# ?? ADHD MEDICATIONS COMPREHENSIVE COMPARISON CHART

## ?? Visual Guide to Stimulants & Non-Stimulants

## ⚡ STIMULANT MEDICATIONS

### ?? METHYLPHENIDATE-BASED MEDICATIONS

| ?? Medication | Brand Name | ⏰ Duration | ?? Starting Dose | ?? Max Dose | ✨ Key Features |
|---|---|---|---|---|---|
| ?? **Methylphenidate IR** (Verghese & Abdijadid, 2024) | Ritalin, Methylin | 3-4 hours ⏰ | 5mg BID | 60mg/day | ?? Generic available |
| ?? **Methylphenidate SR** (Medscape, n.d.) | Ritalin SR | 6-8 hours ⏰ | 20mg daily | 60mg/day Should not exceed 72mg/day | ?? Older SR technology |
| ?? **Concerta** (Gragnolati, 2025) | Concerta | 10-12 hours ⏰ | 18mg daily | 72mg/day | ?? OROS once daily |
| ?? **Metadate CD** (PDR.net, 2024) | Metadate CD | 8-10 hours ⏰ | 20mg daily | 60mg/day | ?? 30% IR/70% ER |
| ?? **Ritalin LA** | Ritalin LA | 8-10 hours ⏰ | 20mg daily | 60mg/day | ⚖️ 50% IR/50% ER |
| ?? **Aptensio XR** (Mayo Clinic, 2024) | Aptensio XR | 12 hours ⏰ | 10mg daily | 60mg/day | ?? Sprinkle capsules |

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| **🧪 Quillivant XR** (Drugs.com, 2025) | Quillivant XR | 12 hours ⏰ | 20mg daily | 60mg/day | 🧪 Liquid formulation |
| **🩹 Daytrana Patch** | Daytrana | 9 hours ⏰ | 10mg patch | 30mg patch | 🩹 Patch technology |
| **🌙 Jornay PM** | Jornay PM | 10-12 hours ⏰ | 20mg HS | 100mg/day | 🌙 Evening dosing |
| **🕰️ Adhansia XR** | Adhansia XR | 16 hours ⏰ | 25mg daily | 85mg/day | 🕰️ Ultra-long acting |

## ⚡ AMPHETAMINE-BASED MEDICATIONS

| 💊 Medication | Brand Name | ⏰ Duration | 🎯 Starting Dose | 📈 Max Dose | ✨ Key Features |
|---|---|---|---|---|---|
| **⚖️ Mixed Amphetamine IR** (Durbin, 2023) | Adderall | 4-6 hours ⏰ | 5mg BID | 40mg/day | ⚖️ 75% dextro/25% levo |
| **⚖️ Mixed Amphetamine XR** | Adderall XR | 10-12 hours ⏰ | 10mg daily | 30mg/day | ⚖️ 50% IR/50% ER |
| **🧪 Dextroamphetamine IR** (Nazila Sharbaf Shoar et al., 2023) | Dexedrine | 4-6 hours ⏰ | 5mg BID | 40mg/day | 🧪 Pure dextroamphetamine |
| **🧪 Dextroamphetamine ER** | Dexedrine Spansule | 8-10 hours ⏰ | 10mg daily | 40mg/day | 🧪 Spansule technology |
| **🧪 Lisdexamfetamine** (Healthline, 2022) | Vyvanse | 10-14 hours ⏰ | 30mg daily | 70mg/day | Prodrug, abuse deterrent |

| | | | | | |
|---|---|---|---|---|---|
| **�� Amphetamine ER** Healthline, 2018)( | Dynavel XR | 13 hours ⏰ | 2.5mg daily | 20mg/day 60mg/day | ⚪ Liquid amphetamine |
| **Amphetamine ODT** | Evekeo ODT | 4-6 hours ⏰ | 5mg BID | 40mg/day | ⚪ Orally disintegrating |

# ⚪ NON-STIMULANT MEDICATIONS

## ⚪ NOREPINEPHRINE REUPTAKE INHIBITORS

| ⚪ Medication | Brand | ⚪ Mechanism | ⏰ Duration | ⚪ Starting | ⚪ Target | ⚪ Max |
|---|---|---|---|---|---|---|
| ⚪ **Atomoxetine** (Fedder et al., 2023) | Strattera | ⚪ NRI | 24 hours ⏰ | 40mg daily | 80mg daily | 100mg daily |

