**Table A: METHYLPHENIDATE Formulations: Stimulant Medications for Attention-Deficit/Hyperactivity Disorders** \*FDA approved P= personal

Immediate Release

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| Medication | Dose Schedule | Range  | Onset Duration | Potential Side Effects/Cautions |
| **Methylphenidate** (MPH)  Ritalin ® \* 5, 10, 20 mg tablets Generic available  |  Initial: 5 mg or 0.3 mg/kg/dose \*Increase: 2.5 mg-5 mg weekly.Frequency: 2 to 3 doses/day. rarely qid.\*Not weight dependent; start low go slow | 6 yr. + but studied in preschoolers5-60 mg/dayOff label: >50 kg max 100mg/day | Onset: 15-20min.Short actingDuration: 3 - 5 hr. | -can be crushed in applesauce (P)-Anorexia, insomnia, stomachaches, headaches, irritability, "rebound", flattened affect, social withdrawal, weepiness, tics, growth suppression, rare-neuropsychiatric (hallucination), tachycardia-Not contraindicated with tics- most improve. -review and document personal and family cardiac history-Monitor height, weight, blood pressure and pulse. |
|  Methylin Chewable (grape) \* 2.5, 5, 10 mg Methylin Solution (grape) \* 5 mg/5ml; 10 mg/5 ml |  Initial: 5 mg or 0.3 mg/kg/dose Increase: 2.5 mg-5 mg weekly.Frequency: 2 to 3 doses/day. rarely qid. | 6 yr. + 5-60 mg/day | Onset: 20-30 min.Short actingDuration: 3-5 hr. | -chewable tablets/liquid-Same side effect profile and precautions as methylphenidate-now available as generic (Gavis) |
| **Dexmethylphenidate** Focalin ® \* 2.5, 5, 10 mg tablets Generic available | 2.5 mg Focalin ~ equivalent 5 mg MPHInitial: 2.5 in AMIncrease: weekly or every other weekFrequency: 2 to 3 doses/day. | 6 yr. +5-20 mg/day | Onset: 20-30 min.Short to IntermediateDuration: 5 hr.  | -can be crushed in applesauce (P)-reported to have lower rate of side effects (e.g. anorexia) -Same side effect profile and precautions as methylphenidate |
| **Methylphenidate Slow release** |
|  Ritalin LA ®\* 10, 20, 30, 40 mg capsules | Initial: 10 mg in AMIncrease: weekly or every other weekFrequency: once daily in AM | 6 yr. +10-60 mg/day | Onset:30 minDuration: 8 hours-50% IR, 50% DR beads | -can be opened and sprinkled; do not chew beads-Same side effect profile and precautions as methylphenidate |
| Metadate CD ® \* 10, 20, 30, 40, 50, 60 mg capsules | Initial: 10 mg in AMIncrease: weekly or every other weekFrequency: once daily in AM | 6 yr. +10-60 mg/day | Onset:30 minDuration: 8 hours30% IR, 70% DR | -can be opened and sprinkled; do not chew beads-Same side effect profile and precautions as methylphenidate |
