

Information about medications (drugs) used to treat ADHD

- **ADHD Medications:** These medications help manage ADHD symptoms.
- **Types of Medications:** There are different types of medications, such as stimulants and non-stimulants.
- **Forms of Medications:** Medications come in different forms like tablets, capsules, liquids, chewables, and patches.
- **Generic Versions:** Generic versions of medications are often available and are usually similar to brand-name versions.

Methylphenidate-Based Medications

Methylphenidate is a commonly prescribed medication for ADHD that works by increasing the levels of certain chemicals in the brain that help control behavior and attention. There are different forms of methylphenidate-based medications, which vary in how long they work and how they are taken.

Short-Acting Methylphenidate

Short-acting medications typically work for about 3-4 hours. These are often taken multiple times a day.

- **Ritalin®:**
 - **Form:** Tablets
 - **Doses:** 5mg, 10mg, 20mg
 - **Usage:** Typically taken 2-3 times a day, about 30-45 minutes before meals.
 - **Note:** Can help improve attention and focus but may need to be taken several times a day to maintain its effects.
- **Methylin®:**
 - **Forms:** Chewable tablets (grape flavor), liquid
 - **Doses:** Tablets available in 5mg and 10mg; Liquid is 5mg/5mL
 - **Usage:** Similar to Ritalin, often taken multiple times a day.
 - **Note:** The chewable form can be easier for children who have difficulty swallowing pills.

Long-Acting Methylphenidate

Long-acting medications are designed to work for a longer period, typically 8-12 hours, reducing the need to take multiple doses throughout the day.

- **Concerta®:**
 - **Form:** Extended-release tablets
 - **Doses:** 18mg, 27mg, 36mg, 54mg

- **Usage:** Taken once a day in the morning.
- **Note:** Provides a steady release of medication throughout the day, which can help manage symptoms with just one dose.
- **Daytrana®:**
 - **Form:** Transdermal patch
 - **Doses:** Patches with doses of 10mg, 15mg, 20mg, and 30mg (all delivering medication over 9 hours)
 - **Usage:** The patch is applied to the skin and worn for about 9 hours.
 - **Note:** This form is beneficial for children who have difficulty swallowing pills. The medication is absorbed through the skin.
- **Aptensio® XR:**
 - **Form:** Extended-release capsules
 - **Doses:** 10mg, 15mg, 20mg, 30mg, 40mg, 50mg, 60mg
 - **Usage:** Taken once a day in the morning.
 - **Note:** Capsules can be opened and sprinkled on applesauce if the child cannot swallow them whole.
- **Quillivant XR®:**
 - **Form:** Extended-release oral suspension (liquid)
 - **Doses:** Customizable based on the prescription, usually 25mg/5mL
 - **Usage:** Taken once a day in the morning.
 - **Note:** The liquid form can be easier for children who have difficulty with pills.
- **Focalin XR®:**
 - **Form:** Extended-release capsules
 - **Doses:** 5mg, 10mg, 15mg, 20mg, 25mg, 30mg, 35mg, 40mg
 - **Usage:** Taken once a day in the morning.
 - **Note:** Capsules can be opened and sprinkled on applesauce if the child cannot swallow them whole.
- **Ritalin LA®:**
 - **Form:** Long-acting capsules
 - **Doses:** 10mg, 20mg, 30mg, 40mg

- **Usage:** Taken once a day in the morning.
- **Note:** The long-acting form helps provide consistent symptom control throughout the day.

Tips for Using Methylphenidate-Based Medications

- **Follow Instructions:** Always take the medication as prescribed by your doctor.
- **Monitor Effects:** Keep track of how the medication affects your symptoms and report any side effects to your doctor.
- **Consistent Timing:** Take the medication at the same time each day to maintain a steady level in your body.
- **Diet Considerations:** Some forms can be mixed with food or drink, making it easier to take.

Side Effects

Common side effects of methylphenidate-based medications include:

- Decreased appetite
- Insomnia or trouble sleeping
- Headache
- Stomachache
- Increased heart rate

If you experience severe side effects or any unusual symptoms, contact your healthcare provider immediately.

Amphetamine-Based Medications

Amphetamine-based medications are another common treatment for ADHD. These medications increase the levels of certain chemicals in the brain to help improve attention and reduce impulsivity and hyperactivity. They come in different forms and vary in how long they last.

Short-Acting Amphetamine Medications

Short-acting amphetamines typically work for about 4-6 hours. These medications often need to be taken multiple times a day.

