

# Bariatric Surgery - Pre and Post





# Bariatric Surgery - Pre- and Post-

- Selection for bariatric surgery
  - The ideal patient(s)
- Work up and optimisation for surgery
- What happens afterwards
- Early surgery complications
- Late surgery complications
- Follow-up of the patient without complication





# Obesity and Diabetes in New Zealand

- 1 122 000 (30.7%) NZ adults have BMI > 30 kg/m<sup>2</sup>
  - Increased from 26.5% in 2006/07
  - 458 000 have BMI >35 kg/m<sup>2</sup>
  - 195 000 have BMI >40 kg/m<sup>2</sup>
- 203 000 NZ adults have T2DM (6.8% of population)
  - Increased from 5.6% in 2006/07
- Obesity set to overtake tobacco as leading cause of premature death and disease in NZ in 2016





# Selection for bariatric surgery

- NIH criteria 1991
  - BMI  $>40 \text{ kg/m}^2$  or  $>35 \text{ kg/m}^2$  with co-morbidities
  - Has already attempted non-surgical weight loss
  - No uncontrolled mental health conditions/substance abuse
  - No conditions that would preclude surgery
  - No non-obesity related life threatening conditions e.g. cancer

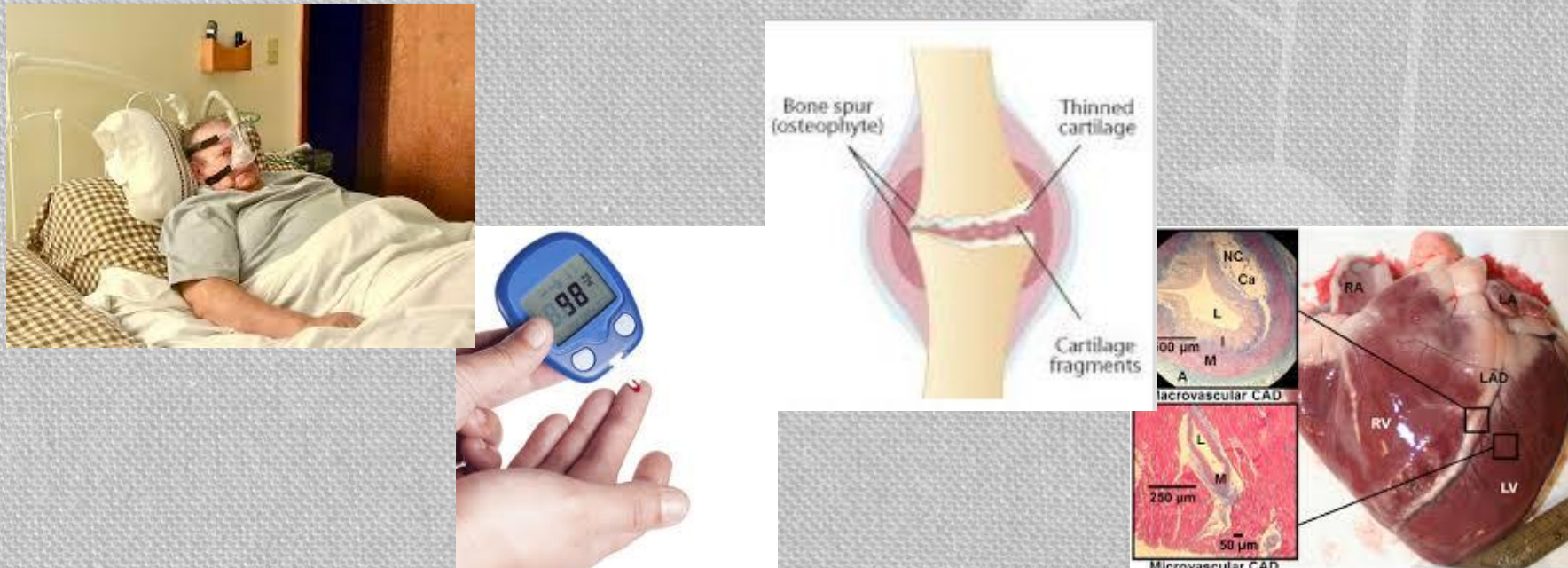
BUT

- This would include ~400 000 New Zealanders
- We only deliver ~1000 bariatric operations per year



# The ideal candidate

- Meets the NIH criteria
- Understands what is involved in bariatric surgery and the consequent lifestyle changes
- Is starting to develop negative health impacts from their weight
- Negative health impacts are at a reversible stage






# South Island Alliance Bariatric Program

- Agreed upon by South Island DHB CEO's
- Pooling of SI bariatric surgery funding
- Standardised selection and prioritisation of patients
- Prioritisation by MOH score
- Multi-disciplinary selection committee
- Surgery in SDHB and CDHB (private sector in Christchurch)
- Commenced July 2014
- Funded for 58 operations per year (total)



