

# OSNC11: The Effect of Bite Raising on Swallowing Sounds

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**Aim:** Determining the appropriate occlusal vertical dimension is an important issue in the preparation of complete dentures. The articulatory organs of the lower jaw, tongue, and lips have been well studied from both acoustic and functional perspectives. As these articulatory organs are also involved in swallowing movements, an assessment of swallowing movements would be useful for determining the appropriate occlusal vertical dimension. However, few studies have addressed the question of swallowing movements and determination of the occlusal vertical dimension in the preparation of complete dentures. Here we report a basic study using swallowing sounds to investigate the association between swallowing movements and the occlusal vertical dimension in normal dentulous individuals, as a preliminary step before its application to complete-denture wearers.

**Materials and methods:** An experimental bite-raising plate was used in the investigation, and swallowing sounds while subjects wore the plate were recorded and analyzed.

**Results and Conclusion:** A change in swallowing sounds was evident when the plate was worn. During swallowing, the organs involved in the swallowing action move in a coordinated fashion. Previous studies have found that increasing the occlusal vertical dimension increases the maximum tongue pressure at the posterior palate. Changes in swallowing movements due to changes in tongue movements may have affected swallowing sounds. Our results showed that increasing the occlusal vertical dimension affected swallowing sounds. This suggested that swallowing sound analysis may be useful in determining the appropriate occlusal vertical dimension in the preparation of complete dentures.

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