

Does bread cause bloating?



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Background

- It seems a common perception that bread causes bloating.
- Reports in the media have suggested bread is associated with bloating.
- Some claimed that the Chorleywood Bread Process could be to blame for this.



Review of the evidence

- Does bread cause bloating?
- Is there evidence that bread made with the Chorleywood Bread Process (CBP) is linked with gastrointestinal symptoms?



What is bloating?

- It is often assumed that bloating is simply caused by excess amounts of gas.
- Studies have shown that people who feel bloated do NOT generally produce more gas than people without symptoms.
- People who feel bloated may have a gut that is more sensitive to distension.
- Gas may not pass as easily or gas passage may be inhibited voluntarily.
- Feeling bloated can also be due to constipation/slow transit.



Modern vs. traditional bread making

- No published studies investigating whether the use of the CBP affects gastrointestinal health in a different way than bread made using more traditional methods.
- This means that claims made blaming modern bread making for bloating are not supported by published evidence.



Coeliac disease – a possible explanation?

- It has been suggested some may suffer from coeliac disease without knowing it, but not all experts agree.
- Some studies suggest that when using sourdough to make bread some of the gluten is broken down.
- Therefore, it has been suggested bread made with sourdough may cause less symptoms in coeliac patients.
- However, experts warn that levels of gluten remain too high for bread to be appropriate for coeliac sufferers.



Wheat allergy

- Many people believe they are allergic to wheat.
- As with other forms of allergy, the proportion of people who believe they are allergic to wheat is clearly higher (up to 10fold) than the actual prevalence.
- A recent report* estimated the prevalence rates to be around 0.1-0.4% in children. No data available for adults.

**Mackenzie H and Venter C (2010) NABIM Wheat allergy and intolerance report. University of Portsmouth. Unpublished.*



Wheat allergy

- If an allergy is suspected standardised tests should be used for diagnosis.
- Unnecessary wheat avoidance may lead to inadequate intakes of key nutrients and fibre.



Does bread cause bloating in healthy people?

- No studies were identified that specifically looked at whether bread causes bloating in healthy people.
- The most likely bread component to be linked to flatulence is dietary fibre.
- Some bread varieties can provide substantial amounts of fibre.
- In the UK diet, on average, bread provides a fifth of total dietary fibre intake.



Could dietary fibre be linked to feeling bloated?

- Dietary fibre cannot be digested in the small intestine and passes into the large intestine (colon).
- Some fibre is fermented by gut bacteria and this produces gas.
- The amount of gas produced depends on the type and amount of fibre, but also on our gut flora.



Could dietary fibre be linked to feeling bloated?

- People with low fibre intakes who suddenly increase their fibre intake (e.g. by eating bread) can experience symptoms associated with bloating.
- In most cases, the gut adapts to increased fibre intake and any symptoms usually normalise.
- Sufficient water intake and regular physical activity help avoid such symptoms.



Dietary fibre - important for a healthy gut

- Some types of fibre act as fuel for gut bacteria and are therefore important for a healthy gut flora.
- Some types of fibre bind water and bulk up faecal mass, which speeds up intestinal transit.
- People with low intakes of fibre can suffer from constipation, which can make them feel bloated.



Dietary fibre - important for a healthy gut

- Most of us eat too little fibre and therefore it is not advisable to cut out fibre rich foods.
- These include starchy carbohydrate foods such as bread, cereals, pasta (particularly wholemeal/wholegrain varieties), fruit and vegetables.



IBS sufferers – an exception when it comes to fibre

- Although most people would benefit from increased fibre intakes, for some irritable bowel syndrome (IBS) sufferers reducing fibre intake (in particular bran fibre) can help relieve gastrointestinal symptoms.
- In this case wholemeal/wholegrain products should be avoided and white bread or other white cereal based products should be eaten instead.



Could the yeast in bread make us feel bloated?

- It has been suggested that because more yeast is added to the dough in the initial step of the CBP this could lead to gastrointestinal symptoms.
- Yeast multiplies during fermentation. Fermentation time in CBP is much shorter so yeast has less time to multiply.
- All the yeast is killed during baking.
- No published evidence was found that yeast is associated with bloating.



Is modern bread less nutritious?

- Bread made with the CBP is not less nutritious than bread made with more traditional bread making processes.
- The type of flour used (white or wholemeal) and the addition of nutrients to restore those lost during milling have the most significant impact on nutrient content.



Contribution of bread to nutrient intake in the UK diet

Nutrient	Contribution to total intake
Thiamin	14%
Niacin	11%
Folate	11%
Iron	15%
Calcium	19%
Magnesium	13%
Zinc	11%
Copper	14%
Manganese	26%

Nutrients where there is evidence of low intakes and/or status in the UK population

National Diet and Nutrition Survey 2000/2001

Summary

- For the average healthy consumer, there is no evidence that regular consumption of bread, produced by modern or traditional methods, causes bloating.
- No evidence to support claims that modern bread making has a different effect on gastrointestinal system compared to more traditional methods.
- Dietary fibre is important for gut health and cutting out fibre may negatively affect gut health.
- Bread provides many other nutrients that are important for health.



For more information

- The paper is available **for free** at <http://onlinelibrary.wiley.com>
- For more information on healthy eating visit www.nutrition.org.uk.
- Make use of the BNF's **free media service** by calling 02074046504 or send an email to postbox@nutrition.org.uk.

