

Autism Spectrum Disorders

Assessment and management for
Canadian primary care professionals

Compiled by

Theresa (Terry) Bennett, MD, FRCPC, PhD(c),
Peter Kondra, MSc, MD, FRCPC,
and Brenda Mills, C&Y MHC
Hamilton Family Health Team
Child & Youth Mental Health Initiative

in collaboration with

Helen Spenser MD, CCFP, FRCPC,
and Blair Ritchie MD, FRCPC,
Children's Hospital of Eastern Ontario, Ottawa, Ontario

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Autism Spectrum Disorders

Understanding Autism Spectrum Disorders in Primary Care



Visit 1

History and Information Gathering



Visit 2

Medical and Physical Exam



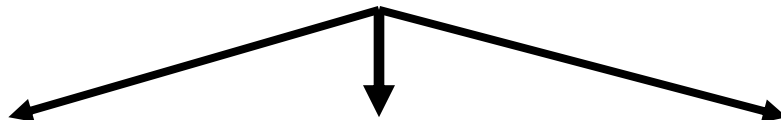
Visit 3

Education



Visit 4

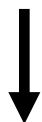
Treatment



Treatment of Core
ASD Symptoms and
Co-Morbid Conditions
and Behaviours

Referral to
Specialized
Services

Resources
for Parents



Follow-up and Waiting for Referral

Online Comprehensive Guides and References

Understanding Autism Spectrum Disorders in Primary Care

- [Guidelines in primary care](#)
- [Epidemiology](#)
- [Common “entry points” for ASD screening](#)
- [The essential role of the FP in ASD screening](#)
- [American Academy of Pediatrics screening recommendations](#)
- [ASD and general screening tools](#)
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Guidelines in Primary Care

- Tailor visits to the presentation and concerns of individual families
- Identify a set of concerning symptoms or risk factors specific to ASD
- Differentiating between autism, AS and PDD-NOS much less important in primary care
- Thorough screening for ASD expedites a referral to specialized ASD Centres
- Early intervention is very important in ASD for patient and families
- Focus parents on the following 2 areas:
 - Delays or absence of common developmental milestones
 - Positive signs of core ASD features
- Preschool children
 - Focus on current symptoms and milestones attained
- Older children
 - Ask about current ASD-like symptoms
 - Ask parent to think back to age 4-5 for core ASD symptoms
 - Ask parent to focus on core early language and social milestones: age of first words, atypical language, atypical communication, lack of pointing, etc.

