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Diabetic Gastroparesis

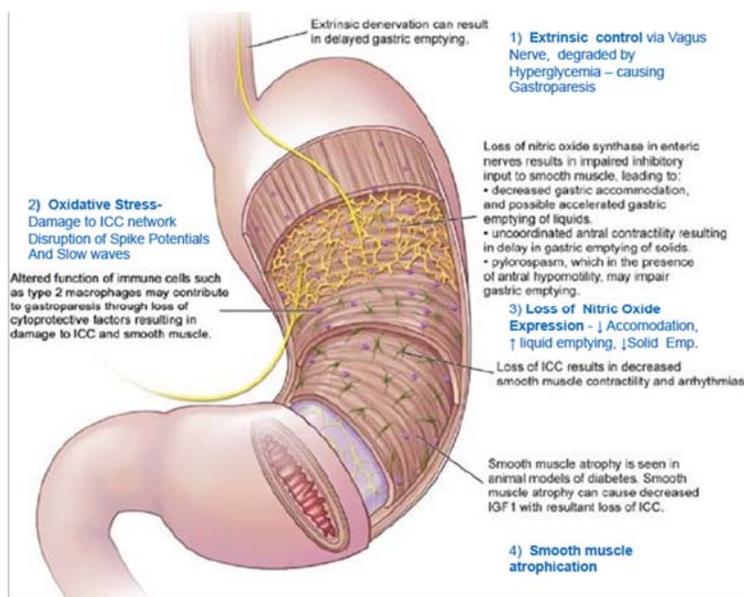
The New Mexico Diabetes Advisory Council provided training on diabetic gastroparesis on June 5. Gastroparesis is a disorder that prevents the normal emptying of food from the stomach. People with gastroparesis experience nausea, commonly feel full after eating only a small amount of food, and often vomit undigested food. Other symptoms frequently include gastroesophageal reflux, stomach pain, abdominal bloating, and poor appetite.

Diabetes is the most common known cause of gastroparesis. High blood sugar reduces gastrointestinal (GI) motility. When someone with diabetes has highly fluctuating blood sugars after eating, particularly hypoglycemia followed by hyperglycemia, they should be tested for gastroparesis. Several procedures may be used, including endoscopy, upper GI series, ultrasound, scintigraphy, the SmartPill, and a breath test.

Scintigraphy evaluates gastric emptying through timed scans of the abdomen that identify the amount of a radio labeled meal remaining in the stomach. People with gastroparesis retain in the stomach over 60% of what they have eaten two hours earlier and over 10% of what they ate four hours ago.

Several treatments are available to help manage gastroparesis. In those with diabetes, controlling blood sugar is the top priority. The timing or type of insulin may be adjusted to match gastric emptying. Recommended dietary changes include eating small, frequent meals, ingesting liquid meals rather than solid foods as needed, chewing solids thoroughly, and **avoiding:**

- High fat foods (unless they are liquids)
- Fiber (particularly pectin)



Diabetic Gastroparesis, cont.

- CATS – caffeine, alcohol, tobacco, stress
- Carbonated liquids
- Chewing gum (increases air swallowing)

Supplements may be needed and should be taken in forms other than pills when possible (e.g., liquid, sublingual, injection). In rare cases, enteral feedings (via a tube in the jejunum) or parenteral nutrition may be necessary. People with gastroparesis should remain upright for at least two hours after a meal.

Metoclopramide (Reglan) or a low dose of erythromycin are some of the more common medications prescribed to increase motility. Additional medications may be used to treat symptoms and complications, especially antiemetics for nausea and vomiting and antibiotics for small intestinal bacterial overgrowth. Patients who do not respond to medications may be eligible for gastric electrical stimulation, which has been shown to greatly reduce nausea, vomiting, gastric retention, hospitalization days, enteral and parenteral feedings and improve HbA1c levels.

