Obesity at Menopause and beyond

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Increased abdominal visceral fat

Decreased Physical activity

Increased eating

Decreased Resting Metabolic rate


Mizuno
48
FUKUOKA'98


381

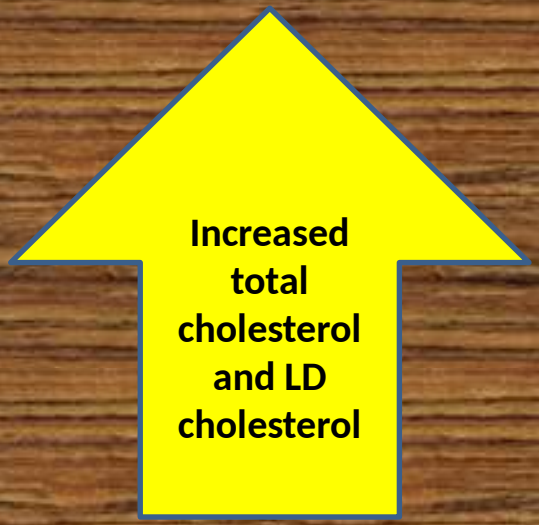
Will menopause cause obesity?

Chronological ageing causes half kg rise in weight every year.

SWAN study: 13.000 women studied

Surgical menopause is assossiated with increased BMI

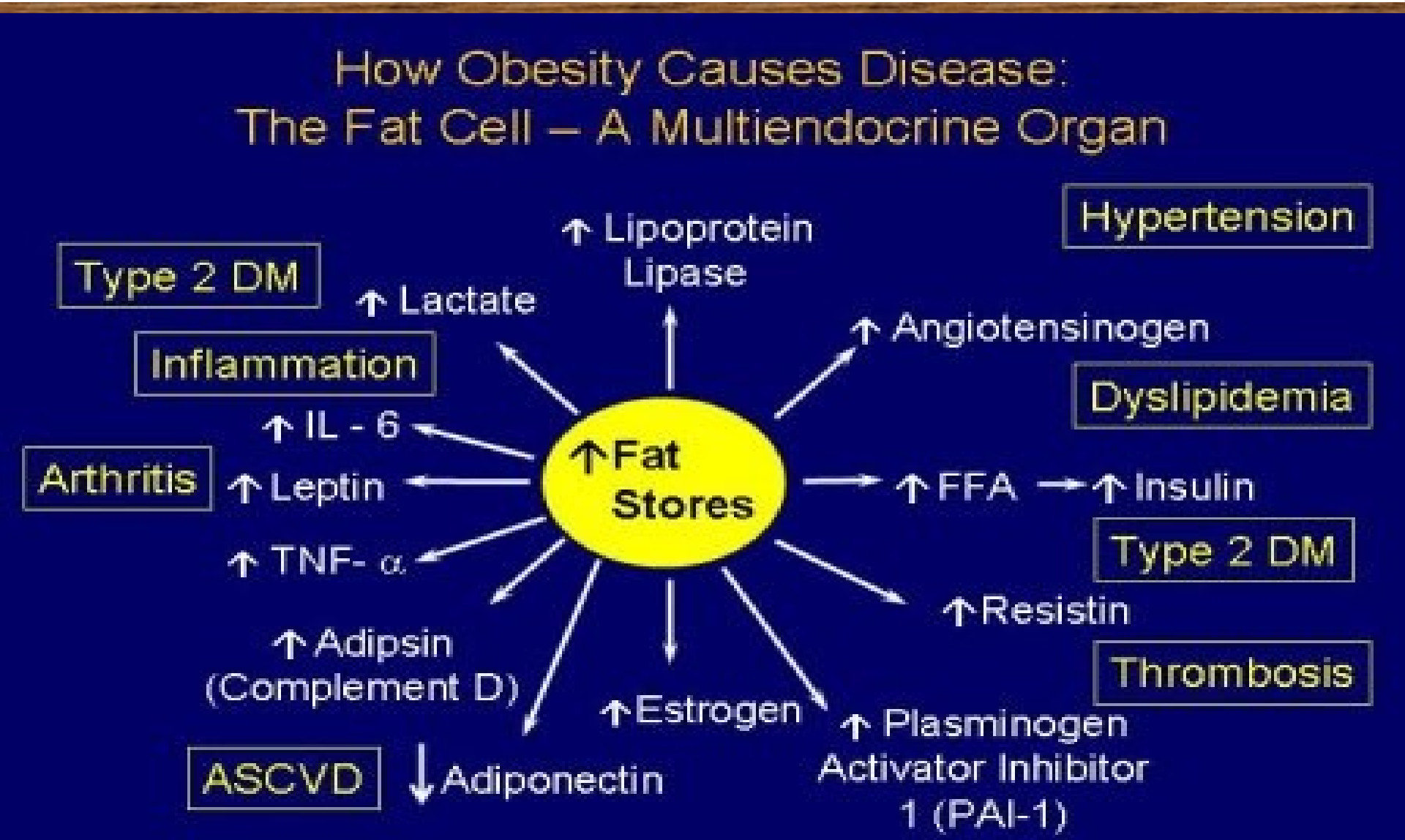
Natural menopause is not assossiated with increased BMI