- **Adderall®:**
 - **Form:** Tablets
 - **Doses:** 5mg, 7.5mg, 10mg, 12.5mg, 15mg, 20mg, 30mg
 - **Usage:** Usually taken 1-2 times a day.

- **Note:** Helps improve focus and reduce impulsivity and hyperactivity. May need to be taken more than once a day for continuous symptom control.
- **ProCentra®:**
 - **Form:** Liquid (bubblegum flavor)
 - **Doses:** 5mg/5mL
 - **Usage:** Typically taken 1-3 times a day.
 - **Note:** The liquid form is useful for children who have trouble swallowing pills. The flavor can make it easier for children to take.
- **Evekeo®:**
 - **Form:** Tablets
 - **Doses:** 2.5mg, 5mg, 10mg
 - **Usage:** Usually taken 1-2 times a day.
 - **Note:** Used to help manage symptoms throughout the day. Can be taken in divided doses.
- **Zenzedi®:**
 - **Form:** Tablets
 - **Doses:** 2.5mg, 5mg, 7.5mg, 10mg, 15mg, 20mg, 30mg
 - **Usage:** Typically taken 1-3 times a day.
 - **Note:** Helps manage symptoms of ADHD, taken multiple times a day if needed.

Long-Acting Amphetamine Medications

Long-acting amphetamines are designed to work for a longer period, typically 8-12 hours, which reduces the need for multiple doses throughout the day.

- **Adderall XR®:**
 - **Form:** Extended-release capsules
 - **Doses:** 5mg, 10mg, 15mg, 20mg, 25mg, 30mg
 - **Usage:** Taken once a day in the morning.
 - **Note:** Provides a steady release of medication throughout the day, which can help manage symptoms with just one dose.
- **Vyvanse®:**
 - **Form:** Capsules and chewable tablets (strawberry flavor)

- **Doses:** 10mg, 20mg, 30mg, 40mg, 50mg, 60mg, 70mg
- **Usage:** Taken once a day in the morning.
- **Note:** The capsules can be opened and mixed with water, yogurt, or orange juice if the child cannot swallow them whole. Chewable tablets are also available.
- **Mydayis®:**
 - **Form:** Extended-release capsules
 - **Doses:** 12.5mg, 25mg, 37.5mg, 50mg
 - **Usage:** Taken once a day in the morning.
 - **Note:** Provides extended symptom control throughout the day, suitable for adolescents and adults.
- **Dyanavel XR®:**
 - **Form:** Extended-release liquid (bubblegum flavor)
 - **Doses:** 2.5mg/mL
 - **Usage:** Taken once a day in the morning.
 - **Note:** Easy to swallow and allows for flexible dosing adjustments.
- **Adzenys XR-ODT®:**
 - **Form:** Orally disintegrating tablets (orange flavor)
 - **Doses:** 3.1mg, 6.3mg, 9.4mg, 12.5mg, 15.7mg, 18.8mg
 - **Usage:** Taken once a day in the morning.
 - **Note:** Dissolves in the mouth without the need for water, convenient for those who have trouble swallowing pills.
- **Dexedrine Spansule®:**
 - **Form:** Extended-release capsules
 - **Doses:** 5mg, 10mg, 15mg
 - **Usage:** Taken once or twice a day.
 - **Note:** Provides extended symptom control, can be sprinkled on food if needed.

Tips for Using Amphetamine-Based Medications

- **Follow Instructions:** Always take the medication as prescribed by your doctor.
- **Monitor Effects:** Keep track of how the medication affects your symptoms and report any side effects to your doctor.

- **Consistent Timing:** Take the medication at the same time each day to maintain a steady level in your body.
- **Diet Considerations:** Some forms can be mixed with food or drink, making it easier to take.

Side Effects

Common side effects of amphetamine-based medications include:

- Decreased appetite
- Insomnia or trouble sleeping
- Headache
- Stomachache
- Increased heart rate

Non-Stimulant Medications

Non-stimulant medications are another option for treating ADHD. These medications are often used when stimulant medications are not effective or cause undesirable side effects. Non-stimulants work differently from stimulants, and they can be a good option for some individuals.

