



## THE CAIRN® <sup>13</sup>C-SPIRULINA GASTRIC EMPTYING BREATH TEST

For many patients, the pathway to a definitive diagnosis of gastroparesis can be complex, slow and frustrating.

*Now there's a faster, more direct path to diagnosis.*

**G**astroparesis is characterized by delayed gastric emptying in the absence of a mechanical obstruction in the stomach and may cause nausea, vomiting, early satiety and other upper gut symptoms.

The gold standard for definitive diagnosis of gastroparesis is scintigraphy, a costly, cumbersome procedure that must be performed in specialized outpatient centers and exposes the patient to radiation-emitting compounds.

Diagnosis of gastroparesis is often delayed until other gastrointestinal conditions are ruled out. Scintigraphy may not be recommended until patients are referred to a specialist and not all patients have easy access to scintigraphy.



More than 60% of untested patients are treated for gastroparesis without receiving a definitive diagnosis, despite the fact that the leading drug therapy has a black box warning.

## A NEW, MORE DIRECT PATH TO DIAGNOSIS

The Cairn <sup>13</sup>C-Spirulina Gastric Emptying Breath Test (GEBT) is the only FDA-approved breath test to aid in the definitive diagnosis of gastroparesis.

The Cairn GEBT can be administered in any clinical setting and does not require imaging equipment, specialized training or radioactive material. Validated against gastric scintigraphy, the test enables rapid and accurate identification of gastroparesis by avoiding the need for expensive, time-consuming referrals.

The Cairn GEBT is easy to administer. The kit contains a specially formulated meal of dehydrated scrambled eggs containing pharmaceutical-grade spirulina. The spirulina has been enriched with a safe, non-radioactive and naturally occurring form of carbon (<sup>13</sup>C).

The labeled by-products of <sup>13</sup>C-Spirulina (proteins, carbohydrates and fats) are absorbed and metabolized, giving rise to <sup>13</sup>C-labeled carbon dioxide which is excreted in the breath.

Before and after eating the test meal, breath samples are collected from the patient. Samples are sent to Cairn's CLIA-certified

laboratory for analysis by gas isotope ratio mass spectrometry (GIRMS).

The rate of <sup>13</sup>CO<sub>2</sub> excretion is proportional to the rate of gastric emptying. A patient gastric emptying report with this data is prepared by Cairn's laboratory and returned to the physician.

**The Cairn GEBT is the only FDA-approved breath test to aid in the definitive diagnosis of gastroparesis.**

**PROVEN**  
FDA-approved and validated against scintigraphy

**SAFE**  
No radiation exposure

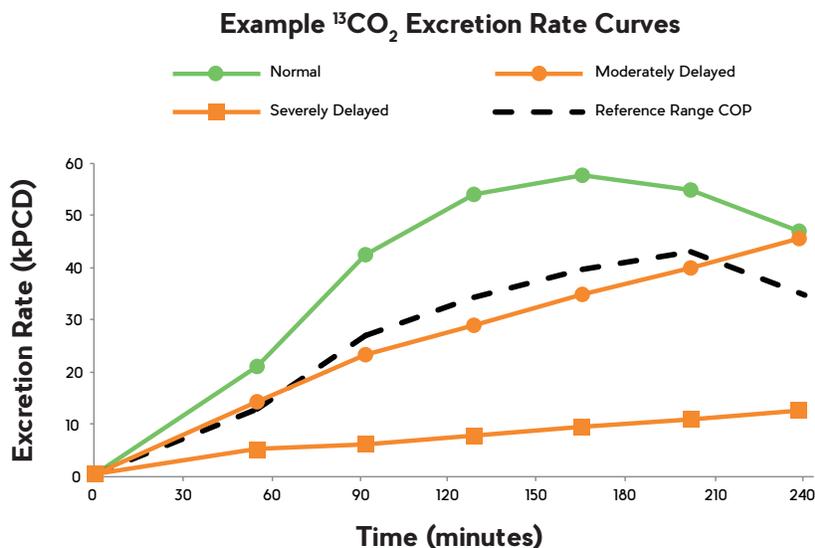
**TRUSTED**  
Breath samples analyzed in CLIA-certified lab

**CONVENIENT**  
Easy to administer in a doctor's office

## EASY-TO-INTERPRET RESULTS FOR A DEFINITIVE DIAGNOSIS

Patient test results are easy to interpret, enabling diagnosis of gastroparesis without the need for expensive, time-consuming referrals and scintigraphy.

Test results show extent of delay from moderate to severe. Patients with **normal** rates of gastric emptying typically display  $^{13}\text{CO}_2$  excretion rates that exceed cut-off points, reach a maximum between 120 – 180 minutes and then decline. Patients with **delayed** rates of gastric emptying (from moderate to severe) do not decline; they display lower  $^{13}\text{CO}_2$  excretion rates, typically (but not always) lower than the cut-off points, rise continuously over time and characteristically exhibit maximum  $^{13}\text{CO}_2$  excretion at 240 minutes.



For more information about the Cairn GEBT, please visit [www.cairndiagnostics.com](http://www.cairndiagnostics.com) or call **+1 (615) 376-5464** to speak to a member of the sales team.

## ABOUT CAIRN<sup>®</sup> DIAGNOSTICS

For many patients and physicians, the pathway to a definitive diagnosis can be complex, slow and frustrating. At Cairn Diagnostics, our mission is to develop tests that eliminate complexity and create a safer, faster and clearer path to diagnosis.

Use of our proprietary and validated analytical methods allows us to create diagnostic tests that are user- and patient-friendly and easy to administer, yet powerful in their ability to deliver a definitive diagnosis.

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