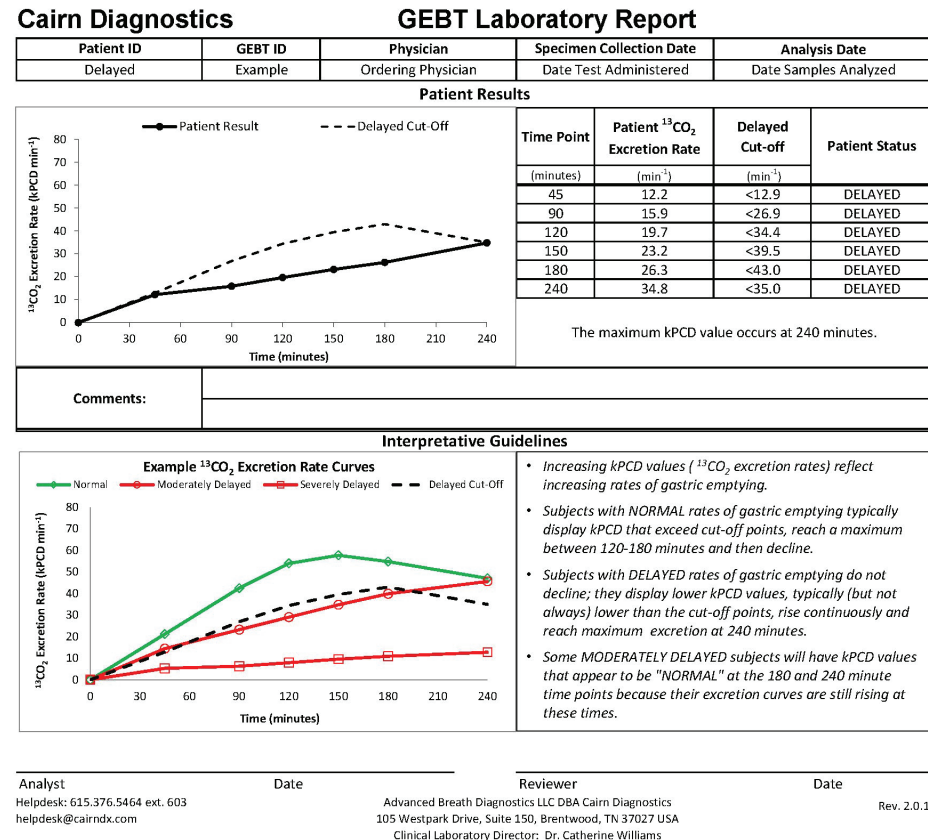


SAMPLE REPORT FOR PATIENT WITH DELAYED GASTRIC EMPTYING

Gastroparesis is best identified by observing whether the patient's kPCD values fall below respective COPs at 90, 120, or 150 minutes and if the patient's maximum kPCD value occurs at 240 minutes



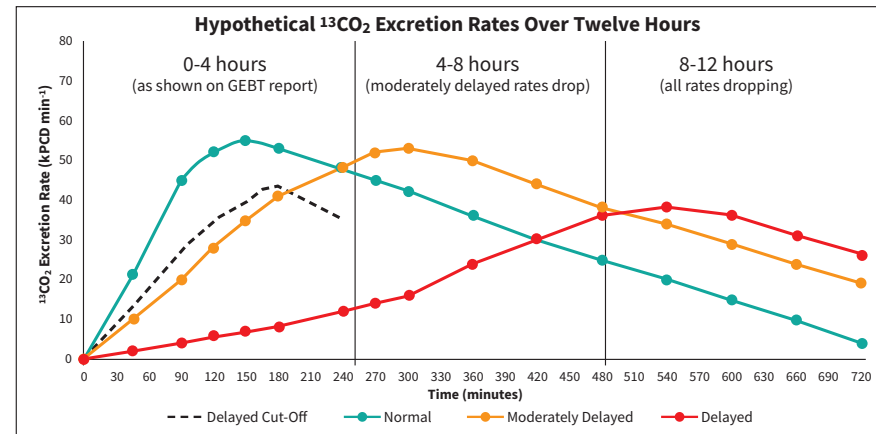
GEBT

¹³C-SPIRULINA GASTRIC EMPTYING BREATH TEST

INTERPRETING ¹³C-SPIRULINA GASTRIC EMPTYING BREATH TEST (GEBT) RESULTS

FURTHER EXPLAINING THE SHAPE OF GEBT CURVES

To better understand why the shape of GEBT curves is important, imagine a scenario where a GEBT test lasted for twelve hours instead of just four, as shown in the hypothetical figure on the right. In patients with **NORMAL** emptying, **kPCDs** peak between 90 and 180 minutes and then start to come back down as the meal has been fully emptied from the stomach and most of the ¹³C label has been digested and excreted.



In patients with **DELAYED** gastric emptying, **kPCDs** continue to rise for the duration of the four hour test and will reach a maximum at some point **after** four hours.

Likewise, when a patient has **MODERATELY DELAYED** emptying, **kPCDs** rise continuously to a maximum at four hours. **kPCDs** will typically be lower than COPs at 90-150 minutes but may exceed the normal reference range COPs at 180 and 240 minutes. This **does not** mean that emptying rates are normal at 180 and 240 minutes. The reference range derived from healthy subjects declines at 240 minutes, because GEBT curves of patients with NORMAL emptying are typically declining at 180 and 240 minutes. **kPCDs** of MODERATELY DELAYED patients can be above the later COPs because they peak after the four hour duration of the test.



