Battery electrode acid reflux

Does electrical stimulation of the lower esophageal sphincter lead to reflux disease?
Effect of electrical stimulation of the lower esophageal sphincter using endoscopically implanted temporary stimulation leads in patients with reflux disease. Surg Endosc. 2014;28:1003-1009. [PubMed] [Google Scholar]

Can electrical stimulation be used to treat Gerd?
The results of these studies suggest that electrical stimulation of the LES and modulation of LES pressure may be used to treat GERD,and paved the way for subsequent application of such modality in humans.

What is acid suppression therapy for GERD?
Acid suppression therapy,provided primarily in the form of proton pump inhibitors (PPIs),remains the mainstay of medical therapy for GERD. The various PPI agents have revolutionized the treatment of GERD,given their remarkable efficacy and overall safety over the years.

How does wireless pH monitoring help with gastroesophageal reflux?
Wireless pH monitoring improves patient comfort during monitoringand allows monitoring gastroesophageal reflux over extended (i.e.,48 to 72 hours) periods of time. Still,the information gathered by these systems is limited to pH data only.

Do Les electrodes work in dogs?
Early on, Ellis et al implanted two pairs of electrodes along the longitudinal axis of the LES in normal dogs and in animals in which the integrity of the gastroesophageal junction as a barrier to reflux was compromised by myotomy and the creation of a hiatal hernia.

Does electrical stimulation affect distal esophageal acid exposure?
Change in distal esophageal acid exposure while on electrical stimulation therapy. Notes: Distal esophageal acid exposure at both 3 and 6 months was reducedas compared to baseline. After 6 months,63% of patients had either normalized or improved their distal esophageal acid exposure by at least 50% while on lower esophageal sphincter stimulation.

Electrical stimulation therapy (EST) of the lower esophageal sphincter is a relatively new technique for the treatment of gastroesophageal reflux disease (GERD) that may address the need of GERD patients, unsatisfied with acid suppressive medication and concerned with the potential risks of surgical fundoplication. In this paper we review ...

Ambulatory 24-hour pH monitoring, first introduced in 1974, was developed to detect abnormal levels of acid reflux in the lower esophagus. 4,5 Conventional pH monitoring requires a nasopharyngeal catheter with pH electrode placed 5 cm above the lower esophageal sphincter to document distal esophageal acid exposure and

correlate this with reflux ...

The aim of our work was to design and manufacture a miniature, battery-less stimulator to provide electric stimulation of the lower esophageal sphincter, which could be ...

It is therefore incorrect to state that the electrons move from Cathode to Anode during the recharging process. The - and + electrodes (terminals) however stay put. For example, in a typical Lithium ion cobalt oxide battery, graphite is the - ...

This technique provides information on distal esophageal acid exposure and also is able to assess symptoms associated with acid reflux episodes. A widely used system in humans is the Bravo system. It includes a small capsule (26 mm × 5.5 mm × 6.5 mm) containing an antimony pH electrode with internal reference, miniaturized electronics with radiofrequency ...

Results thus far show that the therapy is associated with a significant improvement in symptoms, a significant reduction in esophageal acid exposure, and a very good safety profile. This review will describe the evolution of electrical stimulation therapy for GERD, as well as the safety and efficacy of this intervention.

Endoscopy provides a powerful tool for the treatment and diagnosis of various diseases such as stomach ulcers (Kobayashi et al., 2012), stomach cancer (Ahn et al., 2009), and acid-reflux disease (Shaheen et al., 2012).Recently, the development of a pill-sized capsule with an integrated camera, battery, sensors and actuators has provided a painless wireless ...

1 Introduction. In 1800, the Italian physicist Alessandro Volta invented voltaic piles (cells) that consisted of copper and zinc disks for the electrodes and a layer of cloth or cardboard soaked in brine for a separator, which successfully produced a continuous and stable current. [] This apparatus is the prototype for a rechargeable battery based on reversible ...

The aim of our work was to design and manufacture a miniature, battery-less stimulator to provide electric stimulation of the lower esophageal sphincter, which could be implanted deep into the submucosa of the distal esophagus.

Ambulatory pH monitoring detects abnormal levels of acid reflux in the oesophagus and can be used to correlate patients" symptoms with oesophageal acid ...

The Bravo capsule contains an antimony pH electrode with an internal reference electrode, a battery, and a transmitter all encapsulated in epoxy. It measures 6 mm × 5.5 mm ...

The electrode should be electrochemically stable in the operating potential window of VRFB. The electrochemical activity of electrode affects the charge-discharge voltages and consequently the voltage efficiency during battery cycle operation. The electrode must have high electrical conductivity to increase the

charge transfer speed. The charge ...

Our study suggested that JSPH-1 pH capsule is feasible, safe, well tolerated for monitoring reflux in patients with gastroesophageal reflux disease (GERD), therefore it may serve as an important tool for the diagnosis of GERD.

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This review paper presents a comprehensive analysis of the electrode materials used for Li-ion batteries. Key electrode materials for Li-ion batteries have been explored and the associated challenges and advancements have been discussed. Through an extensive literature review, the current state of research and future developments related to Li-ion battery ...

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