|  **Concerta** ®\* 18, 27, 36, 54 mg OROS capsule Many Generic available Only Watson/Activis is equivalent | 18 mg delivers equivalent of 5 mg TIDInitial: 18 mg in AMIncrease: weekly or every other weekFrequency: once daily in AM | 6 yr. +18 to 72 mg72 mg (36 +36) | Onset:45-60 minLong actingDuration: 10-12 hrs. | -capsule cannot be opened; swallow whole,-Same side effect profile and precautions as methylphenidate-non-absorbable capsule shell may be seen in stool22%IR, 78% ERVariability in Generics |
|  **Aptensio** XR ®\* 10, 15, 20, 30, 40, 50, and 60 mg.  | Initial: 10 mgIncrease: weekly or every other weekFrequency: once daily in AM | 6 yr. +10-60 mg/day | Onset:45-60 minDuration: 12 hrs.40%IR, 60% DR-ER | -can be opened and sprinkled; do not chew beads~ 60 percent is delivered slowly through the rest of the day. ~two medication “peaks” - at two hours and another at eight hours. |
| **Quillichew ER** (chewable tabs)20,20,40 | 20-60mg qam | 6 yr. + | 8-12 hrs.30% IR, 30%ER |  |
| **Contempla XR** ODT8.6, 17.3, 25.9 | 17.3-51.8 QAM | 6yr+ | 8-12 Hrs. |  Oral disintegrating tab |
|  **Quillivant XR** Liquid Suspension(25mg/5 ML) ® \* | Initial: 2 ML in AM (10 mg) Increase: weekly or every other week | 6 yr. +10-50 mg/day | Onset: 45 min;Duration 8-12 hrs.20% IR, 80% ER. | --Same side effect profile and precautions as methylphenidate-SHAKE before dispensing. Use dispenser syringe, not spoon |
|  **Focalin XR** ® \* 5, 10, 15, 20, 25, 30, 35, 40 mg  | Initial: 15 mg in AMIncrease: weekly or every other weekFrequency: once daily in AM | 5-40 mg/day | Onset: 20-30 min.Duration: 8-12 hr. 50% IR, 50% DR | -can be opened and sprinkled; do not chew beads-reported to have lower rate of side effects (e.g. anorexia) -Same side effect profile and precautions as methylphenidate |
| **Journay PM** 20,490,60,80,100 | 20-100mg **QPM** | 6y up | 8-12 after 10h onset delay | Taken in evening between 6:30-9:30pmCan be sprinkled but not crushed or chewed |
| **Methylphenidate patch** Daytrana ®\* 10, 15, 20, 30 mg patch | Initial: 10 mg patch for everyoneIncrease: weekly or every other weekFrequency: Apply daily as early as possible; approved to stay on for 9 hours;  | 6+ yrs.10-30 mg | Onset: 60 +min (P)Can vary time stays on; FDA up to 9 hours; wear off can take 2 hrs. Change patch daily | -One patch each day; -can be worn during swimming and routine bathingApply firmly to hip; rub briskly to generate slight heat; protect patches from temperature and moisture extremes as impacts stickiness; -low abuse potential; good for college students who can leave on longer to cover long days (off-label); -contact dermatitis/skin color loss can occur |

