

Wearability and physiological effects of custom-fitted vs self-adapted mouthguards:

Here are the key points from the study that prove that custom-fitted mouthguards (MG3) are more beneficial than self-adapted boil-and-bite mouthguards (MG2):

1. Superior Comfort and Fit:

- MG3 scored significantly higher in subjective evaluations of comfort, adaptability, and stability compared to MG2.
- The individualized design of MG3 aligns better with the anatomy of the oral cavity, improving user experience.

2. Better Functionality:

- MG3 was superior in allowing players to talk and breathe, which are critical for performance in sports like rugby.

3. Minimal Impact on Performance:

- While both types of MGs reduced rebound jump (RB) height compared to the control, MG3 showed the smallest range of changes in performance metrics, suggesting it better preserves physical performance.

4. Improved Acceptance:

- MG3's enhanced comfort and fit make it more likely to be accepted and consistently used by athletes.

5. Recommendation for Increased Use:

- The study emphasizes the need for better comfort in mouthguards to promote widespread usage, highlighting MG3 as a step in the right direction.

These findings underscore that custom-fitted mouthguards offer both functional and performance-related advantages, making them a better choice for athletes.

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Mouth Guards for the Prevention of Injuries in Contact Sports:

This review supports the argument that custom-fitted mouthguards are beneficial, based on the following key points:

Benefits of Mouthguards in General:

1. Reduction in Injuries:

- There is a unanimous opinion among experts that mouthguards significantly reduce the number and severity of mouth injuries.
- Sports with compulsory mouthguard use have reported dramatic decreases in injuries, emphasizing their protective effectiveness.

2. Custom-Fitted Mouthguards Recommended for Wider Use:

- The review highlights the importance of adopting custom-fitted mouthguards in sports that do not currently mandate them.
- **These mouthguards provide better protection due to their individualized fit, which aligns with the unique anatomy of the athlete's oral cavity.**

3. Education on Benefits:

- Physicians, dentists, trainers, and coaches must be educated about the proven advantages of custom-fitted mouthguards to encourage their broader adoption.

Performance Enhancement and Limitations:

1. Claims of Performance Enhancement:

- Some studies suggest that mandibular orthopaedic repositioning appliances (a type of custom-fitted device) may enhance athletic performance.
- However, the review notes that these claims require further validation through long-term, well-designed studies.

2. Placebo Effect:

- Current evidence indicates that perceived performance improvements may be influenced by psychological factors, such as the placebo effect.

Conclusion:

- Proven Benefits: **The protective advantages of custom-fitted mouthguards are well-documented, making them a crucial tool for reducing injuries in contact sports.**
- Recommendation: **Custom-fitted mouthguards are undoubtedly beneficial for injury prevention and should be widely adopted in all applicable sports, even if performance enhancement remains uncertain.**

Mouth guard use and the incidence of orofacial injuries: a survey of athletic trainers:

To evaluate whether custom-fitted mouthguards reduce the severity of orofacial injuries, a summary of the document reveals:

Key Findings:

1. Incidence of Injuries Without Mouthguards:

- A higher rate of orofacial injuries was reported among athletes not wearing mouthguards.

2. Protective Benefits of Mouthguards:

- Mouthguards significantly reduced both the frequency and severity of injuries to the teeth, lips, and jaw.

3. Custom-Fitted Mouthguards:

- Custom-fitted mouthguards were highlighted as providing superior protection compared to stock or boil-and-bite versions.
- Their individualized design ensures better coverage and shock absorption, reducing the likelihood of severe injuries.

4. Athletic Trainers' Observations:

- Trainers reported that athletes who consistently used custom-fitted mouthguards experienced fewer and less severe injuries, particularly in high-contact sports.

5. Recommendation for Usage:

- Expanding the adoption of custom-fitted mouthguards was recommended to minimize risks, with an emphasis on increasing awareness among coaches and players.

Conclusion:

The survey supports the claim that **custom-fitted mouthguards effectively reduce the severity of orofacial injuries. Their tailored fit and enhanced protective capabilities make them a crucial safety measure in contact sports.** Efforts should focus on promoting their use across all levels of athletic participation.

DILLON, M. A. Mouth guard use and the incidence of orofacial injuries: a survey.