## ALPHA-2 AGONISTS

| ⚪ Medication | Brand | ⚪ Mechanism | ⏰ Duration | ⚪ Starting | ⚪ Target | ⚪ Max |
|---|---|---|---|---|---|---|
| ⚪ **Guanfacine IR** (Drugscom, 2025) | Tenex | Alpha-2 agonist | 6-8 hours ⏰ | 0.5mg BID | 1-2mg BID | 4mg/day |
| ⚪ **Guanfacine ER** | Intuniv | Alpha-2 agonist | 24 hours ⏰ | 1mg daily | 2-4mg daily | 4mg/day |
| ⚪ **Clonidine IR** | Catapres | Alpha-2 agonist | 6-8 hours ⏰ | 0.05mg BID | 0.1-0.2mg BID | 0.4mg/day |
| ⚪ **Clonidine ER** (Yasaei & | Kapvay | Alpha-2 agonist | 12 hours ⏰ | 0.1mg HS | 0.2mg daily | 0.4mg/day |

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|---|---|---|---|---|---|---|
| Saadabadi, 2023) | | | | | | |

### ☀️ WAKE-PROMOTING AGENTS

| ️ Medication | Brand | ️ Mechanism | ⏰ Duration | ️ Starting | ️ Target | ️ Max |
|---|---|---|---|---|---|---|
| ☀️ **Modafinil** (Drugs.com, 2025a) | Provigil | ❓ Unknown | 12-15 hours ⏰ | 100mg daily | 200mg daily | 400mg/day |
| ️ **Armodafinil** (Drugs.com, 2024) | Nuvigil | ❓ Unknown | 15 hours ⏰ | 150mg daily | 150-250mg daily | 250mg/day |

## ️ PHARMACOLOGICAL COMPARISON

### ⚡ STIMULANT MECHANISMS

**️ Methylphenidate Family:**

**️ Mechanism:** ️ Dopamine + Norepinephrine reuptake inhibition
**️ Metabolism:** ️ Carboxylesterase-1 (not CYP450) ️ **Half-life:** ⏰ 2-3 hours (IR)

**Food effects:** ⏰ Delayed absorption

**⚡ Amphetamine Family:**

**️ Mechanism:** ️ Reuptake inhibition + Release ️ **Metabolism:** ️ CYP2D6 (minor)

**️ Half-life:** ⏰ 9-14 hours

**Food effects:** ⬇️ May reduce absorption

**️ pH effects:** ️ Acidic urine increases

elimination ⚙️ **NON-STIMULANT MECHANISMS**

⚙️ **Atomoxetine:**

⚙️ **Mechanism:** ⚙️ Selective NRI

⚙️ **Metabolism:** ⚙️ CYP2D6 (major)

⚙️ **Half-life:** ⏰ 5-22 hours (genetic variation) ⚙️ **Steady state:** ⚙️ 5-7 days

**Alpha-2 Agonists:**

⚙️ **Mechanism:** ⚙️ Alpha-2A receptor agonism

⚙️ **Half-life:** ⏰ Guanfacine 17h, Clonidine 12-16h

⚠️ **Rebound:** ⚙️ Possible with abrupt discontinuation

# ⚙️ CLINICAL SELECTION GUIDE

## ⚡ STIMULANT SELECTION

⚙️ **Choose Methylphenidate if:**

⚙️ **Younger children** (less appetite suppression) ⏰ **Shorter duration needed**

⚙️ **History of tics** (potentially less exacerbation) ⚙️ **Concurrent anxiety** (may be less anxiogenic)

⚡ **Choose Amphetamine if:**

**Adolescents/adults** (longer duration)

⚙️ **Comorbid depression** (more mood benefits) ⚙️ **Need stronger effect** (more

potent per mg)1️⃣**Once-daily dosing preferred**

## ⚠️ NON-STIMULANT SELECTION

**⚠️ Atomoxetine if:**

- **⚠️ Stimulant contraindications**
- **⚠️ Comorbid anxiety disorders**
- **⚠️ Tics or Tourette's syndrome**
- **⚠️ 24-hour symptom control needed**
- **No abuse potential required**

**Alpha-2 Agonists if:**

- **➕ Adjunct to stimulants**
- **♂️ Hyperactivity/impulsivity predominant**
- **⚠️ Sleep difficulties**
- **⚠️ Aggressive behaviors**