NB: Metadate ER and Ritalin SR are not included as not recommended because wax-matrix makes release unreliable and of inconsistent duration (P)

**Table B. AMPHETAMINE FORMULATIONS: Stimulant Medications for Attention-Deficit/Hyperactivity Disorders**

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| Medication | Dose Schedule | Range  | Onset Duration | Potential Side Effects/Cautions |
| **Desoxyn (Methamphetamine)****5mg** |  | 6-17y5-10mg bid Approved 1943 | 3-5 hrs. | Approved 1943Extremely high potential for misuse and diversion |
| **Dextroamphetamine** (Dex) Dexedrine tablets ® \* DextroStat tablets 5, 10mg tablets  | Initial: 2.5-5 mg (0.15mg/kg/dose)Increase: 2.5 mg 5 mg.Frequency: 2-3 doses/day | FDA ap. 3y-16y2.5-20mg/bid0.15 -0.4 mg/kg/dose | Onset: 20-60 min.Duration: 4-6 hr. | -can be crushed in applesauce (P)-Anorexia, insomnia, stomachaches, headaches, irritability, "rebound", social withdrawal, weepiness, stereotypies/picking, tics, growth suppression, jitteriness, tachycardia, rare neuropsychiatric effects-Interactions- decongestants. antihistamine, SSRI, **vitamin C**-review personal and family cardiac history-Monitor height, weight, blood pressure and pulse.-high potential for misuse and diversion |
|  |  |  |  |  |
|  Procentra ® solution Dextro-amphetamine 5 mg/5ml oral solution | Initial: 2.5-5 mg (0.15mg/kg/dose)Increase: 2.5 mg 5 mg.Frequency: 2-3 doses/day | 3-16y5-20mg bid0.15-0.4mg/kg/dose | Onset: 20-60 min.Duration: 3-5 hr. | -liquid; measure carefully; -Same as dextroamphetamine -bubble-gum flavor- High misuse diversion potential |
| Eveko - Amphetamine 5mg, 10mg | 3-5y Initial 2.5 6-16 initial 5mg | 3-17y2.5-20mg BID | 20 min3-5 hr. | Scored tabHigh diversion potential |
| Zenzedi – Dextroamphetamine2.5, 5.7.5, 20, 25,20, 30mg | Same as Dexedrine |  |  | 5mg scored, 10mg double scored |
| **Mixed Amphetamine Salts \*** Adderall® 5, 10, 20 mg Ggeneric available | Initial: 5 mg in AMIncrease: 5 mg weekly Frequency: 1-2 doses/day | 5-40 mg/day | Onset: 30 min?Duration: 6 hr.? | -can be crushed in applesauce ((P))-Same profile as dextroamphetamine; better tolerated as the four different salts are absorbed at slightly different rates;  |
| Adderall XR®(Mixed Amphetamine Salts XR)  5, 10, 20 mg Ggeneric available | Initial: 5 mg in AMIncrease: 5 mg weekly Frequency: 1-2 doses/day | 5-40 mg/day | Onset: 30 min?Duration: 8-10 hr.? | -can be opened and sprinkled; do not chew--Same profile as dextroamphetamine; better tolerated as the four different salts are absorbed at slightly different rates; |
| Dexedrine Spansules®(dextroamphetamine) 5, 10, 15 mg capsules  no generic available | Initial: 5 mg in AM(0.3 mg/kg/dose)Increase: 5 mg. weekly Frequency: 1-2 doses/day.  | 5-40 mg/day0.3-0.8 mg/kg/dose | Onset: 60-90 minDuration: 6-10 hr. | -can be opened and sprinkled; do not chew-Same as dextroamphetamine |
| **Adzenys XR ODT (amphetamine)****3.1, 6.3, 9.4, 12.5 ,25.7, 18.8** | 6.3-18.8 QAM | 6yr up3.1mg=5 mg of mixed salts  | 8-12 hr. | Doses meant to be equivalent to 5, 10,15,20 & 30 of MAS |
| **Dynavel XR (amphetamine)** 2.5mg/suspension | 2.5mg | 6-17y2.5-20mg/am | 8-12hr | ER oral suspension, must shake well |
| **Mydayis (mixed amphetamine salts)** |  |  |  | PH dependent slow release- may last up to 16 hours |

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| **Vyvanse** ® (**Lisdexamfetamine)** 20, 30, 40, 50, 60, 70 mg caps | Initial: 20 mg in AMIncrease: 10 mg weeklyFrequency; single AM dose | 20-70 mg | Onset: 60 minDuration 10-12 hours | -can be dissolved in water-less abuse potential--Same profile as dextroamphetamine; better tolerated and "smoother" (P) as metabolized in small intestine at slower rate  |

