The design of non-occlusal intraoral appliances on hard palate and their effect on masseter muscle activity during sleep.

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This study aimed to reveal whether masseter muscle activity during sleep is affected by the difference in design of non-occlusal intraoral appliances on hard palate. Eight healthy Japanese participants were selected and wore each of the four types of appliances (horse shoe, thin, thick and medium thick) during sleep for one week with a one week interval without appliance during sleep. A masseter muscle electromyograph (EMG) was recorded during sleep. The EMG activities were analyzed by calculating the number of bursts per hour, episodes per hour, and bursts per episode. The EMG parameters with the thick type appliance were significantly lower than the baseline condition without appliance. In this study, it is suggested that a thick type appliance has an active effect on suppression of masseter muscle activity.

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