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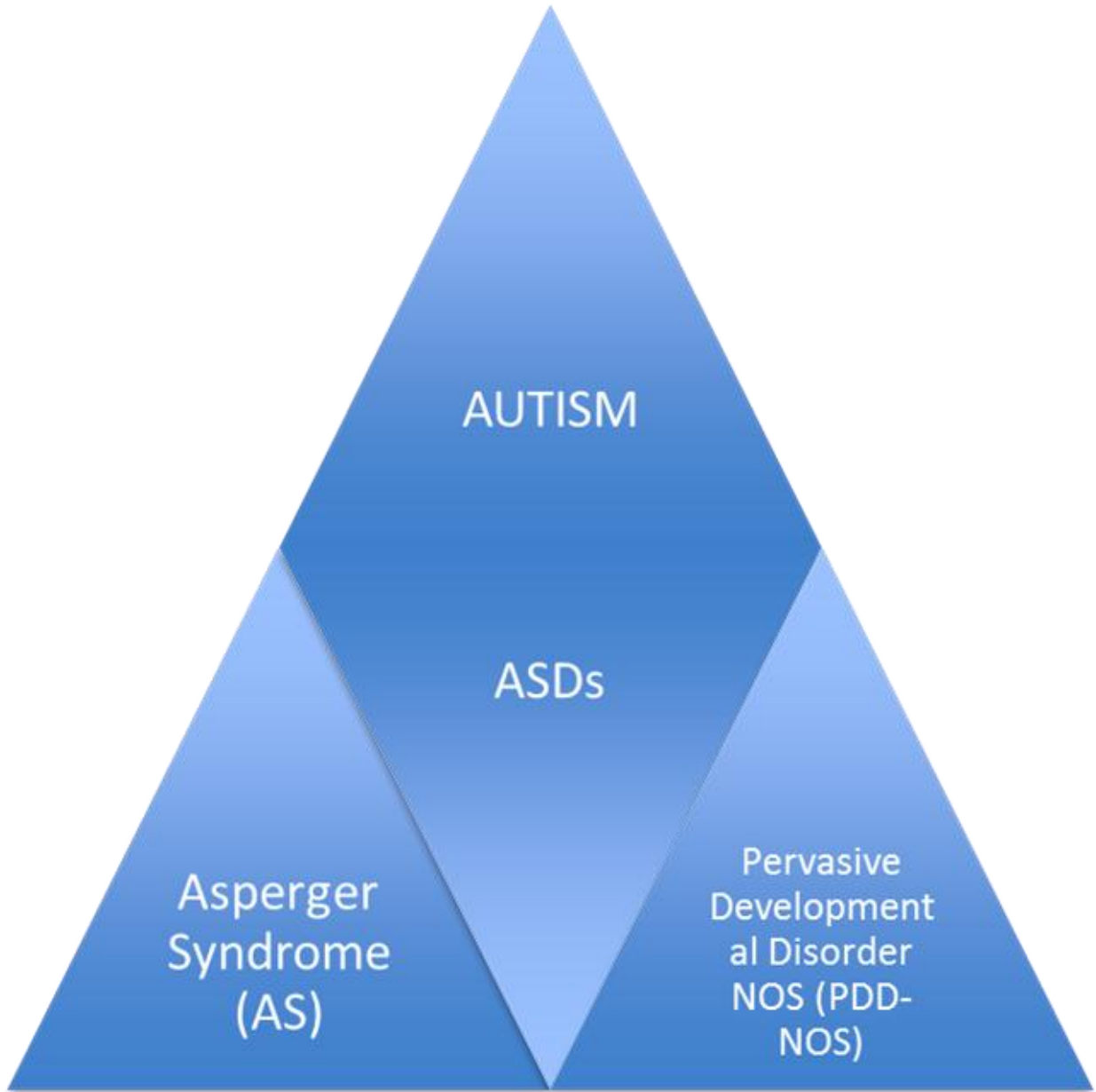
Epidemiology

- Complex, polygenetic neurodevelopmental disability
- Typically a lifelong diagnosis
- Very heterogeneous with respect to symptoms, functioning and adult outcomes
- Overall functioning over time highly associated with early abilities in language and IQ (Szatmari et al., 2009; Bennett et al., 2007)
- Generally, disorders increase in severity by number of DSM-IV symptoms required
 - Autism: greater number of core symptoms + language and/or cognitive delay
 - AS: absence of language and/or cognitive delay
 - PDD-NOS: Smaller number of symptoms

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Epidemiology (continued)



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Epidemiology (continued)

- Prevalence ranges from 1/100-150 for all 3 ASDs
- Most recent Canadian data (Lazoff et al., 2010):
 - Autism: 25.4/10 000
 - PDD-NOS: 43.6/10 000
 - AS: 9.7/10 000
- Prevalence has increased in recent cohorts studied (Lazoff et al, 2010)
 - Now stable at ~ 1.2 to 1.4% of population
- ASD prevalence similar across countries, socioeconomic groups, ethnicities
- There has been no scientific or epidemiologic evidence of association between ASDs and vaccines, despite multiple studies investigating potential links (Demichelli et al, 2005; Gerber & Offit, 2009; Shevell & Fombonne, 2006)

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Core Domains of ASD Impairment

Social Interaction

- Interest in sharing enjoyment or interests with others (e.g. showing/bringing/pointing)
- Failure to develop age-appropriate friendships, relationships
- Little or no non-verbal communication, e.g. eye contact, waving “bye-bye”, shaking/nodding head
- Lack of social or emotional reciprocity

Communication

- Ability to initiate or sustain conversation
- Delay or lack of spoken language (without nonverbal compensation)
- Stereotyped, repetitive or idiosyncratic use of language
- Lack of imaginative/make-believe play

Restricted, repetitive interests, behaviors

- Intense preoccupation with restricted interests: abnormal in intensity or focus
- Inflexible adherence to specific, nonfunctional routines or rituals
- Repetitive, stereotyped motor mannerisms
- Persistent preoccupation with parts of objects

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Common “Entry Points” for ASD Screening

- Physician screening/preventive care identifies concerns
- Parent/caregiver identifies concerns:
 - ASD-specific symptoms or concerns
 - Developmental delay (language, cognition, motor, other)
 - Mental health concerns (behavioural issues, anxiety, depression, rigidity)
 - Poor social skill development

