**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 preschoolers  5-60 mg/day  Off label: >50 kg max 100mg/day | Onset: 15-20min.  Short acting  Duration: 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 acting  Duration: 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 MPH  Initial: 2.5 in AM  Increase: weekly or every other week  Frequency: 2 to 3 doses/day. | 6 yr. +  5-20 mg/day | Onset: 20-30 min.  Short to Intermediate  Duration: 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 AM  Increase: weekly or every other week  Frequency: once daily in AM | 6 yr. +  10-60 mg/day | Onset:30 min  Duration: 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 AM  Increase: weekly or every other week  Frequency: once daily in AM | 6 yr. +  10-60 mg/day | Onset:30 min  Duration: 8 hours  30% 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 TID  Initial: 18 mg in AM  Increase: weekly or every other week  Frequency: once daily in AM | 6 yr. +  18 to 72 mg  72 mg (36 +36) | Onset:45-60 min  Long acting  Duration: 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 stool  22%IR, 78% ER  Variability in Generics |
| **Aptensio** XR ®\*  10, 15, 20, 30, 40, 50, and 60 mg. | Initial: 10 mg  Increase: weekly or every other week  Frequency: once daily in AM | 6 yr. +  10-60 mg/day | Onset:45-60 min  Duration: 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** ODT  8.6, 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 AM  Increase: weekly or every other week  Frequency: 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 6:30-9:30pm  Can be sprinkled but not crushed or chewed |
| **Methylphenidate patch**  Daytrana ®\*  10, 15, 20, 30 mg patch | Initial: 10 mg patch for everyone  Increase: weekly or every other week  Frequency: 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 bathing  Apply 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** |  | 6-17y  5-10mg bid Approved 1943 | 3-5 hrs. | Approved 1943  Extremely 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-16y  2.5-20mg/bid  0.15 -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 | 3-16y  5-20mg bid  0.15-0.4mg/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 | 3-17y  2.5-20mg BID | 20 min  3-5 hr. | Scored tab  High diversion potential |
| Zenzedi – Dextroamphetamine  2.5, 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 AM  Increase: 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 AM  Increase: 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/day  0.3-0.8 mg/kg/dose | Onset: 60-90 min  Duration: 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 up  3.1mg=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 | 6-17y  2.5-20mg/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 AM  Increase: 10 mg weekly  Frequency; single AM dose | 20-70 mg | Onset: 60 min  Duration 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,  Oppositionality  Hyperarousal  Aggression  Insomnia | 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 dose  Stop slowly (minimum 3 days).  Not schedule II can be called in | 0.1-0.4  mg/day  Mean therapeutic dose: 0.2 mg/day  <45 kg 0.3mg/d  >45 kg | | Onset: 1-3 weeks  Duration: 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 days  Rotate sites on back.  Not schedule II can be called in | 0.1-0.4  mg/day  Mean therapeutic dose: 0.2 mg/day | | Onset: 1-3 weeks  Duration: 5-6 days  Maximum 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 ADHD  0.1, 0.2 (sometimes)  Generic available | Same as clonidine.  Sustained delivery avoids multiple dosing. | Initial: 0.1 mg in evening  Increase 0.1 mg weekly as twice a day dose. Up to 0.4 mg/day with equal split or high dose given in evening  Not schedule II can be called in | \* 6+ years  0.1 to 0.4 mg/d | | Onset: 1-3 weeks  Duration: 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 HS  Increase: 0.5mg weekly. Give as two doses/day usually breakfast and dinner  \* not with high fat meal  Not schedule II can be called in | 0.5-3 mg/day  Mean 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 tablets  Generic available | (Half-life 18 hrs.) | Initial dose 1 mg once daily  Increase: 1 mg weekly  Not schedule II can be called in | \* 6 + years  1-4 mg/day  Most needed 3 mg/d | | Takes several days to weeks to take effect.  -taper off Q 3-7 days | -swallow whole. do not crush  Studies 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) | ADHD  ADHD+ tics  ADHD+ anxiety | Initial: <70kg start 0.50 mg/kg Q AM  Sometimes fatigue so can start in Evening  Increase 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 fatigue  Not schedule II can be called in | | Official max 1.4 mg/kg/day or 100 mg/day;  Off label:  Max 1.8 mg/kg/day  Titrate- 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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