

Our Quest for Health and Wellness...Is Never Ending

Begin with the End in Mind



- Philippine Association for Government Budget Administration (PAGE)
- 2017 1st Quarterly Seminar & Meeting, April 5-8, 2017
- Crown Legacy Hotel, Baguio City

Food for Thought



- Philippine Association for Government Budget Administration (PAGBA)
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Walk for Life



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Calm has Come



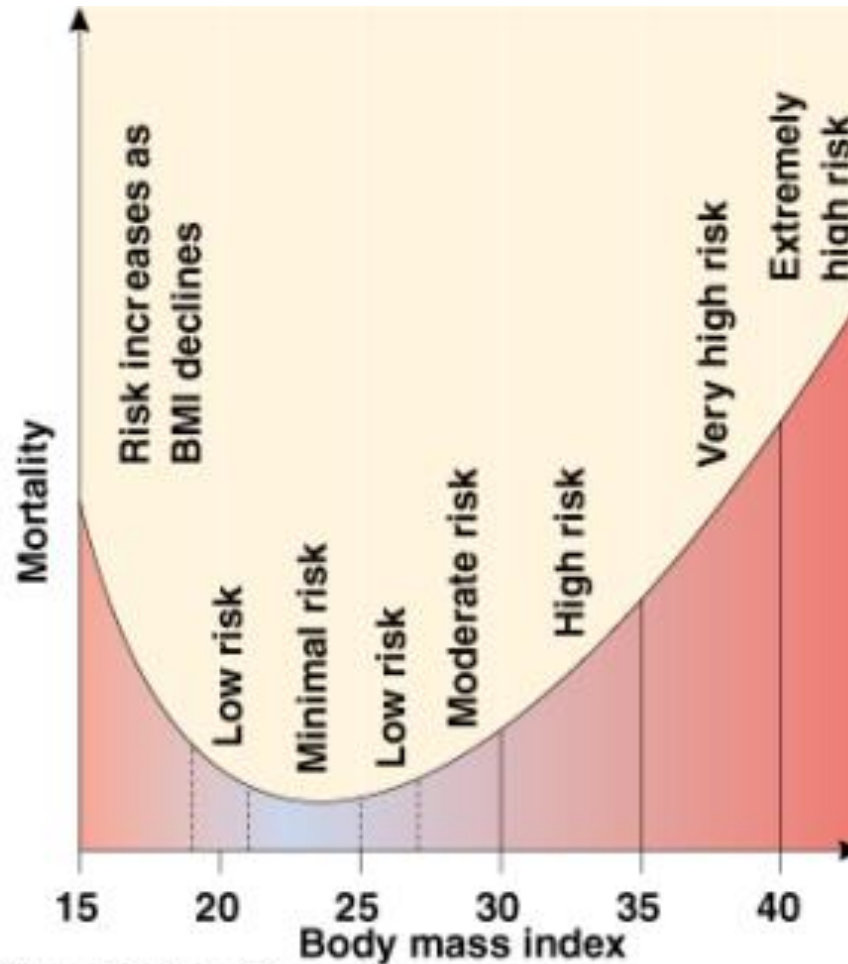
- Philippine Association for Government Bridge and Construction (PAGBC)
- 2017 1st Quarterly General Meeting, April 5-7, 2017
- Cebu Legacy Hotel, Cebu City

Sleep in Heavenly Peace



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Body Mass Index and Mortality

