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Shocking the GI tract: Electrical stimulation from top to bottom

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Electrical stimulation of the gastrointestinal tract has been touted as a possible therapy for intestinal motor dysfunction since 1963 when Bilgutay, *et al.,* reported the use of transluminal electrical stimulation to induce peristalsis. In the late 1960's and 1970's the myoelectrical activity of the gastrointestinal tract was elucidated along with its relationship to gut contractility. Out of this initial research several clinical applications of gastrointestinal electrical stimulation have arisen. ese include gastric electrical stimulation (GES) for treatment of gastroparesis, sacral nerve stimulation (SNS) for treatment of fecal incontinence and constipation and electrical stimulation of the lower esophageal sphincter (LES) for treatment of severe gastroesophageal re ux disease (GERD). GES is a low energy, high frequency system that stimulates the nerves that innervate the gastric antral muscle. GES improves nausea and vomiting, decreases medical costs, decreases hospital days and improves quality of life in patients with gastroparesis refractory to dietary and pharmacological interventions. SNS is a low energy, high frequency system that directly stimulates the third sacral nerve root. SNS signi cantly improves severe fecal incontinence and constipation compared with optimal medical therapycos0l(t)-6 (l)7oilTeesophageal sphinca9 (i)-6 6 (y sys)5 (t)6 (em t sig)w1 (t.)-6