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Why Family Physicians (FPs) Are Essential to ASD Assessment

- Signs of ASD often present early prior to school entry
 - FPs may be only professional in regular contact with child at this age
- 44 % of U.S. primary care physicians care for at least 10 children with ASD in their practice (2004 U.S. Survey, cited in Armstrong, 2008)
- There is evidence that early intervention (age 2-4) is optimal for improving outcomes
- In North America, there is a significant lag between initial parent concern and diagnostic assessment
 - Parents, on average, become concerned when child about 18 months old
 - However, U.S. data suggests that the average age of diagnosis is 4 years old (Yeargin-Allsopp et al., 2003)
- Yet, only 8% of American physicians surveyed in 2004 routinely screened for ASDs (Armstrong et al, 2008)

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American Academy of Pediatrics Screening Recommendations

- Active surveillance for ASD symptoms at every well-child visit
- Actively screen at 18 and 24 months and whenever parents raise concern about possible ASD or related deficits/co-morbidities
- Risk factors = 1 sibling with ASD; parent concerns about ASD-like symptoms or delays; other caregiver concerns; physician concerns
- Act on a positive screening result when a child demonstrates 2+ risk factors
- DO NOT TAKE A WAIT-AND-SEE APPROACH
- As per [algorithm](#) refer for specialist ASD assessment (specialty ASD centre or team, pediatrician or psychiatrist specializing in ASD assessment) and treatment
- Continue with [visit #1](#) steps outlined to obtain thorough history
 - Will provide helpful information for receiving physician
- [Click here](#) for recommendations for primary care providers from the American Academy of Pediatrics and the Centers for Disease Control (AUTISM A.L.A.R.M.)

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General Primary Care Developmental Screening Tools

- General developmental screening tools (e.g., [Nipissing](#), [Rourke](#)) are appropriate for use as screens in the general primary care population
- They are often likely to detect ASD because of associated language and cognitive delays
- They are NOT likely to differentiate ASD from other types of developmental delay
- N.B. No data on sensitivity for detecting ASDs

(Johnson, Myers and Council on Children with Disabilities, 2007)

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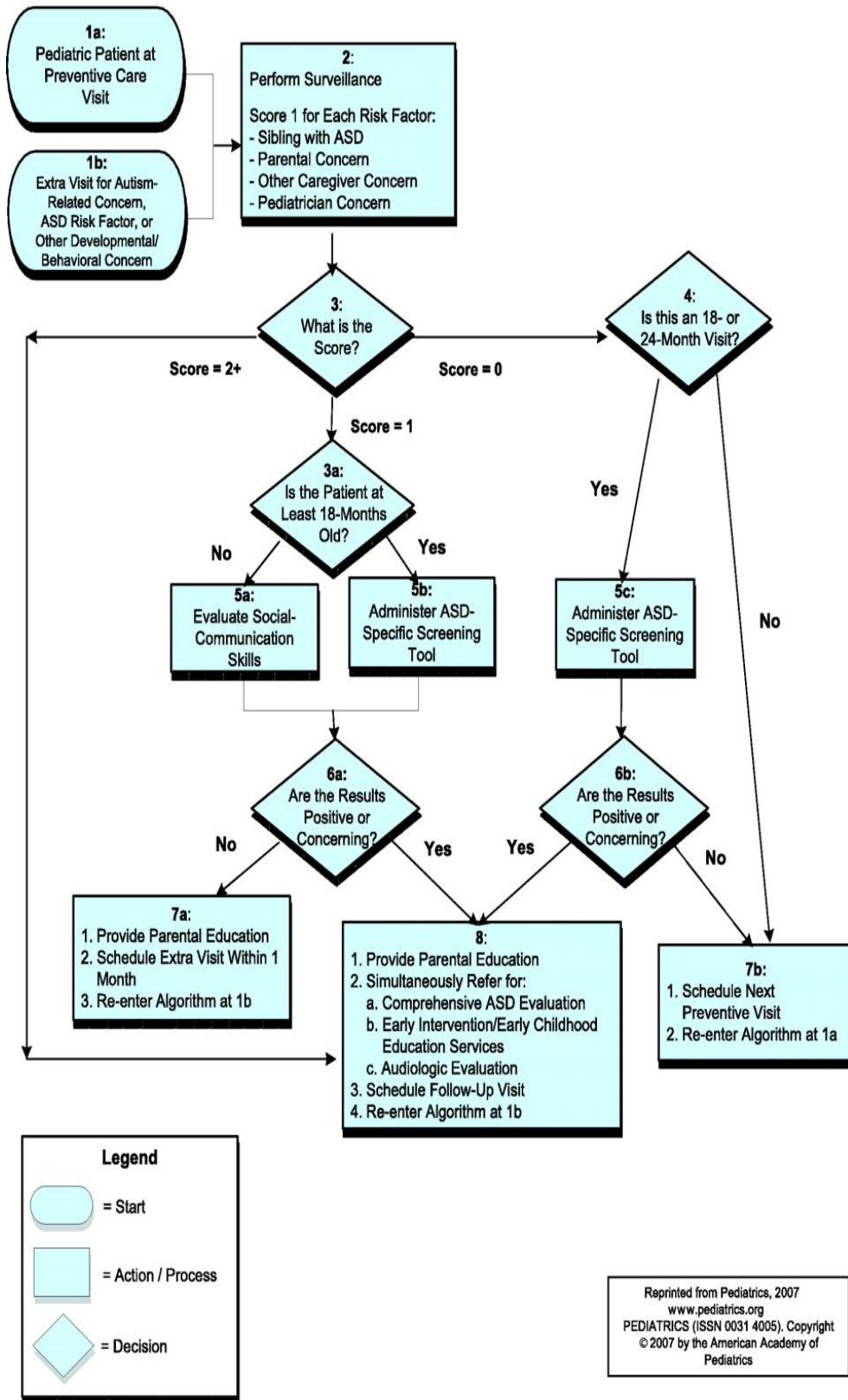
ASD Screening Tools for Primary Care