CAIRN ¹³C-SPIRULINA GEBT

Cairn's ¹³C-Spirulina Gastric Emptying Breath Test (GEBT) measures the rate of ¹³CO₂ excretion in breath (**kPCD**) after consumption of a ¹³C-enriched meal.

PRINCIPLES OF INTERPRETING GEBT RESULTS—WHAT IS KPCD?

kPCD is the GEBT metric. It is the ¹³CO₂ excretion rate, which is proportional to the gastric emptying rate. **kPCD** is the percent dose of ¹³C in the meal excreted in breath per minute over time. **kPCD** results are graphed and tabulated along with the corresponding reference range cut-off points (COPs) and the patient's status (normal or delayed) relative to the COP.

Patient **kPCD** results are plotted against time over the four-hour test period to facilitate interpretation.

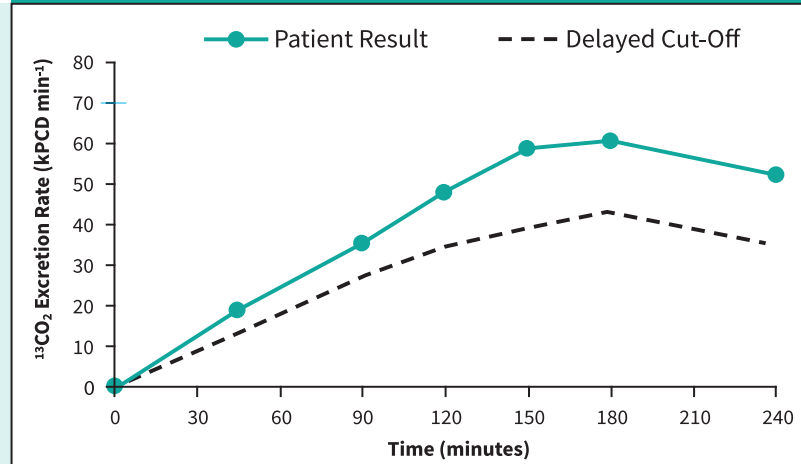
IF the peak kPCD occurs at 240 minutes, this is indicative of delayed gastric emptying even if results at three and four hours are above the COP. This was verified by scintigraphy in the GEBT validation study.

Patients with **NORMAL** rates of gastric emptying typically display kPCDs that exceed time-specific COPs, reach a maximum kPCD value between 120 – 180 minutes, and then decline.

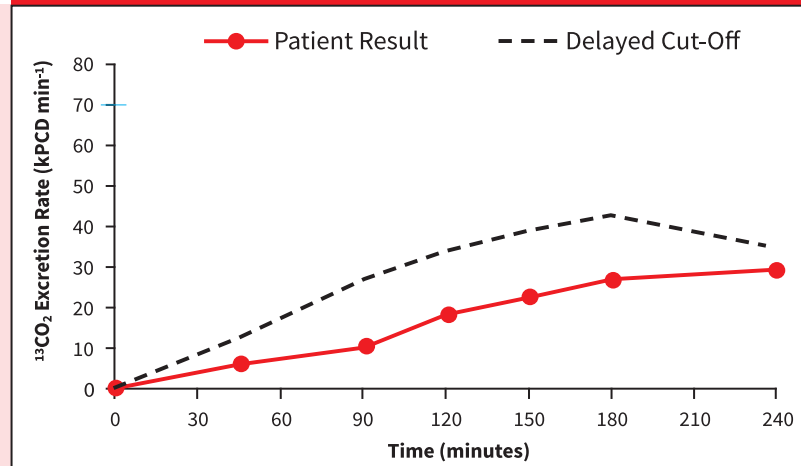
In contrast, kPCDs of patients with **DELAYED** gastric emptying are lower and typically rise continuously throughout the four-hour evaluation period. Their highest kPCD value occurs at four hours.

kPCDs of **MODERATELY DELAYED** patients also rise to a maximum at 240 minutes. Sometimes they rise through the cut-off points at 180 and 240 minutes. This is because the reference range, derived from healthy subjects with normal emptying, declines at 240 minute minutes.

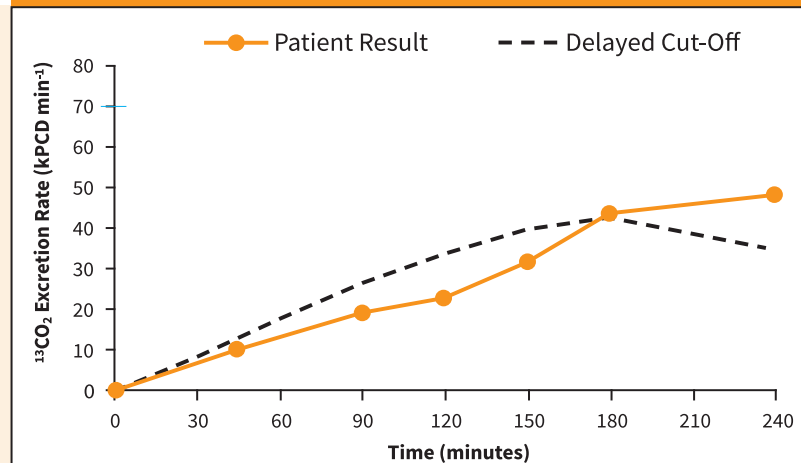
Patient with **NORMAL** rate of gastric emptying



Patient with **DELAYED** rate of gastric emptying



Patient with **MODERATELY DELAYED** rate of gastric emptying



*Although the results at 180 and 240 minutes are normal relative to COPs—the overall shape of the curve (continuously rising) shows that this patient has delayed emptying



<https://cairndiagnostics.com>

See package insert for a full description of the test and its performance characteristics

