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Attention-Deficit/Hyperactivity Disorder in Children and Adolescents

PLEASE NOTE:

The Virginia Premier Quality Improvement Committee approved the Attention-Deficit/Hyperactivity

Disorder (ADHD) summary guidelines of the American Academy of Pedatrics. In an effort to enhance the Pharmacotherapy section, the Virginia Premier Quality Committee, supplemented the guidelines with the current stimulant and non-stimulant medication used for ADHD. The New England Journal of Medicine January 15, 2005 352; pp. 165-173 Table 4 and the American Journal Health Sys Pharm Vol 62 July 15, 2005, pp. 1502-1509, Table 2 were chosen for the references and use for this section.

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Medication*	Initial Dose	Usage Dose	Doses per Day	Side Effects/Comments	Contraindications
Methylphenidate**	**mg**				
Ritalin, Methylin	5-10	10-20	2-3 }	Appetite suppression, stomachaches, aches, headaches, irritability, weight loss, deceleration in rate of growth, exacerbation of psychosis, exacerbation of tics, mild increase in blood pressure and pulse.	Marked anxiety, tension, agitation, glaucoma, use of monoamineoxidase inhibitors, seizures, tics.
Concerta	18-27	27-54	1 }		
Metadate ER, Metadate	10	10-20	1 }		
CD, Methylin ER			}		
Ritalin LA	20	20-40	1 }		
Focalin***	2.5-5	2.5-5	2-3 }		
Focalin XR caps	5	5-20	1 }		
Methylphenidate Patch	1 Daily	1 applied daily for up to 9 hrs		Useful for poor compliance or if oral 1 Daily	
Dextroamphetamine (sulfate alone and in combination with amphetamine salts)**	**mg**				
Dexedrine	5	5-20	2-3	Appetite suppression, weight loss, stomach- aches, headaches, irritability, possible growth inhibition, exacerbation of psychosis, exacerba tion of tics,mild increase in blood pressure and pulse.	Cardiovascular disease, hypertension, hyperthyroidism, glaucoma, drug dependence, use of monoamine oxidase inhibitors
Dexedrine Spansule	5-10	5-15	1-2		
Adderall	5-10	5-30	1-2		
Adderall XR	5-10	10-30	1		
Vyvanse Caps	30	30-70	1		

Medication*	Initial Dose	Usage Dose	Doses per Day	Side Effects/Comments	Contraindications
Atomoxetine***	**mg**				
Strattera	10-25	18-100	1-2	Appetite suppression, nausea, vomiting, fatigue, weight loss, deceleration in rate of growth, mild increase in blood pressure and pulse.	Jaundice or other clinical or laboratory evidence of liver injury, use of monoamine oxidase inhibitors, narrow-angle glaucoma.
Bupropion****	**mg**				
Wellbutrin SR	100-150	150	1-2	Weight loss, insomnia, agitation, anxiety, dry mouth, seizures, others.	Seizures, bulimia, anorexia nervosa, abrupt discontinuation of alcohol or benzodiaze or other bupropion products (e.g., zyban).
Wellbutrin XL	150	150-300	1		

* For each category the generic drug is given and dosing information for each named marketed drug.

** The manufacturer states that seizures and tic disorders are contraindications: research supports the use of stimulants in children with seizures that have stabilized with the use of anticonvulsants and in children with tic disorder or Tourette's disorder. With use of a long-acting methylphenidate or dextroamphetimine product, s short-acting product may be added at 4 p.m. to 6 p.m. for hjomework or special activitie: appetite and sleep onset are then carefully monitored..

*** Focalin is a dextro isomer of methylphenadate that is given at a lower dose

***** Younger children may need two doses a day.

****** Bupropion has not been approved by the Food and Drug Administration for pediatric use. Only sustained release (twice daily) or extended release (once a day) are recommended for adolescents. There is a higher incidence of side weffects with the immediate release preparation.

Drug	Brand Name(s)	Place in Therapy	Usage Onset of effect (wk)	Dosage Range	Adverse Effects
Atomoxetine	Strattera	2nd line (1st line in Pts, who can not take a Stimulant due to an active Substance abuse disorder or proior adverse effect)	2-4	<70 kg: o.5 mg/kg/day, increase after aminimum of 3days to 1.2 mg/kg/day, >70 kg 20-40 mg/day, increase after a minimum of 3 days as tolerated and p.r.n. up to 100 mg/day.^A	Reduce appetite, stomach pain, nausea, vomiting, weight loss, sedation, dizziness, insomnia, monitor for increase in blood pressure and pulse.
Bupropion	Wellbutrin, Wellbutrim SR, Wellbutrim XL	2nd line	2-4	3 mg/kg/day at end of week 1; may increase over 3wk to 6 mg/kg/day or 300 mg/day, whichever is smaller bid -tid for immediate acting formulations (divided bid for sustained release formulations)^B	Nausea, insomnia, rash, tics, dry mouth agitation, headache, constipation, tremor, weight gain, increase risk of seizures, maximum doses: 150mg imm. Release 200mg for SR, and 450 mg for XL.

Drug	Brand Name(s)	Place in Therapy	Usage Onset of effect (wk)	Dosage Range	Adverse Effects
Tricyclic antidepressant					
Imiprimine	Tofranil	2nd or 3rd line	2-4	1 mg/kg/day, increase by 1 mg/kg weekly to a maximum of 4mg/kg/day.	Dry mouth, dizziness, constipation, sedation: ECG monitoring required at baseline and follow-up.
Desipramine	Norpramin	2nd or 3rd line	2-4	Same as for imipramine.	same as for imipramine; close monitoring if >3 mg/kg/day.
Nortriptyline	Aventyl, Parnelor	2nd or 3rd line	2-4	0.5 mg/kg/day, increase by 0.5 mg/kg	same as for imipramine.
Alpha-agonists Clonidine	Catapures	Adjunct therapy or 4th line treatment	2-8	0.05 mg bid-tid increase by 0.05 mg weekly to a target range of 0.1-0.4 mg/ Day; cloridine syrup can be compounded.	Sedation, irritability, drop in blood pressure, sleep disturbance, dry mouth, constipation, dizziness, ECG monitoring recommended but controversial, vital sign monitoring recommended
Guanfacine	Tenex	Adjunct therapy or 4th line treatment	2-8	0.5 mg qd or bid increase by 0.5 mg weekly to a target range of 1-4 mg day.	Same as for Clonidine
Guanfacine	Intuniv		1-4	1	Somnolence, sedation, hypotension, dry mouth

^A. Poor metabolizers may require lower dosages.
^B. The typical starting dosage is 37.5 mg b.i.d. for the immediate release formulation and 100 mg for the sustained release formulation. The sustained release formulation can be given once daily or it can be given as 50mg twice a day.