- Screening tools, designed for increased sensitivity; specificity improved with follow-up interview
- NOT diagnostic assessments
- Therefore, do not describe screening results as diagnosis to parents - they are designed to “cast a wide net” and optimize positive predictive value (i.e. sensitivity > specificity)

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Surveillance and Screening Algorithm

Surveillance and Screening Algorithm: Autism Spectrum Disorders (ASDs)



Johnson, C.P. et al., 2007

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Visit 1: History and Information Gathering

[Screening “red flags”](#)

[Screening for ASD in primary care](#)

Assessment of ASD

- Developmental assessment
 - [Delay/deficits in common milestones](#)
 - [Early ASD-specific symptoms](#)
- [Questions for parents of verbal and school-aged children and adolescents](#)
- [Assess functional impairment](#)
- [Identify co-morbid deficits or behaviours](#)
- [Physical health history and review of systems](#)
- [Family history](#)
- [Assess family stress and resources](#)

[End of Visit 1](#)

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Screening “Red Flags”

Child Age	Developmental Milestone Missed or Potential ASD Sign
9-10 months	<ul style="list-style-type: none">• No looking up when name called• No back-and-forth vocalizations with parent• No babbling• Lack of appropriate gaze• Lack of warm, happy expressions with gaze from parent• Lack of recognition of parent’s voice
15 months	<ul style="list-style-type: none">• No pointing to request• No pointing to share attention
18 months	<ul style="list-style-type: none">• Lack of speech• Idiosyncratic or noncommunicative speech (“scripted” repetition; echolalia)• No nonverbal gestures

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FP Screening Raises Concerns of ASD

- Screening can take place during routine “Well-Baby” checks (newborn to 2yrs) – important in the first 2 years
- FP has concerns based on information from
 - Developmental screening tools (Rourke, Nipissing)
 - [FP administers ASD screening tools](#)
 - [Developmental Assessment A & B](#)

Parent/Caregiver Raises Concern

- When did they first become concerned?
- What were the first signs that something was wrong/different?
- Are there other risk factors such as first degree relative with ASD; other caregiver concerns?

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Parent/Caregiver Reports Co-Morbid Concerns

- Parent /caregiver concerned about child's aggression or anxiety
- Teacher reports concerns for school-aged child who presents with social or communication impairment in contrast to peers
- Adolescents with fairly typical language and cognitive profiles identified as "reclusive", "obsessive" or "different"
- Concerns associated with co-morbid mood, anxiety or poor social coping common during transition to HS
- Physician's suspicion of ASD raised due to a) atypical history, b) interaction with child/youth

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ASD-Specific Screening Tools

- Several ASD-specific Screening Tools are available for primary care use
- Not validated on children < 18 months
- Generally parent report; also some physician observation
- Sensitivity & specificity enhanced with follow-up physician assessment and reports from other sources (e.g. daycare provider, other parent, etc.)

