Module 2: Diagnosis and Treatments
Objectives

By the end of this module, students will have learned...

- diseases related to unhealthy weight
- other complications of unhealthy weight
- methods of diagnosis
- treatment strategies
Review

- Hardening of arteries (atherosclerosis)
- High blood pressure (hypertension)
- **Heart disease**
- High cholesterol (dyslipidemia)
- **Stroke (cerebrovascular accident)**
- Heart failure
- **Cancer**
- Diabetes
- Stroke
Other complications

- Skin infections/disorders
- Infertility
- Back pain
- Gallstones
- Cancer
- Sleep apnea
- Non-alcoholic Fatty Liver Disease (NAFLD)
- Osteoarthritis
Diagnostics

- Body Mass Index (BMI)
- Waist-Hip-Ratio (WHR)
- Waist-Circumference (WC)
- Calipers
- DEXA Scan
- Hydrostatic Weighing
- BOD Pod

**SI units**

\[
\text{BMI} = \frac{\text{weight (kg)}}{\text{height}^2 (\text{m}^2)}
\]

**Imperial units**

\[
\text{BMI} = \frac{\text{weight (lb)} \times 703}{\text{height}^2 (\text{in}^2)}
\]

\[
\text{BMI} = \frac{\text{weight (lb)} \times 4.88}{\text{height}^2 (\text{ft}^2)}
\]
Treatment Strategies

- Diet
- Exercise
- Medicines
- Surgery
Does dieting work?

- Lose about 10% of their body weight
  - Most regain 2/3 in one year
  - Most regain almost all within 5 years
Do supplements work?

- increase energy
- reduces fat
- blocks fat
- makes you feel full
Breast Feeding: Obesity Prevention?

- best for keiki
- fights infections
- reinforces mother & keiki bonds
- but... not shown to prevent obesity
Healthy & Well Balanced Diet

- **Enjoy all foods in moderation**
- There are no “forbidden” foods, but you must practice portion-/self-control
- Because there is no one perfect food, we must enjoy a **variety of foods** in moderation
  - Include fruits, vegetables, grains, low-fat or nonfat dairy products.
  - Limit intake of trans fatty acids
- **Portion sizes** are key to this concept
Lunch/Dinner Plate
Types of Fats

- monounsaturated
- polyunsaturated
- saturated
- trans
Sugar

6 teaspoons (25 grams) per day.

- World Health Organization
Sugary Drinks

39 g  65g  108g
Sugar vs. Cocaine

• Similar effects
  - binge
  - withdrawals
  - dependence
Don’t Forget.....
Participate in Physical Activity

- Make it a lifestyle
- Regular to moderate physical activity for at least 150 minutes/week*
- Having sex—effective?

CDC, 2014*
How much to burn off?

Exercise Needed to Burn Off a Serving of French Fries

Average Serving of French Fries: 610 Calories
6.9 Ounces

Running at 5 MPH
1:05 hrs 150 lb Adult
0:49 hrs 200 lb Adult

Swimming
1:32 hrs 150 lb Adult
1:09 hrs 200 lb Adult

Leisure Bicycling
2:14 hrs 150 lb Adult
1:41 hrs 200 lb Adult

Walking at 2 MPH
3:13 hrs 150 lb Adult
2:24 hrs 200 lb Adult

Singles Tennis
1:07 hrs 150 lb Adult
0:50 hrs 200 lb Adult

SOURCE: https://sites.google.com/site/compendiumofphysicalactivities/
How do I maintain a healthy weight?

- Physical Activity Types
  - Aerobic
  - Muscle-strengthening
  - Bone-strengthening
  - Stretching
Medicines

- with exercise and diet
- BMI ≥ 30 with no obesity-related risk factors or diseases
- $BMI \geq 27$ with obesity-related risk factors or diseases
- Medication examples:
  - Sibutramine (enhances feeling full)
  - Orlistat (blocks fat uptake)

Source:
Surgery

- Gastrointestinal surgery
- For a limited number of patients
  - BMIs ≥ 40 or ≥ 35
  - diet, exercise, and medicines have failed
  - still requires diet and exercise afterwards

Source:
Surgery Types

• Gastric Bypass
  - benefits & risks

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Surgery Types

- Adjustable Gastric Banding
  - benefits & risks

Picture Source: John Hopkins Medicine
Surgery Types

• Vertical Sleeve Gastrectomy
  - benefits & risks
What contributes to post-treatment weight gain?

- Skipping meals
- Temptations
- Old habits
- Social pressures
Questions or Comments