Common Non-Stimulant Medications

1. **Strattera® (Atomoxetine)**

- **Form:** Capsules
- **Doses:** 10mg, 18mg, 25mg, 40mg, 60mg, 80mg, 100mg
- **Usage:**
 - **Children and Adolescents (up to 70kg):** Start with 0.5mg/kg/day for at least 3 days, then increase to 1.2mg/kg/day (maximum dose: 1.4mg/kg/day, not to exceed 100mg).
 - **Children and Adolescents (over 70kg) and Adults:** Start with 40mg/day for at least 3 days, then increase to 80mg/day (maximum dose: 100mg).
- **Note:** Strattera can be taken once or twice a day. It works by increasing the levels of norepinephrine, a chemical in the brain that helps control attention and behavior.

2. **Intuniv® (Guanfacine)**

- **Form:** Extended-release tablets
- **Doses:** 1mg, 2mg, 3mg, 4mg
- **Usage:**

- **Children and Adolescents (6-17 years):** Start with 1mg once daily, increase in increments of no more than 1mg per week to a maximum of 4mg/day.
- **Note:** Intuniv is usually taken once a day, either in the morning or evening. It works by affecting receptors in the brain that help regulate attention and impulse control.

3. Kapvay® (Clonidine)

- **Form:** Extended-release tablets
- **Doses:** 0.1mg, 0.2mg
- **Usage:**
 - **Children and Adolescents (6-17 years):** Start with 0.1mg at bedtime, increase in increments of 0.1mg/day at weekly intervals until the desired effect is achieved (maximum dose: 0.4mg/day, given in two divided doses).
- **Note:** Kapvay is taken twice a day, with the higher dose given at bedtime. It works by stimulating receptors in the brain to reduce hyperactivity and improve attention.

4. Qelbree® (Viloxazine)

- **Form:** Extended-release capsules
- **Doses:** 100mg, 200mg, 300mg, 400mg
- **Usage:**
 - **Children (6-11 years):** Start with 100mg once daily, may increase weekly in increments of 100mg (maximum dose: 400mg/day).
 - **Adolescents (12-17 years):** Start with 200mg once daily, may increase weekly in increments of 200mg (maximum dose: 400mg/day).
 - **Adults:** Start with 200mg once daily, may increase weekly in increments of 200mg (maximum dose: 600mg/day).
- **Note:** Qelbree can be taken once a day. It helps manage ADHD symptoms by modulating the levels of certain neurotransmitters in the brain.

Managing Side Effects of ADHD Medications

While ADHD medications are effective in reducing symptoms, they can also cause side effects. Understanding and managing these side effects is important to ensure the medication is effective and well-tolerated by the child. Below are common side effects and strategies to manage them:

Common Side Effects and Management Strategies

1. Loss of Appetite (Anorexia) and Weight Loss

- **Description:** Children may eat less, leading to weight loss.
- **Management Strategies:**

- **Monitor Weight:** Regularly check your child's weight to ensure they are on a normal growth curve.
- **Meal Timing:** Give the medication with meals to reduce its impact on appetite.
- **Calorie-Enhanced Snacks:** Offer high-calorie snacks such as instant breakfast drinks, frozen yogurt, or cereals, especially in the evening.
- **No Forced Meals:** Encourage eating but don't force meals if your child isn't hungry.

2. Difficulty Falling Asleep (Insomnia)

- **Description:** Trouble sleeping can occur, especially if the medication is taken too late in the day.
- **Management Strategies:**
 - **Good Sleep Habits:** Encourage a consistent sleep schedule, limit caffeine, and reduce screen time before bed.
 - **Timing of Medication:** Administer stimulants earlier in the day to minimize sleep disruption.
 - **Medication Adjustments:** Consider switching to a shorter-acting form or stopping the afternoon/evening dose.
 - **Supplemental Medications:** Discuss with your healthcare provider the possibility of using melatonin, low-dose clonidine, guanfacine, or mirtazapine at bedtime to aid sleep.

3. Dizziness

- **Description:** Feeling lightheaded or dizzy can occur, particularly when standing up quickly.
- **Management Strategies:**
 - **Monitor Blood Pressure and Heart Rate:** Check these regularly, especially if dizziness persists.
 - **Hydration and Snacks:** Ensure your child drinks plenty of fluids and has a midday snack.
 - **Medication Form Adjustment:** Consider switching to an extended-release form to provide a more stable release of the medication.

4. Irritability or Moodiness

- **Description:** Increased irritability or mood swings may be a side effect of the medication.
- **Management Strategies:**

- **Observation:** Monitor when irritability occurs to determine if it's related to the medication.
- **Medication Adjustment:** Discuss with the healthcare provider about changing the medication type or form, or investigating if there's an underlying mood disorder.

