

How to help match foods choices to procedures, micronutrients, protein food content

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I have no potential conflict of interest to report

Genes

Coeliac, Crohns

Shift patterns

Disordered eating

Culture

Finances

Family

Cooking ability

Religion

Cooking facilities



Everyone likes healthy
food after surgery.
Myth or Fact?



Do food preferences change?

Roux-en-Y Gastric Bypass (RYGB) & Sleeve Gastrectomy (SG)

- Decrease in energy intake
- No changes in food preferences
- Reduction in energy intake - smaller portions of the same food items

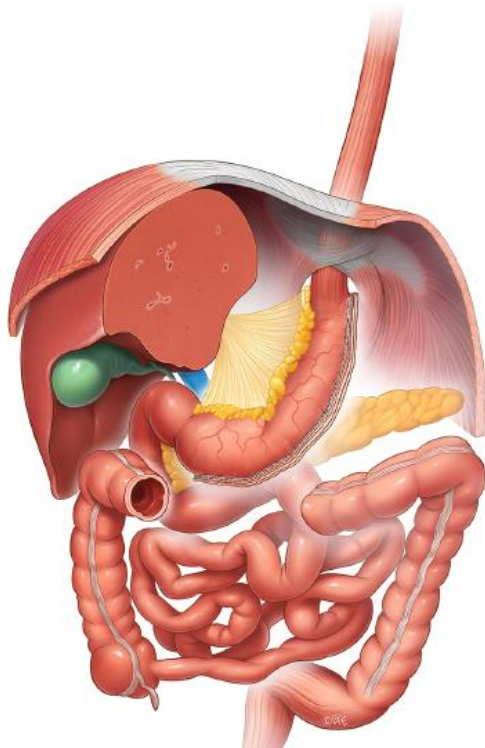
RYGB & One Anastomosis Gastric Bypass

- Decrease in energy intake
- Dietary energy density & relative macronutrient intake remained constant
- Decline in energy intake - eating smaller portions of same foods
- Any expressed changes in preference for high-sugar foods did not result in decreased consumption.

Nielsen et al. *Obesity* 2018;26(12):1879-1887; Livingstone et al. *J Nutr.* 2022;152(11):2319-2332

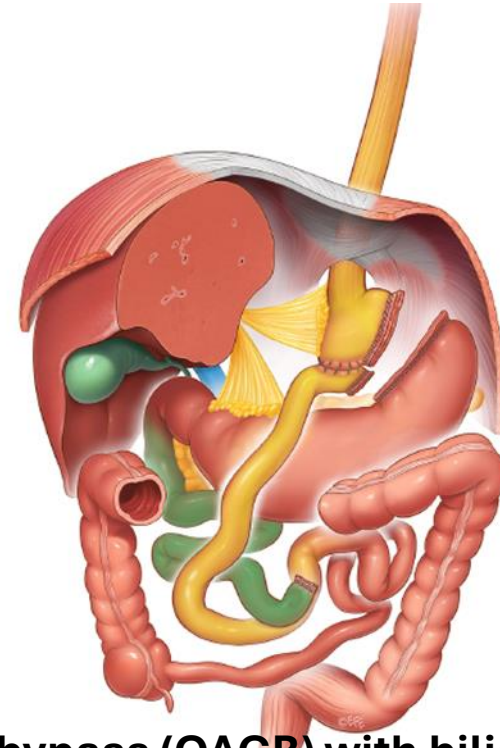
Sleeve gastrectomy (SG) and Roux-en-y gastric bypass (RYGB): Impact on Absorption

SG



Malabsorption
Iron, calcium,
Vitamin D,
Vitamin B12,
zinc, copper, selenium

RYGB

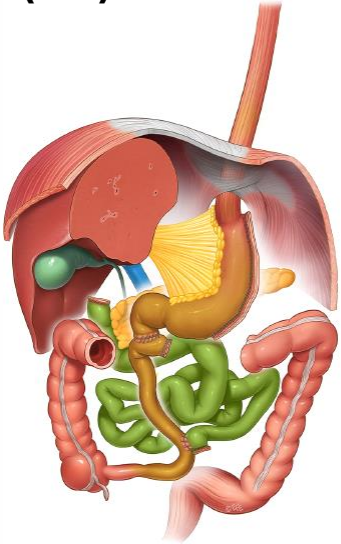


Images © Dr Levent Efe, courtesy of IFSO

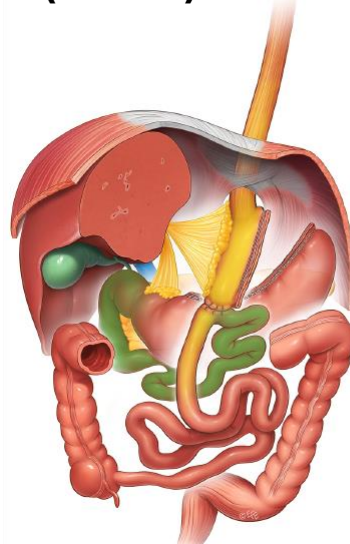
**One anastomosis gastric bypass (OAGB) with biliopancreatic limb
150 cm or less**

