

Approach to

Obese Patient

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Objectives

- ▶ To define obesity and classify the degree of obesity based on BMI, waist circumference and waist-hip-ratio.
- ▶ The prevalence of obesity in Saudi Arabia.
- ▶ Common causes of obesity in the community.
- ▶ Common health problems associated with obesity.
- ▶ Methods to prevent obesity in the community.
- ▶ The evidence based approach to reducing weight (exercise, dieting, drug treatment, and bariatric surgical intervention)
- ▶ The roles of health team, medical students, and school health professionals in addressing the problems of obesity in the community



MCQ 1

Which of the following patients should receive pharmacotherapy?

- A. BMI 28 with DM
- B. BMI 24 with DM
- C. BMI 26 with no other diseases
- D. BMI 28 with no other diseases



MCQ 2

Which of the following is NOT considered a primary prevention method in obese patients?

- A. Healthy diet
- B. Physical activity
- C. Bariatric surgery
- D. Breastfeeding



MCQ 3

Which of the following is considered a 'very low calorie diet' ?

- A. 800-1200 kcal/day
- B. 1000-1500 kcal/day
- C. <800 kcal/day
- D. <600 kcal/day



MCQ 4

Which of the following is the role of a medical student in addressing obesity?

- A. Promoting Healthy Nutrition at School
- B. Create non-judgmental atmosphere
- C. Consider barriers people might have
- D. Be a role model



MCQ 5

How many calories should be consumed per day in the 1st month after bariatric surgery?

- A. 2000-2500 kcal/day
- B. 1500-2000 kcal/day
- C. 1000-1500 kcal/day
- D. 400-800 kcal/day



Is **Obesity** the same as being overweight?

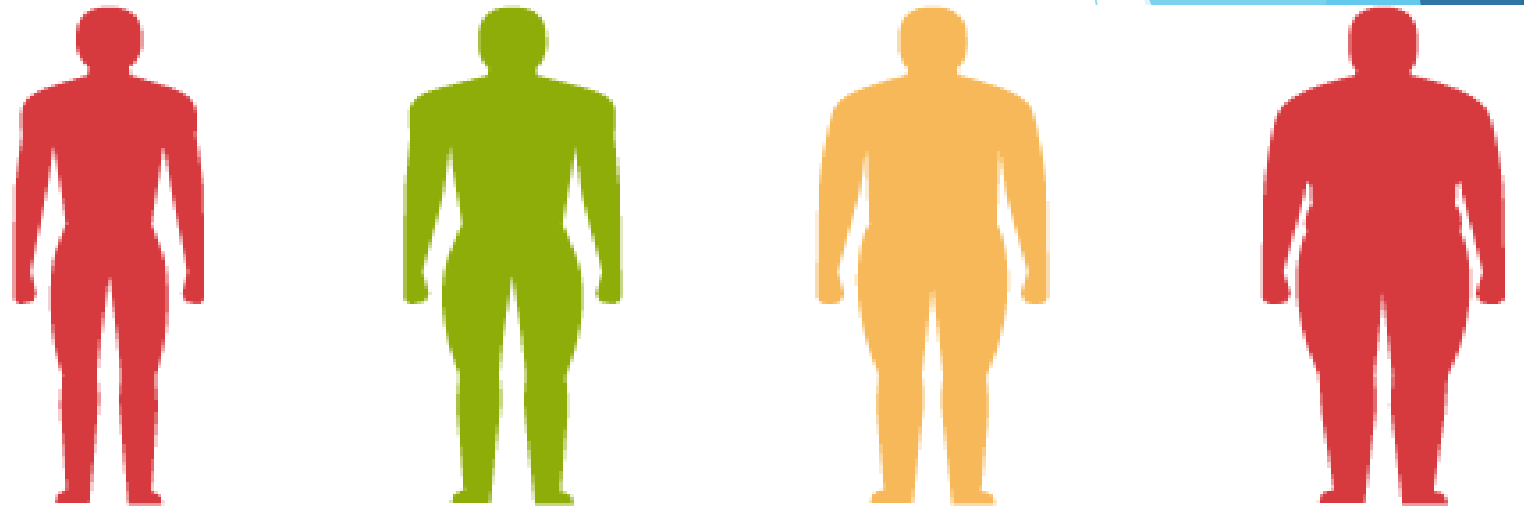
What is **BMI** and how to calculate it?



