

Postural orthostatic tachycardia syndrome (POTS) is marked by an excessive increase of heart rate in the upright posture leading to continuous feelings of lightheadedness and reduced quality of life. We tested a neck compression device (Q-collar) on a group of POTS patients to determine if there would be a change in brain blood flow, autonomic control of blood pressure, and orthostatic symptoms. We found that wearing the collar increased parasympathetic and decreased sympathetic control of heart rate, decreased ventilation, and most importantly, decreased orthostatic symptoms as measured by the Vanderbilt Orthostatic Symptom Score. We suggest that the external pressure on the carotid body is influencing baroreceptors which in turn attenuate respiratory reflexes which increases the CO₂ content of the blood and therefore increases brain blood flow.

The results from this study suggest that short-term use of a Q-collar can improve orthostatic symptoms in POTS patients. Studies in larger populations and for longer time periods are needed to confirm these findings.

Reference: Nardone M, Guzman J, Harvey PJ, Floras JS, **Edgell H**. Effect of a neck compression collar on cardiorespiratory and cerebrovascular function in postural orthostatic tachycardia syndrome (POTS). *J Appl Physiol* (1985). 2020;128(4):907-913.
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