualifiers, e.g., language impairment) and Social-Communication Disorder

# Notable Changes in DSM-5

- Symptoms present early but **may not become fully manifest until social demands exceed limited capacities, or may be masked by learned strategies in later life.**
- **Hyper- or hypo-reactivity to sensory input or unusual interest in sensory aspects of the environment.**
  - indifference to pain/temperature
  - adverse reactions to sounds or textures
  - excessive smelling or touching of objects
  - visual fascination with lights or movement
- Co-morbid **ADHD** diagnosis allowed
- Addition of Social Communication Disorder and removal of flexible “PDD, NOS”

# Is DSM-5 an Improvement?

*essentially, all models are wrong, but some are useful*

---George Box

## Advantages

- + Merging of Social and Communication reflects reality
- + Previous diagnoses not replicable (Lord, 2012)
- + ADHD present in **1/3-1/2** of children with ASD (e.g. Yerys, 2009)
- + ASD symptoms change over development
- + Severity levels confusing, but acknowledge the impact of executive function deficits

## Disadvantages

- Loss of identity
- Possible exclusion of some related to 2 RRBI sx threshold
- Inadequate services for Social Communication Disorder



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# Infant and Toddler Development: “Red Flags”

- Indications that a child should be evaluated for a possible autism diagnosis
- Impairments in social interaction
  - Poor joint attention or lack of appropriate eye gaze
- Impairments in communication
  - Lack of showing gestures or coordination of nonverbal communication
- Repetitive behaviors & restricted interests
  - Repetitive movements of body or with use of objects, or rigid play



# When do you act on concerns?

- Refer for a more focused evaluation and possible diagnosis whenever concerns are apparent (any age)
  - Delays in screening, identification of at-risk children, referral, and diagnosis can lead to missed opportunities for early intensive behavioral intervention

# Surveillance and Screening

- AAP Identification and Evaluation algorithm, 2007 (Johnson and Myers)
- Surveillance at all preventive care visits
- Routine screening at 18- or 24-month visit
- Screening with any increased risk



i.e, 2 or more of the following:

Sibling with ASD

Parental concern

Other caregiver concern

Pediatrician concern

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# Referral

- Act on a positive screening result
  - Do not take a “wait and see” approach
- Simultaneous referrals for:
  - Early Intervention services (Infant & Toddler Connection, Parent-Infant Education, Strong Start DC Early Intervention)
  - Evaluation and diagnosis
    - Developmental pediatrics, neurology, genetics
    - Center for Autism Spectrum Disorders
  - Audiology evaluation

# Neurodevelopmental Pediatrics Consultation

- Intake with complete medical history, review of prior evaluations and studies, physical exam including behavioral assessment
  - Consideration of further diagnostic evaluation
    - Interdisciplinary assessment or formal diagnostic evaluation (Autism Diagnostic Observation Schedule)
    - Early intervention
    - Communication evaluation
    - Labs
    - Genetics consultation
    - Imaging

# Genetics

- Chromosomal microarray has replaced high-resolution karyotype as first-line testing
  - Fragile X – presence of global developmental delay/intellectual disability, family history of fragile X or undiagnosed intellectual disability, dysmorphic features
- Rationale for genetic evaluation:
  - Families are greatly empowered by knowing the underlying cause of a child's disorder
  - Associated medical risks may be identified that lead to screening and potentially prevention of associated medical conditions
  - Genetic counseling can be offered to families

# EEG

- Inadequate evidence at the present time to recommend EEG in all individuals with autism
- Consider sleep-deprived EEG with appropriate sampling of slow wave sleep:
  - Clinical seizures
  - Suspicion of subclinical seizures
  - History of regression (clinically significant loss of social and communicative function) at any age
    - Especially in toddlers and preschoolers



# Imaging

- No clinical evidence to support the role of routine clinical neuroimaging in the diagnostic valuation of autism
  - Consider with microcephaly or focal neurological exam findings

# Medical issues

- Consider GI symptoms:
  - Chronic constipation/diarrhea, recurrent abdominal pain
- Seizures
  - More common with comorbid global developmental delay or intellectual disability
- Sleep problems

# Pharmacotherapy

- Target specific symptoms or behaviors
  - Aggression, self-injury, irritability
  - Attention, focus, hyperactivity, impulsivity
  - Mood/anxiety
- ?Targeting of specific genetic disorders
  - Fragile X, TS, NF

