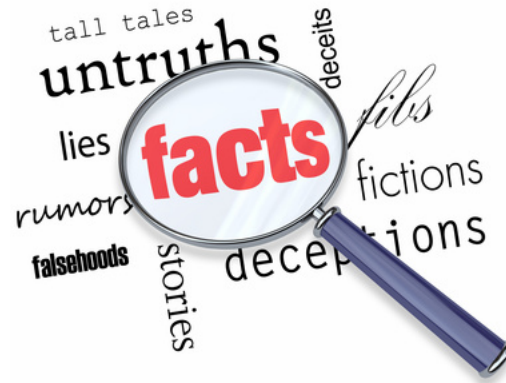


Urban Legends in Bariatric Nutrition



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Northwest Weight & Wellness Center



NORTHWEST
WEIGHT & WELLNESS CENTER
SOUND SURGEONS
SURGERY CENTER

Bilingual CDE Coach
Cecelia Health



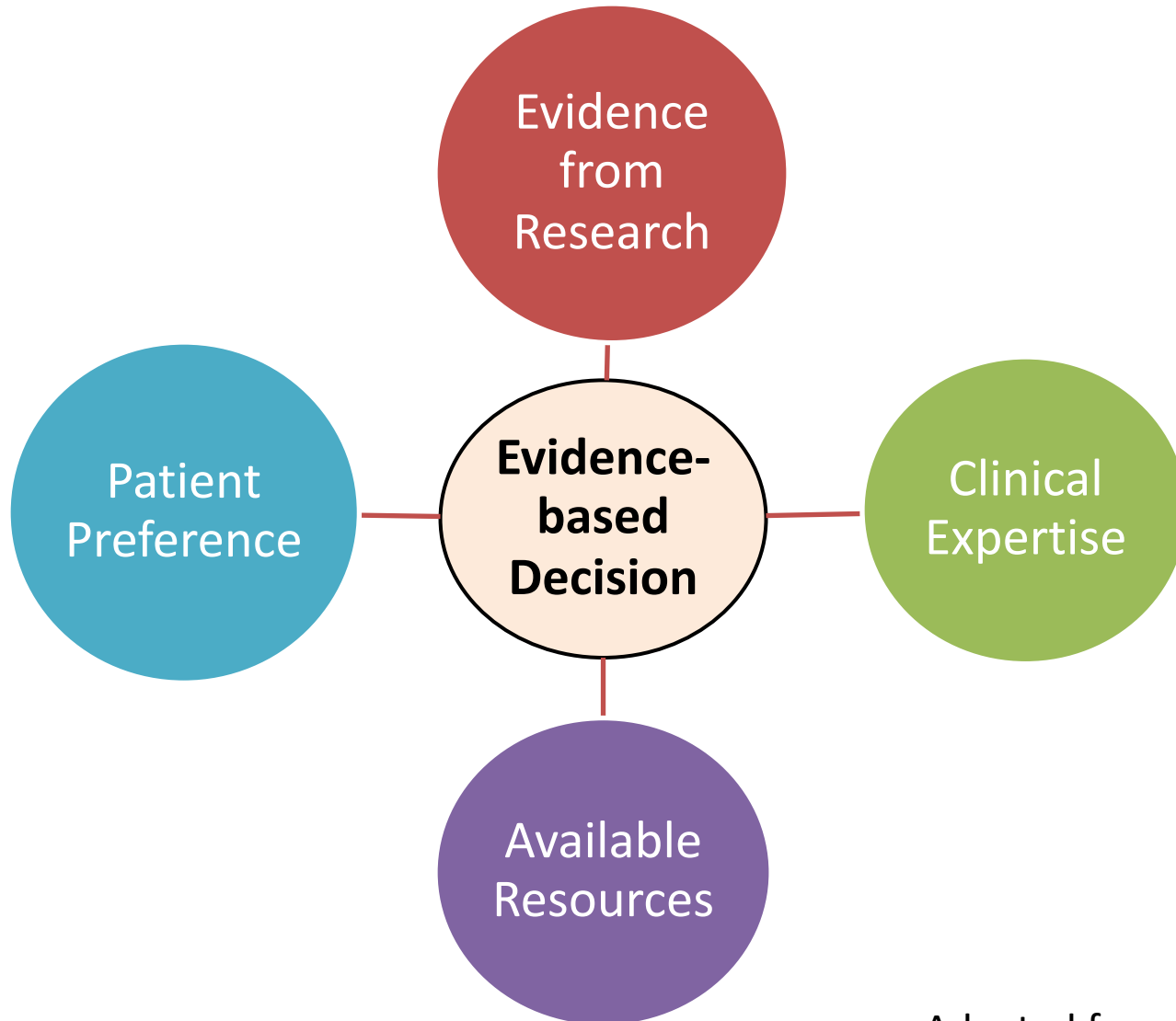
cecelia
HEALTH
formerly Fit4D

January 25, 2019

Agenda

- Lack of Standardization
- Myths & Facts
- Communication Strategies

Clinical Decision-Making



Bariatric Nutrition Resources

AACE / TOS / ASMBS Clinical Practice Guidelines for the Perioperative Nutritional, Metabolic, and Nonsurgical Support of the Bariatric Surgery Patient—2013 Update

ASMBS Allied Health Nutritional Guidelines for the Surgical Weight Loss Patient - 2008

AND Evidence Analysis Library Bariatric Surgery Nutrition Care - 2017

ASMBS Integrated Health Nutritional Guidelines For The Surgical Weight Loss Patient – Micronutrients - 2016

Endocrine Society Clinical Practice Guideline: Endocrine and Nutritional Management of the Post-bariatric Surgery Patient (2010)

Lack of Standardization

Duration	Composition	Notes
1 week	2 protein shakes + 1 frozen meal	Also must lose 5-10% total body weight
1 week 2 weeks	Unknown	Surgeon requiring 2 week diet uses liver retractor less often
2 weeks	5 shakes or 4 shakes + food	
2 weeks	800 cal for women; 1000 cal for men	
2 weeks	4 shakes + 1 low carb meal	
3 weeks	3 shakes + 2 bars or 3-4 shakes + 1 low carb meal	
Unknown	1200-1500 cal meal plan	
Unknown	5-6 protein shakes	
n/a	n/a	Must lose 10% EBW

Lack of Standardization

Days 1-2: Clear Liquids
Days 3-9 (1 Week): Full Liquids
Days 10-16 (1 Week): Puree
Days 17-30 (2 Weeks): Mechanical Soft
Days 31+: Regular

Days 1-2: Clear Liquids
Days 3-14: Full Liquids
Weeks 3-4: Puree
Weeks 5-6: Soft
Week 7: Solids

Week 1-2: Clear liquids plus protein shakes
Week 2-4: Semi-solid
Month 1-3: Soft foods
Month 3: Regular foods

Days 1-2: Clears
Days 2-14: Fulls
Weeks 3-4: Soft & moist protein
Weeks 5-7: soft protein / low-fiber
Week 8-9: Solids

Days 0-2: Bari Clear Liquid
Days 3 – 21: Bari Full Liquid
Days 21-49: Bari Soft
Days 50+: Bari Regular

Days 0-1: Clear Liquids
Days 1-14 (RNY): Full Liquids + Pureed solids
Days 1-28 (sleeve): Full Liquids + Pureed solids
Days 15-42 (RNY): Soft foods
Days 29-42 (sleeve): Soft foods
Days 43+: Normal diet

Myths & Facts Topics

Mechanism of weight loss

- Restriction vs Metabolic vs Malabsorptive

Fluids

- Carbonation, Caffeine, Straws

Preoperative weight/diet protocols

- Purpose, Impact, Protocol

Postoperative diet progression

- Duration of Stages, Textures, Volume, Eating Times

Mechanism of Weight Loss

Restrictive? Metabolic? Malabsorptive?



