Adderall headaches are quite common; as a side effect they have an incidence greater than 10%. In most cases, there is no immediate danger associated with an amphetamine-related headache. But chronic headaches, can range from uncomfortable to debilitating.

Adderall is potent psychostimulant. It is comprised of four amphetamine salts used for the treatment of ADHD. If you’re experiencing amphetamine-related headaches, you should consult the physician that prescribes the medication for you. You might also consider using prescription or non-prescription alternatives to amphetamine.

Rarely, amphetamine-related headaches are extremely serious. Seek immediate medical attention if your headache (1) comes abruptly and worsens within seconds or minutes (thunderclap headache), (2) occurs with fever or stiff neck, occurs with a seizure, confusion, loss of consciousness or personality changes, (3) begins quickly after strenuous exercise or injury, (4) is new and co-occurs with weakness, impaired vision or numbness.

If your Adderall headaches are chronic, consider popular Adderall alternatives like modafinil (available overseas ModafinilCat or from your physician by prescription).

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Types of Headaches

Here are the four major types of headaches:

- Tension-type headache
- Migraine headache
- Chronic daily headache
- Cluster headache

Why Do Amphetamines Cause Headaches?

What causes these types of headaches? There are a couple of possibilities to consider.

**#1 Amphetamine-Related Hypertension**

Adderall is a sympathomimetic, which means that it activates the part of the nervous system involved in fight-or-flight responses. Therefore, Adderall tends to increase heart rate, systolic blood pressure and other cardiovascular parameters (like heart contractility).

Psychostimulants like Adderall can cause a headache by inducing systolic hypertension (adolescents 7% to 35%; dose related; transient).

**#2 Cerebral Vasoconstriction**

Another cause of amphetamine-related headaches is cerebral vasoconstriction. Since Adderall elicits the release of the neurotransmitter norepinephrine, it tends to cause vasoconstriction (narrowing of blood vessels). Cerebral vasoconstriction (narrowing of blood vessels in the brain) may cause a headache. Paradoxically, some types of headaches like migraines are actually relieved by cerebral vasoconstriction. For this reason, caffeine is an ingredient in many over-the-counter headache medications.

**#3 Electrolyte Disturbances & Pseudotumor Cerebri**

Chronic Adderall use can result in clinically significant electrolyte disturbances. Amphetamines, as well as other psychostimulants, are potent diuretics. Adderall may deplete certain solutes, including magnesium, sodium and potassium. Hyponatremia (low sodium) or hypokalemia (low potassium) can cause headaches by disrupting the osmotic balance in the brain. When extracellular sodium concentrations fall, water diffuses into neurons (brain cells), causing them to swell. This may cause total brain volume to temporarily increase and increase pressure in the cranial vault, resulting pseudotumor cerebri.

**#4 Magnesium/Electrolyte Deficiency**

Adderall’s diuretic activity can result in excretion of magnesium. Under physiologic conditions, the divalent cation magnesium occludes the pore of the N-methyl-D-Aspartate Receptor.
Phenibut is available from BlueBrainBoost.

(NMDAR), preventing calcium influx unless a depolarization event pushes the ion away from the channel. Hence, magnesium behaves like a weak endogenous NMDAR antagonist and has been administered intravenously in emergency situation to help protect the brain against injury. Therefore, magnesium may help dampen excessive neural activity, relieve anxiety and reduce the frequency and severity of headaches.

Magnesium threonate can be very cost-effectively obtained from PowderCity.

#5 Rebound Headaches

Certain kinds of headaches are actually relieved by vasoconstriction (narrowing of blood vessels), and exacerbated by vasodilation. Recall that Adderall tends to induce vasoconstriction via activation of the sympathetic nervous system.

This is called the “extracranial vascular theory of migraine.” Vasodilation outside the intracranial vasculature, in particular the extracranial terminal branches of the external carotid artery are significant sources of pain in migraine [1].

After using Adderall (e.g., during inter-dose withdrawal), the circulatory system may overcompensate causing blood vessels to dilate which may contribute to headache pain.

#6 Stress & Neck Tension

Neck tension and stress are thought to be contributory to headaches. Adderall enhances focus by augmenting the activity of dopamine and norepinephrine in the brain. Dopamine is also involved in the regulation of movement and muscle activity. Hence, excessive dopaminergic signaling may increase muscle rigidity, which can cause tension in your neck and shoulders, giving you a headache.

Supplements that seem to alleviate amphetamine-related head pain:

(These suggestions are anecdotal, and not necessarily evidence-based.)

- L-theanine – promotes a subtle sense of relaxation
- Rhodiola Rosea – reverses the negative effects of chronic stress
- Ashwagandha – adaptogenic herb that works similarly to Rhodiola Rosea
- Cacao – dilates blood vessels and protects the brain from insult and injury
- Melatonin – works at night by dampening the effect of catecholamines
- Vitamin C – may help promote the clearance of Adderall
- Phenibut – this is not the best strategy long-term, but it works

Treating Adderall-Related Headaches

What treatment modalities are available to treat Adderall headaches? Consider the following lifestyle recommendations:

- Learn how to better cope with the amphetamine crash; this can indirectly relieve headaches.
- Practice relaxing your posture and reducing neck strain since Adderall may cause muscular rigidity.
• Replenish electrolytes with Gatorade or another beverage that is isotonic to blood.
• Manage Adderall associated hypertension. Limiting intake of sodium, alcohol, cholesterol, and trans-fats, supplementing potassium, and preparing food yourself are a few ways to help alleviate hypertension. Niacin (vitamin B3) also dilates blood vessels and may reduce hypertension.
• Take breaks, maintain good sleep hygiene and exercise several times a week.
• Quit smoking and restrict caffeine intake. Co-administration of psychostimulants (e.g., caffeine + Adderall) will exacerbate side effects like headache.
• Practice relaxation techniques, which can relieve muscle tension, a cause of Adderall headaches. These may include meditation, progressive muscle relaxation, self-hypnosis and biofeedback.

**When Lifestyle Changes Don’t Cut It: Prescription Medications**

The medication with the most favorable cost-benefit ratio for the treatment of Adderall headaches is the beta-blocker propranolol. Propranolol blocks beta-adrenergic receptors, which can relieve Adderall-induced hypertension and promotes pain relief. Propranolol is an especially good choice because beta receptor blockade offsets many of the deleterious effects of Adderall on the cardiovascular system.

**Other Medications That Relieve Headaches**

• Quell pain with **non-steroidal anti-inflammatory drugs** (NSAIDs), including aspirin, acetaminophen, or ibuprofen. Tentative evidence suggests that NSAIDs may specifically protect the brain from the potentially toxic effects of Adderall.
• **Excedrin** (acetaminophen-aspirin-caffeine) is used as an abortive treatment for headaches, but exercise caution because caffeine is a psychostimulant and can exacerbate the adverse effects of Adderall.
• **Antidepressants**, including tricyclics (TCAs) and selective serotonin re-uptake inhibitors (SSRIs) are used to prevent frequent tension-type headaches. Significant interactions exist between Adderall and antidepressants, however, so tread carefully.
• Inhalation of 100% oxygen through a face mask (effective for cluster headaches).
• **Triptans**, calcium channel blockers and glucocorticoids (Prednisone) are effective preventive therapies, though they may be contraindicated by Adderall use.
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