# Pharmacotherapy

- Risperidone and aripiprazole are the only FDA-approved drugs for treatment of symptoms associated with ASD, specifically targeting irritability
  - Tantrums
  - Aggression
  - Self-injurious behavior
- Should monitor for side effects, including weight gain, metabolic disorder

# *Pediatrics Supplement, November 2012*

- ADHD in ASD
  - Examination for comorbid sleep, medical, psychiatric comorbidities
  - Evaluation of behavioral interventions that may ameliorate these symptoms
  - Medication management:
    - “Most of the medications used to treat ADHD symptoms have not been studied in sufficient depth in ASD to allow for accurate assessment of treatment effects”
    - Start with methylphenidate or amphetamine salts

# *Pediatrics Supplement, November 2012*

- ADHD in ASD
  - Also consider use of nonstimulants
    - Alpha-agonists; guanfacine, clonidine
    - Norepinephrine reuptake inhibitor; atomoxetine
    - Atypical antipsychotics; risperidone, aripiprazole, ziprasidone, olanzapine

# Complementary and Alternative Treatments

- Lack of a “cure” for autism leads families to find alternative treatments
  - Based on hypotheses of the mechanisms of autism causation
- Readily accessible to families searching online
- Practitioners willing to treat patients using these alternative treatments
  - Often treatments are not covered by insurance and families may pay large amounts out-of-pocket

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# Assessment: *diagnoses, cognitive strengths and weakness and treatment plans*

- Multi-disciplinary and stand alone diagnostic, cognitive, language, psychiatric assessments
- Gold Standard diagnostic tools
- Assessment teams:
  - Rapid Early Detection
  - Developmental
  - Neuropsychology
  - Complex/Co-morbidities
- Assessors trained and experienced with autism



# Strengths and Weaknesses

- Attention
- **Executive Functions**
- Language
- Nonverbal Cognition
- Learning/Memory
- **Social Cognition**
- Sensory/**Motor Abilities**
- Motivation

A failure to understand how a child's typical behaviors reflect this disability can result in misperceptions such as viewing the child as noncompliant, willfully stubborn, or unmotivated, rather than confused, involved in repetitive routines, or focusing on less relevant aspects of the situation." (Kunce & Mesibov, 1998)

# Autism Outcomes: The Stakes are High

## Plasticity in developmental trajectory

- Possibility of “optimal outcome” (Deborah Fein)
- Better prognosis: language < 5, higher IQ, no seizures

## ...but unrealized potential

- Bullying peaks in middle school
- Anxiety and Depression common in adolescence
- Increasing executive and adaptive skill deficits in adolescence (Rosenthal, 2013; Pugliese, In prep)
- 9% of ASD without ID living independently (Farely, 2009)

# Assessment: *Guiding Families to Treatment*

- ABA/Behavior Therapy
- Speech and Language Therapy
- Social Skills groups
- Flexibility groups
- Occupational therapy
- Proper coding for school services
- Appropriate school plans
- Advocating for Accommodations
- Identifying strengths and contributions



# Early Intervention

- Once a child is identified and diagnosed with autism, he/she should be enrolled in an intensive program
  - 25 hours per week, 12 months per year
  - Low student/teacher ratio
  - Speech language therapy
- 2007 AAP clinical report : the benefit of ABA-based interventions "has been well documented"
  - "children who receive early intensive behavioral treatment have been shown to make substantial, sustained gains in IQ, language, academic performance, and adaptive behavior as well as some measures of social behavior."

# Getting the right school placement

## Minimum requirements

- Staff with ASD expertise and team approach
- Safe address
- Specialized pull-out: social/executive support