# Selection criteria for Public Program



**South Island Bariatric Surgery**  
**Referral Form**

**Patient Details**

Referral Date: \_\_\_\_\_

First name: \_\_\_\_\_ Surname: \_\_\_\_\_ NHI: \_\_\_\_\_

DOB: \_\_\_\_\_ Phone: \_\_\_\_\_ Mobile: \_\_\_\_\_

Gender: ☐ Male ☐ Female Ethnicity: \_\_\_\_\_ Eligible for NZ Health Care? ☐ Yes ☐ No

Weight (kg) \_\_\_\_\_ Height (m) \_\_\_\_\_ BMI (kg/m<sup>2</sup>) \_\_\_\_\_

Address: \_\_\_\_\_ Email: \_\_\_\_\_

**Referrer Details**

Referrer: \_\_\_\_\_ Practice name: \_\_\_\_\_

Contact Ph.: \_\_\_\_\_ Fax No.: \_\_\_\_\_ Copy Result To: \_\_\_\_\_

**All items require a response.**

Is the referrer the patient's enrolled general practitioner? Yes / No

• If no, is enrolled general practitioner supportive of the referral? Yes / No (answer must be **yes**)

Attach standard referral information or send an ERMS referral in addition.  
See HealthPathways > Surgical > General Surgery > Bariatric Surgery

Inclusion Criteria (must be <b>yes</b> )	Yes	No
Age 18 to 65 years		
BMI > 40		
Obesity > 5 years		
Failed attempts at weight loss for > 2 years		
Accepts long term follow-up and dietary restriction		

**Exclusions – Absolute** (must be **no** – if uncertain, request written advice)

Exclusions – Relative (detail in referral letter)	Yes	No
Anticipated high surgical risk for other reasons		
Significant comorbidities unlikely to be arrested or improved by surgery		
Previous gastric surgery or abdominal irradiation		
Limited life expectancy unrelated to obesity		
Steroid dependency		
Renal failure requiring dialysis. Must be a transplant candidate.		
Previous venous thrombo-embolic disease or bleeding disorder		

**History of attempts at weight loss**

HealthPathways: 25475

21/05/2014



# Prioritisation for Public Program

Morbidities related to obesity ( <i>this is the National Prioritisation Tool</i> )	Yes	No
Lifestyle limitation – e.g., participation in family, or other activities, work (paid or voluntary), choice of clothes, self esteem		
Hypertension – requires active treatment		
Dyslipidaemia – requires active treatment		
Urology		
Gastrointestinal reflux – requires active treatment		
Mild Arthritis		
Arthritis with significant limitation		
Non-alcoholic steatohepatitis - requires positive on disturbed liver function test, liver fibrosis on FibroScan® and alcohol intake of < 20g/day (2 standard drinks)		
Obstetric/Gynaecological issues		
Renal (including hyperfiltration)		
Infertility		
Obstructive sleep apnoea - requires active treatment		
Diabetes (IGT) <i>include date of onset in letter</i>		
Diabetes (Diet or oral medications) <i>include date of onset in letter</i>		
Diabetes (Insulin) <i>include date of onset in letter</i>		

☐ My patient consents to and understands this referral is to a South Island Regional Service and their health information will be available to the South Island Bariatric Surgery Service Multi Disciplinary Selection Committee for assessment and audit purposes. Every effort will be made to limit the use of identifiable information.

☐ *Are HbA1c, urinary protein, creatinine, lipids and LFT results included?*

See the HealthPathways Bariatric Surgery pathway for local details on how to submit this form as part of your referral.

## Referral Checklist

- ☐ Patient consent
- ☐ General practitioner supportive
- ☐ Referral letter attached?
- ☐ Results attached?

## Triage Result

Provisional score ..... ☐  
Accept for FSA ..... Y / N  
If no, decline letter sent to referrer? ..... ☐



# Pre-surgical preparation

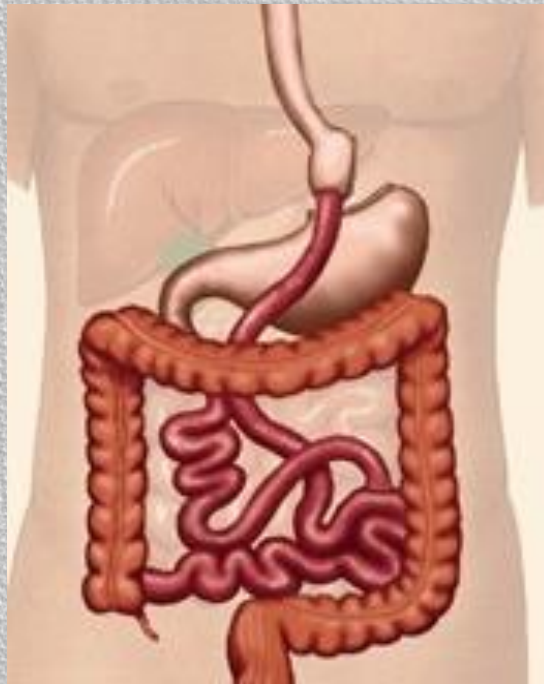
- Multi-disciplinary assessment
  - Surgeon
  - Dietitian
  - Psychologist
  - Others
- Optimisation of known medical co-morbidities
  - T2DM
  - Blood pressure
- Investigation of possible undiagnosed co-morbidities
  - OSA
  - CVD
- Normalisation of vitamin status
  - Iron, B12, folate, Ca/PTH, Vitamin D