5. Growth Problems

- **Description:** Stimulant medications can slightly impact a child's growth in height and weight.
- **Management Strategies:**
 - **Regular Measurement:** Measure your child's height and weight every six months.
 - **Medication Holidays:** Consider taking breaks from medication on weekends or during school vacations to allow for normal growth.

6. Heart Symptoms

- **Description:** Symptoms like heart pounding, dizziness, nearly fainting, or chest pain are serious but rare.
- **Management Strategies:**
 - **Immediate Action:** Stop the medication and contact the healthcare provider immediately if any of these symptoms occur.

7. Headaches

- **Description:** Headaches can happen, particularly soon after taking the medication.
- **Management Strategies:**
 - **Form and Type Adjustment:** Switching to a different form or type of stimulant might help.
 - **Hydration and Food:** Ensure your child drinks enough water and eats regular meals to prevent headaches.

8. Stomachaches

- **Description:** Stomachaches can be a common side effect.
- **Management Strategies:**
 - **Timing with Meals:** Give the medication with or after breakfast.
 - **Antacids:** Use antacids as needed to alleviate stomach discomfort.

9. "Zombie" Effect

- **Description:** Children may become unusually quiet or appear over-focused, sometimes referred to as the “zombie” effect.
- **Management Strategies:**
 - **Observation:** Monitor for changes in behavior and report to the healthcare provider.
 - **Medication Adjustment:** Discuss possible changes in medication type or dosage with the provider.

10. Tics

- **Description:** Stimulants can sometimes cause or worsen motor or vocal tics.
- **Management Strategies:**
 - **Monitoring:** Observe your child closely for new or worsening tics.
 - **Medication Changes:** Discuss with the healthcare provider about adjusting or switching medications if tics become problematic.

Management Strategies for Stimulant-Related Side Effects in Youth

Table 2 provides detailed management strategies for common side effects associated with ADHD stimulant medications. Here is an in-depth look at each side effect and the recommended management strategies:

1. Loss of Appetite (Anorexia), Weight Loss

- **Description:** Children may experience a reduced appetite, leading to weight loss.
- **Management Strategies:**
 - **Monitor Weight:** Regularly check your child's weight to ensure they are growing normally. Weight loss might improve over time as they continue the medication.
 - **Meal Timing:** Administer the stimulant with meals to lessen its impact on appetite.
 - **Calorie-Enhanced Snacks:** Offer high-calorie snacks such as instant breakfast drinks, frozen yogurt, or cereals, especially in the evening.
 - **No Forced Meals:** Encourage eating but do not force meals if your child isn't hungry.

2. Difficulty Falling Asleep (Insomnia)

- **Description:** Trouble sleeping can occur, particularly if the medication is taken too late in the day.
- **Management Strategies:**
 - **Good Sleep Habits:** Encourage a consistent sleep schedule, avoid caffeine, limit naps to less than 45 minutes, and reduce screen time before bed.

- **Timing of Medication:** Give stimulants earlier in the day to minimize sleep disruption.
- **Medication Adjustments:** Consider switching to shorter-acting forms or stopping the afternoon/evening dose.
- **Supplemental Medications:** Discuss the use of melatonin, low-dose clonidine or guanfacine, periactin, or mirtazapine at bedtime with your healthcare provider.

3. Dizziness

- **Description:** Feeling lightheaded or dizzy, particularly when standing up quickly.
- **Management Strategies:**
 - **Immediate Action:** Skip the next dose and consult with the healthcare provider.
 - **Health Checks:** Regularly check blood pressure and heart rate.
 - **Hydration and Snacks:** Ensure your child drinks plenty of fluids and has a midday snack.
 - **Medication Form Adjustment:** Consider changing to an extended-release form for a more stable release of the medication.

4. More Irritability or Moodiness When Taking Medication

- **Description:** Increased irritability or mood swings as a side effect of the medication.
- **Management Strategies:**
 - **Observation:** Monitor when irritability occurs to understand the patterns.
 - **Medication Adjustment:** Discuss changing the preparation or type of medication with the healthcare provider, or explore if there is a separate mood problem.

5. Growth Problems

- **Description:** Stimulant medications can slightly impact a child's growth in height and weight.
- **Management Strategies:**
 - **Regular Measurement:** Measure your child's height and weight every six months.
 - **Medication Holidays:** Consider taking breaks from medication on weekends or during school vacations to allow for normal growth.

