

# Free Floating Millimeter-Sized Distributed Implantable Gastric Seeds

ID# 2017-4698



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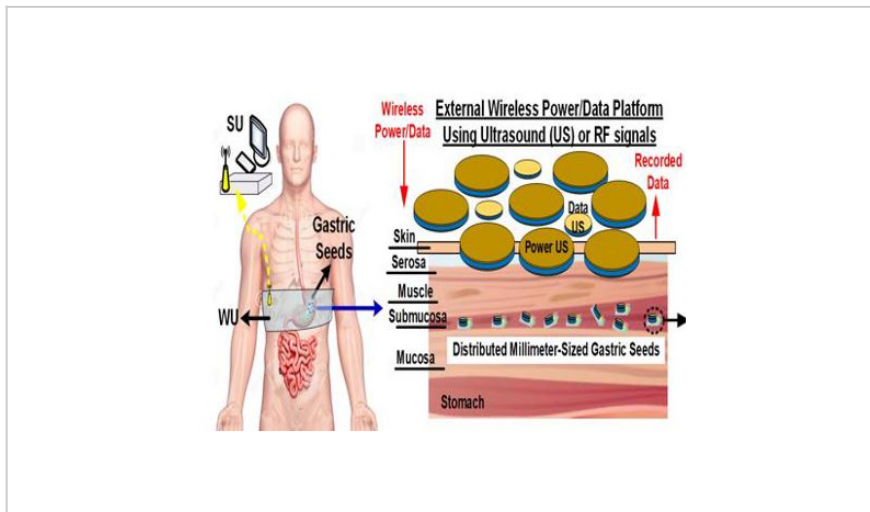


Illustration of Gastric Seeds

## Technology Summary

A network of millimeter-sized implants called “gastric seeds” have been developed for recording and stimulating gastric slow waves (SWs) inside the whole stomach for diagnosing gastric motility disorders such as gastroparesis and functional dyspepsia. The gastric seeds are endoscopically implanted in the stomach submucosa space, which allows the seeds to modulate and acquire SWs from the stomach through independent interrogation of each addressable gastric seed with unique identifications. Gastric seeds may use either ultrasound or RF signals (inductive link) for wireless power and bidirectional data transmission. For instance, when the gastric seeds communicate with ultrasound using sharp pulses, the received pulses are used to identify the location of the gastric seeds, and therefore, to measure the gastric motility.

## Application & Market Utility

The present invention would be the first diagnostic strategy to implement real-time continuous monitoring of slow wave dysrhythmias in conscious patients. This feature enables a much easier diagnosis of gastroparesis and functional dyspepsia, without patients having to undergo multiple clinical visits and tests.

## Next Steps

Inventor has a preliminary prototype that demonstrates the simplified system of the invention. Seeking research collaboration and licensing opportunities.

TECHNOLOGY READINESS LEVEL

4-7

### Seeking

Investment | Licensing | Research

### Keywords

- biomedical implants
- ultrasound
- stomach
- gastroparesis
- functional dyspepsia

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