 **Table C: Non-Stimulant Medications for Attention-Deficit/Hyperactivity Disorders**

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| Medication | Indications | Dose Schedule | Range | Onset/Duration | Administration/Side Effects/ Monitoring |
| **Alpha Adrenergic agonists** |  |  |  |  |  |
| **Clonidine** Catapres ® or generic 0.1, 0.2, 0.3 mg tablets | -Alternative to stimulant.-Hyperactivity, impulsivity, tics,OppositionalityHyperarousalAggressionInsomnia | Initial: 0.05 mg HS.Increase: 0.05 mg every 3-7 days.Frequency: 2-4 doses/day. (Generally, AM, afterschool, HS)**-Needed daily for ADHD monotherapy** -if used for sleep onset, can be used as single bedtime dose, okay to miss doseStop slowly (minimum 3 days).Not schedule II can be called in | 0.1-0.4mg/dayMean therapeutic dose: 0.2 mg/day<45 kg 0.3mg/d>45 kg | Onset: 1-3 weeksDuration: 2-8 hr.Maximum effect may take several weeks of daily use.taper off; | -can be crushed in applesauce (P)-Sedation (50%), dizziness, nausea, orthostatic hypotension, clinical depression, nightmares.-Sedation tends to decrease over time. -when used for sleep may wear off after 8 hrs. (-- Rebound hypertension possible if stopped abruptly.-review personal and family cardiac history-Monitor BP: Baseline, after adjustments and at follow-up  |
|  Catapres TTS 1,2,3 ® (transdermal patches)  | Same as clonidine.Sustained delivery avoids multiple dosing. Less sedating. | Initial: TTS 1 patch (0.1 mg/day) Increase: 0.1 mg every 2 weeks. Frequency: change every 5 to 7 daysRotate sites on back.Not schedule II can be called in | 0.1-0.4mg/dayMean therapeutic dose: 0.2 mg/day | Onset: 1-3 weeksDuration: 5-6 daysMaximum effect may take several weeks.Change patch every 5 to 7 days | -lasts 5 to 7 days per patch. May be less sedating.-Contact dermatitis common. Erythema fades after several days. Discontinue if blistering occurs.-Not affected by routine bathing. May not adhere well in humid weather. Dispose of patches carefully.-Monitor BP: Baseline, after adjustments and at follow-up |
| **Clonidine XR**  Kapvay ®\* Approved as monotherapy and as adjunctive for ADHD0.1, 0.2 (sometimes)Generic available | Same as clonidine.Sustained delivery avoids multiple dosing.  | Initial: 0.1 mg in eveningIncrease 0.1 mg weekly as twice a day dose. Up to 0.4 mg/day with equal split or high dose given in eveningNot schedule II can be called in | \* 6+ years0.1 to 0.4 mg/d | Onset: 1-3 weeksDuration: 8 hr.Maximum effect: may take 3 wks.-taper off by 0.05 mg Q 3-7 days | -swallow whole. do not crush-sedation (20%), irritability, insomnia, nightmares, emotional disorder, constipation, dry mouth-monitor for hypotension (rare) |
| **Guanfacine** Tenex® 1, 2 mg tablets | Longer half-life (10hrs); -less sedation than clonidine.; Some attention benefit in addition | Initial dose: 0.25 mg HSIncrease: 0.5mg weekly. Give as two doses/day usually breakfast and dinner\* not with high fat mealNot schedule II can be called in | 0.5-3 mg/dayMean dose: 2 mg/day | Takes several days to weeks to take effect.-taper off by 0.5 mg Q 3-7 days | -can be crushed in applesauce-less sedation than clonidine.-Sedation, dizziness, nausea, orthostatic hypotension. Insomnia, agitation, headaches and stomachaches.-Monitor BP: Baseline, after adjustments and at follow-up-Very limited data but Guanfacine XR data supports use |
| **Guanfacine XR**  Intuniv® \* 1, 2,3, 4 mg tabletsGeneric available | (Half-life 18 hrs.) | Initial dose 1 mg once dailyIncrease: 1 mg weeklyNot schedule II can be called in | \* 6 + years1-4 mg/dayMost needed 3 mg/d | Takes several days to weeks to take effect.-taper off Q 3-7 days | -swallow whole. do not crushStudies done given in AM; Some report better given at night-Same as guanfacine |
| **Selective Noradrenergic reuptake inhibitor (SNRI)** |
| **Atomoxetine** Strattera ®\* 10, 18, 25, 40, 60, 80, 100 mg  Capsules (do NOT open) | ADHDADHD+ ticsADHD+ anxiety | Initial: <70kg start 0.50 mg/kg Q AMSometimes fatigue so can start in EveningIncrease to 1 mg/kg x 1 week then 1.2 mg/kg/day; Often once a day with AM dose lasting to next day. Can split dose if GI issues or fatigueNot schedule II can be called in | Official max 1.4 mg/kg/day or 100 mg/day; Off label:Max 1.8 mg/kg/dayTitrate- don't go on mg/kg only | Assess at the 2 to 3 mark; No need to taper | -Swallow whole; do not open!-Titration reduces side effects; -Titration packs available through drug representatives-Fatigue, lightheadedness, GI upset, dry mouth, sweating, insomnia, weight loss, headache-Mood swings, unusual dreams or thoughts, manic sx--Monitor BP: Baseline, after adjustments and at follow-up-Interactions- Albuterol; cold medications; SSRIs -2 cases of liver damage; no routine labs required though. |

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