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AAP/AAFP-Recommended Screening Tools for ASD in Primary Care

Tool	Screening Age	Resource
CAST: Childhood Asperger Syndrome Test	4-11 yrs	http://www.autismresearchcentre.com/tests/cast_test.asp
CHAT: Checklist for Autism in Toddlers	18 to \geq 24 months	http://www.autismresearchcentre.com/tests/chat_test.asp
CHAT (Denver modifications) for increased sensitivity	16 to 86 months	See references. Scambler, Rogers, Wehner, 2001.
CHAT-23	16 to 48 months	See references. Wong et al., 2004.
M-CHAT: Modified Checklist for Autism in Toddlers (fewer questions, parent report)	16 to 48 months	Test: http://www.firstsigns.org/downloads/m-chat.PDF Scoring: http://www.firstsigns.org/screening/tools/rec.htm
PDDST-II: PDD Screening Test- II	18 to 48 months	http://pearsonassess.com/haiweb/cultures/en-us/productdetail.htm?pid=076-1635-106

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Developmental Assessment Part A: Delay/Deficits in Common Milestones

Language (pre-verbal and words)

- Diminished, atypical or no babbling by 12 months
- Decreased or absent use of pre-speech gestures (e.g. waving, pointing)
- No single words by 16 months
- Diminished, atypical or no two-word spontaneous phrases (excluding echolalia or repetitive speech) by 24 months
- Loss of language by 24 months

Motor Development

- Floppiness, problems with sitting, walking, typical use of objects (may also relate to imitation)

Cognitive Development

- Level of play and interest: Age-appropriate engagement with and use of toys (e.g. stacking blocks, etc.)

Sensory Development

- Evidence of intact vs. impaired hearing (e.g. may tune out voices but notices environmental sounds)
- Evidence of intact vs. impaired vision

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Developmental Assessment Part B: Early ASD-Specific Symptoms

Social Interaction

- Lack of response to name by 12 months (yet awareness of environmental sounds)
- Lack of appropriate gaze
- Lack of warm, joyful expressions with gaze
- Lack of recognition of mother's (or consistent caregiver's, or father's) voice
- Lack of joint attention: following gaze or point on common focus of interest
- In toddlers/preschoolers, lack of sharing interest or enjoyment with others – e.g. bringing/showing to parent
- Lack of imitation: e.g. playing "Mommy" or "Daddy"; pretending to engage in household chores; imitating parents to get toys to "work"

Communication

- Lack of alternating pattern of vocal sounds between infant and parent around 6 months
- In older preschoolers, no conversational back-and-forth or interactive communication with parents

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Behaviours

- Repetitive behaviors often less specific to ASDs (e.g. also occur in global developmental delay or severe sensory deficits; adherence to routine occurs in anxious children, etc.)
- Routines or rituals tend to be quite atypical (i.e. "reason" for routine seems hard to decipher)
- Perseveration on a narrow interest or focus extreme; hard to disengage child; may tantrum
- Generally, need to have associated social and communication deficits to raise concern about ASD

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Verbal and School-Aged Children or Adolescents (Current Symptoms)

Additional Questions for Parents

1. Does s/he have friends? What do they do together? Does it seem like a "typical" friendship for his/her age?
2. Can s/he engage in "small talk" or typical conversation with you?
3. Does s/he ever play imaginative games with someone else? (5-10 year olds)
4. Does s/he tend to miss the point of jokes or take things very literally?
5. Can you usually tell how s/he is feeling by looking at her/his facial expressions?
6. Does s/he tend to comfort you if you feel sad, ill, upset?
7. Are there times when s/he uses socially inappropriate questions or statements?
8. Does s/he nod/shake head, wave goodbye or use other nonverbal gestures?
9. Does s/he ever offer to share things, i.e. food, toys or favorite objects, with you? Show you things that interest him/her?