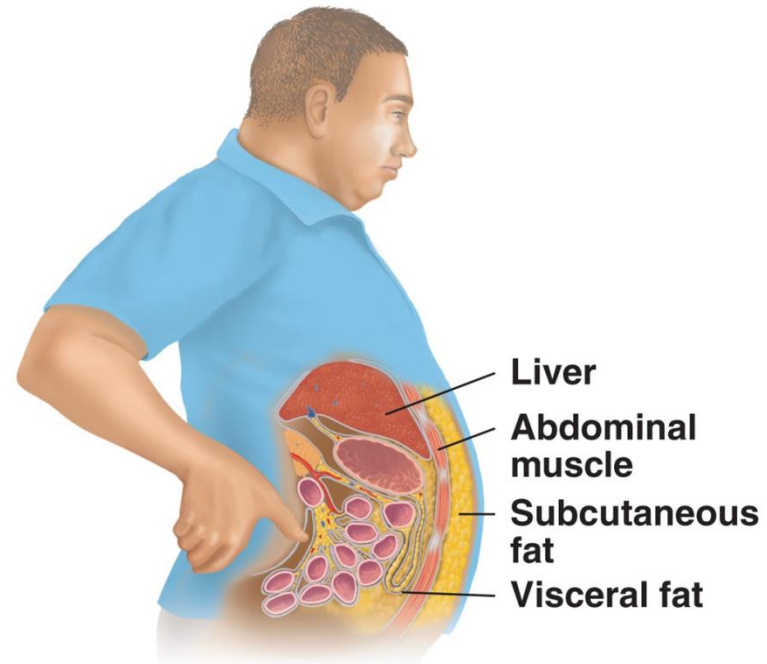


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Where Is Your Body Fat Located?

- Excessive visceral fat increases risk of
 - ◆ Heart disease
 - ◆ Diabetes
 - ◆ Hypertension
- Central obesity



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Table 10.1 Ways to Measure Percentage of Body Fat



Skinfold Thickness Measurements

How It Is Done: Calipers are used to measure the thickness of fat that is located just under the skin in the arm, in the back, on the upper thigh, and in the waist area. From these measurements, percent body fat can be determined.

Cost: \$



Bioelectrical Impedance

How It Is Done: An electric current flows through the body and its resistance is measured. Lean tissue is highly conductive and less resistant than fat mass. Based on the current flow, the volume of lean tissue can be estimated. From this information, the percentage of body fat can be determined.

Cost: \$



Dual-Energy X-Ray Absorptiometry (DXA)

How It Is Done: An X-ray is used to measure bone, fat, and lean tissue. The type of tissue that the X-ray passes through will absorb different amounts of energy. The amount of energy lost will allow the percentage of body fat to be determined.

Cost: \$\$\$

Underwater Weighing

How It Is Done: A person is weighed on land and also suspended in a water tank. This is done to determine the density of the body. Fat is less dense and weighs less than muscle mass and will be reflected as such when the person is weighed in the water. The difference of a person's weight in water and on land is then used to calculate the percentage of body fat.

Cost: \$\$



Air Displacement Using a BodPod

How It Is Done: A person's body volume is determined by measuring air displacement from a chamber. The person sits in a special chamber (called the Bod-Pod) and the air displacement in the chamber is measured. From this measurement, the percentage of body fat can be estimated.