At the training, there was a question about the use of probiotics in gastroparesis. A search of the literature yielded only one published study on this topic. It was an article in the August 2011 issue of the *American Journal of Gastroenterology* on bloating in gastroparesis that collected survey, examination, and scintigraphy data from 335 gastroparesis patients. Only a small number of patients in the study were using probiotics, but the use was higher in those with the most severe bloating. The authors stated, “The utility of probiotic supplementation in gastroparesis warrants further study.”

There is some published research that supports the benefits of probiotic use in bowel disorders. A systematic review of probiotics in the treatment of irritable bowel syndrome published in 2009 in the *American Journal of Gastroenterology* found that even most of the randomized controlled trials on this topic are of “suboptimal” design. Two that were

Legislative Issues

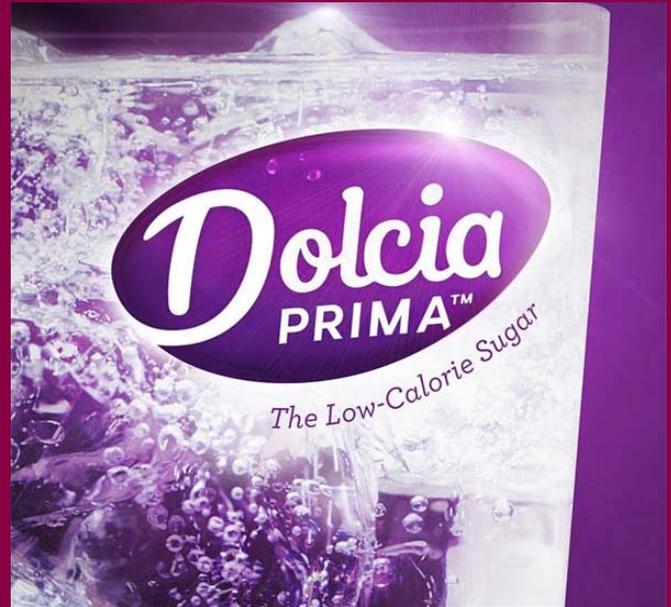
There are at least three major legislative issues pertaining to diabetes that are being discussed in Congress at this time. If you would like to weigh in on these issues, you can go to http://www.nmlegis.gov/lcs/legislator_search.aspx to find your New Mexico legislators and send letters.

1. **Older Americans Act** - up for reauthorization, this act supports a range of home and community-based services, such as meals-on-wheels and other nutrition programs, in-home services, transportation, legal services, elder abuse prevention and caregivers support.
2. **Treat and Reduce Obesity Act** - this act give the Center for Medicare and Medicaid Services the authority to enhance beneficiary access for intensive behavioral therapy (IBT) by allowing additional types of health care providers to offer IBT services.
3. **Preventing Diabetes in Medicare Act** - this act will help to prevent cases of diabetes in the Medicare population by allowing medical nutrition therapy to be provided by a dietitian or nutrition professional for individuals with diabetes, prediabetes or a renal disease, or an individual at risk for diabetes.

Diabetic Gastroparesis, cont.

appropriately designed showed significant improvements in abdominal pain/discomfort, bloating/distension, and/or bowel movement with *Bifidobacterium infantis* 35624 compared to placebo. Another double-blind, placebo-control clinical trial has since been published in the *Journal of Clinical Gastroenterology*, investigating the effect of probiotic supplementation on bloating in patients with non-constipation functional bowel disorders. This study had only 60 subjects but showed improvement in bloating with a pill containing equal amounts of *Lactobacillus acidophilus* NCFM and *Bifidobacterium lactis* Bi-07.

It is important to note that there are many differences between probiotic supplementation in gastroparesis and bowel disorders to consider. First, probiotics act in the intestines and may be less effective in reducing bloating that is caused by poor gastric motility. Second, probiotics may stay in the stomach of people with gastroparesis longer, which increases the risk that the bacteria will die. In theory, probiotics may have a better chance of surviving to the intestines if consumed on an empty stomach with water at least 30 minutes before eating and if they have an enteric coating. Third, antibiotics prescribed to people with gastroparesis may destroy probiotics before they have the opportunity to provide benefits. If probiotic supplementation is used, it should be timed as far from antibiotic doses as possible. The final consideration here is that prebiotics are highly recommended with probiotic supplementation for most people. However, prebiotics may aggravate gastroparesis, and the recommended diet for gastroparesis may not provide sufficient fiber for probiotics to flourish. For these reasons and others, further research is needed before recommending probiotic use to people with gastroparesis.