(Taken from the Autism Diagnostic Interview-R (ADI-R),
(LeCouteur, Lord & Rutter, 2003)

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All Children: Assess Functional Impairment

Base questions on developmental stage:

- Daily Living Skills
 - Toileting, sleep habits
- Social Impairment
 - Ability to seek help, connectedness with parents
- Communication
 - Ability to communicate needs and wants

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All Children: Identify Co-Morbid Deficits or Behaviours

- Aggression
 - Self-harm: frequency & severity; resulting injuries (skin infections, head trauma etc.)
 - Harm to others: temper tantrums, physical aggression to parents/sibs/peers
 - Damage to property
- Anxiety
 - Panic re: new situations, transitions, new people

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All Children: Physical Health History and Review of Systems

- Pregnancy (health, substance/medication use)
- Perinatal health: APGARs, initial concerns/difficulties
- [Seizures](#), CNS infections
- Gastrointestinal: feeding problems (may be associated with ASD, e.g. restricted intake or interests, toileting problems leading to constipation)
- General review of systems

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All Children: Family History

- Assess histories across three generations if possible:
 - Developmental: ASD, language delay, global delay, learning disabilities
 - Behavioral: symptoms in keeping with ASD, repetitive/restricted behaviors (e.g. no diagnosis but suspected ASD)
 - Health: [seizures](#), neurological disorder (Fragile X, tuberous sclerosis) etc., and general mental health

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All Children: Assess Family Stress and Resources

- Parent mental health: anxiety, depression
- Parent coping: seeking help, learning about child development, talking to others versus feeling hopeless, withdrawing, self-blame, anger, substance use
- Parent supports: respite (babysitting, relatives), partner & family supports, general support (e.g. Early Years Centres) or ASD-specific (e.g. ASD parent groups)
- Impact on siblings
- Services used to date: speech-language, public health, childhood centres, naturopathic remedies, medications

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At End of Visit #1

- See [Algorithm](#)
- If screening and history raise suspicion of ASD, refer at this point: no need to wait
- Indicate developmental delays, ASD-specific symptoms
- Indicate age of child when parent first concerned
- Highlight if family history of ASD in first-degree relative
- Indicate if hearing/vision tests done
- Book follow-up for physical examination - may forward additional findings in follow-up communication to specialist assessment

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Visit 2: Medical and Physical Exam

[Interview younger/nonverbal child](#)

[Interview verbal school-aged/adolescent](#)

[Physical examination](#)

[Physical investigations](#)

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Interview of Younger or Nonverbal Child

In interview with child, note (when possible):

- Eye contact (avoidant or atypical)
- Speech: any words/phrases? Atypical (e.g. unusual prosody, echolalia, neologisms (made-up words))?
- Does child look up when addressed by name or when parent enters room?
- Will child focus attention on a shared object with physician; engage with interviewer + toy (e.g. communicate to interviewer to “do it again”, look at interviewer then at toy); look at something interviewer points at?
- Meltdowns, tantrums, aggression

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Interview of Verbal School-Aged or Adolescent Youth

- As with younger children, assess eye gaze, facial expressiveness
- Assess quality of speech & language: prosody (up-and-down style); unusual choice of words; “parroting” of TV shows, etc. that is not relevant to conversation
- Assess communication: can they have a conversation with you, use nonverbals (e.g. shrug shoulders, nod, etc.), do they speak at length about very specific topics regardless of your interest
- Ask about friendships: who are their friends and why
- Ask about special interests
- Try to assess their understanding of others’ minds: e.g. what makes their sibling “mad” etc.

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Physical Examination

- Chart weight/height/head circumference
- Evidence of skin abnormalities (tubers, Café au Lait spots)
- Evidence of facial or other dysmorphism
- Evidence of self-harm (biting, scratching, bruising)
- Complete neurological examination
- Assessment of hearing and vision to extent possible

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Physical Investigations

- Hearing/vision examinations (if concerns)
- EEG only recommended if concern about [seizures](#) or marked fluctuation/regression of language abilities
- CT/MRI not recommended routinely
- Genetic karyotyping and Fragile X (blood test) if indication of significant cognitive or language delay
- Consider appropriate blood tests, e.g. serum iron, if concerned about nutritional intake

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Visit 3: Education

Sample Educational Handouts

- [“Autism Spectrum Disorder”](#) (Centre of Knowledge on Healthy Child Development, Offord Centre for Child Studies, 2007)
- [“Autism Spectrum Disorders: Pervasive Developmental Disorders”](#) (National Institute of Mental Health, 2008)
- [“What is Autism Spectrum Disorder?”](#) (Autism Society of Canada, 2007)

See also: [Resources for Parents](#)

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Visit 4: Treatment

[Treatment interventions](#)

[Interventions for core ASD symptoms](#)

[Co-morbid medical issues](#)

- [Sleep](#)
- [Gastrointestinal](#)
- [Seizures](#)

[Co-morbid emotional issues](#)

- [Anxiety](#)
- [Depression](#)

