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## Electromyographic investigation of chin cup therapy in Class III malocclusion

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### ABSTRACT

Electromyographic activity was evaluated in 20 patients (10 girls and 10 boys, mean age 10 years) with Class III malocclusion who were treated with a chin cup appliance. The posttreatment data were obtained at the end of phase 1 chin cup treatment when the anterior crossbite had been corrected. EMG activity of the masseter and temporal muscles for each subject were studied during unilateral chewing using the following parameters: mean cumulative voltage (MCV), mean maximum peak voltage (MMPV), and rotational direction of the differential lissajous EMG (DL-EMG).

The ANB angle improved from  $-1.0^\circ$  (mean) to  $0^\circ$ . The electromyographic study revealed a decrease in masseter muscle activity on both the working (chewing) and balancing sides, with no improvement in the coordination of bilateral masseter and anterior temporal muscles.

**KEY WORDS:** EMG, Skeletal Class III, Anterior crossbite, Chin cup.

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