2015 Autism Spectrum Disorder & Intellectual Disability Disorder: Psychotropic Medication Recommendations for Target Symptoms in Children and Adolescents
Florida Pediatric Psychiatry Hotline available to give guidance:

1-866-487-9507
**TABLE OF CONTENTS**

Goals of the Recommendations ........................................................................................................ 2
Organization and Disclaimer ......................................................................................................... 3

**Principles of Practice**
Evaluation and Comprehensive Assessment .................................................................................. 4
Initial Treatment Plan .................................................................................................................. 6
National and Local Resources ..................................................................................................... 7

**Psychotropic Treatment in the Context of Autism Spectrum Disorder and Intellectual Disability**
Hyperactive, Impulsive, and Inattentive Symptoms ...................................................................... 8
Anxiety Symptoms ....................................................................................................................... 11
Aggression .................................................................................................................................... 12
Sleep Disturbances ..................................................................................................................... 14
Restricted, Repetitive Behaviors .................................................................................................. 16
Depression or Bipolar Disorder Symptoms .................................................................................. 17

Treatment with Psychotropic Medications .................................................................................. 18
   Proposed Routine Monitoring Strategy Table .......................................................................... 19
   Adverse Effect Management Table ......................................................................................... 21
Goals of the Recommendations

Goals

Children and adolescents living with autism spectrum disorder (ASD) or intellectual disability (ID) that are chronic in nature are an unique and vulnerable population with special healthcare needs. These conditions are defined in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5).

1. Autism spectrum disorder (ASD): a disorder characterized by persistent deficits in social communication and social interaction across multiple contexts, including restricted, repetitive patterns of behavior, interests or activities causing significant impairment in functioning.

2. Intellectual disability (intellectual developmental disorder): a disorder characterized by both intellectual and adaptive functioning deficits in conceptual, social, and practical domains.

Given the complexity of these disorders and the high prevalence of comorbid conditions, these children and their families will require a wide range of medical, behavioral and community services. Given the early onset and lifelong nature of these disorders, most youth will require multiple interventions addressing specific target symptoms. The treatment plan needs to be patient-centered as it depends on the individual characteristics of the child and the family and should be coordinated with input from a multidisciplinary team. All treatment recommendations should be supported by the current scientific evidence.

These recommendations are intended to provide broad treatment suggestions for the common behavioral symptoms seen in children presenting in the primary care setting with ASD and/or ID.

An expert panel was convened to review the most recent evidence and reached consensus regarding treatment options for youth with these disorders. A list of the experts can be found at medicaidmentalhealth.org. Since ASD and ID share common behavioral symptoms, the recommendations are organized by the following target symptoms rather than diagnoses:

- hyperactive, impulsive, and inattentive symptoms
- aggression, irritability, self-injury, violence, and explosive outbursts
- anxiety symptoms
- restricted, repetitive behaviors
- sleep disturbance
- depression or bipolar disorder symptoms
- psychosis
The expert panel decided to categorize treatment options, based upon the strength of the evidence regarding a particular agent or treatment option for the *Autism Spectrum Disorder & Intellectual Disability Disorder: Psychotropic Medication Recommendations for Target Symptoms in Children and Adolescents*. A numbering format was used instead of creating an algorithm where specific options are mandatory or had to be used first or diagrammatically looked like they had to be used first. The panel weighed both safety and efficacy when assigning a particular agent or treatment option to a number.

Level 0 refers to an assessment level prior to any decision regarding treatment options. Level 1 options are considered to have stronger evidence and consensus than Level 2 and higher. The panel chose this approach with the understanding that using a particular option at any level would depend upon clinical judgment and patient or family needs or preferences.

