The Relationship Between Caffeine and Migraines

by ANGELA FINLAY

Caffeine and Migraines

Many migraine sufferers swear that a big cup of coffee can overcome the terrible throbbing, stabbing, aching pain of a migraine attack, and as it turns out, science can back them up. In fact, caffeine factors into a number of leading headache pain relievers (Midol, Anacin, and Excedrin, among others), and although it's long been suspected that caffeine can help the body absorb certain compounds, it also seems to have an analgesic effect itself – when used carefully.

How Caffeine and Migraines are Linked

Caffeine and migraines have a particularly strange relationship: sometimes it relieves, and sometimes it exacerbates the pain. The good news is that caffeine definitely has the potential to relieve pain, and although the intricate chemical interactions are still a mystery, experts know that it works on the brain in two notable ways.

- **Adenosine**: caffeine interferes with a naturally-occurring chemical in your brain called adenosine, which is responsible for electrical activity, dilating blood vessels, and some aspects of sleep. During migraine headaches, the level of adenosine in your blood increases, and studies have found that this chemical can even trigger migraine attacks. Caffeine can block the effects of adenosine on brain cells, which limits the painful interaction.
- **Contraction of blood vessels**: the therapeutic effects of caffeine are connected to the brain's vascular network. By constricting the blood vessels, caffeine can limit the pressure and pain of a headache. But the body will adjust to this new state, so if you suddenly stop using caffeine, your blood vessels dilate too much and the rush of blood through the brain will cause a headache.
  The right balance of caffeine will make all the difference in your migraine treatment. For instance, caffeine can increase the efficacy of pain relievers by up to 40%, and it helps the body absorb these drugs more quickly for faster relief. However, caffeine is an addictive drug, and caffeine withdrawal is a very common source of headaches, especially when you've been using it for a long time. An overload of caffeine from pain relievers can lead to "rebound headaches", where the medication itself is responsible for continuing headaches, so more pain relief is taken, resulting in an agonising cycle.

How Much is Too Much?

Caffeine is a tricky drug to use to your advantage, partly because it has some serious downsides, and partly due to the unpredictable effects. Sure, you can count on a burst of energy and a feeling of well-being, but caffeine is more powerful than many people suspect, and you can wind up struggling with new health issues. The key is to determine your personal threshold, and manage your intake according to your body's response to the stimulant.

Next page: healthy sources of caffeine.

How Much is Too Much?

- **Amount**. Individual tolerance will range, but most people can consume up to 300 mg each day without adverse effects. However, the “standard” serving size of a cup of coffee can vary quite a lot, and the type or style of coffee makes a big difference when it comes to caffeine dosage. Also, keep in mind than even 100 mg of caffeine a day can foster dependence in some people.
- **Frequency.** Many headache experts warn against using painkillers containing caffeine more than twice a week – any more frequently, and your risk of dependency and rebound headaches increases quite a lot. In fact, patients with a high daily caffeine intake should consider tapering off, then eliminating caffeine entirely for several months, in order to break the cycle of migraines and rebound headaches. Although there are general guidelines for caffeine consumption, people tend to respond individually to the effects. For instance, one person may enjoy five cups of coffee a day without rebound headaches or anxiety, while someone else may develop withdrawal symptoms and migraine pain after giving up their one daily cup. If you’re sensitive to caffeine overload but aren’t ready to cut it out completely, it may be wise to use lower-dose sources of caffeine, or slip a little bit into your regular diet rather than supplement with stronger amounts at one time.

Healthy Sources of Caffeine

If you and your doctor have decided to include some caffeine in your migraine management plan, think about where you might find it. Pain relievers that include caffeine are naturally appealing, but there are other healthy ways to incorporate caffeine and enjoy some extra nutrition. Be cautious about combining too many sources – especially if you use caffeinated pain relievers – but consider the extra benefits of these natural foods:

- **Dark chocolate**. Cocoa is a natural source of caffeine, but it also has a surprising amount of fiber and antioxidants. In fact, recent research has shown that certain microbes living in your digestive tract use the cocoa compounds to produce anti-inflammatory effects and improve vascular function. Stick with dark chocolate (70% cocoa solids or higher) for the most benefit.
- **Green tea.** With less caffeine and more protective compounds than a cup of coffee, a mug of green tea can be a better way to enjoy an energizing, migraine-relieving boost. Antioxidants known as catechins have strong antiviral and antibacterial properties that will protect against chronic disease, and kill off everyday bugs to keep you feeling good through cold and flu season.
- **Yerba mate.** A popular concoction in South America (and increasingly popular in North America), yerba mate is similar to a steeped herbal tea. Some find that it not only energizes, but also battles depressive symptoms and helps with weight loss. Experts warn that some compounds found in yerba mate may be carcinogenic, so it’s important to enjoy this herbal drink in moderation.

Energizing Alternatives to Caffeine

Occasional caffeine use tends to bring migraine sufferers the greatest benefit with the least chance of side effects, so it’s a better choice for those who struggle with the occasional migraine. If you suffer from frequent headaches, caffeine therapy shouldn’t be your first line of defense. If you need a boost, you can enjoy the stimulating, mood-lifting attributes of natural energizers without worrying about dependence or rebound headaches.

Exercise is one of the best ways to improve mood and energy, and studies show that certain colors of light can stimulate your energy stores as well (red offers an edgy alertness, while blue tends to foster a calm alertness). Learning something new, enjoying regular therapeutic massage, and listening to uplifting music are other excellent ways to stay focused, engaged and strong-willed as you treat your migraine pain without the help of caffeine.