6. Heart Symptoms (Heart Pounding, Dizziness, Almost Passing Out, Chest Pain)

- **Description:** Serious but rare symptoms that might indicate cardiovascular issues.
- **Management Strategies:**
 - **Immediate Action:** Stop the medication and contact the healthcare provider immediately.

Management Strategies for Non-Stimulant-Related Side Effects

Table 3 provides management strategies for common side effects associated with non-stimulant ADHD medications, specifically Atomoxetine, Viloxazine, and Alpha agonists. Here is an in-depth look at each side effect and the recommended management strategies:

Atomoxetine (Strattera)

1. Excessive Tiredness

- **Description:** Tiredness, especially when starting treatment.
- **Management Strategies:**
 - This side effect usually improves over time.
 - Start with a low dose and gradually increase.
 - Some children do better with the daily dose divided into two doses.

2. Insomnia

- **Description:** Trouble sleeping.
- **Management Strategies:**
 - Encourage good sleep habits.
 - Adjust the timing of the dose.
 - Consult with the healthcare provider for possible adjustments.

3. Stomachaches, Nausea

- **Description:** Stomach discomfort and nausea.
- **Management Strategies:**
 - Give medication with food to minimize stomach discomfort.
 - Consult with the healthcare provider for further advice.

4. Headaches

- **Description:** Headaches may occur.
- **Management Strategies:**
 - Monitor headaches and consult with the healthcare provider.
 - Adjusting the dose or timing may help.

5. Irritability or Aggression (Infrequent)

- **Description:** Increased irritability or aggression.
- **Management Strategies:**

- Discuss with the healthcare provider to understand the irritability or aggression.
- Consider medication adjustments.

6. Liver Problems (Very Rare)

- **Description:** Rare liver issues such as hepatitis.
- **Management Strategies:**
 - If symptoms occur, stop the medication and consult with the healthcare provider immediately.

7. Suicidal Thoughts (Rare)

- **Description:** Rare but serious risk of suicidal thoughts.
- **Management Strategies:**
 - Close monitoring by the healthcare provider is necessary.
 - Immediate consultation with the healthcare provider if symptoms occur.

Viloxazine (Qelbree)

8. Excessive Tiredness

- **Description:** Tiredness, especially when starting treatment.
- **Management Strategies:**
 - This side effect usually improves over time.
 - Start with a low dose and gradually increase.

9. Decreased Appetite

- **Description:** Reduced appetite.
- **Management Strategies:**
 - Consider food supplements to ensure adequate nutrition.
 - Monitor weight and consult with the healthcare provider if necessary.

10. Nausea/Vomiting

- **Description:** Feeling sick or vomiting.
- **Management Strategies:**
 - Give medication with food to reduce nausea.
 - Consult with the healthcare provider if symptoms persist.

11. Insomnia

- **Description:** Trouble sleeping.
- **Management Strategies:**
 - Encourage good sleep habits.
 - Adjust the timing of the dose.
 - Consult with the healthcare provider for possible adjustments.

12. Irritability

- **Description:** Increased irritability.
- **Management Strategies:**
 - Monitor irritability and consult with the healthcare provider.
 - Adjusting the dose or timing may help.

13. Suicidal Behavior (Rare)

- **Description:** Rare but serious risk of suicidal behavior.
- **Management Strategies:**
 - Close monitoring by the healthcare provider is necessary.
 - Immediate consultation with the healthcare provider if symptoms occur.

Alpha Agonists (Clonidine, Guanfacine)

14. Drowsiness (Most Common)

- **Description:** Feeling sleepy or drowsy.
- **Management Strategies:**
 - Drowsiness tends to improve over time.
 - Start with very low doses and increase gradually.
 - If higher doses are stopped abruptly, there might be a temporary increase in blood pressure.
 - Avoid skipped doses and gradually decrease the dose when stopping treatment.

15. Mood Symptoms

- **Description:** Changes in mood.
- **Management Strategies:**
 - Monitor mood symptoms and consult with the healthcare provider.
 - Possible adjustments to the medication may be necessary.

16. Slowing of Heart Rate

- **Description:** Slower heart rate.
- **Management Strategies:**
 - Monitor heart rate and consult with the healthcare provider if symptoms occur.
 - Adjusting the dose may be necessary.

17. Dizziness

- **Description:** Feeling lightheaded or dizzy.
- **Management Strategies:**
 - Encourage hydration.
 - Monitor dizziness and consult with the healthcare provider for possible adjustments.