Cost: \$\$\$



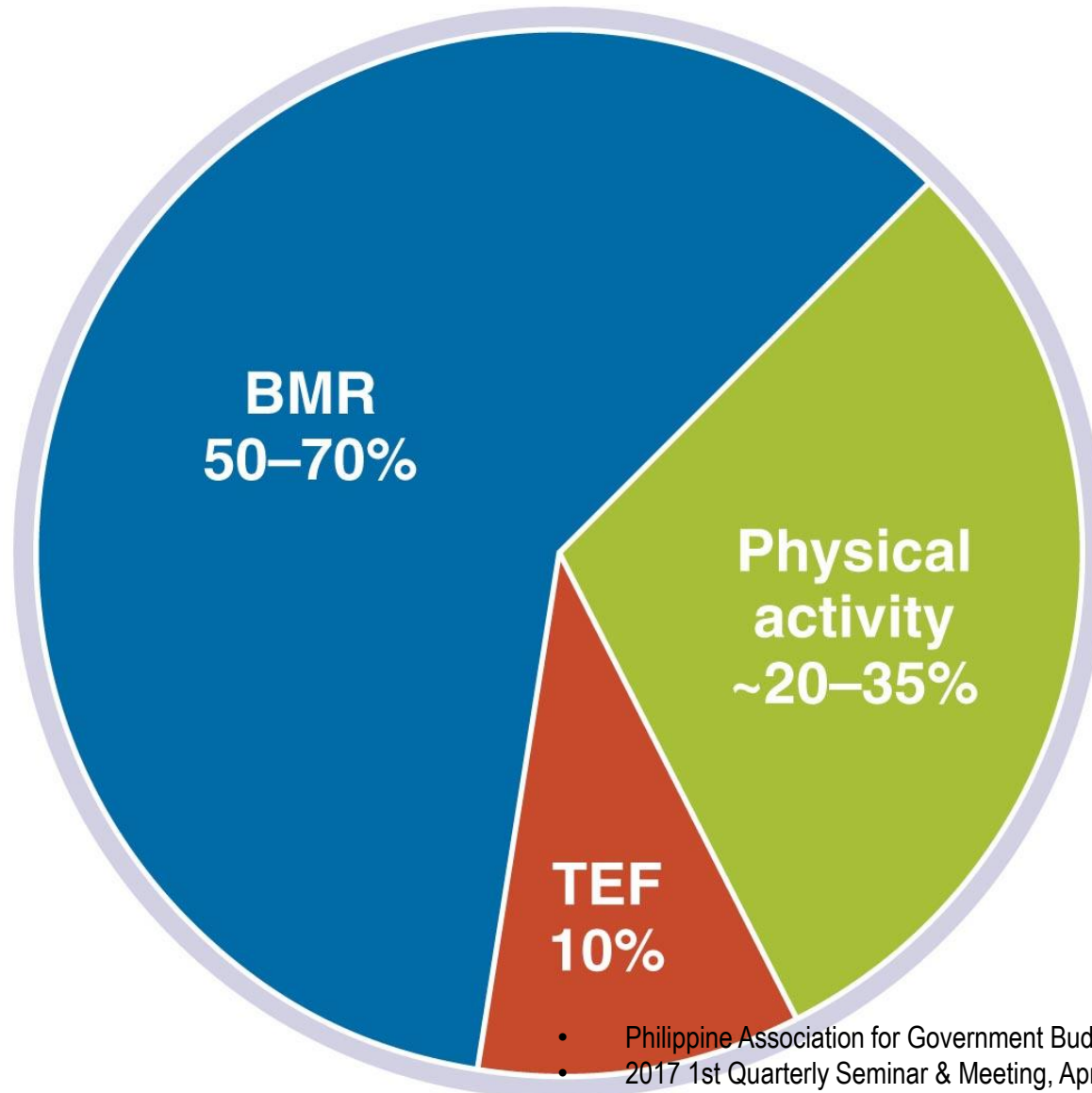
\$ = very affordable

\$\$ = moderate

\$\$\$ = expensive

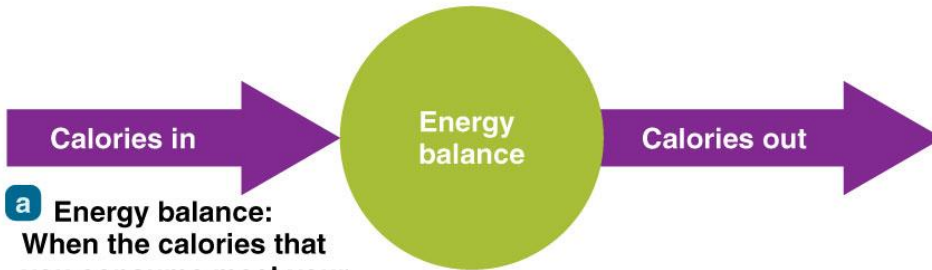
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The Energy Pie

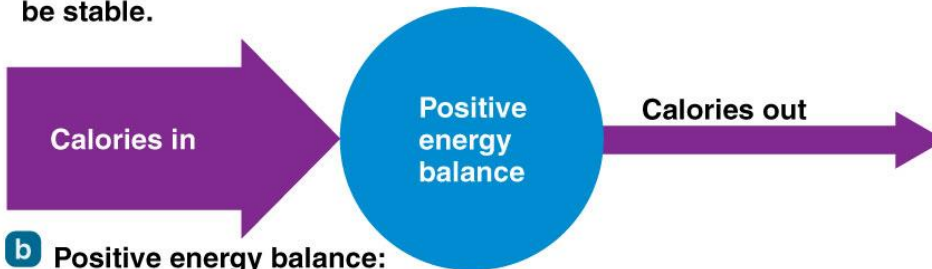
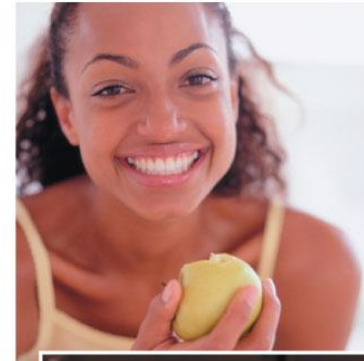


