

417 – Vagus Nerve

With Steven Bruce and Professor Owen Epstein

This discussion covered the role of the vagus nerve in various physiological and medical conditions, including its connection to the gut-brain axis, chronic physical illnesses, mental health disorders, and autonomic nervous system regulation.

The speaker is a consultant gastroenterologist who has devoted significant effort to exploring the role of the vagus nerve, including its relationship to chronic physical illness. He has expertise in various non-invasive surgical techniques and a holistic view of the digestive system and its connection to the broader nervous system

Key Points

- The vagus nerve is a unique cranial nerve that connects the brain to various organs in the chest and abdomen, making it a crucial part of the gut-brain axis
- The polyvagal theory, developed by Stephen Porges, suggests that the vagus nerve plays a key role in regulating safety and well-being, with implications for various physical and mental health conditions.
- The vagus nerve has both afferent (sensory) and efferent (motor) components, with the majority (80%) being afferent, suggesting it is more involved in sensing the internal state of the body than just controlling organ function.
- Dysfunction or imbalance in the vagus nerve's activity can contribute to a range of conditions, including chronic fatigue, depression, anxiety, irritable bowel syndrome, and other medically unexplained disorders.
- Non-invasive techniques, such as vagus nerve stimulation and heart rate variability monitoring, can be used to assess and potentially treat vagus nerve-related issues.
- The interviewee emphasises the importance of considering the vagus nerve's role in patient care, as it is often overlooked in the current medical paradigm focused on visible pathology.

Supporting Evidence

- Observation of the "vagal paradox" in newborns, where stress leads to bradycardia rather than the expected sympathetic response
- Studies show the vagus nerve's role in regulating the immune system and inflammatory processes
- Clinical trials have demonstrated the efficacy of vagus nerve stimulation in treating conditions like epilepsy, depression, and migraine

Emerging Trends

- Increased recognition of the vagus nerve's importance beyond just the digestive system, with implications for a wide range of physical and mental health conditions
- Advancements in non-invasive technologies for evaluating and potentially treating vagus nerve-related issues, such as the development of external vagus nerve
- The potential for using vagus nerve assessment and stimulation as part of a more holistic, physiologically-based approach to patient care, particularly for conditions that are difficult to treat with conventional methods