**Disclaimer**

The *Autism Spectrum Disorder & Intellectual Disability Disorder: Psychotropic Medication Recommendations for Target Symptoms in Children and Adolescents* reflect the state of knowledge, current at the time of publication, on effective and appropriate care, as well as clinical consensus judgment when research findings are lacking. The inevitable changes in the state of scientific information and technology mandate that periodic review, updating, and revisions will be needed. These recommendations do not apply to all patients and each must be adapted and tailored to the individual patient. Proper use, adaptation, modifications or decisions to disregard these or other recommendations, in whole or in part, are entirely the responsibility of the clinician who uses these recommendations. The authors bear no responsibility for the use of these recommendations by third parties.
EVALUATION AND COMPREHENSIVE ASSESSMENT (LEVEL 0)

The goals of the initial comprehensive assessment/evaluation are to document the child’s performance levels, functional abilities in cognitive, language, and social domains, contributions of genetic/metabolic etiologies, and presence of comorbid medical/neurologic disorders such as epilepsy. The assessment/evaluation should include:

- Detailed developmental and symptom history to assess the full range of psychiatric symptoms and disorders, (i.e., irritability, inattention, impulsivity, aggressive behaviors, repetitive, restricted behaviors, anxiety, depression, and sleep disturbances) as well as impairment from these symptoms and disorders. The use of rating scales with specific ASD/NDD screens is highly recommended (See measurement scales and checklist box on page 5).

- A full medical history and physical examination including: vision, hearing, and dental screening.

- Check for diet/nutritional deficiencies, seizures, sleep disturbances, and other medical problems.

- Special consideration for developmental speech, language, communication and educational assessments.

- Obtain medication history, including over-the-counter, complementary, and alternative medicine.

- Assessment of family structure and functioning including a safety assessment of the environment to identify:
  - Risk of harm to self or others
  - Nighttime wandering
  - Signs of abuse and/or neglect

- Behavior inventory using validated rating scales and checklists to document the occurrence of specific behaviors (See measurement scales and checklist box on page 5).

- Based upon results of history and physical examination consider as clinically indicated:
  - Psychometric testing
  - Neurological assessment
**Measurement Scales***:

- Childhood Autism Spectrum Test (CAST) – Public Domain: [autismresearchcentre.com/arc_tests](http://autismresearchcentre.com/arc_tests)
- Conners Rating Scales: [mhs.com](http://mhs.com)

**Behavior Checklist***:

- Aberrant Behavior Checklist (ABC, can be used to assess medication responses) – Public Domain: [archildrens.org/documents/Services/Autism/ABC_Parent.pdf](http://archildrens.org/documents/Services/Autism/ABC_Parent.pdf)

*Note: Both the ADOS-2 and ADI-R are the “Gold Standard” if administered by qualified raters.*

*Website links are accurate at time of publication. For the most up-to-date links, please refer to our website: medicaidmentalhealth.org.*
Initial Treatment Plan

Pharmacotherapy is not the primary treatment for youth with ASD and ID. Aim therapy at the most impairing target symptom first. Treatment of co-occurring medical problems (e.g. seizures, medication changes and reactions warrant consideration as cause of disruptive behaviors). Please note, we have added recommendations specific to each condition reviewed.

- Early interventions to decrease symptoms of autism.
- Psychoeducation for parents/caregivers regarding ASD, ID, and co-occurring conditions.
- Non-pharmacological treatment:
  - Behavior therapy - (e.g. PCIT, ABA, CBT and others)
  - Speech/language therapy
  - Physical therapy
  - Social skills therapy
  - Special educational services (academic vs. life skills track)

1Parent-Child Interaction Therapy (PCIT), Applied Behavior Analysis (ABA), Cognitive Behavior Therapy (CBT).
RESOURCES

Provided is a list of national and local resources for youth with ASD and ID. This list does not infer endorsement of the following websites and is not exhaustive:

National Resources

1. Autism Speaks Autism Treatment Network (ATN) – autismspeaks.org/science/resources-programs/autism-treatment-network
2. Center for Disease Control and Prevention (CDC) – cdc.gov/ncbddd/autism/index.html
3. Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) – nichd.nih.gov
5. M.I.N.D Institute (Medical Investigation of Neurodevelopmental Disorders) – ucdmc.ucdavis.edu/mindinstitute

Local Resources

1. Center for Autism and Related Disabilities (C.A.R.D.) by service regions in Florida:
   - Florida State University – fsautism.com
   - University of Central Florida – ucf-card.org
   - University of Florida, Gainesville – card.ufl.edu
   - University of Florida, Jacksonville – hscj.ufl.edu/pediatrics/autism
   - Florida Atlantic University, Boca Raton – coe.fau.edu/centersandprograms/card/index.php
   - University of Miami – umcard.org
   - University of South Florida – card-usf.fmhi.usf.edu
3. Florida Developmental Disabilities Council – fddc.org
5. Family Network on Disabilities (FND) – fnldfl.org
6. Reach Potentials – reachingpotentials.org
7. Heal! – healautismnow.org
Many youth with ASD and ID experience symptoms of hyperactivity, impulsivity, and inattention (ADHD) similar to children without ASD and ID. Children and adolescents can benefit from the same evidence-based treatments successful with normal developing children.

