**PROJECT RESUME**

**TITLE**: Composition of the human cervical vagus nerve and potential implications for vagus nerve stimulation

Vagus nerve stimulation (VNS) is currently used to treat refractory epilepsy and is being investigated as a potential therapy for a range of conditions, including heart failure, inflammation, obesity and Alzheimer's disease. Many of these proposed therapies aim to stimulate the parasympathetic component of the vagus nerve. However, the vagus nerve also contains putative sympathetic fibres which may be inadvertently stimulated. Due to the organotopic fascicular organisation of the vagus, it may be possible to position electrodes to avoid potential sympathetic fibres. Optimising the position of the electrode on the vagus nerve may improve the therapeutic potential of VNS, however, this is hindered by the lack of a detailed morphological description of the cervical vagus nerve in humans, particularly the distribution of sympathetic fibres. Through cadaveric dissection and immunohistochemistry, this project aims to provide a detailed morphological description of the cervical vagus nerve to inform optimal electrode positioning for VNS.

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