Obesity is defined as abnormal or excessive fat accumulation that may impair health.

It's also defined by a **BMI** of greater than or equal to **30**.

Body mass index:



BMI Chart

BMI less than 18.50

Underweight

BMI 18.50 - 24.99

Healthy weight

BMI 25.00 - 29.99

Overweight

BMI 30 or more

Obese

Based on BMI =

Weight (Kg)

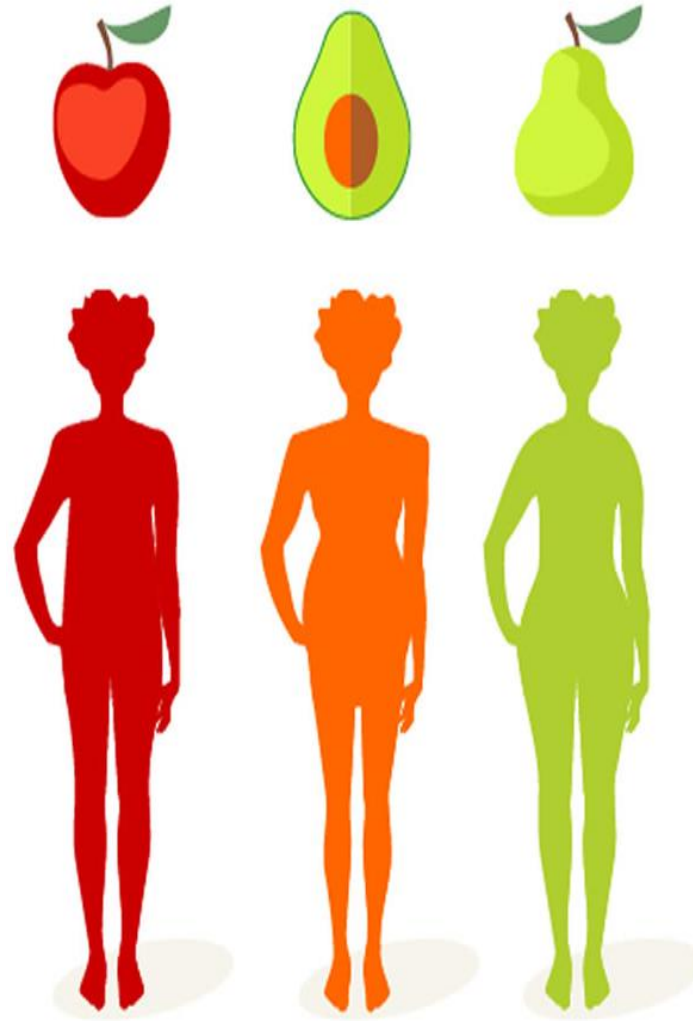
Height² (m²)

Waist circumference:



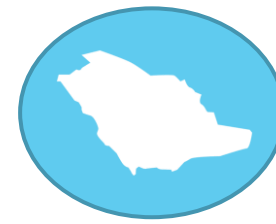
Risk Category	Females	Males
Very low	<27.5 in (<70 cm)	<31.5 in (<80 cm)
Low	27.5–35.0 in (70–89 cm)	31.5–39.0 in (80–99 cm)
High	35.5–43.0 in (90–109 cm)	39.5–47.0 in (100–120 cm)
Very high	>43.5 in (>110 cm)	>47.0 in (>120 cm)

Waist Hip Ratio :



What your Waist-to-Hip Ratio Means

WOMEN	HEALTH RISK	BODY SHAPE
0.80 or below	Low	Pear
0.81 to 0.85	Moderate	Avocado
0.85+	High	Apple
MEN	HEALTH RISK	BODY SHAPE
0.95 or below	Low	Pear
0.96 to 1.0	Moderate	Avocado
1.0+	High	Apple



- **National study** in 2013 (n= 10,735, Age 15+ , woman 51.1%) have estimated: **28.7%** were obese (body mass index ≥ 30 kg/m²) and Prevalence of obesity was **higher among women 33.5% compared to men 24.1%**

Memish et al. (2014)

- **School-based multi-centre study** in 2014 (n=2,908, Age 14-19, woman 51.8%)
have estimated:
 - Prevalence of **Overweight** was **19.5%** in males and **20.8%** in females
 - Prevalence of **Obesity** was **4.1%** in male and **4.7%** in females.