In addition to the broad elements of the *Evaluation and Comprehensive Assessment* (always Level 0) on page 4, pay specific attention to:

<table>
<thead>
<tr>
<th>Level 0 Comprehensive Assessment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developmental history and cognitive assessment (neuropsychological or educational).</td>
</tr>
<tr>
<td>ADHD symptom history.</td>
</tr>
<tr>
<td>Parent and teacher rating scales.</td>
</tr>
<tr>
<td>Teacher behavior reports.</td>
</tr>
<tr>
<td>Parent involvement in community resources.</td>
</tr>
<tr>
<td>Physical examination (if history of staring spells or focal neurological signs: EEG, MRI).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level 1 Initial Treatment Plan – Stimulant monotherapy:</th>
</tr>
</thead>
<tbody>
<tr>
<td>If child has comorbid ADHD consider methylphenidate as first line medication.</td>
</tr>
<tr>
<td>Refer to the ADHD guidelines for children and adolescents available at <a href="http://medicaidmentalhealth.org">medicaidmentalhealth.org</a> for information about other stimulants.</td>
</tr>
</tbody>
</table>

Use stimulants with caution since adverse effects may be higher in youth with ASD and ID compared to normally developing youth with ADHD. Stimulants yield benefit in about 50% of children in the ASD and ID population. Close monitoring is recommended.

<table>
<thead>
<tr>
<th>Level 2 Guanfacine*:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obtain resting blood pressure and heart rate at baseline and follow-up visits.</td>
</tr>
<tr>
<td>ECG is not necessary if the child has no evidence of cardiac disease or known family history of sudden death.</td>
</tr>
<tr>
<td>Continue to increase dose until ADHD symptoms are adequately controlled or treatment-limiting side effects emerge (max daily dose of 4mg).</td>
</tr>
<tr>
<td>If partial response, consider combined treatment (<em>do not combine with clonidine</em>).</td>
</tr>
</tbody>
</table>

Please refer to dosing table.

*Despite limited evidence guanfacine ER (Intuniv) may be considered after optimal daily dose of guanfacine is established.*
Level 3 Atomoxetine:
- Obtain resting blood pressure and heart rate at baseline and follow-up visits.
- ECG is not necessary if the child has no evidence of cardiac disease or known family history of sudden death.
- Consider liver function tests if on other medications or history of hepatic dysfunction.

Please refer to dosing table.

Level 4 Partial Response – Combined Therapy:
Before combination therapy is initiated, when possible, reassess child and consider a specialist referral*.

If there is partial response with either guanfacine or atomoxetine for motor hyperactivity/impulsivity but inattention remains, interfering with functioning, consider addition of short acting methylphenidate (MPH) or amphetamine (AMP) preparation.

Psychosocial intervention is not as effective for core ADHD symptoms.

*Referral to child psychiatrist, pediatric neurologist, or developmental pediatrician.

### Hyperactive, Impulsive, and Inattention Behaviors

<table>
<thead>
<tr>
<th>Medication</th>
<th>Starting Dose</th>
<th>Titration*</th>
<th>Discontinuation</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guanfacine**</td>
<td>0.5 mg q am</td>
<td>0.5 mg/week b.i.d.</td>
<td>0.5 mg/3 days</td>
<td>Continue to increase until ADHD symptoms are adequately controlled or treatment-limiting side effects emerge (max daily dose of 4 mg).</td>
</tr>
<tr>
<td>Atomoxetine</td>
<td>10 mg q am</td>
<td>10 mg/week</td>
<td>10 mg/3 days</td>
<td>Increase until symptoms are adequately controlled or treatment-limiting side effects emerge (max daily dose of 1.4 mg/kg or 100 mg). Can split dose twice daily if better tolerated. Can give qHS, but may be less effective.</td>
</tr>
<tr>
<td>MPH or AMP (Short Acting)</td>
<td>2.5 mg q am</td>
<td>2.5 mg/3-4 days</td>
<td>No tapering needed</td>
<td>—</td>
</tr>
</tbody>
</table>

*Note. Continue titration until symptoms are adequately controlled, treatment-limiting side effects emerge or max daily dose is reached.

