6 Lactose intolerance

The role of laboratory tests in diagnosing lactose intolerance is limited. The diagnosis can usually be made on clinical grounds and by trial of a lactose-free diet (see over page).

A laboratory diagnosis is not generally helpful as results do not always correlate with clinical symptoms. Approximately 10–30% of proven lactose intolerant subjects (i.e. people who lack normal lactase levels) report no symptoms with lactose challenges, while over half of patients who report symptoms of lactose intolerance, actually have normal intestinal lactase levels.[1]

In addition, the amount of lactose ingested and the combination of other foods influences whether symptoms may occur, e.g. ice cream is generally better tolerated because the increased fat content delays gastric emptying.[2]

A number of laboratory investigations are available[1,3] but these are most often reserved for use in secondary care.

Recommended initial tests	
Trial of lactose-free diet/ reintroduction of lactose	✓
Small bowel disaccaridases	✗
Lactose tolerance test	✗
Hydrogen breath test	✗
Faecal pH test	✗
Faecal reducing substances	✗

Small bowel disaccharidase testing

- Remains a very good test for lactose intolerance, but is an invasive test that requires small bowel biopsy
- Cannot differentiate between primary and secondary lactase deficiency

Lactose tolerance test

- Rarely performed due to poor sensitivity (about 75%)
- Causes unpleasant symptoms such as diarrhoea and abdominal pain

Hydrogen breath test

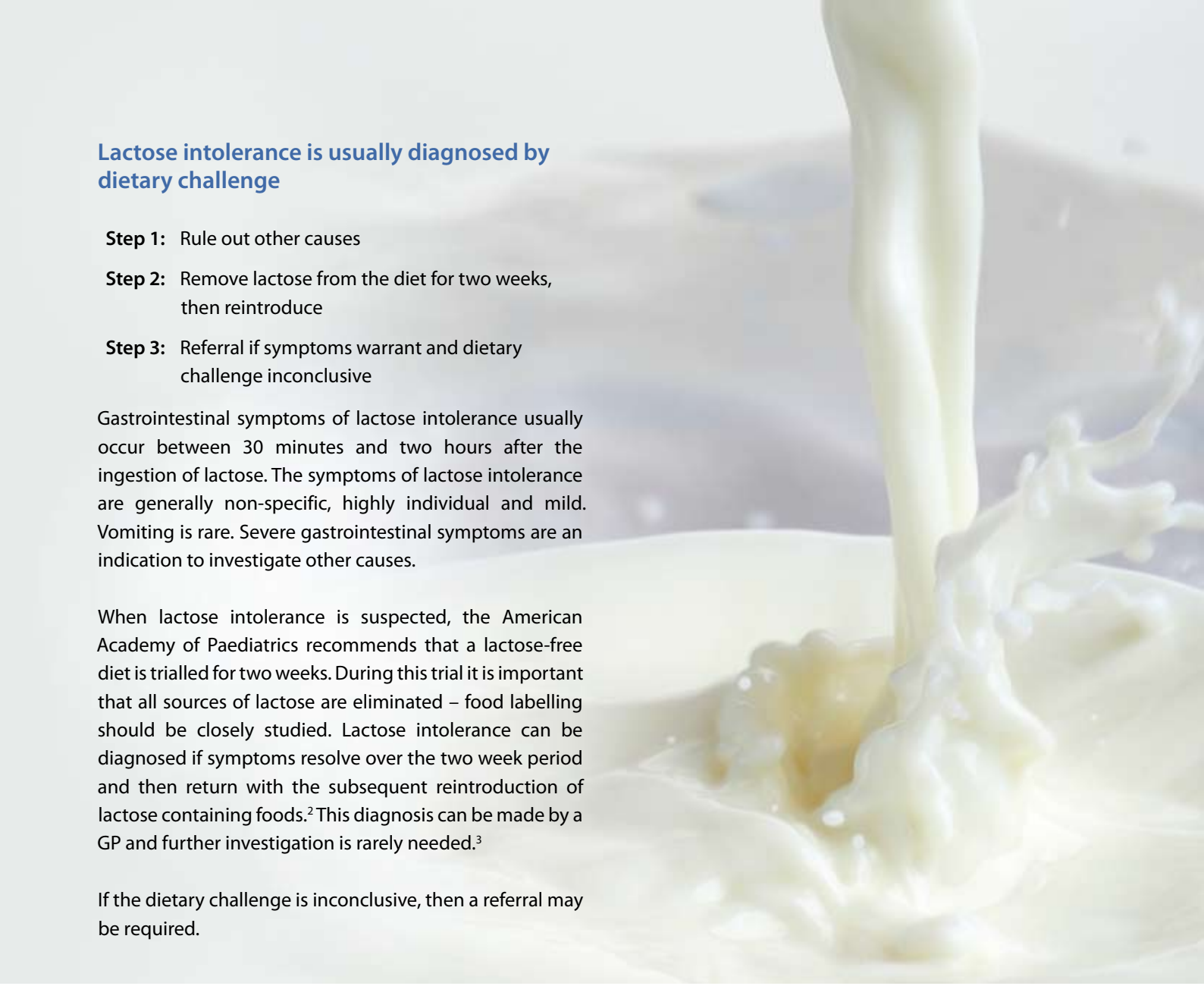
- An alternative to the lactose tolerance test where breath samples rather than blood samples are analysed
- Not widely available
- Preferable to lactose tolerance tests in children

Faecal pH test

- Limited value and no longer recommended

Faecal reducing substances

- Unreliable and not recommended
- False positives can occur following antibiotic therapy or in any condition in which the gut transit time is more rapid than usual. False negatives can also occur e.g. if the offending sugar has not been ingested recently.[3]



Lactose intolerance is usually diagnosed by dietary challenge

Step 1: Rule out other causes

Step 2: Remove lactose from the diet for two weeks, then reintroduce

Step 3: Referral if symptoms warrant and dietary challenge inconclusive

Gastrointestinal symptoms of lactose intolerance usually occur between 30 minutes and two hours after the ingestion of lactose. The symptoms of lactose intolerance are generally non-specific, highly individual and mild. Vomiting is rare. Severe gastrointestinal symptoms are an indication to investigate other causes.

When lactose intolerance is suspected, the American Academy of Paediatrics recommends that a lactose-free diet is trialled for two weeks. During this trial it is important that all sources of lactose are eliminated – food labelling should be closely studied. Lactose intolerance can be diagnosed if symptoms resolve over the two week period and then return with the subsequent reintroduction of lactose containing foods.[2] This diagnosis can be made by a GP and further investigation is rarely needed.[3]

If the dietary challenge is inconclusive, then a referral may be required.

References

1. DML – Diagnostic Medlab: A handbook for the interpretation of laboratory tests, 4th edition, 2008.
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4. Sahi T. Genetics and epidemiology of adult-type hypoplactasia. Scand J Gastroenterol Suppl 1994;202:7-20.
5. Bhatnager S, Aggarwal R. Lactose intolerance. BMJ 2007;334(7608):1331-2.