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Electromyographic analysis of trapezius and sternocleidomastoideus muscles during nasal and oral inspiration in nasal- and mouth-breathing children.

[Ribeiro EC](#), [Marchiori SC](#), [Silva AM](#).

Department of Physical Therapy, Federal University of Santa Maria, CEP, Brazil.

The purpose of this study was to evaluate sternocleidomastoideus (SCM) and trapezius (superior fibers) muscle activity patterns in mouth-breathing children, and to compare them with nasal-breathing children. Forty-six children, of both sexes, ranging from 8 to 12 years old, were evaluated through electromyography. The selected children were divided into two groups; Group I, was made up of 26 mouth-breathing children and Group II of 20 nasal-breathing children. Electromyographic recordings were obtained through surface electrodes in the SCM and trapezius muscles, bilaterally, during oral and nasal inspiration. Root-mean-square (RMS) data expressed in microvolts (microV), were analyzed using the Kruskal-Wallis statistical test. From the results obtained, we concluded that there was a significant difference in the muscle activity between the groups, with higher activity during nasal inspiration in the mouth-breathing group. During oral inspiration, there was no significant difference between groups. Within the groups, only the mouth-breathing group showed higher activity during nasal inspiration.

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