Increased
total
cholesterol
and LD
cholesterol


Decreased
HDL
Cholesterol

Improvement of physical function is decreased if woman is obese

Fat Deposition – Metabolic Consequences



FFA=free fatty acid; PAI-1=plasminogen activator inhibitor-1; TNF-α=tumor necrosis factor alpha; IL-6=interleukin 6

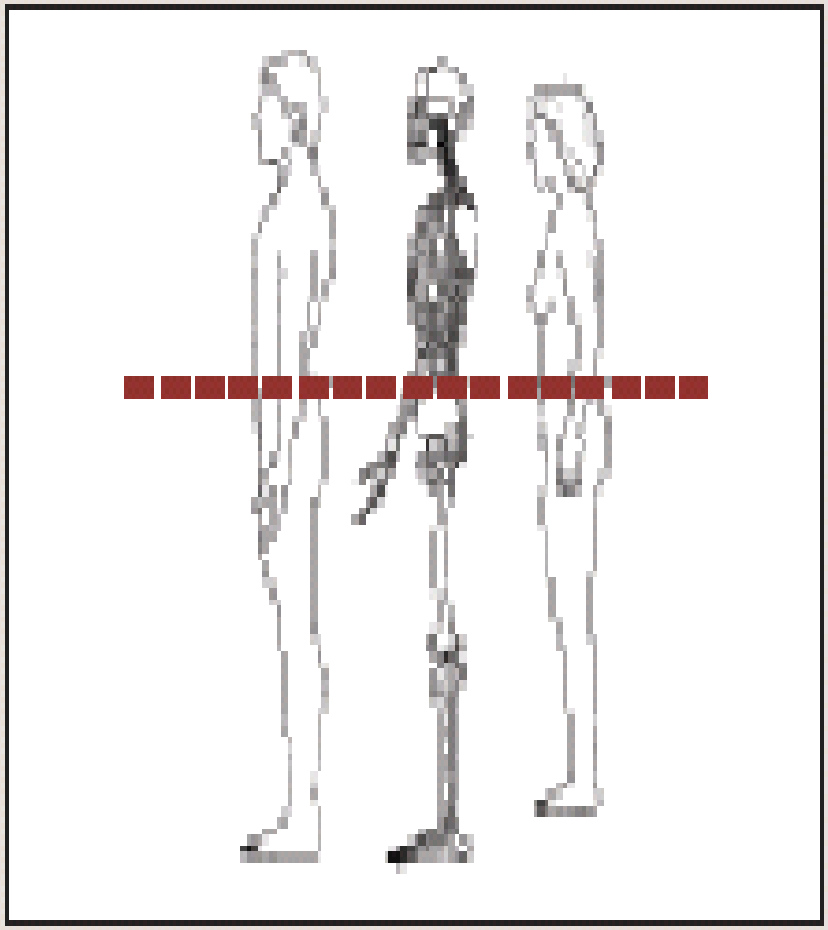
Definition of Obesity

Obesity and overweight are different
Defined using body mass index (BMI)
BMI>40 kg/m2---severly or morbidly obese
BMI> 30kg/m2---obese
BMI> 25kg/m2---overweight

ASSESSMENT

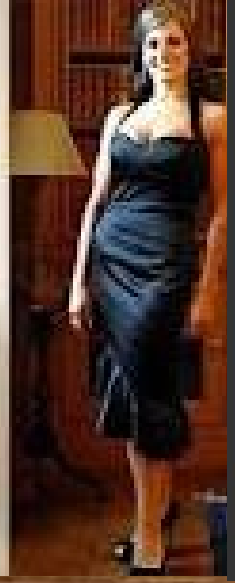
Figure How to measure waist circumference

Locate the upper hip bone and the top of the right iliac crest. Place a measuring tape in a horizontal plane around the abdomen at the level of the iliac crest. Before reading the tape measure, make sure the tape is secure, but not too tight and is parallel to the floor. The reading should be taken at the end of an expiration.