AGB

Adjustable
Gastric Banding



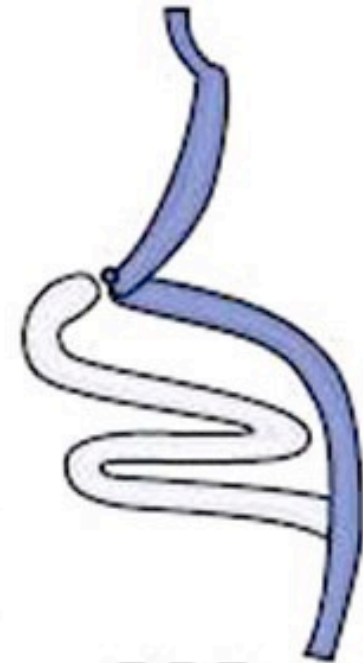
RYGB

Roux-en-Y
Gastric Bypass



GS

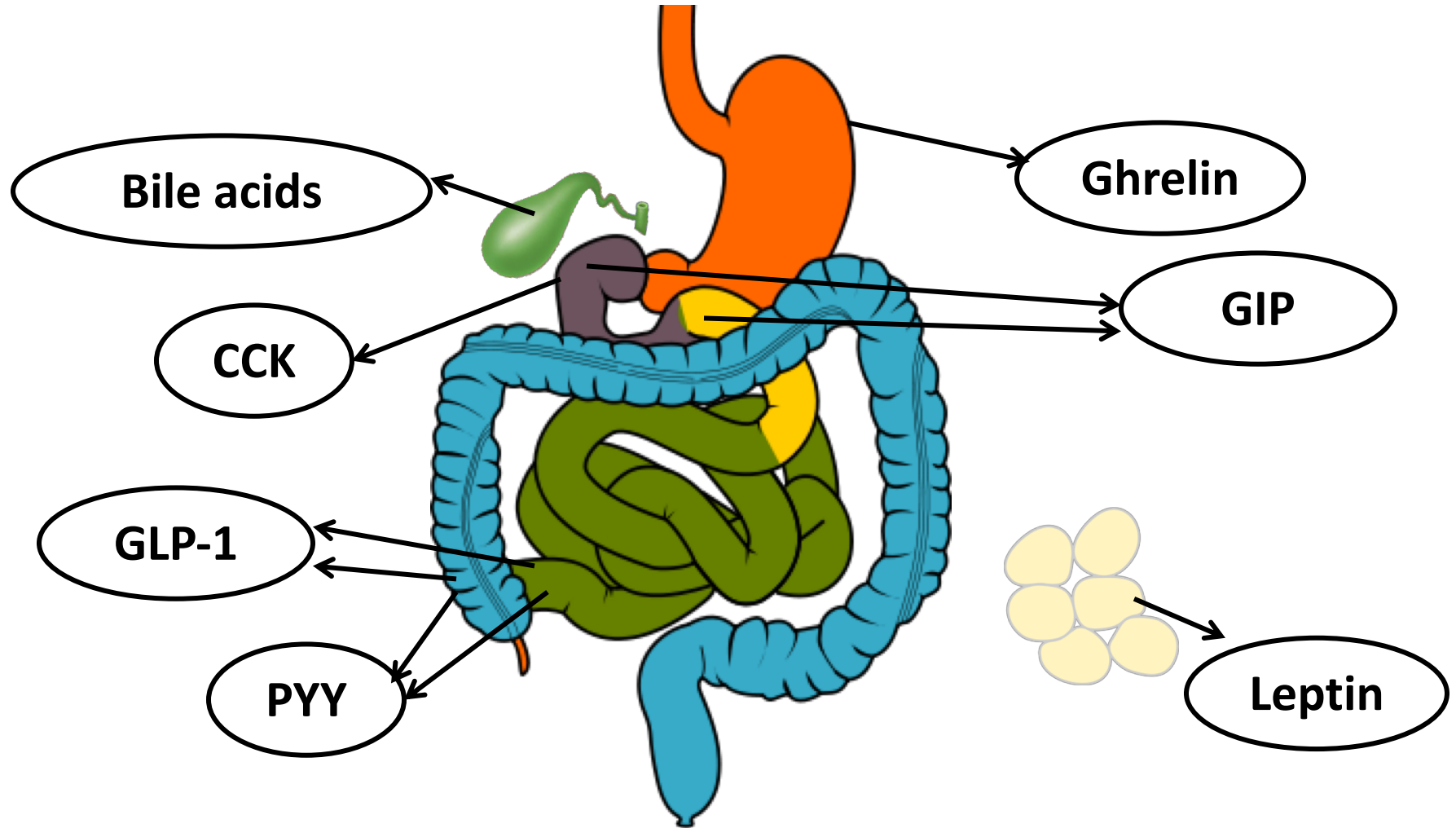
Sleeve
Gastrectomy



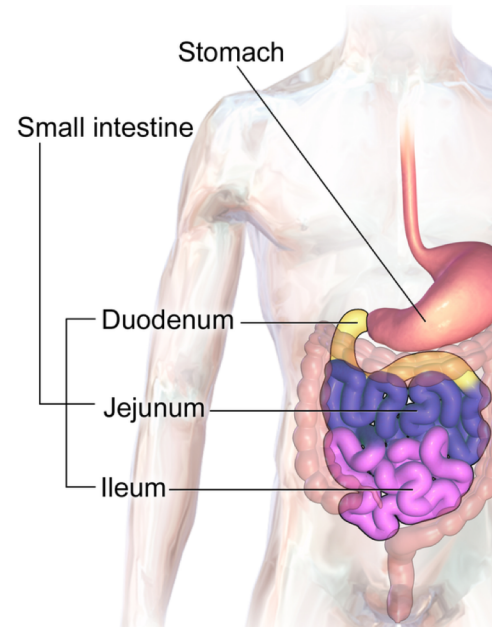
BPD

Biliopancreatic
Diversion

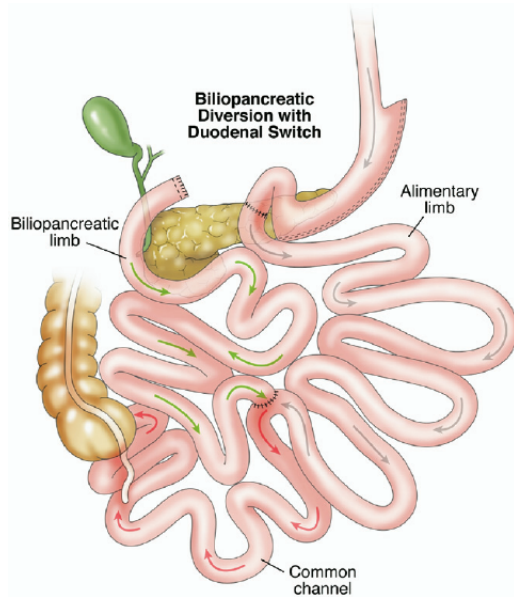
The Main Metabolic Players



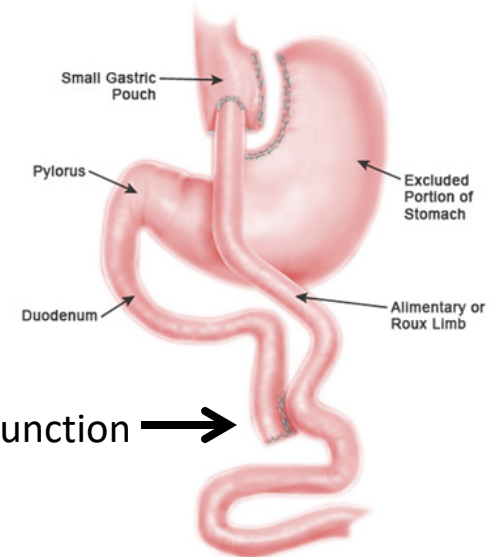
Mapping the Intestine



Jejunum & ileum are absorption powerhouses. Ileum often adapts when jejunum is removed



Common channel typically <150 cm



Mechanism of Weight Loss



AGB

Adjustable
Gastric Banding

Restrictive



RYGB

Roux-en-Y
Gastric Bypass

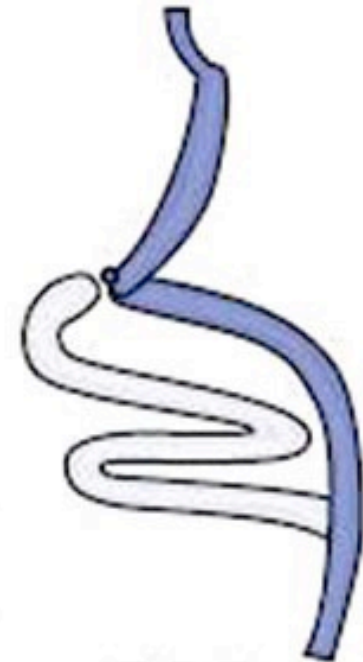
Metabolic



GS

Sleeve
Gastrectomy

Metabolic



BPD

Biliopancreatic
Diversion

**Malabsorptive
Metabolic**

Fluids



Carbonation?



Caffeine?



Straws?

Caffeine



- Caffeine concerns:
 - ~~Dehydration~~
 - Gastrin and acid secretion stimulator
 - Can exacerbate GERD
 - May aggravate already existing ulcer
- Caffeine benefits:
 - Colonic stimulant
 - Contributes to fluid volume

Marotta et al., 1991; Weiss et al., 2010; Aills et al., 2008; Maughan & Griffin, 2003; MacLean et al., 1997; Boekema et al., 1999; Rao et al., 1998; Butt et al., 2011

Carbonation



- Limited research to support clinical practice of avoidance
- No evidence that carbonation 'stretches out' gastric pouch and/or sleeve
- Potential link between carbonation and GERD
- Anecdotal evidence suggests carbonation causes abdominal discomfort and increased belching, passing gas

Straws



- No bariatric evidence re: air inhalation
- Medical websites list straws as potential source of gas and belching
- Anecdotal evidence suggests that most patients do not have problems drinking from straws

Fluids



Carbonation –
Avoid in early
post-op period.



Caffeine –
Limit in early post-op
period.



Straws –
Avoid if causing
discomfort.

