Respiratory Support during Speech Breathing in Adolescents in Different Positions

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Abstract. This research aims to study the effects of position on the respiratory support of speech breathing in adolescent children. It was hypothesized that when children were seated, speech would be supported mainly by rib cage movement (expansion of the thoracic cage) with limited abdominal movement, and that both rib cage and abdomen would contribute equally when children were standing. Methods: The rib cage and abdominal muscle movements of children ages 8 to 12 were measured using inductive plethysmography during both conversational and scripted speech. Their respiratory signals were compared to determine the relative contributions of the rib cage and abdomen during the speech tasks. Current Results: During reading in both positions, rib cage contributions tend to be greater than those of the abdomen. During speaking in both positions, there is high variability, with neither rib cage nor abdominal contributions being consistently higher than those of the other. Discussion: More data is currently being analyzed. The results to date suggest that it is not the position that influences the contribution of each chest wall component, but the type of speech task. The findings of this normative research may increase our understanding of respiratory support for speech in atypical situations.