Influence of vertical dimension on masseter muscle electromyographic activity in patients with mandibular dysfunction

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Occlusal splints were adjusted to different vertical heights and used to single out the influence of vertical dimension of occlusion in increments on BT-EMG activity of the masseter muscle in patients with mandibular dysfunction. The vertical dimension of least EMG activity was determined for each of 60 patients, who were randomly divided into three groups according to the vertical dimension at which the occlusal splint was adjusted: group No. 1, 1 mm from occlusal vertical dimension; group No. 2, mean vertical dimension, 4.25 mm; group No. 3, mean vertical dimension, 8.25 mm. Results showed a significant reduction of masseter BT-EMG activity (series A and B) at the end of the 3-week treatment period for patients in group Nos. 2 and 3 in comparison with group No. 1. Furthermore, the short-term use of occlusal splints with a vertical height that exceeded the so-called physiologic interocclusal distance did not result in an increase in masseter BT-EMG activity. This study suggests that a