Pre-Op Weight Loss & Diets

Makes surgery safer

Reduces abdominal visceral adipose tissue

Shrinks the liver

Proves that patients can be successful after surgery

Long-term

Used to promote
weight loss &
reduction in
adipose tissue

Short-term

Used to promote
reduction in liver
volume

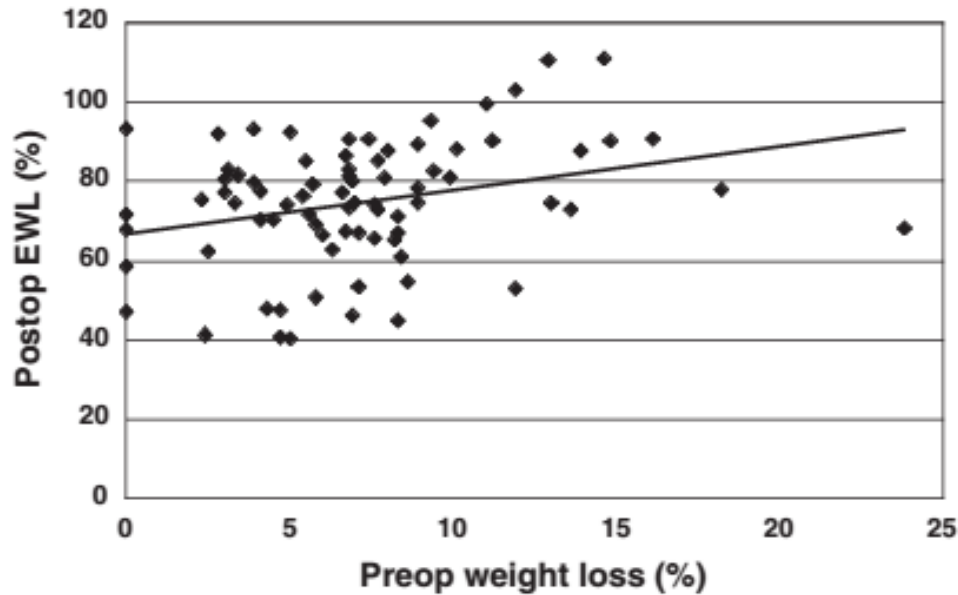
Effect on Complication Rate

Table 3 Postoperative complications <30 days

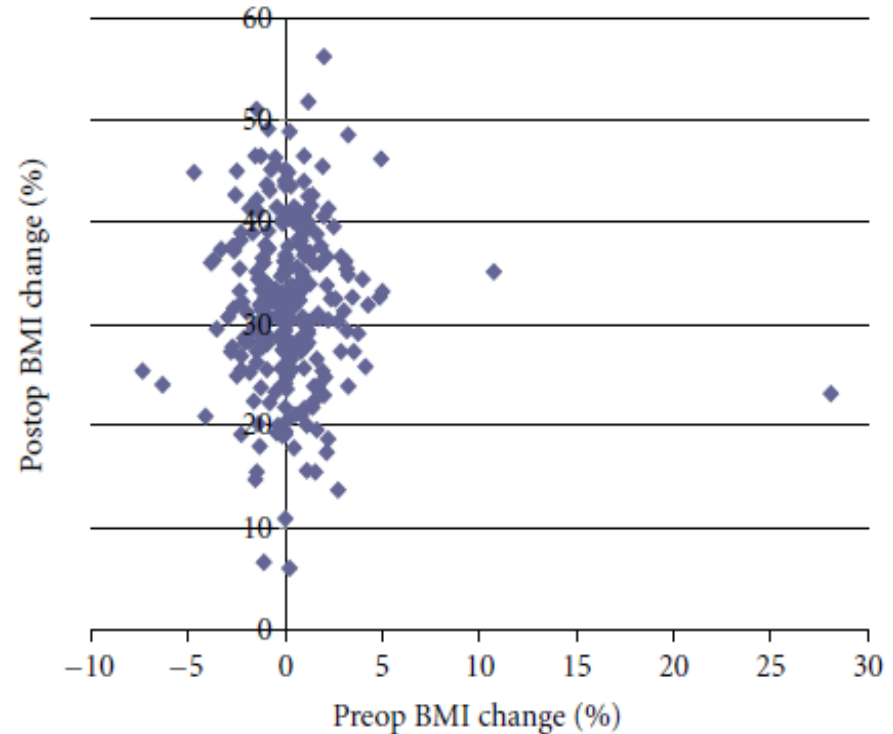
	< 5% WL Group A (n=166)	>5-10% WL Group B (n=239)	>10% WL Group C (n=143)
Patients with complications	44	40	15
Overall number of complications	55 (33.13 %)	46 (19.25 %)	17 (11.89 %)
Complications			
Wound infection	23	15	8
Hemorrhage	7	17	5
Anastomotic leak	4	4	1
Anastomosis stricture	7	3	1
Ulcer marginalis	7	3	0
Pneumonia	2	2	0
Others ^d	5	2	2

Take-away: Pre-op weight loss has been linked to reduction in peri- and post-operative complications in many studies.

Effect on Post-Op Weight Loss



1% pre-op weight loss →
1.8% post-op excess weight loss



No correlation between pre-op
and post-op weight loss

Take-away: Data is not consistent. We don't know whether pre-op weight loss has any effect on post-op weight loss.

Effect on Liver Size

Table 3 Complexity rating of the 15 LCD-patients and 18 controls (all female) Scale = 0 to 2 with 0 representing preferable conditions

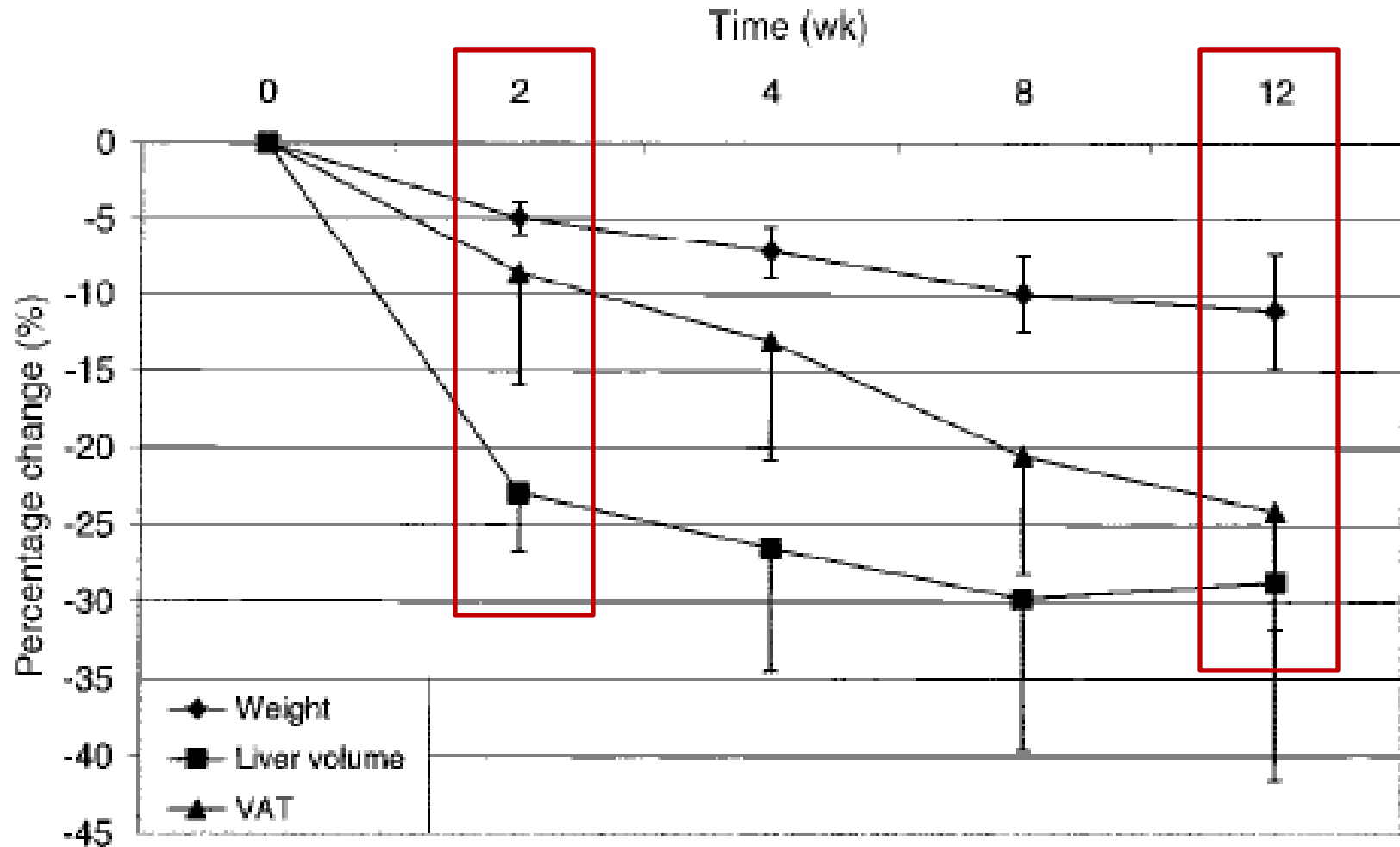
Modifast x 4-5 for 4 weeks 13% reduction liver volume; 6.1% weight loss	LCD	Controls	<i>p</i>
Exposure (ease of accessing stomach)	0.00	0.33	0.03
Bleeding	0.13	0.11	0.85
Difficulty of dissection	0.13	0.44	0.10
Difficulty of reconstruction	0.07	0.17	0.39
Surgical judgement	0.01	0.39	0.11
Technical demand	0.13	0.44	0.10
Psychological stress	0.00	0.33	0.02
Sum	0.60	2.22	0.02

