

Bariatric Surgery

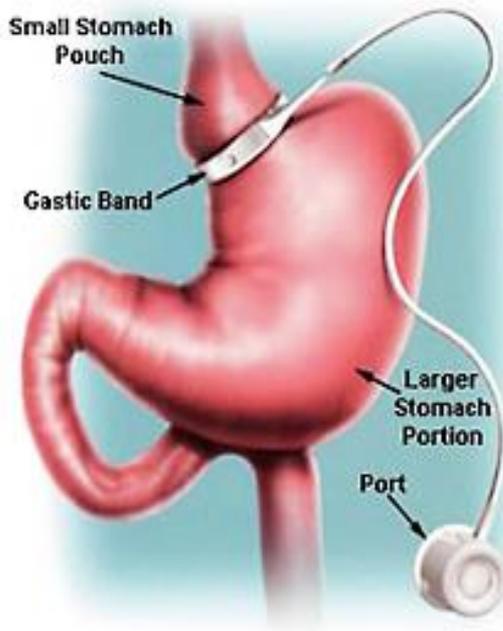
The nutritional considerations and implications for
diabetes management

Jason Levett – Accredited Practicing Dietitian

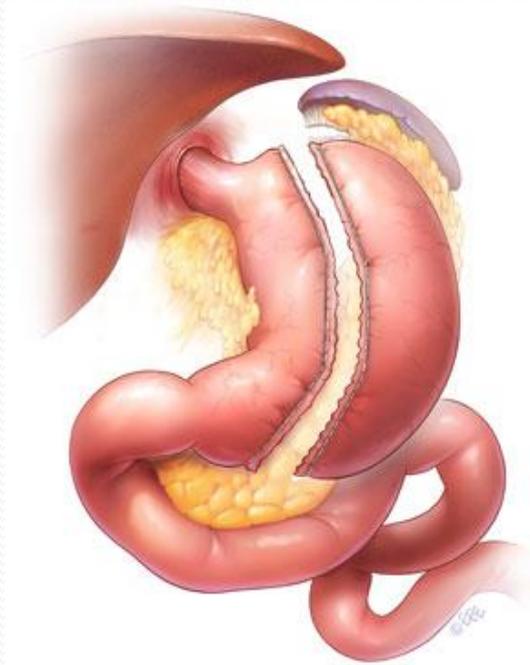
Today's talk

- Types of bariatric surgeries
- How surgery assists glycaemic control
- Lifestyle change
- Pre and post surgical diets
- Protein, vitamin and mineral supplementation
- Hypo management
- GDM testing