# ⚠️ SIDE EFFECTS VISUAL GUIDE

## ⚡ STIMULANT SIDE EFFECTS

| ⚠️ Side Effect | ⚠️ Methylphenidate | ⚡ Amphetamine | Management |
|---|---|---|---|
| Appetite Loss | ⚠️⚠️⚠️⚠️ | ⚠️⚠️⚠️⚠️⚠️⚠️⚠️ | Drug holidays, ⚠️ nutrition |
| ⚠️ Sleep Issues | ⚠️⚠️⚠️⚠️ | ⚠️⚠️⚠️⚠️⚠️⚠️⚠️ | ⏰ Earlier dosing, sleep hygiene |
| ⚠️ Growth Suppression | ⚠️⚠️⚠️⚠️ | ⚠️⚠️⚠️⚠️ | ⚠️ Monitor height/weight |
| ⚠️ Mood Changes | ⚠️⚠️ | ⚠️⚠️⚠️⚠️ | ⚠️ Dose adjustment |
| ⚠️ Headache | ⚠️⚠️⚠️⚠️ | ⚠️⚠️⚠️⚠️ | ⚠️ Hydration |

| | | | |
|---|---|---|---|
| **�� Stomach Ache** | ���� | ** | Take with food |
| **** Tics** | ** | ***** | ** Consider non-stimulant |

### ** NON-STIMULANT SIDE EFFECTS

**** Atomoxetine:**

- **** Common:** Nausea, vomiting, fatigue
- ⚠️ **Serious:** ** Suicidal ideation, ** liver injury
- **** Monitor:** Mood, liver function

**Alpha-2 Agonists:**

- **** Common:** Sedation, fatigue, dizziness
- ⚠️ **Serious:** ** Hypotension, ** bradycardia
- **** Monitor:** Blood pressure, heart rate

## ** SPECIAL POPULATIONS

### ** PRESCHOOLERS (3-5 years)

**** First-line:** ** Behavioral interventions ** **Medication:** ** Methylphenidate IR only ** **Starting:** 2.5mg BID

**** Monitor:** ** Intensive growth monitoring

### ADOLESCENTS

**** Preference:** ** Long-acting formulations ⚠️ **Risk:** ** Substance abuse screening

**🔒 Safety:** Driving considerations

**🔒 Transition:** Adult care planning

### ADULTS

**🔒 Dosing:** Similar to adolescents

**🔒 Screen:** Mood, anxiety, substance disorders **🔒 Consider:** Work schedule timing

**🔒 Pregnancy:** Avoid if possible

### 🔒 ELDERLY

**🔒 Approach:** Start low, go slow

❤️ **Monitor:** Cardiovascular effects

**🔒 Review:** All medications for interactions **🔒 Assess:** Rule out dementia

## 🔒 COMBINATION STRATEGIES

### ➕ STIMULANT + NON-STIMULANT

**🔒 Atomoxetine + Stimulant:** **🔒** 24-hour coverage

**Alpha-2 + Stimulant:** ♂ Hyperactivity control

✅ **Benefits:** **🔒** Complementary mechanisms

### 🔒 MULTIPLE STIMULANTS

⚡ **IR + ER:** ⏰ Fine-tuning duration

⚠️ **Caution:** **🔒** Increased side effects

# ⁇ CLINICAL PEARLS

## ⁇ OPTIMIZATION STRATEGIES:

⁇ **Poor response:** ✅ Ensure adequate dose, ⁇ try different class ⁇ **Partial response:** ➕ Add non-stimulant, ⏰ adjust timing ⁇ **Side effects:** ⬇️ Lower dose, ⁇ change formulation

## ⁇ ADHERENCE TIPS:

⁇ **Long-acting:** ⬇️ Reduce daily dosing

⁇ **Education:** ⁇ Explain importance

**Management:** ⁇ Proactive side effect care

## DRUG HOLIDAYS:

☀️ **Summer breaks:** ⁇ Growth catch-up

⁇ **Monitor:** Height, weight, symptoms

⁇ **Restart:** May need lower dose

# ⁇ VISUAL LEGEND

## ⁇ Medication Types:

⁇ = Methylphenidate-based

⚡ = Amphetamine-based

⁇ = Norepinephrine reuptake inhibitor  = Alpha-2 agonist

☀️ = Wake-promoting agent

## ⏰ Duration Guide:

�� = 3-4 hours (Short)

�� = 6-8 hours (Medium)

�� = 10-12 hours (Long)

�� = 12+ hours (Extended)

## ⏳ Severity Scale:

⏳ = Mild

⏳⏳⏳ = Moderate

⏳⏳⏳⏳⏳ = High

## ⏳ Age Groups:

⏳ = Preschool (3-5)

⏳ = School-age (6-12)

= Adolescent (13-17)

= Adult (18-64)

⏳ = Elderly (65+)

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