Notes:

- No significant difference in duration of operation
- 3 LCD pts had anastomotic ulcers versus 1 control

Short-term vs Long-term

32 patients on 3 Optifast shakes + non-starchy vegetables



Pre-Op Diet Components

- Whatever works for your patient! Energy deficit is key.
- Weight loss over a 2+ month period significantly reduces visceral adipose tissue.
- 5-10% weight loss improves weight-related conditions.
- Evidence does not support:
 - Mandating pre-op weight loss
 - Denying patients for surgery purely based on pre-op weight loss outcomes

Short-term

Pre-Op Diet Components

2 weeks

~1000 calories, < 50 g carbohydrate

Meal replacements and/or real food

Consider palatability, simplicity, affordability

Consider patients on meds with hypoglycemia risk

NWWC Pre-Op Diet

Daily Goal: 1000 calories, 50 grams carbohydrate

- 2-3 protein shakes
- 1 meal with less than 20 grams carbohydrate
- Low-carbohydrates snacks



Chicken Avocado Salad



1 cup non-starchy
vegetables



1/2 cup cottage
cheese

870 calories, 44 grams carbohydrate

Pre-Op Weight Loss & Diets

Makes surgery safer

- Yes, it typically does

Reduces abdominal visceral adipose tissue

- Yes, with longer term weight loss

Shrinks the liver

- Yes, with short-term and low-carbohydrate

Proves that patients can be successful after surgery

- Check your bias!