**Note. Clonidine / Clonidine ER is more sedating, may be considered if partial response to guanfacine. Clonidine dosing is 1/10 guanfacine dosing. Consider starting at qHS to generate tolerance to sedating effects.
References


Stephanie H. Ameis, MD, MSc; Patricia Corbett-Dick, RN, MS, PNP, PMH, PMH NP; Lynn Cole, RN, MS, PNP; and Christoph U. Correll, MD. J Clin Psychiatry 2013;74(10) 1022-1024.
In addition to the broad elements of the *Evaluation and Comprehensive Assessment* (always Level 0) on page 4, pay specific attention to:

**Level 0 Comprehensive Assessment:**
- Developmental history and cognitive assessment (neuropsychological or educational).
- Anxiety symptom history.
- Parent and teacher rating scales.
- Physical examination.

**Level 1 Initial Treatment Plan:**
- Treatment of comorbid medical problems, including seizures.
- Treatment of sleep problems.
- Treatment of comorbid psychiatric illness.
- Psychoeducation.
- Behavioral therapy (emphasize communication tools as communication difficulties are a contributing factor to anxiety).
- Speech and language therapy.
- Cognitive behavioral therapy adapted for ASD (if higher-functioning).

**Level 2 Sertraline or Fluoxetine:**
Limited evidence exists for these medications for anxiety (social anxiety, generalized anxiety, OCD) in children and adolescents with ASD.
Please refer to dosing table.

<table>
<thead>
<tr>
<th>Medication</th>
<th>Starting Dose</th>
<th>Titration*</th>
<th>Discontinuation</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sertraline</td>
<td>5 mg qd/ 1 week**</td>
<td>5 mg/ week</td>
<td>Depending on dose taper safely</td>
<td>Max dose of 200 mg daily; must monitor closely for activation.</td>
</tr>
<tr>
<td>Fluoxetine</td>
<td>2 mg q am**</td>
<td>2 mg/ 2 weeks</td>
<td>Depending on dose taper safely</td>
<td>This population more prone to activation.</td>
</tr>
</tbody>
</table>

*Note. Continue titration until symptoms are adequately controlled, treatment-limiting side effects emerge or max daily dose is reached.
** Oral solution or liquid only
Treatment of Aggression: Irritability, Self-Injury, Violence, and Explosive Outbursts in the Context of ASD and ID

In addition to the broad elements of the *Evaluation and Comprehensive Assessment* (always Level 0) on page 4, pay specific attention to:

**Level 0 Comprehensive Assessment:**
- Prior to treatment there are numerous other possibilities that can lead to irritability that, if present, will need to be addressed to the extent possible.
  - Medical illnesses such as constipation, headaches, insomnia.
  - Changes in the environment such as family stressors, trauma, or bullying.
- Detailed developmental and symptom history (use of rating scales are highly recommended).
- Physical examination.
- Based upon results of history and physical examination, consider:
  - Neuropsychological Testing
  - Genetic Testing
  - EEG and/or brain imaging (CT or MRI)

**Level 1 Initial Treatment Plan:**
- Psycho-education
- Behavior therapy
- Speech and language therapy
- Family therapy
- Parent-Child therapy (PCIT, PMT)
- Social skills therapy
- Treatment of comorbid medical problems
- System assessment: multi-systemic therapy

**Level 2 Antipsychotic Monotherapy:**
Currently, risperidone and aripiprazole are FDA approved in this population for specific behaviors.
- If ASD, treatment with risperidone or aripiprazole is recommended.
- If ID, treatment with risperidone* is recommended.

Please refer to dosing table.

*Note. Aripiprazole not well studied in ID population.*
Level 3 For both ASD and ID:

- If no response with risperidone or aripiprazole, reassess and look for any psychiatric comorbidity and refer to a specialist*.
- Consider use of alternative antipsychotics** based on side-effects.
- Consider stopping the medication to evaluate need for continued use.
- Need to monitor for adverse metabolic effects.

