Infographic. Nutrition and oral health in sport: time for action

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Infographic. Nutrition and oral health in sport: time for action

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Our recent BJSM editorial stressed that it is ‘time for action’ regarding sports nutrition oral health.1 Oral health is poor in elite athletes and is consistently associated with performance impacts as we have shown across studies involving more than 800 athletes.2–4 This situation exists despite poor oral health being preventable with well-evidenced effective, low-cost measures.5–7

Infographics

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Figure 1

NUTRITION AND ORAL HEALTH IN SPORT

TIME FOR ACTION

What is the Problem?

Athletes are at increased risk of poor oral health due to:

- Saliva production during exercise
- Carbohydrate intake via nutritional supplements
- Dehydration
- Impaired immune system function with high training load and other stressors

Oral Health of Elite Olympic & Professional Athletes*

- Any impact on sport performance (22%)
- Oral pain (20.1%)
- Difficulty in training/competition (11%)
- Performance affected (9.9%)
- Reduced training volume (8.1%)
- Difficulty eating (5.4%)
- Difficulty relaxing (4.6%)
- Difficulty sleeping (3.3%)

Seven Key Recommendations for Action

1. Avoid supplements not benefiting training, competition or recovery
2. Decrease intake of supplements containing sugars
3. Work with sports nutrition to identify alternatives
4. Drink water before exercise
5. Fluoride toothpaste at least 1300ppm (<1600ppm if available)
6. Modifying the oral environment
   a) Day – Last thing at night and one other occasion
   b) Spurt out after brushing; DO NOT rinse
7. Optimise oral hygiene
   a) Visit dentist for personalised technique coaching
   b) Inter-dental cleaning (brush/tape) prior to brushing
8. Dental check-ups 12 per year
9. Optimise implementation research
   a) Behavioural change science targeted to the elite sporting environment
10. Watch out for early signs of disordered eating
11. Apply simple risk mitigation strategies


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strategies. Since solutions are readily available why does this situation persist and what can be done to benefit athlete performance and health?

Nutrition is a major determinant of oral health and may be both protective and damaging. Sport nutrition is critical in supporting training, competition and recovery. However, in elite sport the balance might favour damage to oral health despite the fact that risk mitigation can be successful. Frequency and pattern of use of sugar and acidic intakes can cause irreversible damage from caries and erosive tooth wear. Sugars may promote a proinflammatory response, favouring the development of gum diseases. These conditions have consequences for the athlete including impacts on performance. The protection from saliva will be reduced by mouth drying and intermittent reductions in salivary IgA following intensive training. Other factors that undermine oral health in elite sport include unfavourable oral health behaviours, beliefs, health literacy and barriers to accessing oral healthcare at individual, team and policy levels. Recognition of these issues and potential solutions is low: oral health is not part of most sport and exercise curricula or integrated within athlete health strategies.

We wrote the editorial as a common voice across sport and exercise nutrition, sport sciences, performance nutrition, disordered eating and oral health following a symposium which brought these areas together for the first time. We hope that the resulting infographic will help inform simple strategies to maintain or improve oral health in sport and urge readers to share it widely among athletes, professionals in sport and exercise sciences and nutrition, industry and policy-makers.

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