[Co-morbid challenging behaviours](#)

[Referral to specialized services](#)

[Resources for parents](#)

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Treatment Interventions

1. Minimize Core Features/ Facilitate Development & Learning

- ASD-specific therapies:
Intensive Behavioural Interventions (IBI)
Pivotal-Response Training
Denver Early Start Model
 - General Learning Support
- Identification of special needs in school
- Modified Curriculum
- Monitoring of learning & progress

2. Treat Associated Deficits or Comorbidities

- Preventive medical care
Treatment of acute medical issues
Manage sleep dysfunction
- Manage challenging behaviors and psychiatric comorbidity
Aggression
Self-injury
Anxiety
Mood problems
Impulsivity/hyperactivity

3. Promote Socialization and Adaptive Functioning

- Tailor to developmental ability, symptom burden and age
- Identification and integration at school, if appropriate
- Social skills groups
- Vocational training
- ASD support groups for high-functioning individuals
- Extra-curricular activities that build upon strengths and interests

4. Family Support

- Letters of referral or support for services
- Assess family members' mental health routinely
- Support respite as needed
- Support groups for parents & sibs

As outlined in Johnson et al., 2007

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Interventions for Core ASD Symptoms

What we know:

- No evidence of medication effectiveness for core ASD symptoms, only for comorbid behaviors
- Earlier intervention appears to be more effective
- Generally ASD is a lifelong diagnosis, although some (especially higher-functioning early on) may progress towards more minimal symptoms
- Long-term management required
- RCTs of intensive interventions have demonstrated short- and long-term positive effects on developmental functioning, maladaptive behaviors and symptom severity

However,

- RCT studies tend to be small and quite different from each other with respect to samples and intervention methods: difficult to compare
- Children who are higher-functioning early in intervention seem to respond more than those with low IQ and language

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- Don't know if established interventions lead to improved adult outcomes
- Don't know if these treatments work better for some groups than others
- Recent review found that one established treatment met criteria for "probably efficacious" (Lovaas ABA method) and only three treatments met criteria for "possibly efficacious" (Rogers & Visnara, 2008)

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Co-Morbid Medical Issues

Sleep:

- No RCTs directly examining sleep in ASD
- AAP recommend behavioral management first: sleep hygiene, consistent bedtime, exposure protocols
- Determine whether anxiety driving poor sleep

Gastrointestinal:

- Kids with ASD have similar problems as typically developing: GERD, constipation, etc.
- GI problems specific to ASD not clear
- No need for preventive GI screening
- Investigate as with typical kids
- However, in nonverbal kids, consider GI pain or problems if sudden worsening of aggression or self-injury

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Seizure Disorders:

- Seizures more common in children with ASD
- 11-39%
- Assess and treat as with typically developing kids
- Accurately diagnose seizure type
- Use medication according to seizure type
- No known differences in medication efficacy in children with ASD

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Co-Morbid Emotional Issues

Anxiety

- Common in all ASD types + overlaps with ASD symptoms
- OCD vs. stereotypes
- GAD vs. inflexibility, difficulty with change
- Social anxiety may occur in higher-functioning & older teens who are more aware of how they appear

Management:

- Look for antecedents/patterns, e.g. crowds, transitions, specific phobias
- OT or other allied health may help with environmental changes, e.g. visual charts and schedules; exposure hierarchies and rewards for bravery
- CBT-anxiety may be effective for many higher-functioning (e.g. language + IQ) individuals with AS
- SSRIs may be helpful for resistant anxiety: Fluoxetine and Fluvoxamine have been studied in ASD
- Start low and go slowly
- See AAP guidelines on psychopharmacology in ASD

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Depression

- Verbal and nonverbal children may present with depressed or low mood, or (more rarely) bipolar disorder
- Signs of depression: withdrawal, increased irritability/outbursts, sleep and appetite changes, loss of interest in usual routines and activities, weight loss, self-injury
- Look for environmental and individual antecedents or patterns: changes in caregivers, seasonal changes, perimenstrual pattern

Treatment and Management:

- If higher-functioning, behavioural activation CBT may be helpful (unstudied)
- SSRIs or mood stabilizers (unstudied in ASD) may be helpful: see AAP guidelines
- Second-generation antipsychotics may be helpful if acute mania

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Co-Morbid Challenging Behaviours