*Referral to child psychiatrist, pediatric neurologist, or developmental pediatrician.

**Other antipsychotics have been less comprehensively studied. Use of various medications may be associated with several side-effects (i.e. olanzapine and weight gain). Consider stopping the medication to evaluate need for continued use.

### Aggression

<table>
<thead>
<tr>
<th>Medication</th>
<th>Starting Dose</th>
<th>Titration*</th>
<th>Maximum Dose</th>
<th>Discontinuation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risperidone</td>
<td>0.25 mg q hs</td>
<td>0.25 mg/week</td>
<td>Child (6-12): 2 mg</td>
<td>0.25-0.5 mg/ 3 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adolescent (13-17): 4 mg</td>
<td></td>
</tr>
<tr>
<td>Aripiprazole</td>
<td>2.5 mg/day</td>
<td>2.5 mg/1-2 weeks</td>
<td>Child (6-12): 15 mg</td>
<td>2.5-5 mg/ 3 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adolescent (13-17): 15 mg</td>
<td></td>
</tr>
</tbody>
</table>

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medicaidmentalhealth.org
Children and adolescents with ASD and ID experience significant sleep disturbances that can lead to sleep deprivation for both the child and family. Underlying medical issues need to be identified.

In addition to the broad elements of the Evaluation and Comprehensive Assessment (always Level 0) on page 4, pay specific attention to:

<table>
<thead>
<tr>
<th>Level 0 Comprehensive Assessment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>✦ Primary sleep disorders (obstructive sleep apnea/OSA, restless leg syndrome/RLS, circadian rhythm disorders, and narcolepsy).</td>
</tr>
<tr>
<td>✦ Medical (GERD, sleep apnea, night tremors, seizures), psychiatric (anxiety), and neurodevelopmental co-morbidities.</td>
</tr>
<tr>
<td>✦ Consider comorbid chronic sleep loss and primary sleep disorders as potential contributors to psychiatric symptoms.</td>
</tr>
<tr>
<td>✦ Concomitant medications, especially psychotropic medication.</td>
</tr>
<tr>
<td>✦ Assessment of proper sleep hygiene/sleep practices:</td>
</tr>
<tr>
<td>✷ Poor sleep habits are a factor to consider when parents/children report inadequate sleep (e.g. irregular bedtimes and wake up times that lack regular routine).</td>
</tr>
<tr>
<td>✷ Electronic use, caffeine intake, napping.</td>
</tr>
<tr>
<td>✦ Caregiver role.</td>
</tr>
<tr>
<td>✦ Presentation: sleep onset/maintenance.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level 1 Initial Treatment Plan:</th>
</tr>
</thead>
<tbody>
<tr>
<td>✦ Caregiver-based for younger children.</td>
</tr>
<tr>
<td>✦ Sleep training, bedtime fading, bedtime pass, night light.</td>
</tr>
<tr>
<td>✦ CBT-I for older children and adolescents.</td>
</tr>
<tr>
<td>✦ Stimulus control, sleep restriction.</td>
</tr>
<tr>
<td>✦ Healthy sleep practices for all.</td>
</tr>
<tr>
<td>✦ Regular sleep schedule, avoidance nighttime screens, limit caffeine, age-appropriate napping.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level 2 Melatonin:</th>
</tr>
</thead>
<tbody>
<tr>
<td>✦ 1 – 10 mg at bedtime (typical dose is 3 mg).</td>
</tr>
<tr>
<td>✦ Administer 30 – 60 minutes prior to bedtime.</td>
</tr>
<tr>
<td>✦ Recommend the use of pharmaceutical grade melatonin.</td>
</tr>
<tr>
<td>✦ May find differences in response due to OTC proprietary brands.</td>
</tr>
<tr>
<td>✦ Better response if combined with behavioral interventions.</td>
</tr>
</tbody>
</table>
Level 3 Clonidine:

- Pharmacotherapy should only be considered for short-term use if:
  - Insomnia results in significant impairments in child and/or caregiver daytime functioning.
  - Behavioral interventions alone are ineffective if caregivers unable to implement.