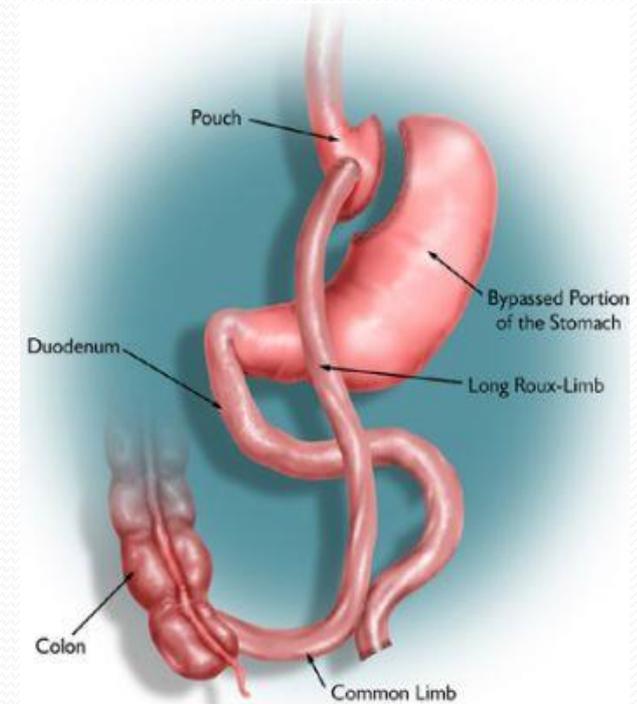
Types of surgeries



Gastric Banding



Sleeve Gastrectomy/
Gastric Sleeve



Roux en Y Gastric
Bypass

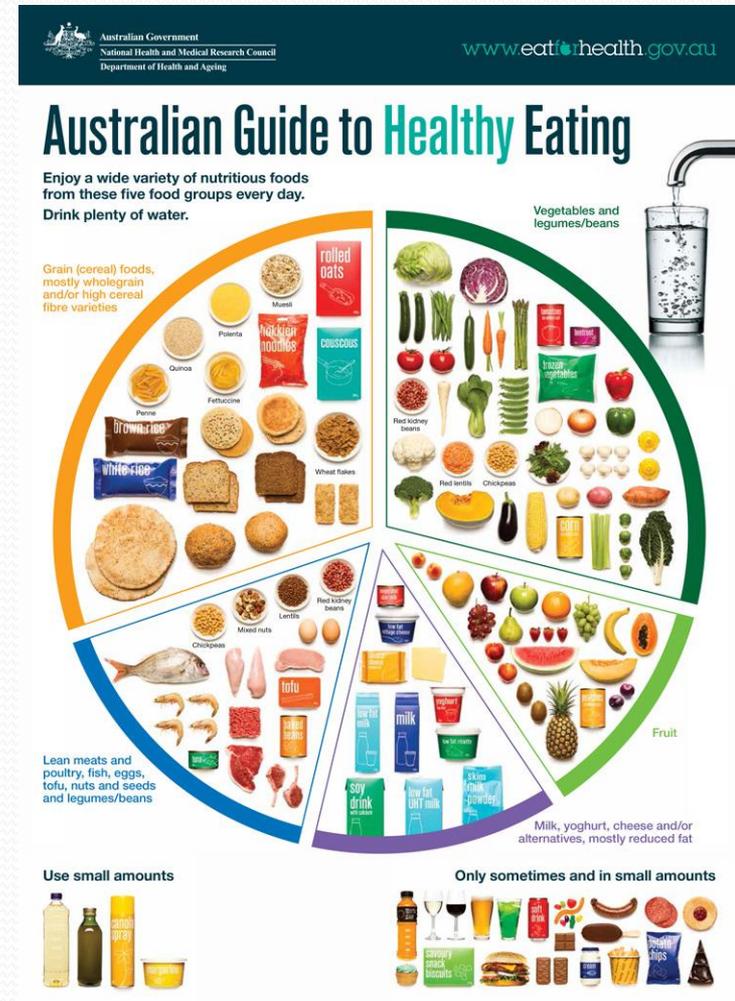
Improved Glycaemic Control

- Decreased carbohydrate intake
- Weight loss
 - Decreasing insulin resistance
 - Increasing activity
- Non-weight loss related
 - Changes to gut hormones
 - Bile acid metabolism
 - Microbiota
 - Intestinal glucose metabolism

(Obes Surg 2017 – Metabolic Surgery in the Treatment Algorithm for Type 2 Diabetes: a Joint Statement by International Diabetes Organisations)

Not Dieting!

- Normal healthy eating
- Small volumes
- Minimal 'sometimes' foods
- Regular exercise
- Is this enough?





MOTIVATION

SOMETIMES THERE JUST ISN'T ANY.

Types of patients with diabetes

- Insulin resistance

- Worried they will develop type 2 diabetes
- PCOS – have struggled with weight for many years

- Type 2 diabetes

- Can be diet controlled, OHA's, injectables and insulin

- Type 1 diabetes

- Well controlled, obese and wanting to lose weight
- Poorly controlled and wanting to lose weight to assist diabetes management

