

## **Diet and Migraine**

The links between diet and migraine don't appear to be very subtle for most people; they quickly identify if there are any dietary triggers and avoid them. Beyond that detailed dietary manipulation isn't usually helpful but is worth thinking about in some situations.

Diet and migraine are linked in several ways:

- General day to day migraine triggers
- Specific foods, beverages and additives that may trigger (or less commonly stop) a migraine
- Diets that have been tested to see if they can lead to a reduction in migraine

### **Day to day migraine triggers**

Missing meals can contribute to a migraine attack and insufficient food is probably one of the most important dietary triggers. Similarly eating sugary snacks (rather than more nutritious ones) may contribute: as the sudden rush of sugar goes up and then falls this can be a trigger.

Not drinking enough water is a well-known trigger and is definitely true. You should aim for 2 litres (8 glasses) a day.

A high consumption of daily caffeine (more than 4 or 5 cups a day) can be a risk factor for some people.

### **Specific foods and ingredients as triggers**

About a quarter of people report that foods trigger attacks of migraine. It can be difficult to know as one of the prodromal symptoms (symptoms that come on before an attack) is food craving; for example you have a strong desire for chocolate, so have some, and then get a migraine ; but it was the migraine already starting.

The most common triggers are chocolate, nuts, cheese, milk, citrus fruits, tomatoes and salami; and drinking wise coffee and alcohol.

The most common ingredient triggers appear to be caffeine (coffee, tea, green tea, fizzy drinks), monosodium glutamate (MSG), artificial sweeteners (aspartame - again in fizzy drinks especially), nitrites, gluten and biogenic amines (eg histamine, tryamine – see diets).

Caffeine is complicated. There is evidence that drinking high levels of caffeine (as above) can make someone more likely to get a migraine. Gradually weaning down caffeine to nothing can reduce migraine (in one study of adolescents 92% became headache free). However sudden stopping of caffeine in someone who drinks regularly can trigger a migraine (usually within a couple of days). And a percentage of people find caffeine can abort a migraine!

Nitrites are the preservatives found in processed meats – bacon, sausage, ham and lunch meats; it is perhaps a less common trigger now as the amount in food has been reduced.

Gluten is possibly a trigger for some people but seems to be most likely in the context of definite gluten-related disorders like coeliac disease. There isn't evidence to suggest people try a low gluten diet who don't have coeliac disease.

Some trials have looked at identifying antibody responses to certain foods and then cutting those out; this does seem to have a modest preventative benefit but hasn't become part of routine practice.

### **Diets and Migraine**

In a nutshell, there isn't enough evidence to suggest a specific diet to reduce migraine; but if someone is wanting to diet for other reasons it may be worth tailoring that to some of the evidence.

A natural progression from the triggers discussed above is an elimination diet, cutting out those possible triggers. As well as those above, one small study showed a reduction in migraine on a reduced histamine diet (and other biogenic amines). Similarly one small study has looked at reducing tryptophan with possible improvement.

There is scant evidence that vitamin D supplementation improves migraine. For other supplements eg vitamin B2 please see information sheet on alternative medicines.

One study looked at a low fat diet, restricting to less than 20% of total calorie intake; which helped a little. Other studies have looked at the balance of high Omega-3 and low Omega-6 fatty acids

The diet with perhaps the most evidence is the ketogenic diet. This is a very low carbohydrate diet that has been used in epilepsy and the first trials for migraine were nearly 100 years ago. In the 1930s one study showed 78% of people had improvement; two other studies have compared ketogenic diet to other diets and have shown improvement. So there is some evidence to support the use of this in someone who wants to diet.

There is a surprising lack of trials looking at weight loss and migraine. It is known that migraine can be associated with being overweight so it would make sense. Exercise also is beneficial. One clear study showed a reduction in migraine in children who were overweight so definitely worth thinking of then.