ASSESSMENT of Metabolic syndrome

- FBS/PPBS
- Lipid ProfileT.Chol
  - HDL
  - LDL
  - TG



Lean Body Mass

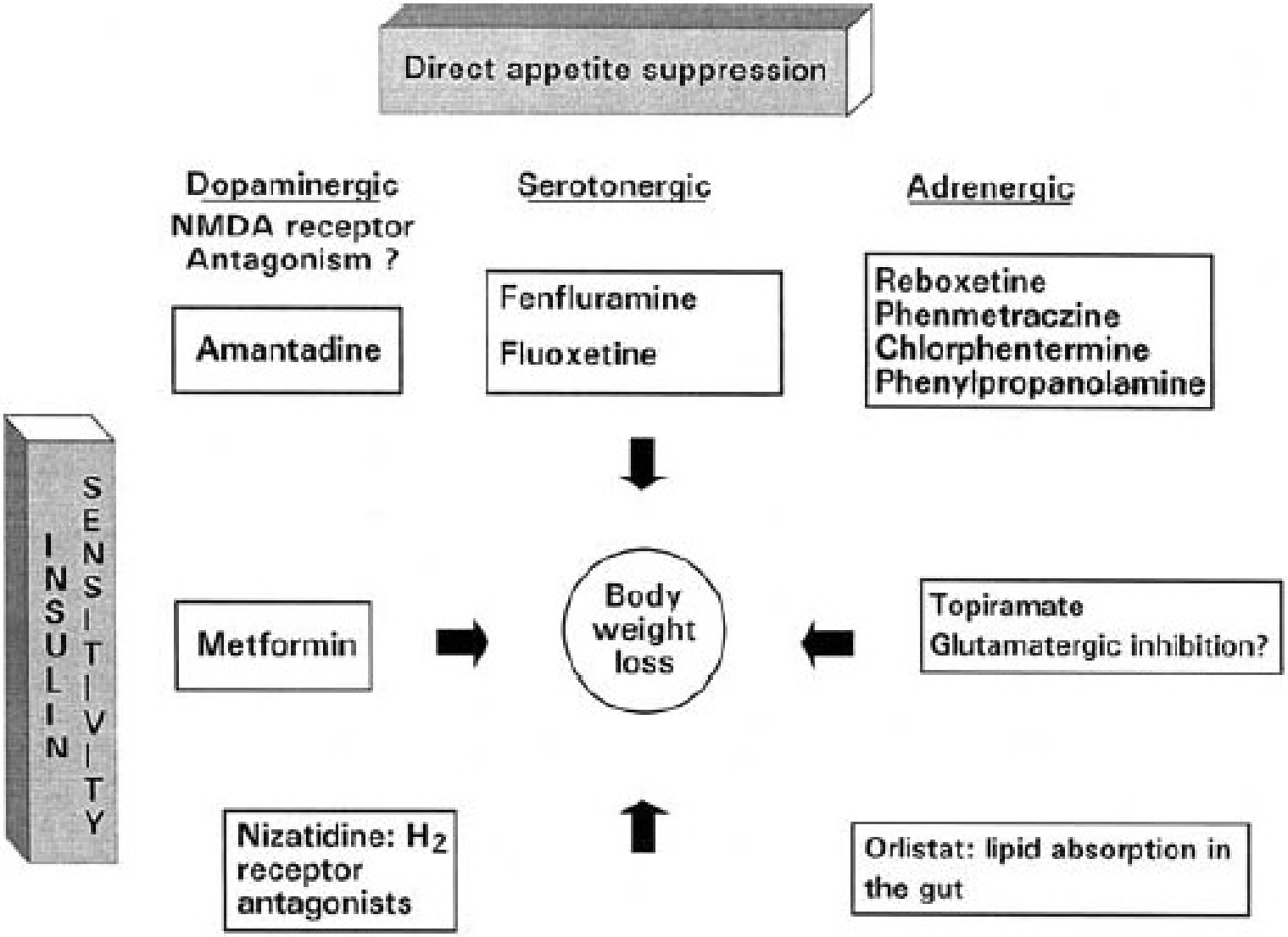
Bone Mineral Density

1.2% bone resorption

Treatment Overview

Diet	Energy intake restriction of 500–1000 kcal/day Dietary fat reduced to <30% of energy intake Optimal dose of carbohydrate and protein have not been established
Exercise	Significant health benefits will occur with 150 min of moderate (55–69% of maximum heart rate) exercise per week Overweight and obese individuals should increase this to 200–300 min/week Lifestyle activity as an alternative to structured activity may be promising although further research is needed to determine exact benefits
Behavioural therapy	Associated with improved long term outcomes Training should be given in behavioural concepts (e.g. problem solving, goal setting, social support) Encouragement should be given to individuals to self monitor exercise and eating habits
Pharmacotherapy	Considered when medically advised To be most effective behavioural therapy should be incorporated combining dietary and exercise modification

Weight Gain – Treatment



Baptista T et al (2004) Curr Drug Targets. 5:279-99

Orlistat

lipase inhibitor

Lipstatinderivative: tetrahydrolipase(THL)

A potent inhibitor of
Gastric lipase
Pancreas lipase
Pancreatic carboxylesterlipase

Inhibits dietary fat absorption

Efficacy:
Long-term Trials (1 year)

In addition to greater weight loss, orlistat also leads to improvement of other parameters:
Cholesterol
Low-density lipoprotein
Diastolic pressure
Fasting insulin and glucose concentration

Side Effects

Gastrointestinal:

Fatty or oily stools
Fecal urgency
Increased defecation
Fecal incontinence
Abdominal discomfort

Drug Interactions

Decreases the absorption of fat-soluble vitamins
Enhances the bioavailability of pravastatin
May enhance bioavailability of warfarin due to reduced vitamin K absorption

Combination with metformin causes episodes of mild to moderate hypoglycemia

VLCD or very-low-energy diets

energy levels between 200 and 800 kcal/d.

162 cal

300-500 cal

(1) higher amounts of protein, which promotes satiety more than carbohydrates.
(2) ongoing gluconeogenesis to compensate for the body's carbohydrate needs, which is an energy-consuming process.
(3) increased diuresis.
(4) loss of glycogen stores and their associated water.
(5) high levels of circulating ketones, which suppress appetite,