Al-Hazzaa et al. (2014)

➤ Obesity Causes:

➤ Behavioural causes

- Unhealthy diet (high caloric intake)
- Low physical activity
- Sedentary lifestyle
- Smoking cessation

➤ Other:

- Genetics
- Childbirth
- Hypothyroidism
- Cushing's syndrome
- Steroids



Obesity associated Health problems

Cancers :

- 1- breast (in post-menopause)
- 2- endometrium
- 3- colon

- 1- Breathlessness and
- 2- sleep apnoea

- 1-Coronary heart disease
- 2- Hypertension
- 3- Type 2 DM
- 4- Dyslipidaemia

- 1- Osteoarthritis (knee)
- 2- Gout / hyperuricaemia
- 3- Gallbladder disease



**Obesity in the community
?**

How To Prevent ?

Obesity in the community ? Primary Prevention:

Education:

A. Maintaining a balanced diet and a healthy behavior Special consideration for children:

- i. Avoid using food as a reward.
- ii. Encouragement of healthy food consumption.

B. Exercising and active life style:

- i. Walk and exercise for 30 minute or more, 5 days a week.
- ii. Reduce time spent in front of TV, computer, and mobiles.

C. Breastfeeding:

- i. A recent systematic review however found only a 10 percent reduction of overweight children with long term breastfeeding



Obesity in the community ? **Secondary Prevention:**

- ▶ Exercise
- ▶ Diet
- ▶ Drug Management
- ▶ Bariatric surgery



Obesity in the community ?
Tertiary Prevention:

Decreasing the progression to more severe obesity

- ▶ Reducing the likelihood of associated musculoskeletal, metabolic, or vascular disorders (e.g., osteoarthritis, diabetes, or cardiovascular disease).



Evidence-based approach

to decrease weight

1. **Diet**
2. **Physical activity**
3. **Behavioural
interventions**
4. **Medications**
5. **Bariatric surgery**



Diet

- ▶ Low calorie diet (800-1800 kcal/day)
- ▶ Very low calorie diet (<800 kcal/day)
 - i. Requires supervision
 - ii. Not for more than 12 weeks
 - iii. Used when weight loss has plateaued



Food Composition

- **Healthy eating plate requires some modification for obese patients.**
- **Carbohydrates: < 30g/day**
- **Fat: < 30% of total daily caloric intake**
- **Low carb diet is better than low fat diet (SIGN guidelines)**

HEALTHY EATING PLATE

Use healthy oils (like olive and canola oil) for cooking, on salad, and at the table. Limit butter. Avoid trans fat.



The more veggies – and the greater the variety – the better. Potatoes and French fries don't count.

Eat plenty of fruits of all colors.



STAY ACTIVE!