Post-Op Diet Progression

Duration of Stages

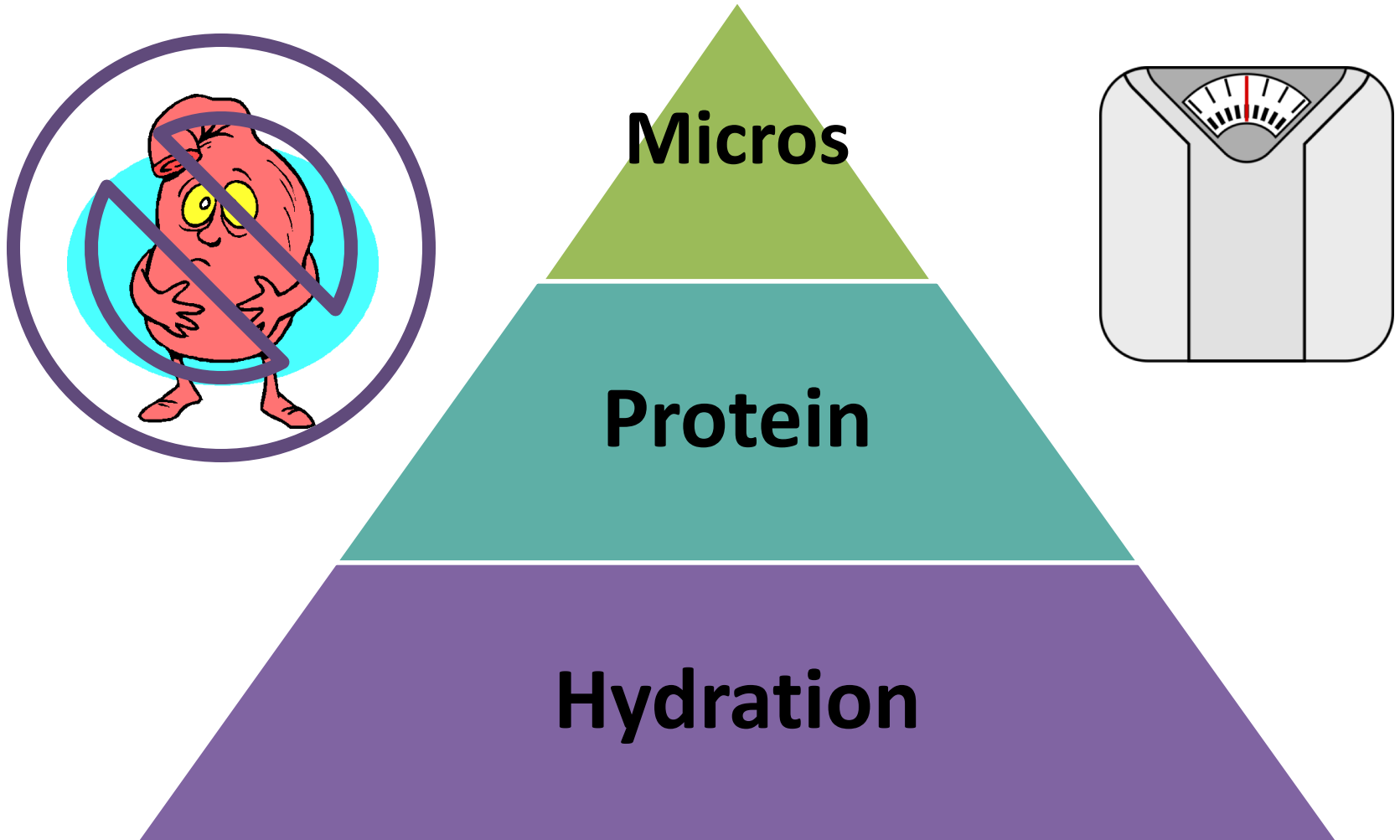
Tolerating Textures

Macronutrient Goals

Volume Capacity

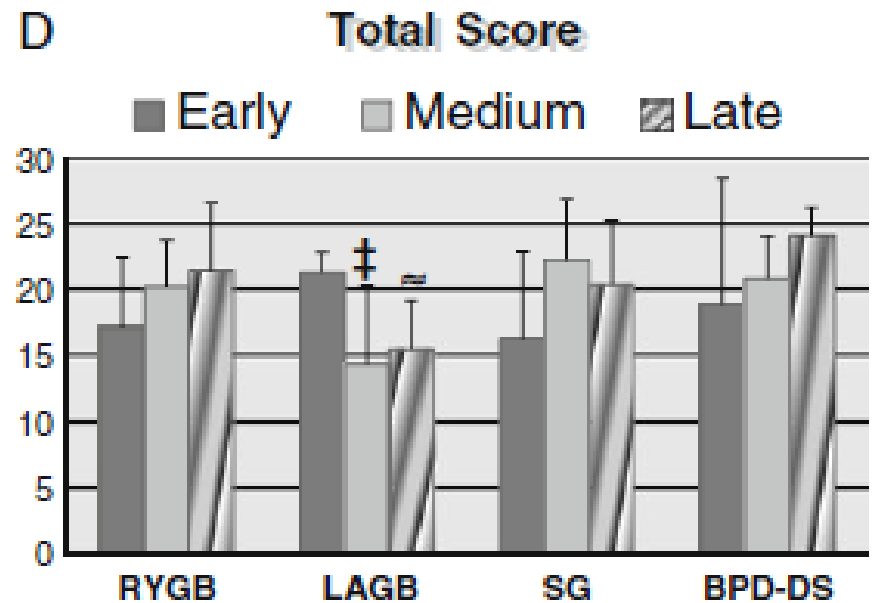
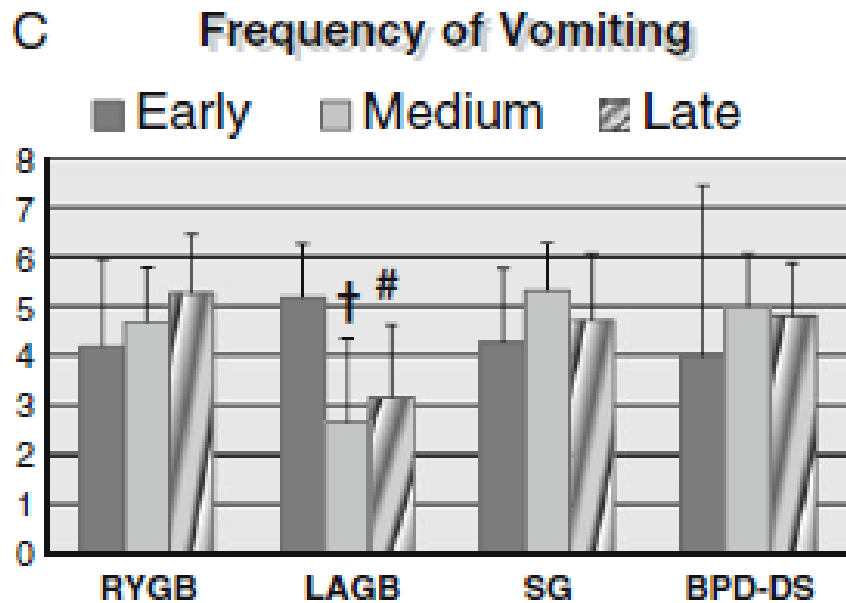
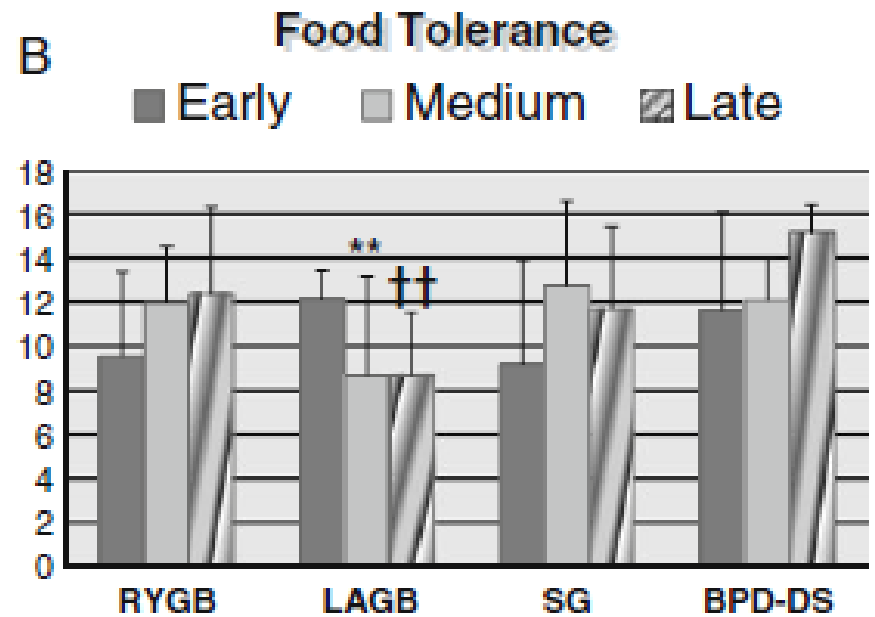
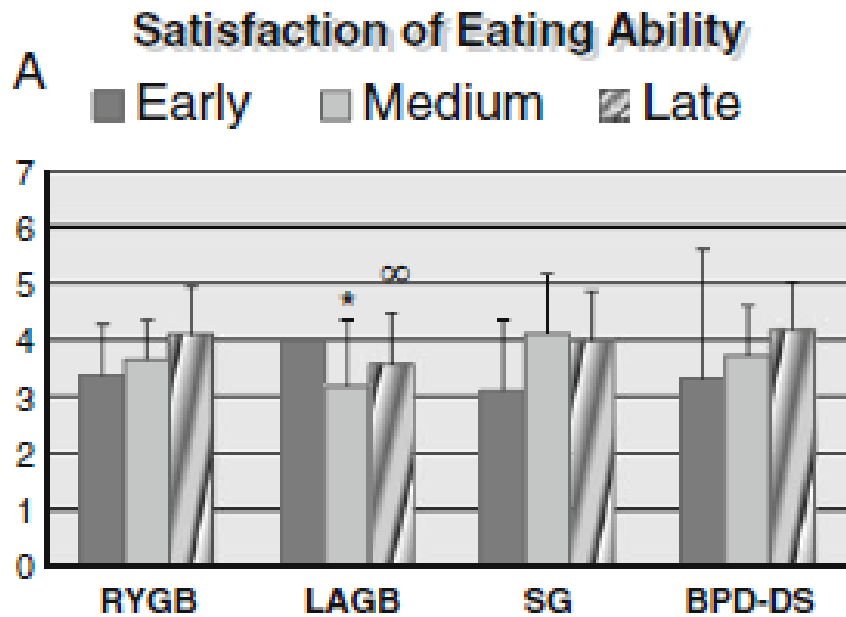
Eating Frequency

Post-Op Diet Progression



Diet Progression

Diet Stage	Duration	Components
Clear Liquids	4-24 hours	Sugar-free, low-calorie, non-carbonated beverages
Protein Supplements + Semi-Solid Foods	10-21 days (7 days band)	Protein supplements, yogurt, smooth soups, cottage cheese, ricotta cheese, canned fruits and vegetables
Soft Textures	14-21 days (7 days band)	Tender poultry and fish, tofu, eggs, legumes, hot cereal (oatmeal, cream of wheat), soft fruits with no peels and seeds, well-cooked vegetables with no peels and seeds
Regular Textures	Lifelong	Guide patient toward balanced diet with lean protein, fruits, vegetables, whole grains, healthy fats, and low-fat dairy (if desired). Foods initially challenging to tolerate include red meat, raw vegetables, bread, rice, and pasta.