Malabsorptive procedures: Impact on nutrition

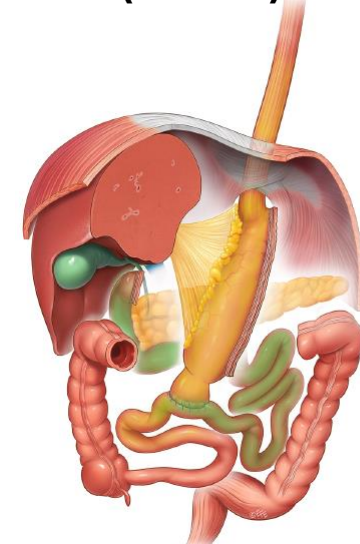
Duodenal Switch
(DS)



One Anastomosis Gastric Bypass*
(OAGB)



Single Anastomosis Duodeno-Ileal Switch
(SADIS)



Malabsorption –iron, vitamin B12, protein, fat, calcium, vitamin D, fat-soluble vitamins, zinc, copper & selenium *Biliopancreatic limb >150 cm

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Protein - dietary and absorption



Food intolerance /maladaptive diet



Eating habits / cultural



Omnivore / pescatarian / vegetarian / vegan



Adherence / affordability / cooking skills / dentition



Anorexia / loss of appetite



Malabsorption



Protein malnutrition may present several years post surgery

Protein intake post bariatric surgery

- 60 – 80g/day after SG, RYGB, OAGB with BPL 150 cm or less
- 80 -100g/day after OAGB (BPL >150 cm), DS, SADI-S



Table 1. Impact of bariatric surgery procedures on nutritional absorption [10,11,12^a,13^a,14,15,16^a,17]

Surgical procedure nutrient	Sleeve gastrectomy	Roux-en-y gastric bypass	One anastomosis gastric bypass	Duodenal switch	Single anastomosis duodenal-ileal bypass with sleeve gastrectomy
Protein	No	No	Yes	Yes	Yes
Fat	No	No	Yes	Yes	Yes
Vitamin D	Yes	Yes	Yes	Yes	Yes
Fat-soluble vitamins A, E and K	No	Potentially vitamin A	Yes	Yes	Yes
Iron, folate, vitamin B12	Yes	Yes	Yes	Yes	Yes
Zinc, copper and selenium	Yes	Yes	Yes, high risk	Yes, high risk	Yes, high risk
Thiamine	Yes	Yes	Yes	Yes	Yes

Curr Opin Gastroenterol 2021, 37:135–144

Nutritional supplements following MBS

SG, RYGB, OAGB BP limb <150cm

- Forceval* (2 mg Cu)
- Ferrous sulphate
- Vitamin D (plus calcium)
- Intramuscular (IM) injections of vitamin B12 (3 monthly)
- Consider thiamine in “at risk” patients during first 3 to 4 months
- Adjust supplements following monitoring

OAGB BP limb > 150cm, DS, SADI-S

- Forceval* **2 daily** (double Zn, Cu and Se)
- Ferrous sulphate
- Vitamin D (plus calcium) (**higher doses**)
- IM vitamin B12 (3 monthly)
- Consider thiamine in “at risk” patients during first 3 to 4 months
- **Vitamin A, E and K (high doses)** (Water-miscible forms of fat-soluble vitamins)
- **Additional zinc and copper** (maintain Zn/Cu ratio)
- Adjust supplements following monitoring

O'Kane et al. Obes Rev. 2020;21:e13087

*Multivitamin and mineral supplement

Holistic Assessment

- Dietetic and nutrition assessment
- Eating patterns, food preferences
- Social circumstances, shift pattern, support network
- Affordability of diet
- Access and affordability of vitamin and mineral supplements
- Access to appropriate dietetic monitoring and support
- Share information to enable joint objective decision making



Images from ECPO Image Bank