

## ADHD Medications

### Stimulants – Amphetamine Long Acting Formulations

Drug	Amphetamine/Dextroamphetamine	Dextroamphetamine	Lisdexamphetamine	Racemic Amphetamine Sulfate		
Brand	Adderall XR	Dexedrine Spansules	Vyvanse	Dyanavel XR	Adzenys XR-ODT	Adzenys ER susp
<b>Max Dose</b>	60 mg/day	40mg/day	70 mg/day	20 mg/day	18.8 mg/day	37.6 mg/day
<b>Dosage Forms</b>	5, 10, 15, 20, 25, 30 mg caps	5, 10, 15 mg caps	10, 20, 30, 40, 50, 60, 70 mg caps	2.5 mg/mL (464 mL) ER susp	ODT: 3.1, 6.3, 9.4, 12.5, 15.7, 18.8 mg	1.25 mg/mL (450 mL) ER susp
<b>Administration</b>	Avoid afternoon doses to avoid insomnia	Administer initial dose on awakening. Avoid late evening administration (potential for insomnia)	Avoid afternoon doses to avoid insomnia. High fat meal may delay peak by ~1 hr	Shake well	Remove tab, immediately place on tongue & allow to disintegrate. Swallow with saliva	Shake well Do not add to food or mix with liquids
QAM with or without food						
<b>Onset</b>	30-60 min	1-2 h	1-2 h	-	-	-
<b>DOA<sup>6</sup></b>	8 to 12 h	8 h	8 to 14 h	-	10 to 12 h	-
<b>Release</b>	3:1 ratio of d-amphetamine & l-amphetamine salts Caps: 50% IR & 50% DR beads	Caps: 50% IR & 50% DR beads	IR	1:1 ratio of d-amphetamine & l-amphetamine salts	3:1 ratio of d-to l-amphetamine	3: 1 ratio of d-to l-amphetamine
<b>Comments</b>	Caps may be opened & contents sprinkled on applesauce (consume immediately without chewing)	Do not crush sustained release products	Caps may be opened & contents mixed with water, yogurt, orange juice; stir until dispersed completely Continuous-release capsule	Do not add to food or mix with liquids  Wash dispenser after each use	Do not chew or crush tablet	Wash dispenser after each use FDA approved Sept 2017; availability anticipated early 2018

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### Psychostimulants – Methylphenidate Long Acting Formulations

Drug	Dexmethylphenidate	Methylphenidate						
Brand	Focalin XR	Aptensio XR	Concerta <sup>8</sup>	Cotempla XR - ODT	Daytrana	Metadate CD	Quillivant XR	Ritalin LA
<b>Max Dose</b>	40 mg/day	60 mg/day	72mg/day	51.8 mg/day	30 mg/day	60 mg/day	60 mg/day	60 mg/day
<b>Dosage Forms</b>	Caps: 5, 10, 15, 20, 25, 30, 35, 40 mg	Caps: 10, 15, 20, 30, 40, 50, 60 mg	Tabs: 18, 27, 36, 54 mg	Tabs: 8.6, 17.3, & 25.9 mg	Patch: 10, 15, 20, 30 mg	Caps: 10, 20, 30, 40, 50, 60 mg	Susp: 25mg/5mL (60, 120, 150, 180 mL)	Caps: 10, 20, 30, 40, 60 mg
<b>Administration</b>	QAM with or without food <sup>23</sup>	QAM with or without food <sup>22</sup>	QAM with or without food, must be taken with fluids	QAM consistently with or without food	Apply to hip area at the same time each day (alternating hips)	QAM with or without food <sup>22</sup>	Shake ≥10 sec, QAM with or without food	QAM with or without food <sup>22</sup>
<b>Onset</b>	Rapid, within 1-2 h	-	1-2 h	-	1-2 h	20 to 60 min	45 min	30-60 min
<b>DOA<sup>6</sup></b>	9 to 12 h	≤16 h	12 h	-	11-12 h	8 h	12 h	8 h
<b>Release</b>	50% IR, 50% DR beads	Multi-layered beads- 40% IR, 60% CR	Tabs: non-absorbable, 22% IR, 78% CR	ER ODT tabs	Transdermal	30% IR 70% DR beads	Susp: 20% IR, 80% DR	50% IR, 50% DR beads ~ 4 hrs after administration
<b>Comments</b>	Mimics BID dosing  Bimodal release - once-daily cap provides the same amount of dexmethylphenidate as 2 tabs given 4 hrs apart. Caps contents may be sprinkled over a spoonful of applesauce; consume immediately	T1/2 ~ 5 h	Osmotic controlled release formulation (OROS)  Not to be used with preexisting severe GI narrowing conditions	Take as soon as the blister is opened	Avoid exposure to external heat source, do not cut patch, total wear time should not exceed 9 h Absorption may continue for several hrs after removal  Efficacy of use >7 weeks has not been established	T1/2 ~7 h  Initial dose 20 mg QDay  High fat meal may delay early peak (~1 h), & increase Cmax (~30%)	T1/2 ~5 h  High fat meal may delay early peak (~1 h), & increase Cmax (~28%)  Wash dispenser after use	Spheroidal Oral Drug Absorption System (SODAS) mimics bimodal release of IR drug  High fat meal may delay peak  Initial dose 20 mg QDay