# Pre-surgical preparation

- Exercise
- VLELD
- Surgery



Roux-en-Y  
Gastric Bypass

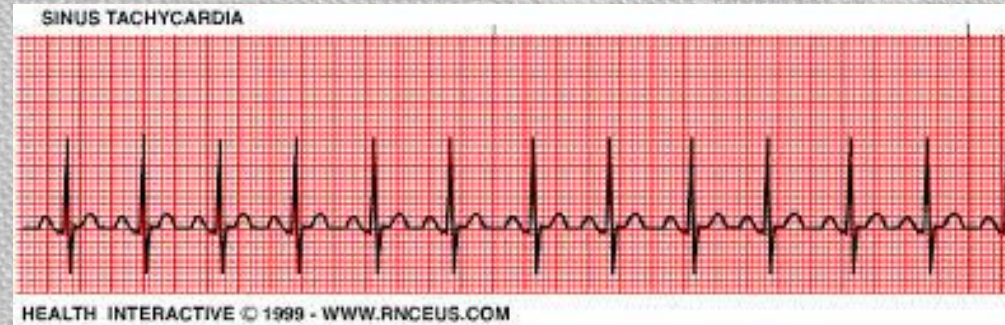


Sleeve  
Gastrectomy



# Post-operative complications

- Serious complications uncommon but typically occur after discharge
- Technical complications
  - Anastomotic leak
  - Intra-abdominal infection
  - Bleeding
- Medical complications
  - DVT/PE
  - MI
  - Pneumonia





# Post-operative complications

- Nutritional complications
  - Constipation
  - Nausea/dehydration
  - Thiamine





# Late complications - either operation

- Gallstones
  - Can occur with significant weight loss from any cause
  - Typical symptoms
  - Can be confused with other complications i.e. internal hernia
  - Diagnosed by USS
  - Treatment with cholecystectomy + IOC
- Nutritional deficiencies
  - Iron/B12/folate most common
  - Calcium deficiency (osteoporosis risk over long term)
  - Thiamine with significant poor oral intake



# Late complications - Gastric bypass

- Anastomotic ulcers
  - Typically occur in first 6 months
  - Dysphagia, epigastric pain, GI bleeding
  - Related to smoking/NSAID's/*H. pylori*
  - Diagnosed and treated by endoscopy +/- dilatation
    - Smoking cessation/*H. Pylori* eradication
    - Stop NSAID's, start PPI's
- Internal hernia
  - Rare but may occur any time after surgery
  - Vague symptoms but typically include pain or bloating after eating
  - Can be diagnosed by CT with experienced radiologist
  - Needs surgical exploration



# Late complications - Sleeve

- Reflux
  - Sleeve gastrectomy interferes with normal anti-reflux mechanisms
  - Counteracted by beneficial effect of weight loss
  - Incidence 20% first year after surgery
  - Reduces thereafter
  - May have late increase
  - Treated by PPI's at lowest effective dose
  - Rarely, will need revision to Roux-en-Y gastric bypass



# Long term follow-up - Weight loss

- Weight loss accompanied by durable drop in metabolic rate
- Weight maintenance different from weight loss
- Life long struggle
- Exercise 60 minutes 6 days a week or more
- Low fat diet
- Regular weigh ins
- Plan for what to do if weight increases





# Follow-up care Recommendations

Follow-up interval (Months)	3-6 months until stable then 12 months
Clinical	Record weight, height, BMI Encourage healthy eating/activity
Vitamins	Centrum advance 2 daily Calci-tab 500 1-2 BD As required: B12, iron, Vitamin D
Laboratory studies	FBC, Iron studies, B12, folate, Ca, PTH, Vit D, HBA1c, lipids  NB: Check vitamin B12 3-6 monthly if on supplementation
Other investigations	DEXA every 2-years
Other points	Avoid NSAID's for RYGB Check BP, review treatment for HT, lipids and diabetes



# Conclusions

- Bariatric surgery only proven effective treatment for established morbid obesity
- Indicated in all with BMI >35 with co-morbidities
  - Best bang for buck in those with reversible co-morbidities
- Work up aims to get people in best physical shape with optimisation of all co-morbidities
- Post-op problems uncommon but typically occur after discharge
- Constipation, dehydration, reflux most common
- Consider anastomotic ulcer/internal hernia in RYGB
- Six monthly blood tests in stable patients



A wide-angle photograph of a coastal scene. In the foreground, a grassy hillside with some low-lying vegetation slopes down towards the beach. The beach is a long, curved strip of light-colored sand. To the left of the beach, the ocean is visible with several waves breaking, creating white foam. The water has a greenish-blue hue. In the background, a dark, forested headland or cliff line stretches across the horizon. The sky is filled with heavy, dark grey clouds, suggesting an overcast or stormy day. The overall mood is somber and dramatic.

Thank You