Dolcia Prima Approved for Use in Food & Beverage Manufacturing

There is a new sweetener in American manufacturing. Earlier this year, the FDA granted GRAS (generally recognized as safe) status to Dolcia Prima, chemically named allulose. This low-calorie sugar by Tate & Lyle is 70% as sweet as sucrose but has 90% fewer calories. The bulk and texture are similar to sugar, and the sweetness is perceived as almost identical to sucrose over time. It is not currently being sold as a sweetener in stores, but it has been working its way into a variety of manufactured products, from beverages to cereals, dairy products, and sweets.

Allulose will present a bit of a challenge for people with diabetes, particularly those who are insulin dependent. The full amount of carbohydrates will be reported on Nutrition Facts labels as “Sugars,” but allulose is not metabolized and does not affect blood glucose levels. That is why the calories reported on the Nutrition Facts labels will be lower than the grams of carbohydrate/sugars would suggest.

Diabetic Gastroparesis,

Herbal supplements are the final treatment option that will be mentioned here. Gastroparesis blogs show that many people with gastroparesis and other GI disorders are trying herbal supplements to manage symptoms. A particularly popular one is Iberogast, which is a liquid supplement containing nine herbal extracts that originated in Germany that reportedly improves gastric motility and functional dyspepsia symptoms. It has been used for over 40 years, primarily for dyspepsia and irritable bowel syndrome. More than 16 clinical studies have been done on Iberogast, but it can be difficult to obtain English translations of more than the abstracts. A systematic review published in 2002 in a German journal reported that two trials showed Iberogast had “comparable therapeutic effectiveness” when compared with metoclopramide and cisapride. An advantage of Iberogast is that it does not affect the central nervous system. Another systematic review published in 2004 in the *Journal of Herbal Pharmacotherapy* reported that three out of four randomized, double-blind placebo-controlled studies showed a significant reduction of GI symptoms with Iberogast, as did an observational study with 2,267 patients with functional dyspepsia. GI symptom scores were reduced by at least 50%. In the five studies, there were a total of four undesired drug events. There were two undesired drug events in the placebo and one under cisapride. Consumer reviews of Iberogast average high, but in contrast to the numerous people who say their symptoms have improved, there are many who report no noticeable benefit.

The New Mexico Diabetes Advisory Council works to reduce the burden of diabetes on communities in New Mexico. It provides four trainings per year in Albuquerque for health care professionals. If you are interested in learning more or joining, please visit <http://nmdac.org>.

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FDA rules that trans PHOs are not GRAS

On June 16, the FDA ruled that America’s main source of artificial trans fat, partially hydrogenated oils (PHOs), are no longer generally recognized as safe for use in human food. Manufacturers have been given three years to remove PHOs from their products or to petition the FDA to permit specific uses of PHOs.

Consumers have been cautioned to avoid trans fat for many years. It has been on the Nutrition Facts label since 2006, and the FDA made a tentative decision in 2013 that PHOs could lose their GRAS status. A thorough review of the literature supports that trans fat contributes to cardiovascular disease.

Some trans fat is found naturally in meat and dairy and is also present in small amounts in oils, but the FDA is seeking to remove artificial trans fat from the food supply. “This action is expected to reduce coronary heart disease and prevent thousands of fatal heart attacks every year,” said FDA’s Acting Commissioner Stephen Ostroff.

Source:

FDA News Release. The FDA takes step to remove artificial trans fats in processed foods. 2015. Accessed from <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm451237.htm> on June 17, 2015.



Diabetic Gastroparesis sources, cont.

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