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### Psychostimulants – Intermediate Acting Formulations

Drug <sup>1,2</sup>	Methylphenidate	
<b>Brand</b>	<b>Ritalin SR</b>	Metadate ER
<b>Max Dose (mg/day)</b>	60	60
<b>Dosage Forms</b>	20 mg tabs	20 mg tabs
<b>Administration</b>	Take 30 to 45 minutes before a meal. Swallow whole	
<b>Onset</b>	1 to 3 h <sup>21</sup>	
<b>DOA<sup>6</sup></b>	2 to 6 h <sup>21</sup>	
<b>Release</b>	SR	ER
<b>Comments</b>	May be given in place of IR formulation (DOA about 8 h), once the IR daily dose is titrated & the titrated 8-hour dosage corresponds to sustained or ER tab size	

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### Psychostimulants – Short Acting Formulations

Drug	Dextroamphetamine	Amphetamine	Mixed Amphetamine Salts	Dexmethylphenidate	Methamphetamine	Methylphenidate
<b>Brand</b>	<b>Dexedrine Zenzedi</b>	<b>Evekeo</b>	<b>Adderall</b>	<b>Focalin</b>	<b>Desoxyn</b>	<b>Ritalin, Methylin</b>
<b>Max Dose</b>	60 mg/day	40 mg/day	40 mg/day	20 mg/day	25 mg/day <sup>26</sup>	60 mg/day
<b>Dosage Forms (mg)</b>	5, 10 tab	5, 10 tab	5, 7.5, 10, 12.5, 15, 20, 30 tab	2.5, 5, 10 tab	5 tab	5, 10, 20 tab; Methylin: 5 mg/5 mL (500 mL); 10 mg/5 mL (500 mL) Methylin chewable: 2.5, 5, 10 tab
<b>Administration</b>	Administer 1st dose on awakening	Administer 1 <sup>st</sup> dose on awakening, additional doses 4-6 hrs apart	Administer in 1 to 3 divided doses per day (4 - 6 hrs interval)	twice daily at least 4 hrs apart	once or twice daily	Administer 30 to 45 min before a meal. Chewable tab: Give with at least 8 ounces of water/fluid
	Administer with or without food					
<b>Onset</b>	30-60 minutes	-	30-60 minutes	Rapid, within 1 to 2 hours		30-60 minutes
<b>DOA<sup>6</sup></b>	4 to 6 h	4 to 6 h	4 to 6 h	3-5 h		3-6 h
<b>Comments</b>					<i>for treatment of ADHD in children &gt; 6 yo</i>	High fat meal may delay peak by 1.5 hrs
	Avoid late evening dosing Where possible, drug administration should be interrupted occasionally to determine if continued therapy is necessary					