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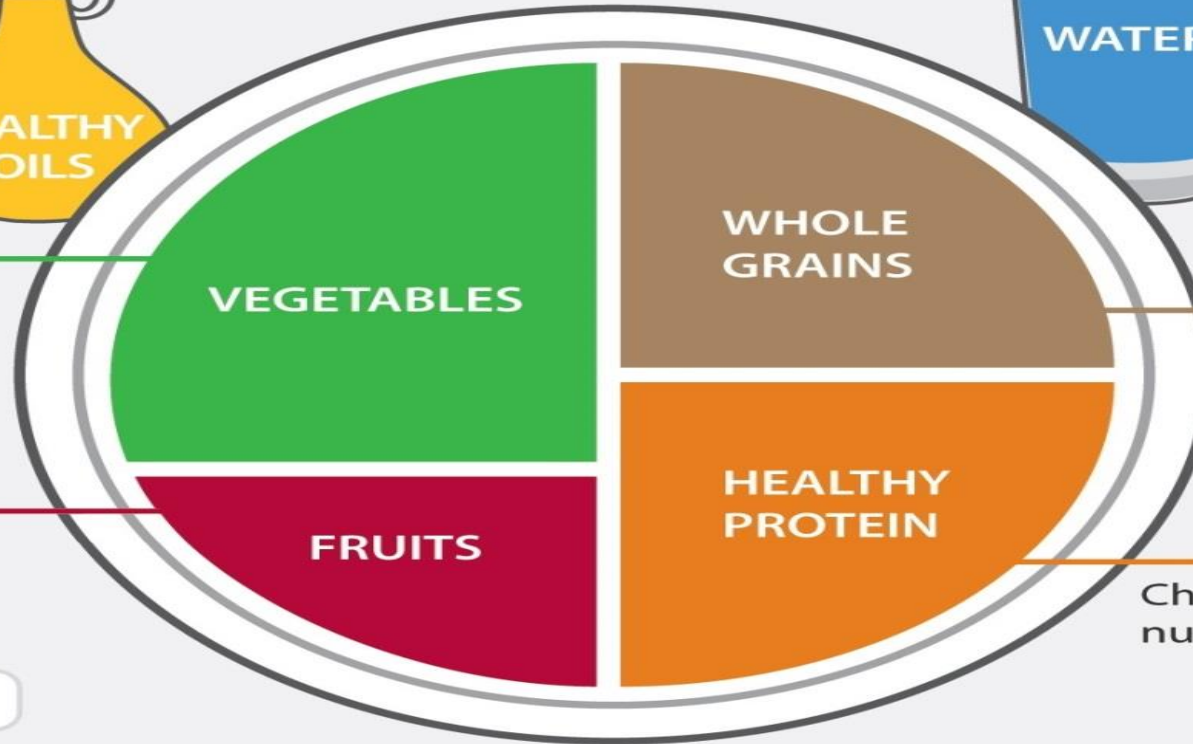
Harvard School of Public Health
The Nutrition Source
www.hsph.harvard.edu/nutritionsource



Drink water, tea, or coffee (with little or no sugar). Limit milk/dairy (1-2 servings/day) and juice (1 small glass/day). Avoid sugary drinks.

Eat a variety of whole grains (like whole-wheat bread, whole-grain pasta, and brown rice). Limit refined grains (like white rice and white bread).

Choose fish, poultry, beans, and nuts; limit red meat and cheese; avoid bacon, cold cuts, and other processed meats.



Harvard Medical School
Harvard Health Publications
www.health.harvard.edu





Exercise

- ▶ **For a normal adult:**
30 min/day for at least 5 days/week (150 min/week)
- ▶ **For an obese adult:**
40-50 min/day for at least 5 days/week (200-250 min/week)
- ▶ **Exercise alone is not effective in losing weight.**

Benefits of Exercise

Reduction in the risk of:

- ▶ DM
- ▶ CHD
- ▶ Osteoporosis
- ▶ Some cancers

Management of:

- ▶ Hypertension
- ▶ Hypercholesterolaemia
- ▶ DM
- ▶ Arthritis



Diet or Exercise

- ▶ Diet only: short term effects unless maintained.
- ▶ Exercise only: help in preventing weight gain but not in significant weight loss.
- ▶ **Therefore, both of them are required as lifestyle modifications for obesity.***

*Alfadda AA, Al-Dhwayan MM, Alharbi AA, Al Khudhair BK, Al Nozha OM, Al-Qahtani NM, Alzahrani SH, Bardisi WM, Sallam RM, Riva JJ, Brožek JL. The Saudi clinical practice guideline for the management of overweight and obesity in adults. Saudi medical journal. 2016 Oct;37(10):1151.



Behavioural interventions:

Adults :

- Self-monitoring .
- Goal setting (weight loss of 0.5-1 kg/week
till the target

BMI is reached.)

- Slowing rate of eating.
- ensuring social support.
- Cognitive restructuring (modifying thoughts) .
- Strategies for dealing with weight regain.

Children :

- stimulus control.
- self-monitoring .
- goal setting .
- rewards for reaching goals
problem solving.



Pharmacotherapy

- **When to use:**
 - i. BMI ≥ 30 kg/m²
 - ii. BMI ≥ 27 kg/m² + obesity-related comorbidity

Medications

Orlistat:

- ▶ Acts by inhibiting Lipase in the GI tract, thus preventing fat absorption.
- ▶ Inhibits absorption of fat-soluble vitamins (A,D,E,K), thus, they should be supplied.
- ▶ Should be used as an adjunct to diet and exercise

Other:

- ▶ Naltrexone/bupropion (US and EU approved)
- ▶ Liraglutide (US and EU approved)



Bariatric Surgery



Bariatric Surgery

When to consider?