Aggression and Self-Injury

- Assess risk of acute harm to self or others (e.g. younger sibs, parents)
- Assess pattern of behaviours: frequency, association with mood/anxiety symptoms, sleep patterns, association with certain individuals, transitions (e.g. back to school, from one activity to another)
- Is the environment demanding too much? (e.g., can't manage regular classroom, undiagnosed learning or cognitive disabilities)

Treatment and Management:

- Involve allied disciplines whenever possible: OT, educational assistants to assess problem
- Try environmental strategies first: altering schedule, changing demands, behaviour modification approaches, soothing routines or distraction at first sign of agitation, keeping structured or busy days
- Only FDA-approved medication for agitation or other behaviours in ASDs is Risperidone; other second generation antipsychotics may be helpful, or SSRIs/stimulants if obvious co-morbid problems

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- Avoid polypharmacy; do not start two medications at same time unless obviously indicated); monitor effectiveness (parents/teachers chart); start at low dose; monitor for increased agitation; monitor weight and metabolic side effects regularly; consider tapering off after a stable period during a stress-free trial time

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Referral to Specialized Services

- Active surveillance for ASD symptoms at every well-child visit
- Actively screen at 18 and 24 months and whenever parents raise concern about possible ASD or related deficits/co-morbidities
- Risk factors = 1 sibling with ASD; parent concerns about ASD-like symptoms or delays; other caregiver concerns; physician concerns
- Act on a positive screening result when a child demonstrates 2+ risk factors
- DO NOT TAKE A WAIT-AND-SEE APPROACH
- As per [algorithm](#) refer for specialist ASD assessment (specialty ASD centre or team, pediatrician or psychiatrist specializing in ASD assessment) and treatment
- Refer to audiology to rule out a hearing impairment
- Consider referring to speech-language services

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Resources for Parents

[ABA Learning Centre](#): Provides services to families of children and youth with autism spectrum disorders and other complex developmental disabilities. Applied Behavior Analysis (ABA) is the foundation of intervention. Treatment programs are designed to each child's developmental needs to help the child reach his/her full potential.

[ABA Educational Resources](#): Website designed by mother of a child on the spectrum for parents/service providers. Free downloads for home-based ABA.

[ABA Resources for Recovery from Autism/PDD/Hyperlexia](#)

[ABACUS](#): Autism Ontario site to assist parents in finding autism Applied Behaviour Analysis services. ABACUS, is a web-based registry of Ontario Applied Behaviour Analysis (ABA) providers.

[Applying Behavior Concepts](#)

[Association for Behavior Analysis International](#)

[Autism Central](#)

[Autism Society Canada \(ASC\)](#)

ASC is a national incorporated non-profit charitable organization. It was founded in 1976 by a group of parents committed to advocacy, public education, information and referral, and support for its regional societies.

ASC is a federation of Canada-wide provincial and territorial autism societies or their equivalent. By linking its member societies across the country, ASC represents a very large collective voice of the autism community in Canada. The provincial and territorial autism societies and their member groups in each region provide direct support to people with Autism Spectrum Disorders (ASDs) and their families.

[Autism Speaks](#)

[Behavior Analyst Certification Board](#)

[Cambridge Center for Behavioral Studies](#)

[The Canadian Autism Intervention Research](#)

[Network](#) (CAIRN) was started in 2001 by a group of researchers and clinicians who saw the need to involve parents, other professionals, and policy makers in the development of new ways of diagnosing and treating children with Autism Spectrum Disorder (ASD).

[Clarifying Comments on the UCLA Young Autism Project](#) by Ivar Lovaas, Ph.D., University of California, Los Angeles (August 2nd, 2000): This report provides tables of data comparing specific outcome measures (IQ at age 2-3 and age 7, and independence as assessed by the Vineland Adaptive Behavior Scales) of studies from the UCLA-Young Autism Project

[Centers for Disease Control and Prevention](#)

[National Alliance on Mental Illness](#) (NAMI)

[The National Institute of Mental Health](#) (NIMH)

[Offord Centre for Child Studies – Centre of Knowledge on Healthy Child Development](#)

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Follow-up & Waiting for Referral

- Continue to chart developmental progress or plateaus
- Assess parent stress & coping: discuss resources, supports, respite

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Online Comprehensive Guides

Johnson, C. P., Myers, S. M., & the Council on Children with Disabilities. (2007). Identification and evaluation of children with Autism Spectrum Disorders. *Pediatrics*, 120, 1183-1215. Available at

<http://pediatrics.aappublications.org/content/120/5/1183.full.pdf+html>

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