

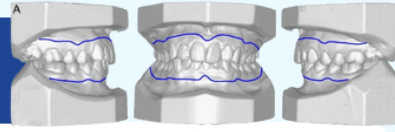
EFFECT OF MOUTHGUARD ON TOOTH HYPERSENSITIVITY AND SWIMMING PERFORMANCE



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Background



Mouthguard is recommended for the prevention of dental erosion associated with chlorinated water in swimming pools, occurring frequently in competitive swimmers. However, there is little information regarding the impact of swimming mouthguards.



Objective

To investigate the effect of mouthguard on tooth hypersensitivity and swimming performance.

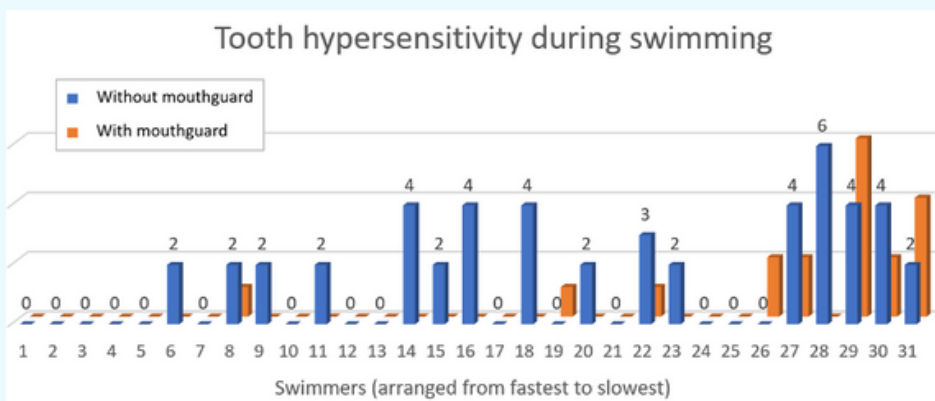
Methodology



Thirty-one competitive swimmers from a local swimming club in Pathum Thani were asked to swim two rounds of 50-meter front-crawl: one normal round and one round wearing custom-made EVA mouthguard, coated with CPP-ACP. The swimmers were individually timed to find his or her swim pace, and asked to rate the level of tooth hypersensitivity on a Wong-Baker faces pain rating scale each round.

Data analysis

Descriptive analysis and Wilcoxon signed rank tests were performed to investigate the impact of swimming mouthguards on tooth hypersensitivity and swimming performance



A comparison 3D bar graph showing the tooth hypersensitivity rated by each swimmer via a WBFPS (rating scale: 0 - 10).

Result



Tooth hypersensitivity was significantly rated lower when swimming with mouthguards ($p = 0.008$). There was also a statistical significance between the swim pace of each round ($p < 0.001$). Majority of the swimmers (74%, $n=23$) took longer time to finish the race when wearing mouthguards. One took similar time in both rounds, and seven swimmers swam faster when wearing mouthguards. The mean swim pace for a 50-meter-front-crawl without mouthguard and with mouthguard were 40.53 and 41.73 seconds, respectively.

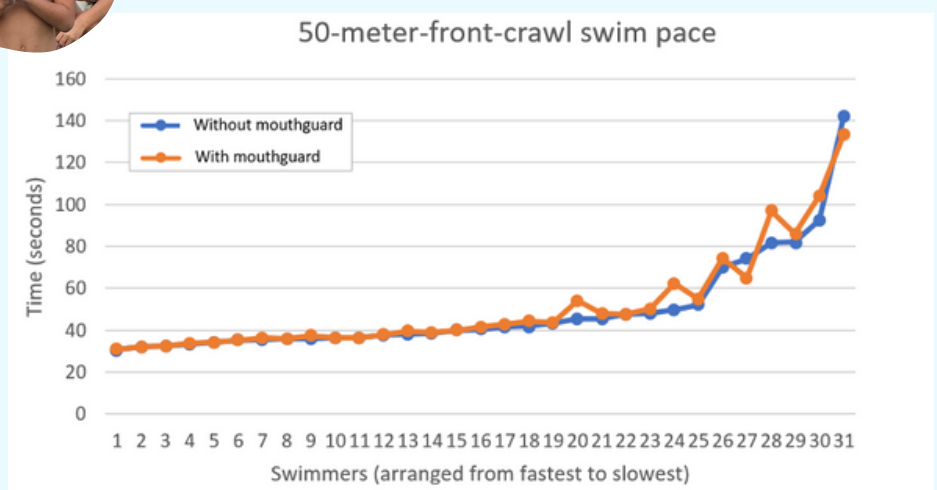
Conclusion



Wearing mouthguards during swimming can reduce tooth hypersensitivity. However, swimmers need time to adjust to mouthguards and some level of discomfort can be expected in the beginning, including the potentially negative impact on swimmers' performance.

Clinical significance

This study provides valuable evidence for clinicians to encourage swimmers to use mouthguards as a preventive measure against tooth hypersensitivity.



A comparison graph showing swim pace or time used in a 50-meter-front-crawl of each swimmer.

Keywords: Dental erosion, Swimming mouthguard, Swimming performance, Tooth hypersensitivity

