



November 2006

Submission from the Dietitians Association of Australia Application 577 Addition of Calcium to 'Sugar-Free' Chewing Gum

The Dietitians Association of Australia (DAA) supports FSANZ's Option 2 – *Amend Standard 1.3.2 to permit the addition of calcium to 'sugar-free' chewing gum at a maximum claim level of 100 mg per reference quantity*. However, the DAA does not support the use of any claims for a source of calcium in this product.

The Dietitians Association of Australia's support for Option 2 to allow voluntary supplementation of sugar free gum is based on the improved dental health proposition not on calcium supplemented sugar free chewing gum making a significant nutritional contribution to calcium intake in the Australian population. Calcium is only one of several nutrients required for strong healthy bones throughout life. The serving size proposed by the applicant of five individual pellets of chewing gum is unrealistic and would not constitute a single serve by most reasonable people. The DAA notes that the applicant uses a one pellet serve in all other nutrition information and this significant variation from the previously suggested serving size appears to be based solely on making a source of calcium claim. A claim based on a serve size of 5 pellets is also potentially misleading to consumers who do not note the number of pellets that need to be consumed to achieve the amount of calcium required to support a source of calcium claim.

There is reasonable evidence to support the role of sugar free gum in improving dental hygiene and when consumed after meals by increasing saliva flow and reducing the risk of dental caries. There is also evidence to support the role of calcium in gum promoting remineralisation of teeth post eating. This role in promoting improved dental health is supported.

There is insufficient evidence to support the role of calcium supplemented sugar free gum in improving nutritional status, specifically increasing the dietary calcium intake of Australians for several reasons:

1. The suggested serve size of five pellets is unrealistic.
2. The sweetening agents used in these sugar free gums may have adverse gastrointestinal side effects when consumed in large quantities
3. There is no information provided on the degree of absorption of calcium from supplemented gum.
4. Calcium supplemented gum may cause some consumers to believe that they can replace food sources of calcium.

The applicant claims that 'sugar free' chewing gum cannot be listed as a Therapeutic Good. The applicant is able to apply for a Section 7 variation and DAA considers that this may be a more appropriate for calcium supplemented 'sugar free' chewing gum as the proposed

product contains no other nutrient and such a product is closer to vitamin-mineral supplement. (<http://www.tga.gov.au/docs/html/cmec/section7.htm>)

Key Risk Assessment Questions

The key risk assessment questions at Initial Assessment are:

- **What is the nutritional and/or health benefit of permitting the addition of calcium to 'sugar-free' chewing gum?**
DAA supports the dental health benefit of increased oral calcium and the improved integrity of teeth. The evidence for a nutritional benefit in this application is insufficient.
- **What is the bioavailability of calcium in a 'sugar-free' chewing gum product that contains added calcium?**
DAA requires more information on the bioavailability of calcium from sugar free gum to support any nutritional benefit.
- **What are the public health and safety risks to consumers of calcium-fortified 'sugar free' chewing gum?**
DAA is concerned that consumers may be misled that calcium supplemented chewing gum will make a significant contribution to their daily calcium requirement. If eaten in large amounts sugar free gum can produce adverse gastrointestinal symptoms.

DAA Responses to Initial Assessment Questions for Public Comment

1. **What proportion of calcium from calcium-fortified 'sugar-free' chewing gum is swallowed and reaches the gut?**
This question refers to the possibility of making a source claim for calcium. At the current suggested level and the normal portion size of one pellet, this is irrelevant.
2. **What proportion of the calcium in fortified 'sugar-free' chewing gum is left in the spent (unswallowed) chewing gum?**
3. **What is the evidence for bioavailability of various permitted forms of calcium ingested from calcium-fortified 'sugar-free' chewing gum?**
This question refers to the possibility of making a source claim for calcium. At the current suggested level and the normal portion size of one pellet, this is irrelevant.
4. **What proportion of the calcium in fortified 'sugar-free' chewing gum would potentially be utilised in the remineralisation of teeth compared to what is swallowed?**
Evidence has been provided to partly support this claim; additional evidence would strengthen the claim.
5. **At what stage of tooth decay (i.e. small cavity or progressed cavity) would calcium fortified 'sugar-free' chewing gum provides a protective effect?**
This would provide useful additional support, but is not necessary to support the claim of some dental health benefit.
6. **What forms of calcium permitted in Standard 1.1.1 are likely to have an effect on tooth remineralisation?**
Evidence has been provided to partly support this claim; additional evidence would strengthen the claim.
7. **What forms of calcium are technically able to be added to 'sugar-free' chewing gum?**

- 8. Is calcium-fortified ‘sugar-free’ chewing gum likely to be used as a replacement for other calcium rich foods, or as an additional food in the diet?**
This would be useful to investigate further. If source claims are allowed for calcium fortified chewing gum, consumers may believe that calcium supplemented gum could make a significant contribution to daily calcium intake and the DAA believes that this is unlikely.
- 9. Is ‘sugar-free’ chewing gum an appropriate food for the voluntarily addition of calcium?**
There may be a dental healthy role for calcium supplemented chewing gum, but the role as a dietary source of calcium is limited. Sugar free gum does not contain other essential nutrients. Calcium is only one of several nutrients required for strong healthy bones throughout life.
- 10. Is there any further evidence to support the Applicant’s consumer research as to the likely impact of ‘sugar-free’ chewing gum on consumption patterns?**
- 11. Who is the likely target group(s) for calcium-fortified ‘sugar-free’ chewing gum?**
It appears that the target groups are current consumers of sugar free gum who are concerned with dental health. A secondary group may be those who are concerned about their calcium intake and who believe that they are not consuming sufficient calcium.
- 12. Are consumers likely to be misled as to the nutritional quality of the calcium-fortified ‘sugar-free’ chewing gum? If so, what evidence supports this?**
There is a risk that consumers will be misled as to the nutritional quality of calcium-fortified ‘sugar-free’ chewing gum. The quantity of gum required to consume approximately 10% of the RDI for calcium is 5 pieces. As the bioavailability of the calcium in this gum is unknown it is also unknown what real difference consuming such gum would make to calcium metabolism and balance let alone bone health.
- 13. What is the likely impact on consumers, industry and government if the status quo was maintained?**
There may be a marginally reduced dental health role from sugar-free chewing gum without calcium fortification. As the biologically available calcium from an average consumption of calcium fortified sugar-free chewing gum is unknown it is impossible to quantify a nutritional impact by maintaining the status quo.
- 14. What is the likely impact on consumers, industry and government if ‘sugar-free’ chewing gum was permitted to contain calcium?**
The dental health benefits may over time lead to a reduction in dental caries and demand on dental health services for treatment of dental caries. This would be of benefit for consumers and government. The amount of this benefit is difficult to predict. The evidence supporting nutritional benefits for fortifying ‘sugar-free’ chewing gum with calcium are unknown as the potential benefit is unproven. Industry may increase the ‘sugar-free’ chewing gum market by the introduction of a calcium fortified product.