- Pharmacotherapy with behavioral treatment may be appropriate for:
  - Short-term crisis intervention.
  - Insomnia with comorbid high risk psychiatric (ADHD, MDD) or neurodevelopmental conditions (ASD).
  - Insomnia exacerbates psychiatric, medical conditions.

- Clonidine 0.05 – 0.3 mg qHS
  - Begin (0.05 mg) ½ tablet to 1 tablet at bedtime; increase by that amount weekly to 0.2 to 0.3 mg at bedtime.
  - If no significant improvement in sleep after one week, begin increasing by ½ tablet each week at bedtime until there has been a satisfactory improvement in the sleep disturbance, treatment-limiting side effects have emerged, or a total daily dose of 0.3 mg has been reached.
  - May develop tolerance and develop mid-nocturnal awakening.
  - Should monitor blood pressure and pulse.
  - Avoid abrupt discontinuation.

*Note: Use of antipsychotic medications, such as quetiapine (Seroquel®), should not be used for the management of insomnia.

References


Restricted, repetitive behaviors include: flapping, rocking, repetition of sounds or words, arranging and re-arranging items (not to be confused with OCD symptoms).

- These behaviors should not be a target of treatment unless it is severely interfering with the individual’s level of functioning in daily activities.
- Parent/family education is recommended.
- Cognitive Behavioral Therapy (CBT) and/or Applied Behavior Analysis (ABA) may be the most beneficial treatment.
- Limited or no evidence exists for recommendation of psychotropic medications in this domain.
- Caution is recommended when attempting to reduce these behaviors as they may be helpful for self-regulation of anxiety, agitation, and/or frustration.

In addition to the broad elements of the Evaluation and Comprehensive Assessment (always Level 0) on page 4, pay specific attention to:

**Level 0 Comprehensive Assessment:**
- Developmental history and cognitive assessment (neuropsychological or educational).
- Restricted, repetitive behavior symptom history (simple versus complex, restricted interests).
- Parent and teacher rating scales.
- Physical examination (if history of staring spells or focal neurological signs: EEG, MRI).

**Level 1 Initial Treatment Plan:**
- Treatment of comorbid medical problems, including seizures.
- Treatment of sleep problems.
- Treatment of comorbid psychiatric illness.
- Psychoeducation.
- Behavior therapy (differential reinforcement of other behavior, extinction-based therapy).
- CBT adapted for ASD (if higher-functioning).
Treatment of Depression or Bipolar Disorder Symptoms in the Context of ASD and ID

Challenges exist in diagnosing depression or bipolar disorder in this population and there is no evidence base to support any recommendation for medication treatment in this population at the time of this publication. For more information on Major Depression and Bipolar I Disorder, refer to Florida Psychotherapeutic Medication Guidelines for Children and Adolescents available on our website: medicaidmentalhealth.org.
Treatment with Psychotropic Medications

Although not considered as first line treatment; depending on the severity of symptoms some medications may be helpful. If the decision is made to use medication, monitoring for side effects is essential.

Prior to beginning any psychotropic treatment:
- Define symptom domain once medical aspects have been ruled out.
- Always obtain resting blood pressure and heart rate at baseline and follow-up visits (can be difficult to obtain with some patients).
- Baseline and follow-up ECG are only warranted if the child has evidence of cardiac disease.

**Antipsychotic Medications**

Prior to beginning antipsychotic treatment:
- Obtain height and weight at every visit and monitor BMI.
- Obtain baseline fasting glucose and lipid panel – every 6 months and repeat more frequently if there is rapid weight gain.
- Complete baseline tardive dyskinesia screen (AIMS or DISCUS) – Every 6 months and repeat more frequently if signs of abnormal movement.
- Psychosocial treatments should exist concurrently.

At treatment initiation:
- Clearly establish the goal of antipsychotic therapy. - Which target symptom(s) are most impairing.
- In general: start low, go slow.
- Start with an antipsychotic that has a low adverse effect risk.
- Provide healthy lifestyle information.

