Influence of jaw clenching and tooth grinding on bilateral sternocleidomastoid EMG activity

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This study compares the effect of tooth clenching and grinding on sternocleidomastoid electromyographic (EMG) activity during different laterotrusive jaw posture tasks. The study included 28 healthy subjects with natural dentition and bilateral molar support, 14 with bilateral canine guidance and 14 with bilateral group function. Bipolar surface electrodes were located on the left and right sternocleidomastoid muscles. EMG activity was recorded during the following tasks: A. eccentric grinding from intercuspal position to the right lateral edge-to-edge contact position; B. clenching in right edge-to-edge lateral contact position; C. concentric grinding from right lateral edge-to-edge contact position to intercuspal position. On the working side, activity in the task C was significantly higher than in tasks A and B in subjects with canine guidance, whereas no significant differences were observed between tasks in subjects with group function. On the nonworking side, activity was signifi