Guideline recommendations for medication prescribing of ADHD in children and adolescents

- The American Academy of Pediatrics (AAP) recommends age-specific attention deficit/hyperactivity disorder (ADHD) treatment.
    - Behavioral therapy and/or classroom interventions is first-line for children aged 4–6, with methylphenidate added if impairment persists and there is moderate-severe disturbance in functioning.
    - Combined medication and behavioral therapy / classroom interventions is preferred for children aged 6–12. The evidence is strongest for stimulant medications and is sufficient, but less strong, for atomoxetine, extended-release guanfacine, and extended-release clonidine.
    - For adolescents aged 12–18, Food and Drug Administration (FDA)-approved medication and behavioral therapy are recommended. Stimulants remain the most effective medications, followed by viloxazine, atomoxetine, extended-release guanfacine, and extended-release clonidine.[1]
- Medications should be titrated to achieve maximum benefit with tolerable side effects.
- Side effects most seen with stimulants include appetite loss, abdominal pain, headaches, and sleep disturbance.
- Selective norepinephrine reuptake inhibitors (e.g., viloxazine, atomoxetine) are alternatives to stimulants and may be appropriate in patients with a history of illicit substance use or when a caregiver prefers to avoid stimulants.
- Alpha-2-adrenergic agonists (e.g., extended release clonidine or guanfacine) usually are reserved for patients who respond poorly or have intolerable side effects to stimulants or selective norepinephrine reuptake or have significant comorbid conditions.
- Assess heart disease risk by doing a physical exam and taking a careful medical and family cardiac history, including sudden death, long QT syndrome, Wolff-Parkinson-White syndrome, or hypertrophic cardiomyopathy. Routine ECG screening before stimulant initiation is not recommended unless indicated by history or symptoms.

- In general, avoid polypharmacy, although in some complex cases, combination therapy may be appropriate.[1]
    - Adjunctive therapies may be considered if stimulant therapy is not fully effective or limited by side effects. Only extended-release guanfacine and extended-release clonidine have evidence supporting their use as adjunctive therapy with stimulant medications sufficient to have achieved FDA approval; there is limited evidence available to support the efficacy and safety of using atomoxetine in combination with stimulant medications to augment treatment.

- Healthcare professionals should closely and carefully monitor children taking stimulants for side effects (e.g., appetite suppression, sleep disruption, changes in heart rate or blood pressure), therapeutic response, and growth.[1]
    - Clinicians should monitor vital signs, as substantial changes in heart rate and blood pressure are seen in a subset of individuals.

- Occasional stimulant-free trials may be useful to reassess the dosage and the ongoing need for continued pharmacological treatment.

- Medication goals should:
    - Have minimal adverse effects
    - Reduce hyperactivity/impulsivity and improve children's academic skills
    - Address co-morbidities and abuse potential.

These guidelines are not intended to replace a practitioner's clinical judgment. They are designed to provide information and to assist practitioners with decisions regarding care. The guidelines are not intended to define a standard of care or exclusive course of treatment. Healthcare practitioners using these guidelines are responsible for considering their patient's particular situation in evaluating the appropriateness of these guidelines.

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[1] American Academy of Pediatrics. Clinical Practice Guideline for the Diagnosis, Evaluation, and Treatment of Attention-Deficit/Hyperactivity Disorder in Children and Adolescents. Pediatrics. 2019;144(4): e20192528. 10.1542/peds.2019-2528