Not recommended:
- Use of antipsychotic medication without concurrent psychosocial treatment(s).
- Olanzapine (Zyprexa) and olanzapine/fluoxetine (Symbyax) as first or second-line agent, or in patients who are overweight/obese (≥ 85th percentile), dyslipidemic, or hyperglycemic.
### Proposed Routine Monitoring Strategy in Youth with ASD and ID Treated with Antipsychotic Agents

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Baseline</th>
<th>Each visit</th>
<th>During Titration and at Target Dose</th>
<th>At 3 Months</th>
<th>At 6 Months</th>
<th>Annually</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal and family medical history</td>
<td>✓</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>✓</td>
</tr>
<tr>
<td>Treatment efficacy, new medications and interaction effects with antipsychotics</td>
<td>✓</td>
<td>✓</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Lifestyle behaviors</td>
<td>✓</td>
<td>✓</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Sedation/somnolence</td>
<td>✓</td>
<td>✓</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Calculate BMI percentile, BMI z score</td>
<td>✓</td>
<td>✓</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Sexual/reproductive dysfunction</td>
<td>✓</td>
<td>—</td>
<td>✓</td>
<td>✓</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Parkinsonism (SAS or ESRS), Akathisia (AIMS or ESRS)*</td>
<td>✓</td>
<td>—</td>
<td>✓</td>
<td>✓</td>
<td>—</td>
<td>✓</td>
</tr>
<tr>
<td>Fasting blood glucose, HbA1C and lipids</td>
<td>✓</td>
<td>—</td>
<td>—</td>
<td>✓</td>
<td>✓</td>
<td>—</td>
</tr>
<tr>
<td>Tardive dyskinesia</td>
<td>✓</td>
<td>—</td>
<td>✓ (during titration with clozapine &amp; quetiapine)</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Blood pressure and pulse</td>
<td>✓</td>
<td>✓</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Liver function tests</td>
<td>✓</td>
<td>—</td>
<td>—</td>
<td>✓</td>
<td>—</td>
<td>✓ (more freq. blood counts if on clozapine)</td>
</tr>
<tr>
<td>Electrolytes, full blood count, renal function</td>
<td>✓</td>
<td>—</td>
<td>—</td>
<td>✓</td>
<td>—</td>
<td>— (more freq. blood counts if on clozapine)</td>
</tr>
<tr>
<td>Prolactin-related adverse effects (eg, galactorrhea, gynecomastia, oligorrhea/amenorrhea)</td>
<td>Only if symptomatic</td>
<td>—</td>
<td>Only if symptomatic</td>
<td>Only if symptomatic</td>
<td>Only if symptomatic</td>
<td>Only if symptomatic</td>
</tr>
<tr>
<td>ECG</td>
<td>Only if symptomatic</td>
<td>—</td>
<td>Only if symptomatic</td>
<td>Only if symptomatic</td>
<td>Only if symptomatic</td>
<td>Only if symptomatic</td>
</tr>
</tbody>
</table>


*AIMS: Abnormal Involuntary Movement Scale; ESRS: Extrapyramidal Symptom Rating Scale; SAS: Simpson Angus Rating Scale
Monitoring the safety and tolerability of antipsychotics should lessen the side effects and help treatment outcome.

* Including components of the metabolic syndrome (obesity, arterial hypertension, diabetes, dyslipidemia), seizures, and other neurologic disorders; current treatments/potential interaction effects with atypical antipsychotic (e.g., fluoxetine and paroxetine may inhibit hepatic metabolism of aripiprazole and risperidone, resulting in increased blood levels of atypical antipsychotic); past medical history for coronary heart disease or coronary heart disease equivalent disorders (i.e., diabetes mellitus, peripheral arterial disease, abdominal aortic aneurysm, and symptomatic carotid artery disease); history of premature coronary heart disease or in first degree relatives (males <55 years, females <65 years), history of premature sudden cardiac death in first degree relatives (males <50 years, females <55 years), personal history of heart murmur, irregular heartbeat, tachycardia at rest, or dizziness or syncope upon exertion, and past efficacy and adverse effect experiences in patients and/or family members.

* Lifestyle behaviors: Diet, exercise, smoking, substance use, and sleep hygiene.

Youth with neurodevelopmental disorders are particularly prone to sleep disturbances due to many comorbid conditions, social stressors experienced by this population, and the concurrent use of medications. Sleep hygiene should be optimized and reviewed at each visit. If sleep medication is administered it is important to use caution as to the choice of medication (pharmacologic and non-pharmacologic) and monitor for side effects.