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Non-Stimulants								
Drug <sup>1,2</sup>	Brand	Dosing	Formulation	Dosage Forms (mg)	Max Dose (mg/day)	Onset/Peak effect	DOA <sup>6</sup>	Crush?
Atomoxetine	Strattera	QDay - BID	N/A	caps: 10, 18, 25, 40, 60, 80, 100	100	1 wk <sup>17</sup>	at least 10 to 12 h <sup>16</sup>	No
	Wellbutrin	TID	IR	tab: 75, 100	450	T <sub>max</sub> 2 h	8 h	Yes
	Wellbutrin SR	BID	ER (12 h)	tab: 100, 150, 200	400	T <sub>max</sub> 3 h	12 h	No
Bupropion	Wellbutrin XL	QDay	ER (24 h)	tab: 150, 300	450	T <sub>max</sub> 5 h	24 h	No
Clonidine	Catapres	QDay - QID	IR	tab: 0.1, 0.2, 0.3	2.4	2 - 4 h	6 - 10 h	Yes
	Catapres-TTS	Q 7 days	Patch	0.1, 0.2, 0.3 mg/24 h	0.6	2-3 days	T <sub>1/2</sub> ~20 h <sup>18</sup>	N/A
Guanfacine	Tenex		IR	tab: 1, 2		T <sub>max</sub> 2.6 h	T <sub>1/2</sub> ~17 h <sup>19</sup>	Yes
	Intuniv	QDay	ER	tab: 1, 2, 3, 4	4	T <sub>max</sub> ~5 h	at least 8 to 12 h	No <sup>20</sup>

1: all pregnancy category C except Tenex (category B) 2: generic available except Daytrana Patch, Quillivant XR, Vyvanse, Strattera, and Intuniv 3: transdermal: ~2 h (expedited by external heat) 4: Transdermal Patch 10 mg/9 h; 15 mg/9 h; 20 mg/9 h; 30 mg/9 h 5: Metadate CD capsules contains IR and ER beads, designed to release 30% of the dose immediately and 70% over an extended period 6: Duration of Action 7: ER/SR 8: osmotic controlled release formulation (OROS), IR overcoat provides an initial dose of methylphenidate within 1 hr, the remaining dose is released at a controlled rate over 5-9 hrs. The overcoat covers a trilayer core. The trilayer core is composed of two layers containing the drug and excipients, and one layer of osmotic components. As water from the GI tract enters the core, the osmotic components expand and methylphenidate is released 9: 1st peak: 1.5 hrs (range: 1-4 hours), 2nd peak: 6.5 hours (range: 4.5-7 hours) 10: May be taken whole or sprinkled on applesauce, sprinkled applesauce should not be chewed or stored 11: Caps may be opened & contents sprinkled over a spoonful of applesauce 12: prodrug of dextroamphetamine; requires hydrolysis in gut for activation; may limit abuse potential if injected or snorted 13: Swallow capsule whole, do not chew; capsule may be opened and the entire contents dissolved in glass of water 14: Dextroamphetamine: 3.8 hours (fasting), 4.7 hours (after high-fat meal) 15: Patients not currently taking methylphenidate 16: T<sub>1/2</sub>- Atomoxetine: 5 hours (up to 24 h in poor metabolizers); Active metabolites: 4-hydroxyatomoxetine: 6-8 hours; N- desmethylatomoxetine: 6-8 hours (34-40 hours in poor metabolizers) 17: T<sub>max</sub> 1-2 h, ADHD initial response: 1 week 18: T<sub>1/2</sub> (after patch removal) ~20 h 19: T<sub>1/2</sub> ~17 h (range: 10-30 h) 20: avoid high-fat meals 21: in children 22: Capsules may be opened and the contents sprinkled onto a small amount (equal to 1 tablespoon) of cold applesauce. Swallow applesauce mixture immediately without chewing. Do not crush or chew capsule contents 23: Capsules may be opened and contents sprinkled over a spoonful of applesauce; consume immediately; do not store for future use 24: in adults 25: 9 to 12 yo: 4 h (range: 3.98 to 6 hours); Adolescents (13 to 15 years): 2 hours (range: 1.98 to 4 hours); Adults: 4 hours (range: 1.3 to 7.3 hours) 26: usual effective dose 20 to 25 mg daily. Narcolepsy (off-label): 20 to 60 mg taken within 1 hour of awakening