## Best Practice

- Social/Executive support integrated
- Small class size

## Consider

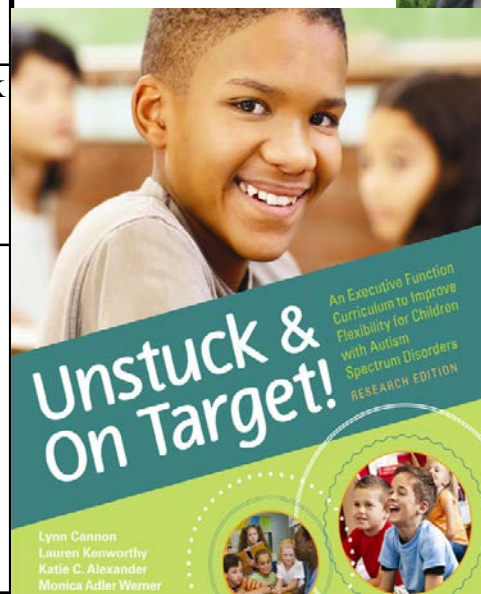
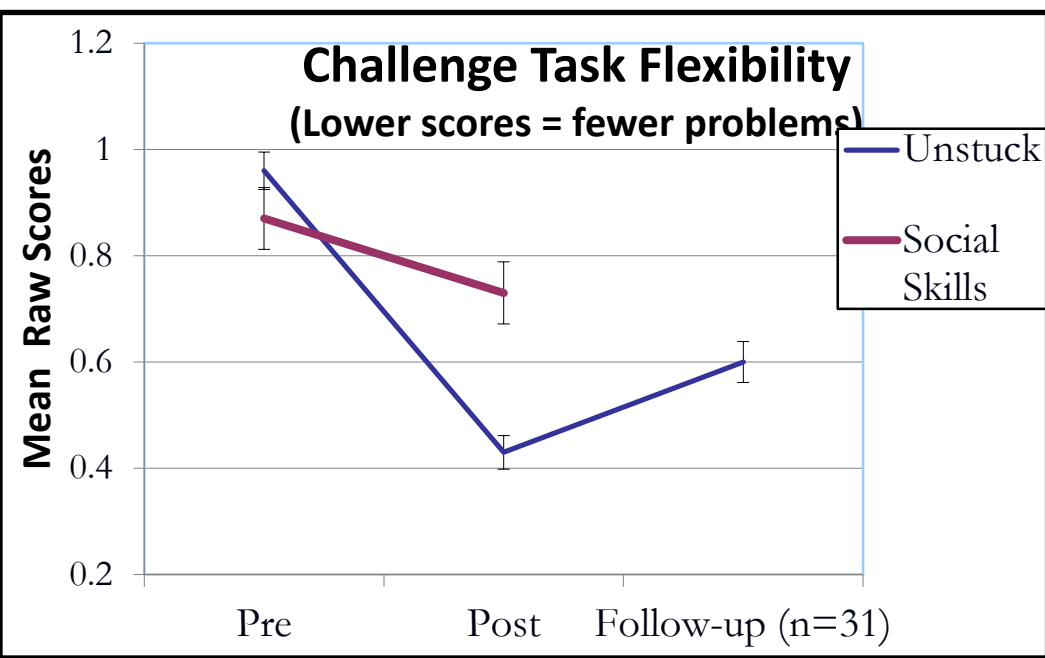
- Windows of Opportunity
- Overload Effects

## Educate Parents

- To advocate and explain ([www.childrensnational.org/casd](http://www.childrensnational.org/casd))

# Teaching Social and Executive Skills

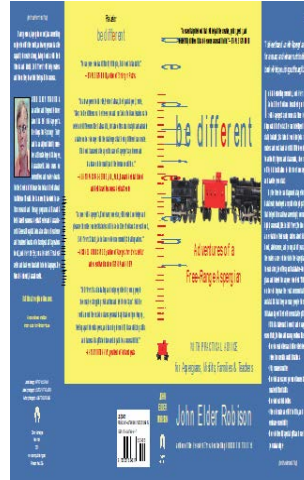
- Michelle Garcia Winner- Expected Behaviors/Flexiplex
- Jed Baker- Social and Transition skills
- Brenda Smith Myles- 10 Things to Know
- Carol Gray- Social Stories
- J. McAfee- Navigating the Social World
- Unstuck and On Target! (Kenworthy/Anthony, 2014)