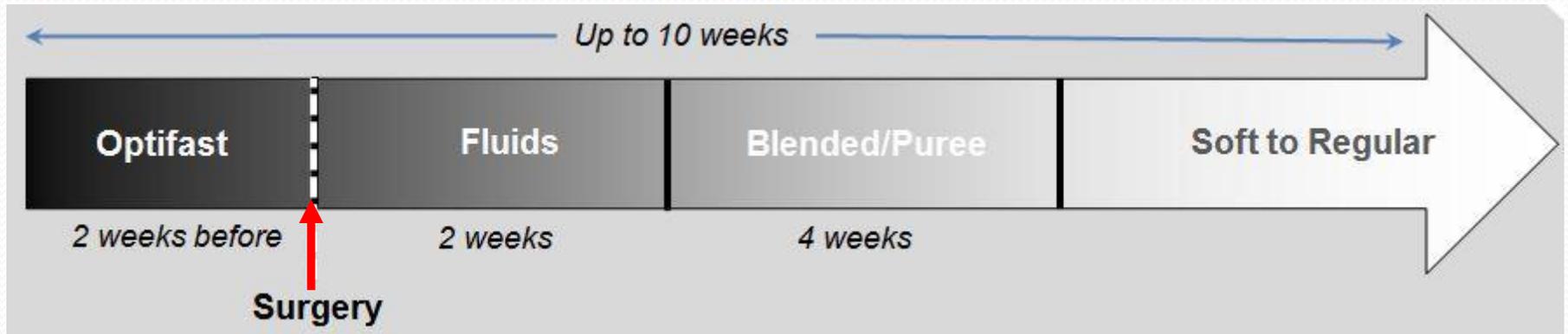
- Weight loss to increase fertility



Most
common

Very
occasionally

Why the pre and post op diets?



- **Optifast**
 - To reduce the size of the liver and make the surgery safer
- **LAGB**
 - To allow the band to settle in place
- **Sleeve/Bypass**
 - To allow healing

Pre surgery diet - Optifast



The Optifast® VLCD™ Program can be modified to suit individual requirements. 1 See 'allowed low starch vegetables and fruit' in the 'additional foods' table (www.optifast.com.au).

* Meals should equal approximately 400 calories. Optifast® VLCD™ is a Food for Special Medical Purposes for the dietary management of obesity and must be used under medical supervision.

Pre surgery diet - Optifast

- Optifast phase – usually 2 weeks
 - Ketosis to reduce the fat in the liver
- Nutritional implications
 - Low carbohydrate
 - Need for insulin adjustments
 - usually by half
 - OHA's reduced or ceased
 - Increase BGL's testing
 - Ongoing reduction in insulin/OHA's as patient loses body fat



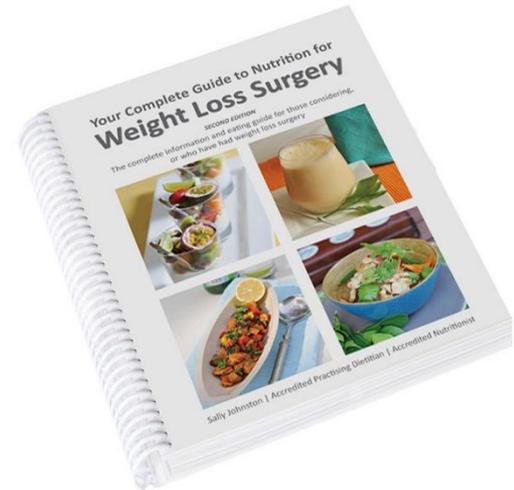
Fluid phase

Time	Amount	Fluid Type
7am	½ cup	Up&Go™ or thin fruit smoothie
8am	½ cup	Water/tea/low joule cordial
9am	½ cup	Fruit juice/vegetable juice
10am	½ cup	Sustagen™/Ensure™/Optifast®
10.30am	½ cup	Water/tea/low joule cordial
11am	½ cup	Sustagen™/Ensure™/Optifast®
12pm	½ cup	Water/tea/low joule cordial
12.30pm	½ cup	Thin, blend, strained soup
1.30pm	½ cup	Custard/vanilla/plain yoghurt
2.30pm	½ cup	Water/tea/low joule cordial
3pm	½ cup	Sustagen™/Ensure™/Optifast®
4pm	½ cup	Water/tea/low joule cordial
5pm	½ cup	Sustagen™/Ensure™/Optifast®
6pm	½ cup	Thin, blend, strained soup
7pm	½ cup	Water/tea/low joule cordial
8pm	½ cup	Flavoured milk/Milo™



Puree Phase

- All food needs to be a smooth puree
 - Not as bad as it sounds...
- ½ cup portions at main meals
 - Breakfast: Soggy/pureed cereal, e.g. weet-bix, quick oats or high protein smoothie/Optifast
 - Lunch/Dinner: Puree soup or casserole
- Fluids and protein supplements between meals
- If patient is hungry???