Macronutrient Recommendations

Calories

- Not a focus in early post-op period
- MSJ is likely an overestimate

Protein

- Minimum 60 g/day; ideally whole foods
- Increase by 30% in case of malabsorption

Carbohydrate

- Aim for 130 g/day with high quality food sources

Fat

- Focus on RDAs for essential fatty acids

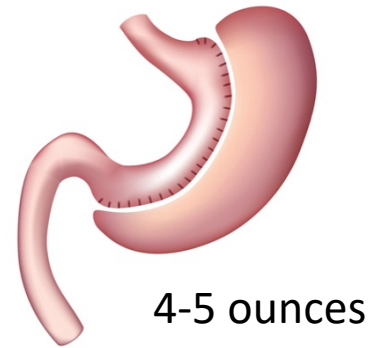
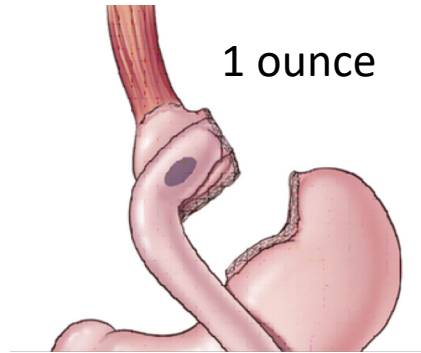
What's “Normal” with Calories?

< 700 kcal/day 3 mo post-op

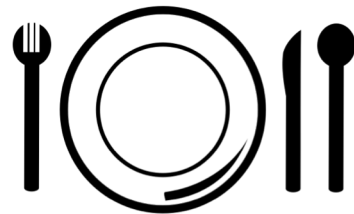
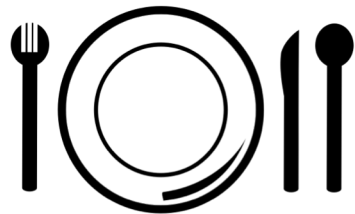
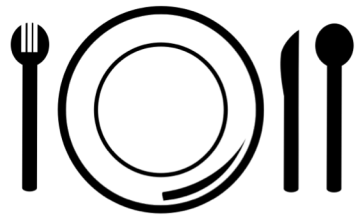
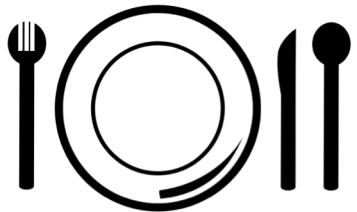
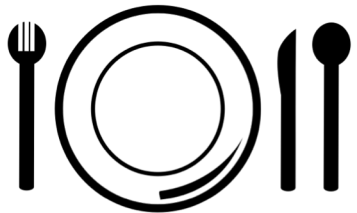
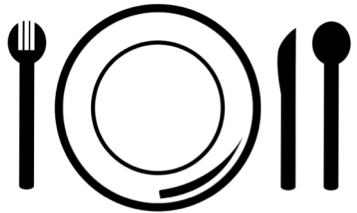
< 1000 kcal/day 6 mo post-op

773-1035 kcal/day up to 12 mo post-op

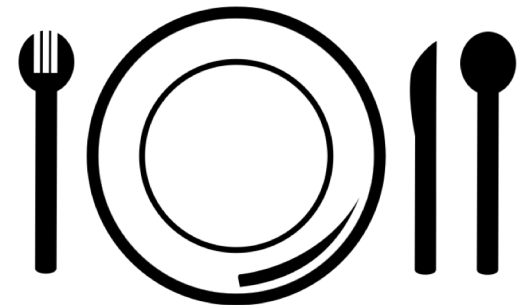
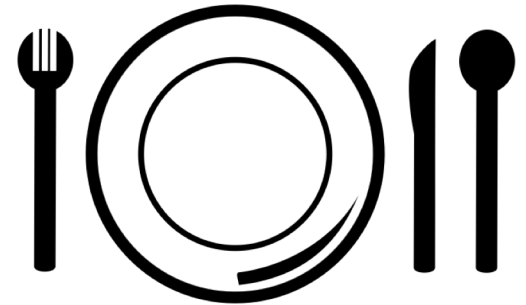
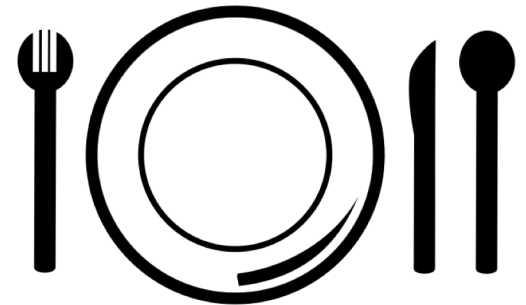
Volume of Food



Eating Frequency



VS



The Facts

Limited research suggests that eating three structured meals per day compared with fewer than three meals per day can help control appetite and lead to feelings of fullness.

Meal frequency has little to no effect on the thermic effect of food.

Grazing is associated with a decreased amount of weight loss after surgery and increased amount of weight regain.

Patients are limited in their portion sizes in the early post-op period due to the inflammation of stomach tissue.