Low T3 and Leptin levels
Add Leptin

Low fat diets

LF diets are those that restrict fat intake to less than 25% to 35% of daily energy intake.

Over the first 6 months, low-fat diets produced weight loss and heavier individuals lost more weight.

Experts have postulated that fat reduction has failed to combat the current obesity epidemic because of the carbohydrate content: substitution of fat with HGI foods merely causes increased hunger, anabolism of adipose tissue, and weight gain. The rapid absorption of sugar from an HGI causes a large surge in insulin secretion, which then exerts its anabolic effects. In addition, the high insulin levels decrease blood glucose levels, causing more hunger in the few hours after an HGI meal.

Low carbohydrate diet

The glycemic index is based on the rise in blood glucose in response to the test food compared with the rise after a 50-g portion of white bread

Two randomized clinical trials of low-glycemic-load (higher-fiber) diets *vs.* a conventional diet failed to show any differences in weight loss between the two diets, but those on the lower-glycemic-load diet had a higher resting energy expenditure, lower triglycerides, and less insulin resistance . Thus, eating foods with more fiber can have benefits over and above any effect on body weight and make good nutritional sense.

High Protein diet

Low fat

High protein

15% to 25%

Low calorie

Add protein suppliment

50% reduction in body weight gain

Can take protein suppliments after weight loss programme

Balanced deficit diets

Diets that reduce carbohydrate, protein, and fat

Keto diet

Low-carbohydrate diet (LCD) with a moderate amount of protein restriction to induce ketosis without restricting fat intake

An energy deficit of 500 kcal/day

should result in an

approximate 500 g loss per week.

Litchie fruit

It has been found that feeding of Litchi water extract improved the metabolic profile of rats, characterized by decreased body weight, fasting blood glucose, total cholesterol, triglycerides, free fatty acid (FFA), leptin, and fasting insulin levels.

Litchi fruit possesses bioactive components that enhance the body's immune system, which can protect from diabetes or obesity induced chronic inflammation

Guava

Studies for and against hypoglycemic Properties.

Spondias pinnata

Ambazhanga
Ambatte mara, Amategayi ..
Amate mara, Ambate mara,
Kaadu amate

Pulicha kai.