- ▶ BMI ≥ 40 kg/m²
- ▶ or BMI ≥ 35 kg/m² with obesity-related comorbidity (e.g., hypertension, diabetes, sleep apnoea, GERD)
- ▶ When non-surgical methods have failed.

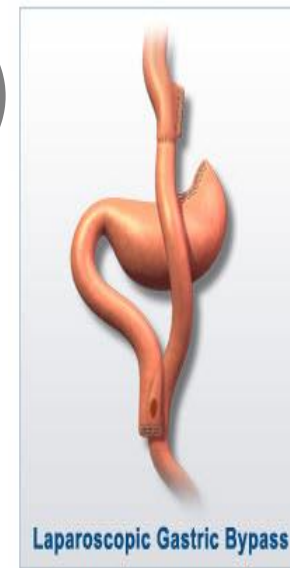
Bariatric Surgery

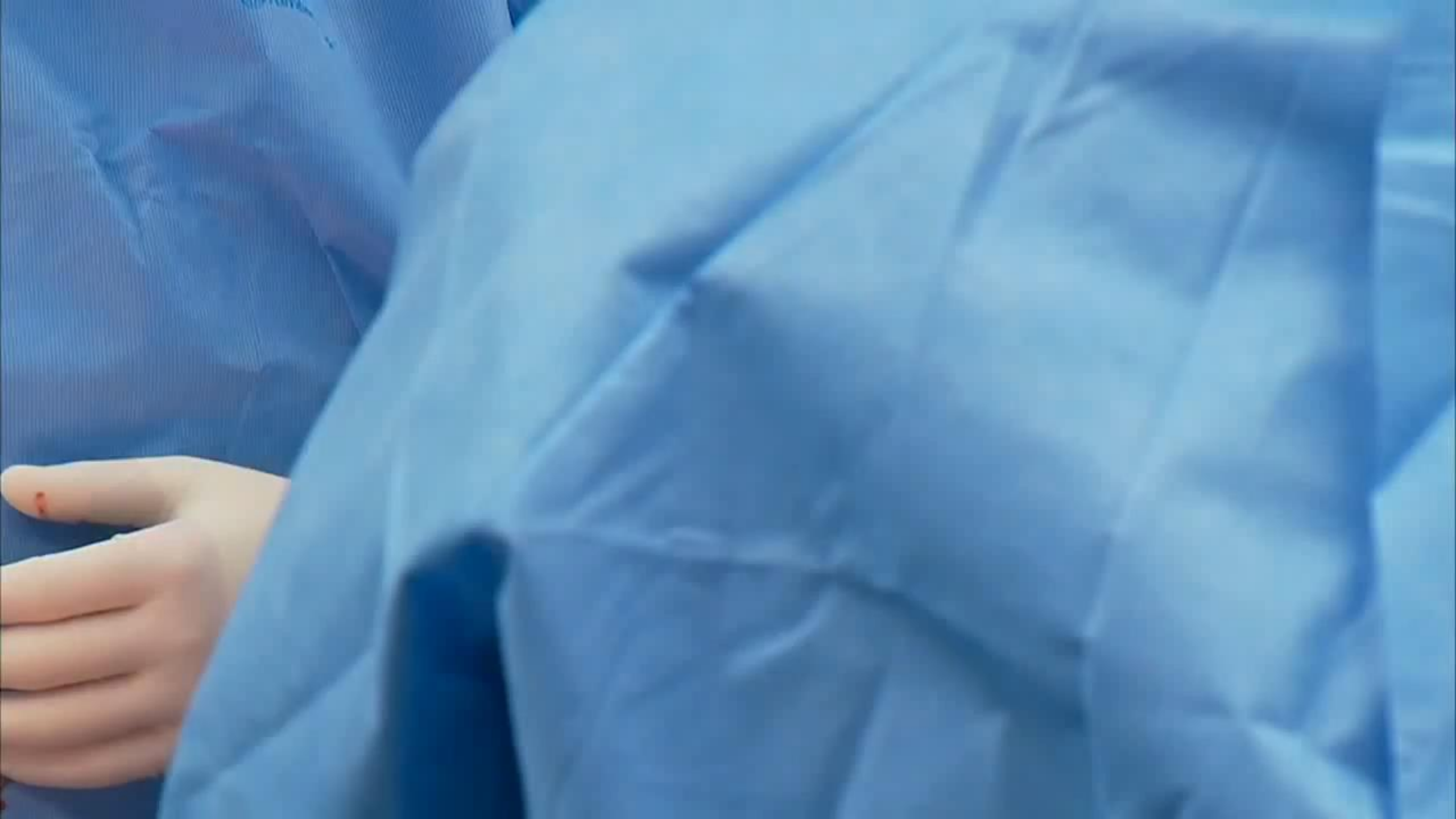
How does it reduce weight?