* More frequent assessment may be necessary in high-risk patients (e.g., family history of diabetes, non-Caucasian ethnicity, BMI >95th percentile, weight gain >7% over 3 months or less, or weight gain >0.5 BMI z-score at any time point); HbA1C better identifies patients with pre-diabetes than fasting glucose alone.

* In case of symptoms or signs of sexual dysfunction (amenorrhea, oligomenorrhea, gynaecomastia, galactorrhea, hirsutism, erectile dysfunction) draw fasting labs in the morning and approximately 12 hours after the last antipsychotic dose. Some authors recommend assessment at baseline and after titration due to the unclear effects of asymptomatic long term hyperprolactinemia in children and adolescents (Ho et al., J Can Acad Child Adolesc Psychiatry, 2011).

* In case of family history of sudden cardiac death in first degree relatives (males <50 years, females <55 years), prolonged QT syndrome, personal history of heart murmur, irregular heartbeat, tachycardia at rest, dizziness or syncope upon exertion; or in the case of co-treatment with another QTc prolonging medication (http://www.azcert.org/medical-pros/drug-lists/bycategory.cfm#).
## Adverse Effect Management During Atypical Antipsychotic Treatment in Youths with ASD and ID

<table>
<thead>
<tr>
<th>If the Concerns are</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight gain and metabolic abnormalities</td>
<td>✦ Provide healthy lifestyle counseling&lt;br&gt;✦ Begin or switch antipsychotic with low adverse effect risk&lt;br&gt;✦ Consider targeted treatment for：&lt;br&gt;✧ Abnormal weight&lt;br&gt;✧ Obtain laboratory and blood pressure values&lt;br&gt;✧ Initiate lipid-lowering diet for dyslipidemia&lt;br&gt;✧ Refer to specialist*</td>
</tr>
<tr>
<td>Neuromotor adverse effects</td>
<td>✦ Monitoring for movement disorders in youth with NDD can be difficult due to stereotypy and repetitive behaviors&lt;br&gt;✦ Individualized strategy and family member participation may be necessary for compliance&lt;br&gt;✦ Comprehensively assess abnormal movements at baseline and follow-up with objective rating scales</td>
</tr>
<tr>
<td>Parkinsonism, dystonia (EPS)</td>
<td>✦ Reduce dose&lt;br&gt;✦ Add anticholinergic medication&lt;br&gt;✦ Switch to lower-risk agent</td>
</tr>
<tr>
<td>Akathisia</td>
<td>✦ Reduce dose&lt;br&gt;✦ Switch to lower-risk agent</td>
</tr>
<tr>
<td>Dyskinesia</td>
<td>✦ Review indication&lt;br&gt;✦ Consider stopping&lt;br&gt;✦ Switch to lower-risk agent</td>
</tr>
</tbody>
</table>

*Referral to child psychiatrist, pediatric neurologist, or developmental pediatrician.

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Page 21
Electronic versions of our guidelines can be downloaded in full or partial
News and announcements
Video presentations
Alerts of recent publications and related literature
Staff publications
Resources and tools
Current projects

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Phone: 813-974-9879 | Fax: 813-974-9327
or visit medicaidmentalhealth.org
Florida Medicaid Drug Therapy Management Program for Behavioral Health

Working with Medicaid providers to:
- Improve behavioral health prescribing practices
- Improve patient adherence to medication
- Reduce clinical risks and medication side effects
- Improve behavioral and physical health outcomes

The following treatment guidelines are available on our website at Medicaidmentalhealth.org.
- Autism Spectrum Disorder & Intellectual Disability Disorder: Psychotropic Medication Recommendations for Target Symptoms in Youth
- Psychotherapeutic Medication Guidelines for Adults
- A Summary for Monitoring the Physical Health and Side-Effects of Psychiatric Medications in the Severely Mentally Ill Population
- Psychotherapeutic Medication Guidelines for Children and Adolescents

The Florida Pediatric Psychiatry Hotline is a program that provides timely telephonic psychiatric and clinical guidance to primary care clinicians treating children with psychosocial and mental health conditions. The service is free and provides consultation about medication management.

Florida Pediatric Psychiatry Consult Hotline
1-866-487-9507

For more information, visit us at Medicaidmentalhealth.org
Florida Pediatric Psychiatry Hotline available to give guidance:

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medicaidthementalhealth.org