Post-Op Diet Progression

Duration of Stages

- Use general guidelines to prevent being an outlier

Tolerating Textures

- Best food tolerance occurs at 6 months; consider eating behaviors

Macronutrient Goals

- Protein is important; nothing unique with fat & carbs

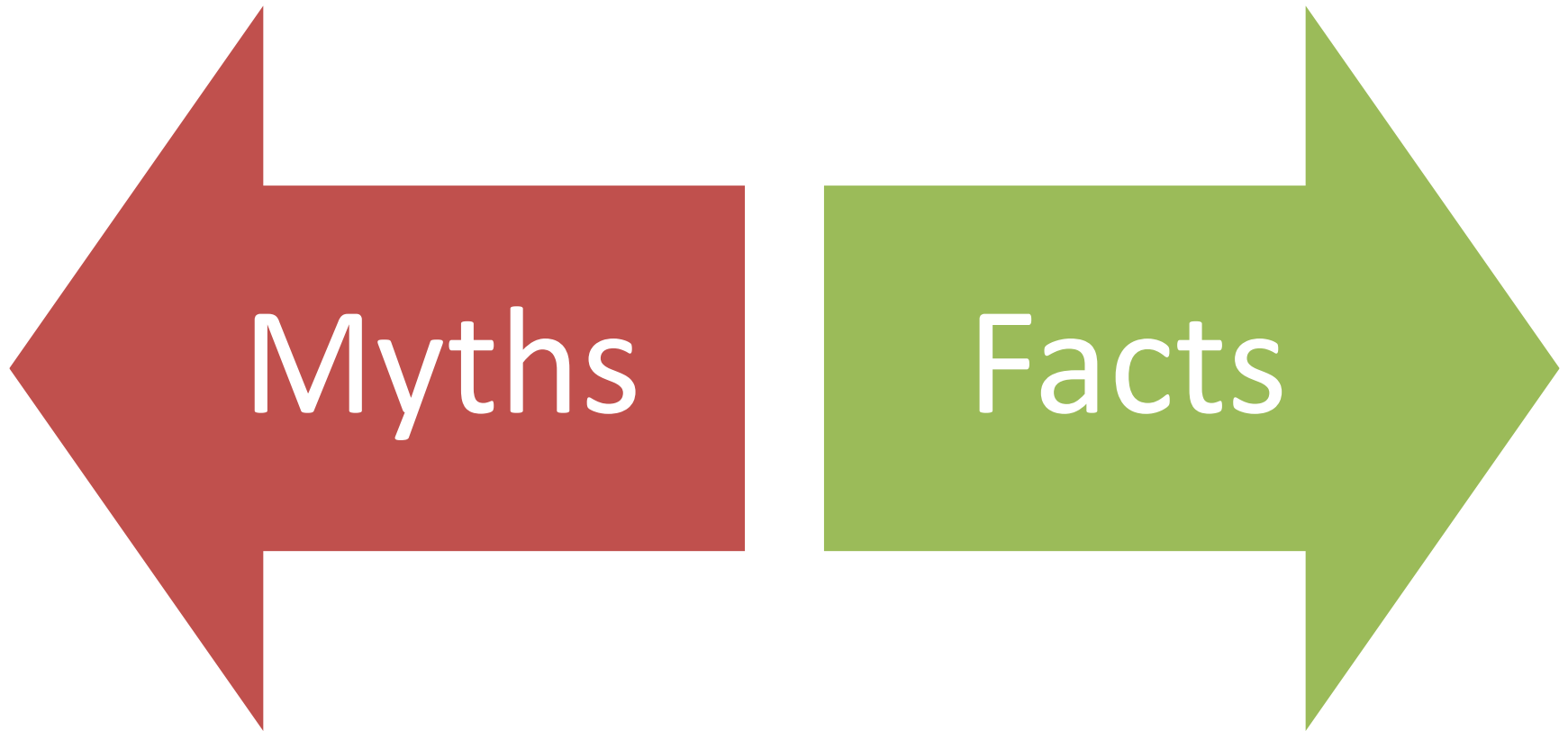
Volume Capacity

- No evidence to support this; emphasize connection between brain & stomach

Eating Frequency

- Individualize for patients based on their preferences

Communicating with Myth-Promoters



Patients, Family, Friends

Does it really
matter?

If no, don't bother.

Open gently.

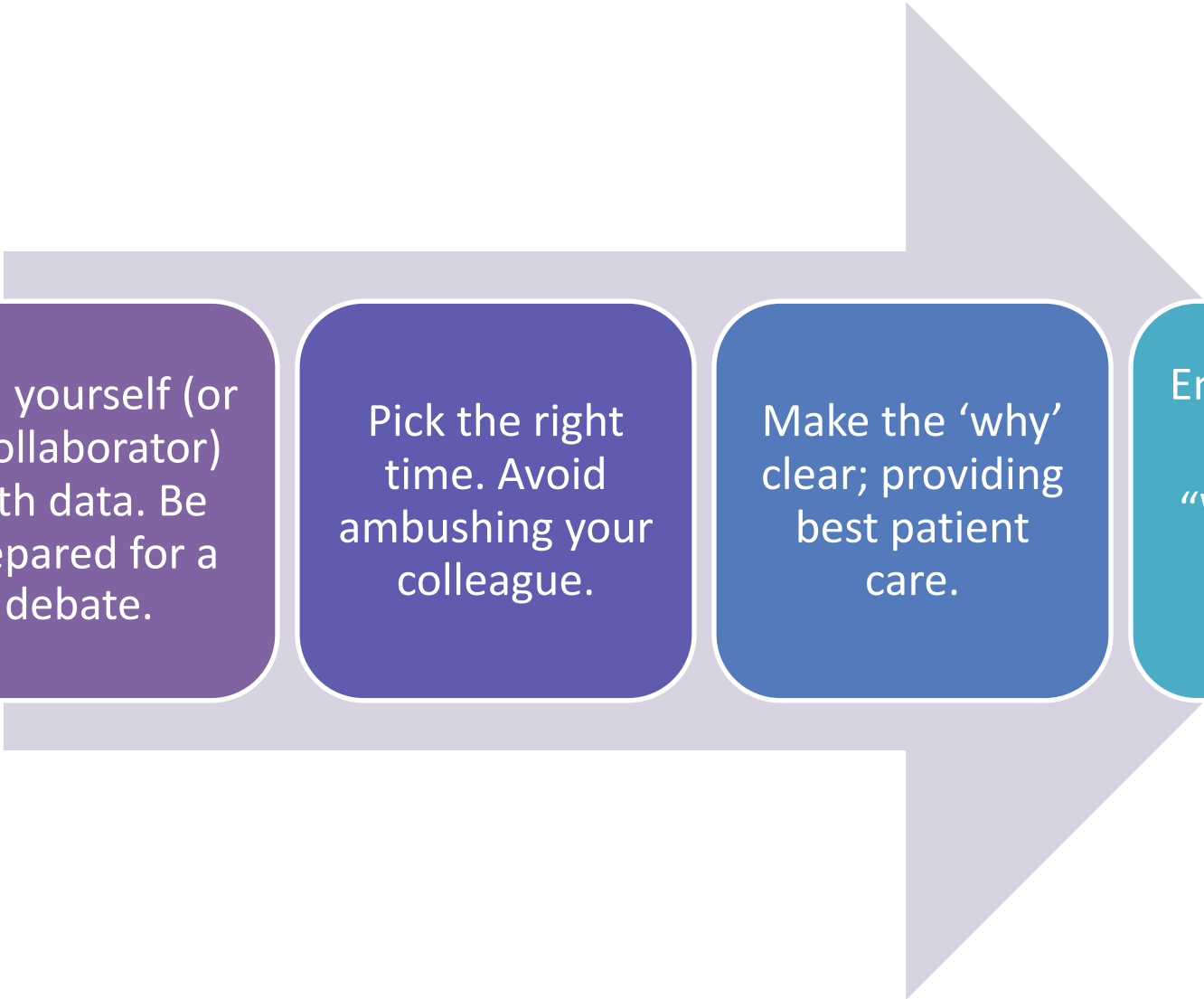
"You know, I hear
that often."

"I'm glad you
brought that up."

Ensure you have
buy-in.

"What are your
thoughts on that?"

Colleagues



Arm yourself (or a collaborator) with data. Be prepared for a debate.

Pick the right time. Avoid ambushing your colleague.

Make the 'why' clear; providing best patient care.

Ensure you have buy-in.
“What are your thoughts on that?”

Summary

- The lack of standardization in bariatric nutrition leaves rooms for myths. Ask why.
- Use evidence-based resources and your RD common sense.
- Challenge your own beliefs. Things change in this field!
- It's our responsibility to communicate with myth-promoters.

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Thank You!!



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CLEAN NUTRITION



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