Jackfruit

Improved glucose tolerance

Anti inflammatory role

Anti oxidant role, particularly seeds

Mangosteen fruit,Kokum fruit

Baddu huli, Punampuli,

Anti Inflammatory property
Reduced C-Reactive protein levels in humans
Anti oxidant property

Acai fruit

Goji berries

Goji fruit's water decoction, crude polysaccharide extracts, and purified polysaccharide fractions markedly reduced blood glucose levels, serum total cholesterol and triglyceride content and increased HDL levels in alloxan-induced diabetic or hyperlipidemic rabbits.

Pomegranate

Reduced weight gain

improved key markers that lead to the development of type-2 diabetes, and improved insulin sensitivity.

Activated insulin action and energy metabolism

Decreased hepatic triacylglycerol contents and levels of monounsaturated fatty acid (MUFA)

Decreased triglyceride:HDL cholesterol ratio

Anti oxidant property

Avocado

Hindi, tamil: Makhan Phal
Kannada: Bennephala/ Benne hannu.
Malayalam: Aathachakka , **vennepazham**

MUFAs highly present in avocado might be responsible agents showing an improved lipid profile
and adequately maintained glycemic control in patients with type 2 diabetes

Anti inflammatory property

Anti oxidant property.

Persimmon

Bakul fruit

Clerodendron glandulosum

Clerodendron glandulosum.Coleb extract prevents adipocyte differentiation and visceral adiposity
by down regulation of PPAR-2 related genes and Lep expression thus validating its traditional
therapeutic use in controlling obesity.

Journal of Ethnopharmacology 135 (2011) 338–343

Exercise

Lean body mass is maintained

Metabolic rate is maintained

Exercise

30 min of moderate intensity Physical Activity on most, preferably all, days of the week..

Brisk walk of 3.5 km a day.

These 30 min may be
divided into shorter bouts of gardening, playing with the grandchildren or climbing stairs to work along the day.

How much to walk on a treadmill?

Maximum Heart Rate for men = 220 – age

Maximum Heart Rate for women = 226 – age

Beginner work out

Duration: 20 minutes

How often: 3–4 times a week

How long: 3–4 weeks

Target heart rate during warm up and cool down:
55% — 65% of your max heart rate

Target heart rate during exercise:
65% — 75% of your maximum heart rate.

A sixty year old lady has breathlessness, oedema ft, Palpitaions, and is overweight.

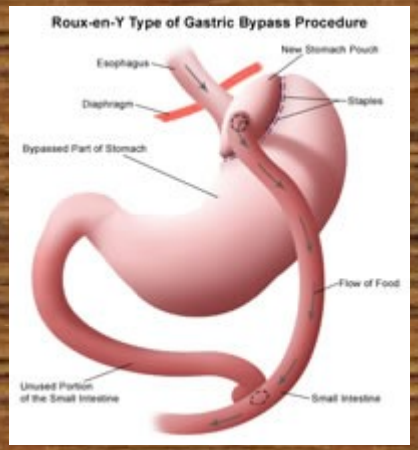
Asked to reduce weight

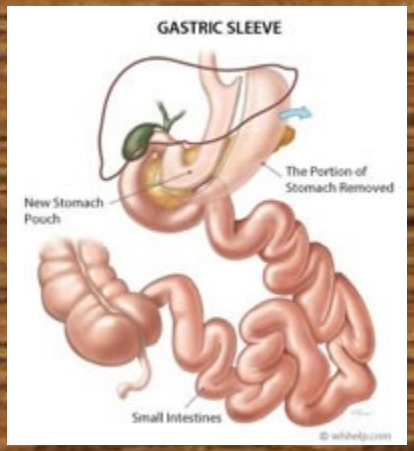
Knee pain prevents her from doing so

TSH is high.

Put on Thyroxine; Oedema reduces. Can exercise

Bariatric surgery





Roux-en-Y Gastric Bypass

Laproscopic Gastric Banding Procedure

Gastric Sleeve Recession Procedure

Patients with a BMI of 40 or greater

Patients with BMI of 35 or greater who also suffer from a severe medical condition related to obesity (sleep apnea, diabetes, heart failure, high blood pressure)

A patient who is prepared and willing to commit to the lifestyle changes that will be necessary following surgery.

They should have no known endocrine (glandular) or metabolic causes for their severe obesity, which is uncorrected.

They should be of sound mind to understand the risks of the operation and the commitment which is necessary to be successful.

They should be able to commit to regular follow-up visits with their doctor, as well as a sound diet and exercise program after surgery

Thank you