WEIGHT LOSS E-NEWSLETTER

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Duodenal Switch and Distal Gastric Bypass (ERNY)

More Different Than Similar

Duodenal Switch and the Distal Gastric bypass or ERNY) are only similar to the extend that they are both weight loss surgical procedures. Patients have quoted others that"...ERNY (Distal RNY, or Gastric Bypass) is like the DS with a smaller stomach." As that may be superficially true it is misleading. The physiology of these two operations are very different. The food tolerance, nutritional requirements, complications, benefits and side effects of the DS and ERNY are different, and cannot be interchanged.

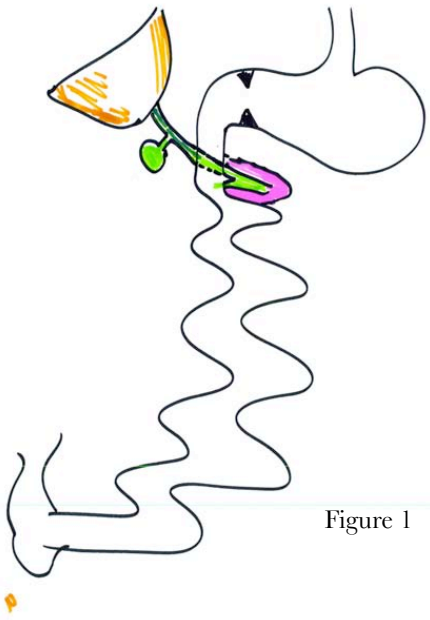

Figure 1

In order to appreciate the physiologic and functional differences between these two operations we should first have a clear understanding of the anatomical differences.

In a patient who has not had any gastrointestinal (GI) surgery (Figure 1), the esophagus, stomach, small bowel (composed of three segments of Duodenum, Jejunum, and Ileum), colon and the rectum are all connected end to end and forms a long tube. There are few side branches (ducts of the salivary glands, biliary three, pancreatic ducts, and appendix). The side branches are involved in one form or another with the function of the absorption and digestion. The order in which their secretions are added is also important. The function of appendix is not appear to be of any significance.

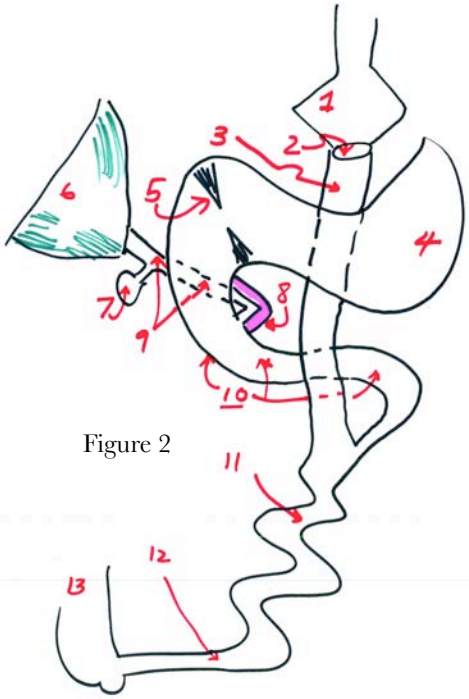

Figure 2

Anatomy of Gastric Bypass	
1	Stomach pouch
2	Gastro-Jejunostomy Anastomosis
3	The RNY limb (should be less than 150 cm to be defined as a proximal RNY)
4	Remnant stomach
5	Pyloric Valve
6	Liver
7	Gallbladder
8	Pancreas
9	Biliary Tree (AKA common bile duct)
10	Duodenum
11	Jejunum
12	Ileum
13	Colon

The anatomy of the gastric bypass differs significantly from before surgical state (Figure 2) and is described below.

The stomach pouch (1) is created by transecting the top part of the stomach from the majority of the rest of the stomach (4) . A RNY limb (3) is connected to it. The connection point is the gastro-jejunostomy (2) anastomosis. The food then taken by mouth enters the esophagus, gastric pouch, the RNY limb and travels down to to the small bowel entering Jejunum (junction of 10-11) in the case of the proximal gastric bypass and the ilium (in the case or the distal gastric bypass-ERNY). This food pathway, completely bypasses the secretory, and regulatory function of the stomach (4), Pyloric valve (5) and the absorptive function of the entire duodenum.

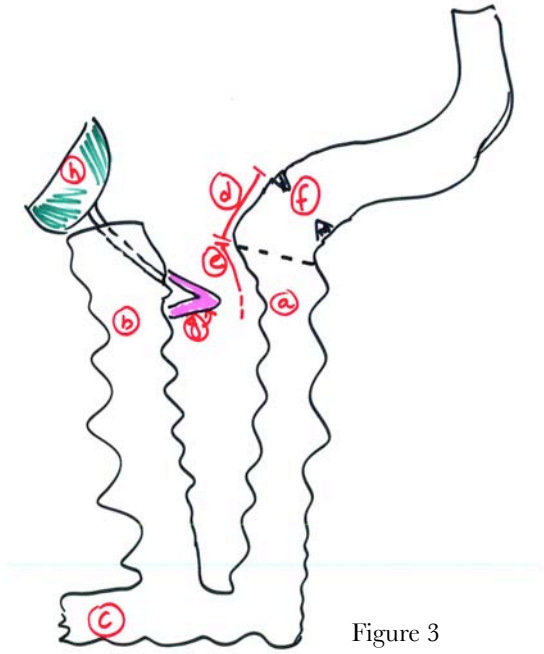

Figure 3

Anatomy of the Duodenal Switch	
a	Alimentary limb
b	Biliopancreatic limb
c	Common Channel
d	Duodenum
e	Ilium
f	Pyloric Valve
g	Pancreas
h	Liver

The Anatomy of Duodenal switch operation is significantly different-than that of the Gastric bypass operation (Figure 3). This results is a very different physiological performance.

