Beyond the ADOS:
An overview of best practices and possible measures for screening and assessment of Autism Spectrum Disorder

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Objectives

- Identify necessary components of an Autism evaluation
- Discuss why multiple assessment pathways are needed to increase access to Autism evaluation services
- Compare different measures for assessing Autism symptoms and discuss why a particular measure might be chosen for a specific context
- Discuss differences between Medical Diagnosis and Educational Classification of Autism

NCH Child Development Center (CDC)

- **Interdisciplinary team**
  - Psychologists, Master's Level Clinicians (Social work, LMFT, Clinical Councilors), & Psychometricians
  - Partner with Developmental Behavioral Pediatricians and NPs, Speech therapists, Genetics
- **Focus on differential diagnosis related to neurodevelopmental disabilities**
  - Assess for Autism, Intellectual Developmental Disorder, Global Developmental Delay
  - Assess for differentials – ADHD, Anxiety, SLD, etc.
  - Help families figure out what is happening and what to do next
- **Treatment for dev. disabilities other than Autism**
  - Those with autism go to NCH Center for Autism Spectrum Disorders (CASD) for treatment

What is Autism Spectrum Disorder (ASD)

Developmental Disability characterized by:

- **Social Communication Difficulties:**
  - Difficulties with social reciprocity
  - Nonverbal communication deficits
  - Difficulties following social norms and building and maintaining relationships
- **Restricted and Repetitive Behaviors:**
  - Stereotyped movements or language; repetitive play and behavior
  - Rigid routines; difficulties with transitions
  - Restricted interests
  - Sensory sensitivities/sensory seeking behavior
- **Symptoms present from young age; Cause impairment in functioning**

Diagnosing Autism Spectrum Disorder

Symptoms can be assessed starting at 12 months

- Accuracy improves closer to 3 years old
- Early identification is important for early intervention

Many families wait years for initial assessment

- **Average age of ASD diagnosis: ~4.5 years old** (Maenner et al., 2021)
  - First concerns are often as early as 12-18 months
- **Greater delays** for those from (Aylward et al., 2021):
  - Lower SES, Rural areas, Underrepresented ethnic and racial groups

What Makes a Good ASD Evaluation

Goal of ASD Assessment:

- **Identify a pattern** of social communication difficulties and restricted and repetitive behaviors causing impairment

Gold standard models include multiple sources of data (Huerta and Lord 2012; Zwaigenbaum et al., 2009)

Two Key Components of an ASD Evaluation

Comprehensive Interview

- Developmental history
- ASD Symptoms
- Differential diagnosis – Trauma, Anxiety, ADHD, etc.

Behavior Observation

- Direct observation of child
- Includes activities to pull for both social/communication difficulties and unusual behaviors

Additional Components of a Comprehensive Evaluation

Additional Direct Testing

- Cognitive, Academic, Executive Functioning, Developmental,

Rating Forms

- Parent/caregiver, teacher, and self

Previous Assessment

- Evaluation Team Reports (ETR), Other Psychological Evaluation, Speech Evaluation, etc.

Assessing ASD Symptoms: Screeners

Level 1 Screeners

Assess for symptoms in general population

High Sensitivity, Lower Specificity - Goal is to catch any possibility of ASD

Examples: M-CHAT

Level 2 Screeners

Assess for symptoms in at-risk population

High Sensitivity, Better Specificity - Goal is to improve referrals

Examples: ADEC, STAT, RITA

Assessing ASD Symptoms: Diagnostic

- Goal: **aid** in making diagnosis
  - No one measure diagnoses ASD
- Ideally, high specificity and sensitivity (Randell et al., 2018)
  - **Autism Diagnostic Observation Schedule, Second Edition** (ADOS-2)
    - Sensitivity .94; Specificity .80
  - **Autism Diagnostic Interview, Revised** (ADI-R)
    - Sensitivity .52; Specificity .84
  - **Childhood Autism Rating Scale, Second Edition** (CARS-2)
    - Sensitivity .80; Specificity .88
- Need more time and training to administer

One size does not fit all

Children vary in symptom presentation

Mild symptoms/more complex presentation - Need more comprehensive assessment

More straightforward symptoms - Need less

Assessment models with multiple pathways needed to increase access for all

Possibility for secondary screeners to be used as diagnostic measures

Autism Detection in Early Childhood
(ADEC; Young 2007)

- Level 2 Screener
  - Designed for 12-36 months (extended up to 48 months)
  - Quick, easy to administer – 20 minutes
  - Items are straightforward in administration and scoring
  - Requires minimal training and experience to reach reliability
  - Minimal materials are needed
  - Translated into several language

Initial Support for the ADEC

- **Well-established initial psychometric properties** (Young, 2007)
  - ADEC sensitivity is .86 and specificity is .91
  - Good internal consistency
    - Cronbach's α between .80 and .93 over 5 studies
    - Cronbach's α did not differ significantly with the removal of any specific item
  - Test-retest reliability was consistent over a 12-month period
    - ($r = .90$, $n = 14$, $p < .001$)

