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The physiology and acoustics of vocal fatigue II: what software designers need to know about signs of potential vocal-fold lesions.

Abstract

"Vocal fatigue" is associated with excessive voice use and reflects a condition that can lead to vocal-fold lesions. We present a two-part synthesis of our findings on the physiological and acoustic effects of vocal effort. In this second part, we summarize the results of two experiments. The first shows that peaks of vocal tremor are specifically caused by vocal effort rather than by factors of general fatigue. The second experiment uses electromyography (EMG) to show how fatigue creates compensatory contractions in laryngeal muscles. These changes explain why it is that voice tremor can peak and stabilize but nonetheless reflects increasing stiffness of tissues and a risk of lesions.

Boucher, V. J. & Gilbert, A. C. (2009). The physiology and acoustics of vocal fatigue II: what software designers need to know about signs of potential vocal-fold lesions. *Proceeding of the 3rd Advanced Voice Function Assessment International Workshop*, Madrid, Spain.