





# Treatment of Hyperactive, Impulsive, and Inattentive Symptoms in the Context of ASD & ID

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:

	<p><b>Level 0 Comprehensive Assessment:</b></p> <ul style="list-style-type: none"> <li>◆ Developmental history and cognitive assessment (neuropsychological or educational).</li> <li>◆ ADHD symptom history.</li> <li>◆ Parent and teacher rating scales.</li> <li>◆ Teacher behavior reports.</li> <li>◆ Parent involvement in community resources.</li> <li>◆ Physical examination (if history of staring spells or focal neurological signs: EEG, MRI).</li> </ul>
	<p><b>Level 1 Initial Treatment Plan – Stimulant monotherapy:</b></p> <p>If child has comorbid ADHD consider methylphenidate as first line medication. Refer to the ADHD guidelines for children and adolescents available at <a href="http://medicaidmentalhealth.org">medicaidmentalhealth.org</a> for information about other stimulants.</p> <p style="background-color: #e0f2f1; padding: 5px;">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.</p>
	<p><b>Level 2 Guanfacine*:</b></p> <ul style="list-style-type: none"> <li>◆ Obtain resting blood pressure and heart rate at baseline and follow-up visits.</li> <li>◆ ECG is not necessary if the child has no evidence of cardiac disease or known family history of sudden death.</li> <li>◆ Continue to increase dose until ADHD symptoms are adequately controlled or treatment-limiting side effects emerge (max daily dose of 4mg).</li> <li>◆ If partial response, consider combined treatment (<i>do not combine with clonidine</i>).</li> </ul> <p>Please refer to dosing table.</p> <p><i>*Despite limited evidence guanfacine ER (Intuniv) may be considered after optimal daily dose of guanfacine is established.</i></p>

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	<p><b>Level 3 Atomoxetine:</b></p> <ul style="list-style-type: none"> <li>◆ Obtain resting blood pressure and heart rate at baseline and follow-up visits.</li> <li>◆ ECG is not necessary if the child has no evidence of cardiac disease or known family history of sudden death.</li> <li>◆ Consider liver function tests if on other medications or history of hepatic dysfunction.</li> </ul> <p>Please refer to dosing table.</p>
	<p><b>Level 4 Partial Response – Combined Therapy:</b></p> <p><b>Before combination therapy is initiated, when possible, reassess child and consider a specialist referral*.</b></p> <p>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.</p> <p>Psychosocial intervention is not as effective for core ADHD symptoms.</p> <p><i>*Referral to child psychiatrist, pediatric neurologist, or developmental pediatrician.</i></p>

Hyperactive, Impulsive, and Inattention Behaviors				
Medication	Starting Dose	Titration*	Discontinuation	Comments
Guanfacine**	0.5 mg q am	0.5 mg/ week b.i.d.	0.5 mg/ 3 days	Continue to increase until ADHD symptoms are adequately controlled or treatment-limiting side effects emerge (max daily dose of 4 mg).
Atomoxetine	10 mg q am	10 mg/ week	10 mg/ 3 days	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.
MPH or AMP (Short Acting)	2.5 mg q am	2.5 mg/ 3-4 days	No tapering needed	—

\*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.

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## REFERENCES

- Brian Reichow, Fred R. Volkmar. Systematic Review and Meta-analysis of Pharmacological Treatment of the Symptoms of Attention-Deficit/Hyperactivity Disorder in Children with Pervasive Developmental Disorders. *J Autism Dev Disord* (2013) 43:2435-2441.
- Emily Simonoff, Eric Taylor, Gillian Baird et al. Randomized controlled double-blind trial of optimal dose of methylphenidate in children and adolescents with severe attention deficit hyperactivity disorder and intellectual disability. *Journal of Child and Psychiatry* 54:5 (2013), pp 527-535.
- Matthew Siegel, Amy A. Beaulieu. Psychotropic Medications in Children with Autism Spectrum Disorders: A Systematic Review and Synthesis for Evidence-Based Practice. *J Autism Dev Disord* (2012) 42:1592-1605.
- Rajneesh Mahajan, Maria Pilar Bernal, Rebecca Panzer, Agnes Whitaker, Wendy Roberts, Benjamin Handen, Antonio Hardan, Evdokia Anagnostou, and Jeremy Veenstra-VanderWheele. Clinical Practice Pathways for Evaluation and Medication Choice for Attention-Deficit/Hyperactivity Disorder Symptoms in Autism Spectrum Disorders. *Pediatrics* (2012) 130;S125. Doi:10.1542/peds.2012-0900J.
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