Normal textures - Typical day

BF: ½ oats sachet on milk

L: 2-4 vita-weets with avocado and ham/tuna/chicken

D: Family meal (¾ cup) including protein, free veg and ?sweet potato (¼ cup)

- Protein supplements and water between meals
- BN chewable multivitamin

CHO (g)

18 / 0 / 7-14 / 0 / 0-8 / 0

BF: 1 weetbix with ¾ cup milk

am: 2 cruskits and cheese

L: Chicken with free veg and rice (¼ cup)

D: Spaghetti Bolognese (¼ cup pasta)

- Protein supplements and water between meals
- Chewable multivitamin, calcium

CHO (g)

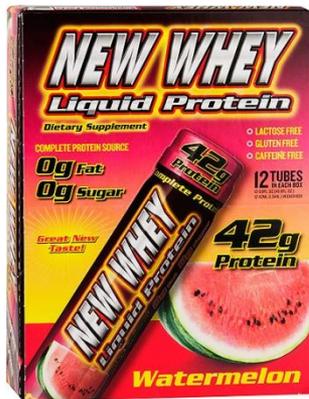
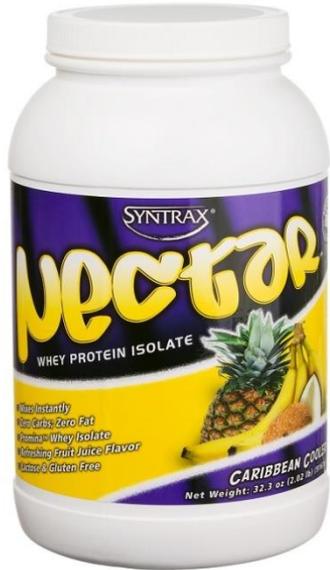
20 / 9 / 10 / 0 / 14 / 0



Protein supplements

- Generally recommend 60-80g/day
 - 1-1.5g/kg IBW
- Reduced food volume means most patients will not meet protein requirements
- Texture issues with a band can impact on tolerance of protein food such as meat or chicken
- What protein supplements?

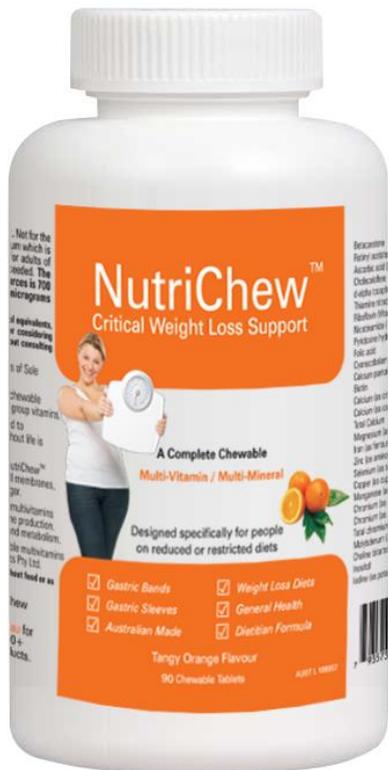
Protein Supplements



MV supplementation

- Vitamins and minerals
 - Supplementing with chewable for 2-3 months
 - Then moving to tablet or capsule if tolerated
 - LAGB – chewable MV
 - Sleeve – MV, Calcium
 - Bypass – Elevit, Calcium citrate (1200mg), B12 injection/wafers
- What about OHA's and other medications?

MV supplementation



Hypo management

- Small amount of quickly absorbed carbohydrate
 - LAGB/sleeve
 - Need to eat slowly or can have blockages
 - Unable to eat large quantities so suggest carbohydrate containing fluids
 - Can't have fizzy drinks as the bubble cause a lot of discomfort
 - Bypass
 - Malabsorption with a bypass
 - Dumping syndrome



GDM testing

- GDM testing
 - 300ml drink containing 75g glucose
- Issues:
 - Often not tolerating 300 ml glucose drink in 15 minutes
 - Dumping syndrome
 - Is 75g glucose sufficient for the test?
- Other options
 - Insulin resistance so may dx on fasting result
 - Hba1c not validated
 - Extend the drinking time from 15-25 minutes
 - Start BGL monitoring



Questions?