Continued Support for the ADEC

- **Works well as a screener** (Young & Nah, 2016)
  - Good sensitivity (1.0 to .88) and moderate specificity (.62 to .89) for cutoff score of 11 (Moderate Risk) across 4 studies
- **Performs similarly to the ADI-R, CARS, & ADOS-2** (particularly the toddler module), in differentiating ASD in toddlers (Nah et al., 2014; Hedley et al., 2015)
  - Improved balance of sensitivity (.85-.87) to specificity (.79-.82) using a higher cutoff score of 14 (High Concern)

Diagnostic Innovation and the ADEC

- ADEC has diagnostic utility for identifying **CLEAR cases of ASD** in **young children** when the **HIGH RISK** cutoff is used by **EXPERIENCED clinician**
- Utility increased when ADEC is used as an observation tool with other validated assessment tools (e.g., CARS-2, ADI-R)
- Example adaptations with ADEC:
  - Telehealth Assessment (ADEC-Virtual)
  - Enhanced Diagnostic Intake (EDI)

Telehealth Assessment Options

- Telehealth assessment options enhance assessment models
  - **One tool in a comprehensive toolbox**
- Overcome barriers to accessing services including:
  - Transportation and geographical location
  - Time missed from work
  - Need for childcare
  - Family stress
  - Increase agility during times of crisis

Properties of the ADEC-Virtual

Adapted in collaboration with original author

20-25 minutes to administer by telehealth

- Same 16 activities
- First used as an observation to complete CARS-2

Few materials – all typical household toys and items

Administered by a family member coached by clinician

- Scored by clinician
- Scores provide a risk level for ASD

Preliminary Validation Study Conclusions

(Kryszak, et al., 2022)

ADEC-V found to have acceptable diagnostic accuracy	• Best if “High Risk” cutoff is used • Sensitivity 0.82; Specificity; 0.78 (Clinical Sample)
ADEC-V and ADI-R contribute significantly and separately	• Best to use combo of interview & observation measures (Huerta and Lord, 2012)
ADEC-V were slightly negatively correlated with age	• Use caution over 3 years old • Consider adding other tasks (e.g., pretend play)

Enhanced Diagnostic Intake (EDI) Model

- One 90 min appointment
  - Diagnostic intake clinician completes interview integrated with ADI-R Toddler Algorithm (Kim & Lord; 2012)
  - Psychologist listens to interview and completes ADEC with additional observations needed to complete CARS-2
    - Developmental Profile, 4th edition (DP-4) also completed
  - ASD ruled in or out when presentation is clear
    - Feedback with recommendations given same day
    - Additional assessment appointment scheduled with psych when presentation is less clear

Enhanced Diagnostic Intake Model

291 children seen so far

- Average age: 34 months; 68% male, 32% female

82% completed in one assessment appointment

- 63% given ASD diagnosis
- 19% ASD ruled out
- 18% needed further evaluation

238 children did not need second 2-3 hour eval slot

- **Saved families a second trip and several months of wait time**
- **Allowed better use of clinician resources so more kids can be seen**

Considerations for using Secondary Screener in a Diagnostic Model

Need training in ASD assessment

Secondary screeners useful for diagnostics with additional training or expertise in ASD assessment

Make sure assessment measures are acceptable to:

Allow family to access next steps

Meet insurance requirements for eval AND treatment

Be accepted by schools and community partners

Need a pathway for more complex cases

Plan for further evaluation as needed

Lessen pressure to make diagnosis without adequate information

Medical Diagnosis vs. Educational Classification of Autism

Medical Diagnosis of Autism

- Made by doctor, psychologist or other certified provider (varies by state)
- Needed to qualify for medical and behavioral interventions and community resources (e.g., County Board of DD)
- Certain agencies (e.g., Medicaid; County Board) require certain measures (e.g., ADOS or ADI)

Educational Classification of Autism

- Must meet criteria for a disability AND need specialized services to access FAPE (free and appropriate education)
  - **Medical diagnosis does NOT automatically qualify for IEP**
  - Student does NOT need a medical diagnosis to qualify for educational classification
- School completes Evaluation Team Report (ETR)
  - Used to create Individualized Education Program (IEP)
  - Ohio Dept of Ed does not require specific measures

Autism Education Program (AEP)

Autism Scholarship

- Ed choice scholarship through Ohio Department of Ed
- $32,445 per year (as of FY2025)
- Need IEP under Autism Educational Classification or AEP

Autism Education Program (AEP)

- Law change in October 2024
- For child with medical diagnosis of ASD who:
  - Does not meet criteria for IEP under Autism Classification
  - Wants to use Autism Scholarship

Cautions with Autism Scholarship Program

Using ASP forfeits right to a FAPE (free, appropriate public education)

- Private Schools and providers for ASP are not legally required to provide accommodations like public school for IEP
- No protections for expulsions/suspensions or bullying

Scholarship may not cover full tuition

- School may also not provide transportation

ASP good fit for some but not all

- Schools vary in focus on education vs behavior change
- Need to carefully research school

Thank You!

- **Questions? Referral Discussion?**
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