# CASD Philosophy: Accommodate, then Remediate

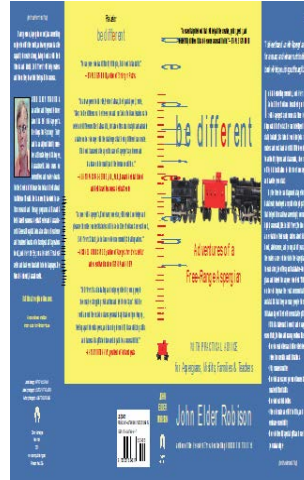
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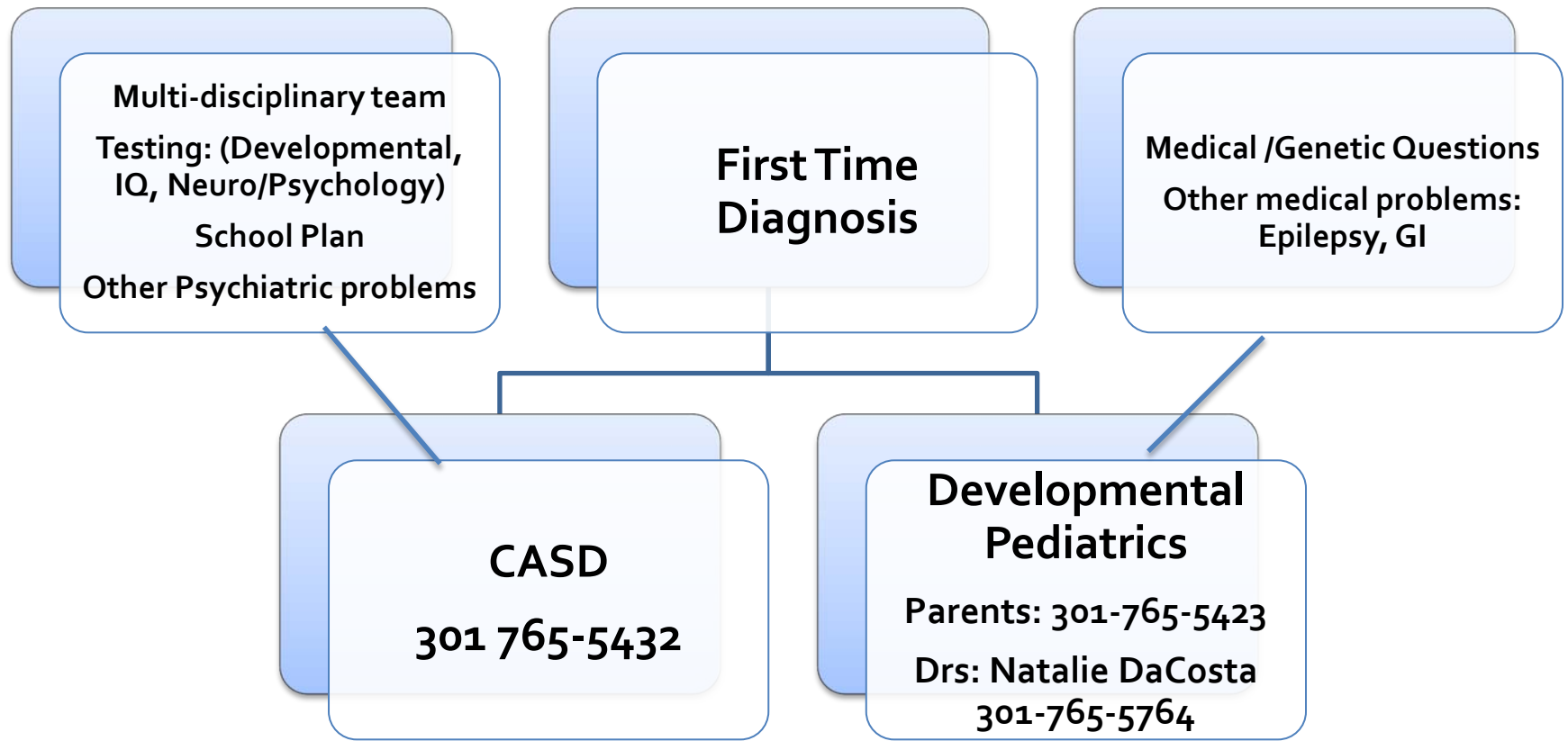


## Overwhelmed people can't learn

- Predictability and structure
- Make Big Picture Explicit
- Talk Less, Write More
- Avoid Overload
- Can't vs Won't
- Keep it Positive

# Treatment@ Children's

- Assessment = comprehensive recommendations with concrete steps and follow-up visits
- Family-centered care
- Psychopharmacology & Group therapy
- School & In-patient consultations



# Resources

- **Evidence based practices:**
  - <http://autismpdc.fpg.unc.edu/content/evidence-based-practices>
- **CASD parent booklet and CASD Chat:**
  - <http://www.childrensnational.org/CASD>
- **Autism Speaks First Diagnosis tool-kits:**
  - <http://www.autismspeaks.org/family-services/tool-kits/100-day-kit>
- **Autism Society of America** [www.autism-society.org](http://www.autism-society.org)
- **TEACCH** [www.unc.edu/depts/teacch](http://www.unc.edu/depts/teacch)
- **National Information Center for Children and Youth with Disabilities** [www.nichcy.org](http://www.nichcy.org)