The food enters travels down the esophagus in to the stomach. It sits in the stomach (smaller than before surgery) and the normally occurring chemical reactions that usually take place in the stomach take place. When this process is complete, then the pyloric valve (f) allows the passage of the food to the small bowel. Duodenum (d) is where the absorption of the Iron and some Calcium takes place. This is one of the most important metabolic differences that is seen between DS and the RNY (both proximal and distal). Iron deficiency anemia is very common after RNY, especially in females with monthly menstrual cycles. The food then travels thru the alimentary limb (a) and joins the biliopancreatic limb (b) to form the common channel (c). The secretions from liver (h) and the pancreas (g) that have traveled down the biliopancreatic limb (b) are mixed with the food to allow for the absorption of the fat and protein and other minerals, nutrients, and vitamins.

In the case of the distal gastric bypass the biliopancreatic limb and the alimentary limb are joined together to form a short common channel (thus called distal bypass). This allows for limiting the absorption of the fat and its associated minerals, nutrients and vitamins. However, since the food enters from esophagus to the small bowel, by only transitioning thru a small stomach pouch, the normally occurring chemical, secretory, and absorptive processes that take place in the stomach, pyloric region, and the duodenum (taking place in Duodenal switch, and normal anatomy) do not take place in Gastric bypass patients.

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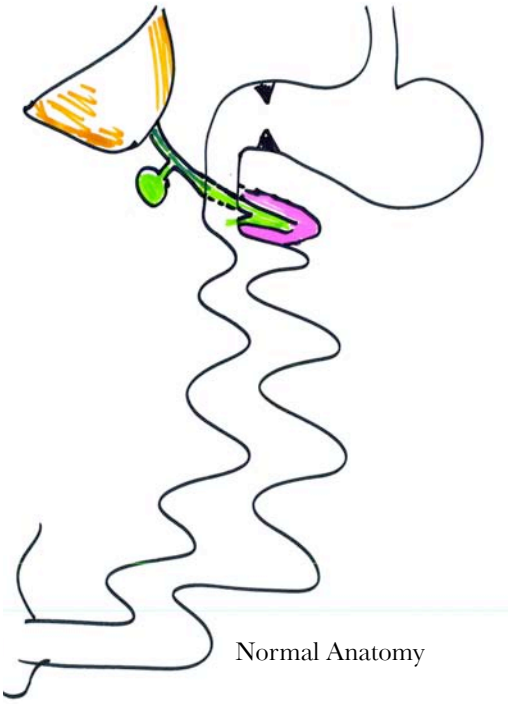
This results in a specific problems with nutritional deficiencies.
In summary, distal gastric bypass, is not the same as the duodenal switch with a smaller stomach. Distal gastric bypass is a procedure that for the most part has been abandoned secondary to the high nutritional complication rates of significant proctein calorie malnutrition, and deficiency of vitamins and minerals. These deficiencies are far more advanced that any seen in the Duodenal switch operation. I have done exhaustive research to locate any comparative study, case report, case series, that will compare these two procedures and have not located one. Please contact me at info@dssurgery.com if you are aware of any such scientific publication.



Normal Anatomy

Biliary tree-common bile duct

Liver

Pancreas

Disclaimer:
None of the drawings are to scale. They are physiologically accurate.

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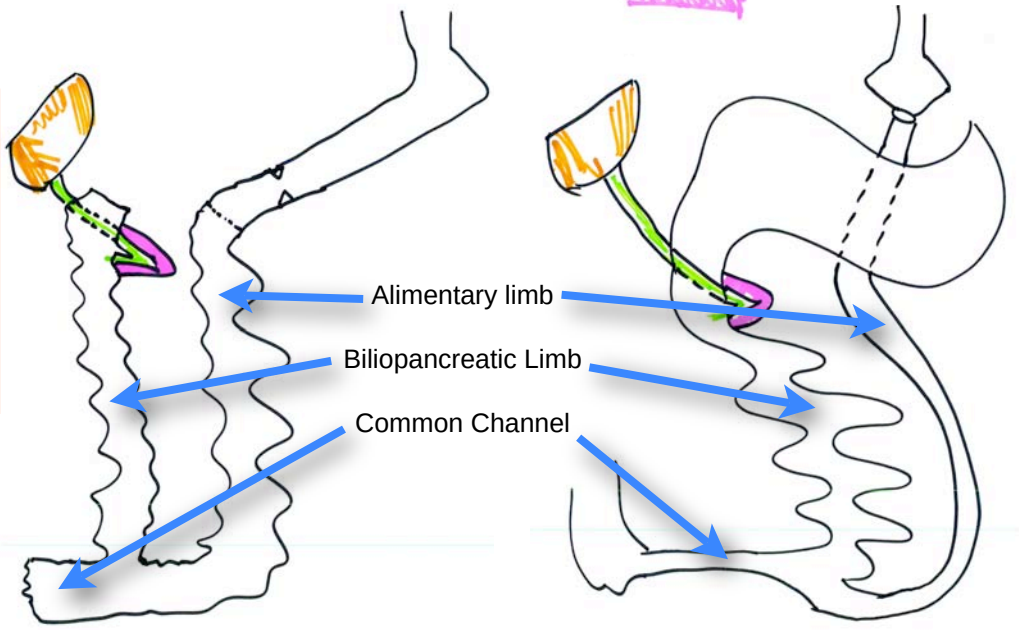

Duodenal Switch

Distal Gastric Bypass (ERNY)