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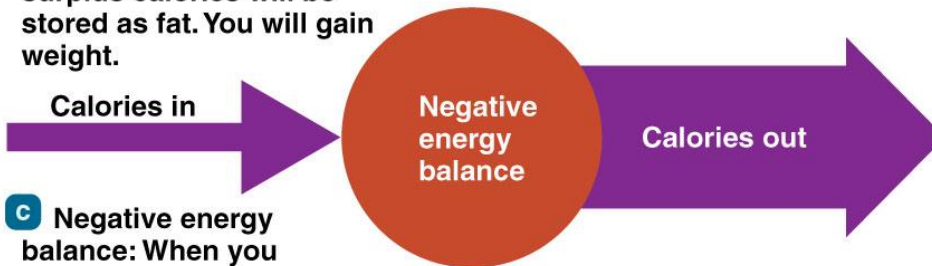
Energy Balance and Imbalances



a **Energy balance:** When the calories that you consume meet your needs, you are in energy balance. Your weight will be stable.



b **Positive energy balance:** When you take in more calories than you need, the surplus calories will be stored as fat. You will gain weight.



c **Negative energy balance:** When you consume fewer calories than you expend, your body will draw upon your stored energy to meet its needs. You will lose weight.



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Fat, Thin or Somethin'

- What you eat
- How often you eat
- Physiology
- Genetics
- Environment

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What Factors Affect Body Weight?

Hunger and appetite **affect what you eat**

- **Appetite** is psychological desire for food
- **Hunger** is physiological need for food
 - Subsides as feeling of satiation sets in
 - **Satiation affects how much we eat**
 - Satiety determines length of time between eating episodes

What Factors Affect Body Weight?

Physiological mechanisms help regulate hunger and satiety

- Many hormones play roles including
 - **Ghrelin**: produced in stomach when empty; increases hunger
 - When fat stores increase, **leptin** in fat tissue signals brain to decrease hunger and food intake.
 - **Cholecystokinin**: released when stomach is distended, increasing feelings of satiation, decreasing hunger
 - **Insulin** also causes brain to decrease hunger
- Protein, fatty acids, and monosaccharides in small intestine stimulate feedback to brain to decrease hunger

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What Factors Affect Body Weight?

- **Genetics** plays a role in body weight
 - Risk of becoming obese doubles if parents are overweight, triples if obese, five times greater if severely obese
 - Twins studies
 - Adoption studies

What Factors Affect Body Weight?

- Genetic differences in level or function of hormones, such as high ghrelin or low leptin levels, increase obesity.
 - Many obese have adequate leptin but brain has developed resistance to it
- Genetic differences in **non-exercise activity thermogenesis (NEAT)** (rate of energy expenditure in fidgeting, standing, other non-exercise movement)
- **“Set point”** theory holds that body opposes weight loss and works to maintain a set weight

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What Factors Affect Body Weight?

- **Environmental** factors can increase appetite and decrease physical activity
- Environment of cheap and easily obtainable energy-dense foods stimulates appetite
 - Gene-environment interaction: increases risk of obesity in some people
- We work more and cook less
 - About 1/3 calories come from ready-to-eat foods prepared outside of home
 - Frequent dining out associated with higher BMI

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Environmental Factors of Weight Gain

Less in-home food preparation
More dining out



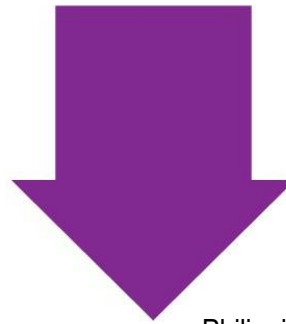
Larger portion sizes
More energy-dense foods



Higher calorie intake



Lack of physical activity



• Weight gain
• Higher BMI

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What Factors Affect Body Weight?

- We eat more (and more)
 - Increased availability of food-service establishments, and larger portions encourage people to eat more
- We sit more and move less
 - Labor-saving devices at work and home, sedentary leisure activities (“screen time”) result in decreased energy expenditure

Health at Every Size

- If we eat for

- ◆ Health
- ◆ Strength
- ◆ Weight

in that order, our weight will be what is best for us.

- Size doesn't matter

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Health at Every Size is based on the simple premise that the best way to improve health is to honor your body. It supports people in adopting health habits for the sake of health and well-being (rather than weight control). **Health at Every Size** encourages:

Accepting and respecting the natural diversity of body sizes and shapes.

Eating in a flexible manner that values pleasure and honors internal cues of hunger, satiety, and appetite.

Finding the joy in moving one's body and becoming more physically vital.

<http://www.haescommunity.org/>

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