Reduces food **intake** by **altering hunger and satiety**.

Techniques: (Laparoscopic vs open)

- ▶ Sleeve gastrectomy (USA, KSA)
- ▶ Gastric bypass
- ▶ Adjustable gastric banding (UK)







Bariatric Surgery

After discharge:

1. Diet
2. weight should be measured
3. Labs
4. When to refer back to **Bariatric Surgery**



1. Diet

▶ Immediate :

- ▶ Full liquid diet for 2-3 weeks.
- ▶ Gradually changed to soft, solid food (salads, fruits, vegetables and soft proteins)
- ▶ 400-800 kcal/day for the 1st month.
- ▶ vitamin and mineral supplements
(for example multivitamins, Calcium, Vitamin D, Vitamin B12)



1. Diet

- ▶ In the 1st 12 months:
 - ▶ Healthy diet
 - ▶ No meals skipping
 - ▶ Regular dietician visits.



1. Diet

- ▶ For epigastric pain and vomiting:
 - ▶ Eat slowly
 - ▶ Stop eating once they reach satiety
 - ▶ No food and beverages at the same time

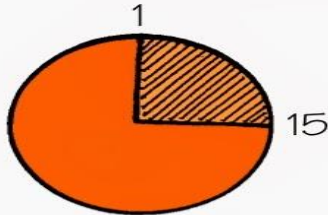


Dumping syndrome:

- ▶ If too much food enters your small intestine quickly, you are likely to experience nausea, vomiting, dizziness, sweating and diarrhea.
- ▶ **Eating** too much or too fast, eating foods high in fat or sugar, and not chewing your food adequately can all cause nausea or vomiting after meals.

