

Does breathing type influence electromyographic activity of obligatory and accessory respiratory muscles?

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© 2014 John Wiley & Sons Ltd. Craniomandibular electromyographic (EMG) studies frequently include several parameters, e.g. resting, chewing and tooth-clenching. EMG activity during these parameters has been recorded in the elevator muscles, but little is known about the respiratory muscles. The aim of this study was to compare EMG activity in obligatory and accessory respiratory muscles between subjects with different breathing types. Forty male subjects were classified according to their breathing type into two groups of 20 each: costo-diaphragmatic breathing type and upper costal breathing type. Bipolar surface electrodes were placed on the sternocleidomastoid, diaphragm, external intercostal and latissimus dorsi muscles. EMG activity was recorded during the following tasks: (i) normal quiet breathing, (ii) maximal voluntary clenching in intercuspal position, (iii) natural rate chewing until swallowing threshold, (iv) short-time chewing. Diaphragm EMG activity was significantly higher