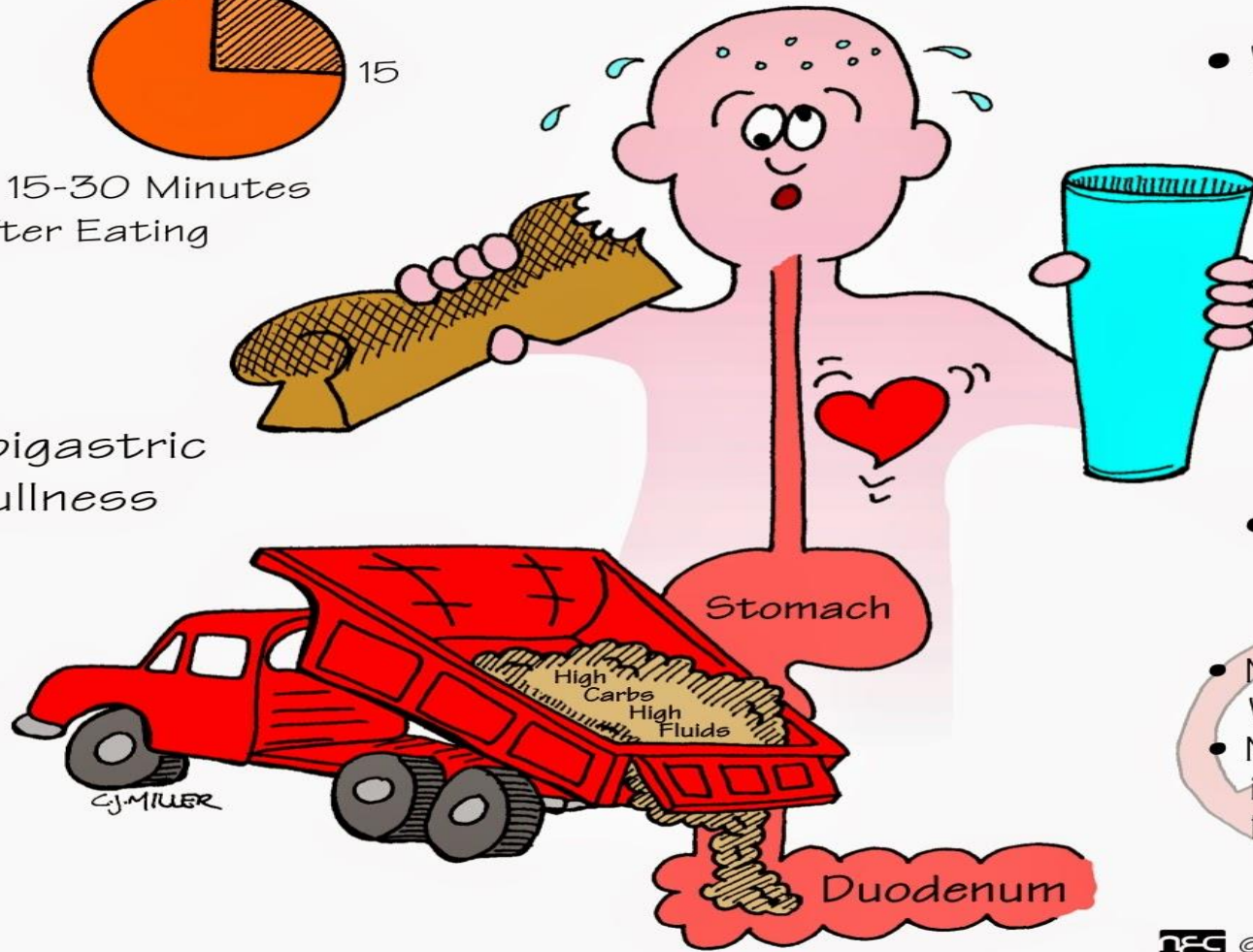
Bariatric Surgery

DUMPING SYNDROME



Occurs 15-30 Minutes
After Eating

- Epigastric Fullness



- Weakness
 - Dizziness, vertigo
 - Diaphoresis

- Tachycardia
- Abdominal Cramping
- Self-Limiting

- No Fluids With Meals
- No High Carbs i.e., Bread, Potatoes

2. weight should be measured

Current Weight	Month 3	Month 6	Month 12
	Excess Weight Lost	Excess Weight Lost	Excess Weight Lost
	30%	50%	70%

Weekly in the 1st 4-6 months (Rapid weight loss phase)

Then at 8, 10 and 12 months.

Then annually.

3. Labs (3,6,9 months then annually)

- CBC
- Electrolytes
- Glucose and Glucose Tolerance test
- Complete lipid profile
- Complete iron studies
- Vitamin B12, Folate(B9) and thiamine (B1)
- Aminotransferases, alkaline phosphatase, bilirubin, GGT (LFT)
- Total protein and Albumin
- 25-hydroxyvitamin D, parathyroid hormone
- Zinc and Copper

4. When to refer back to Bariatric Surgery

IMMEDIATE	URGENT	ROUTINE
Direct to the Emergency & Trauma Centre	Appointment timeframe within 30 days	Appointment timeframe greater than 30 days depending on clinical need
<ul style="list-style-type: none">• Severe abdominal pain or intolerance of fluids after bariatric surgery• Fever or shortness of breath after bariatric surgery	<ul style="list-style-type: none">• Vomiting and/or severe reflux following bariatric surgery	<ul style="list-style-type: none">• Assessment for Bariatric Surgery



Maintenance

Once weight loss is achieved, the patient should be **followed up** to maintain his/her body weight.



Obesity Health problems ? How To Address?



Health Team

- i. Work with other health care team members to develop a comprehensive scheme for them.
- ii. Create non-judgmental atmosphere.
- iii. Consider barriers people might have.



School Health Professionals

- i. Promoting Healthy Nutrition at School
- ii. Increase daily physical activity of the students
- iii. Implement a screening program to detect and provide appropriate care



Medical Students

- i. Aware their relatives and friends
- ii. Be a role model



MCQs



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Role Play

Obesity Counseling

Thank You
For Your Listening

Any Questions ?