AlphaNet

Body Mass Index (BMI)

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What is Body Mass Index (BMI)?

- ✓ Body mass index (BMI) is frequently used to evaluate whether someone is a healthy weight.
- ✓ BMI measures weight relative to height. In most cases, a high BMI is due to excess fat.
- ✓ Widely-used BMI categories are: Underweight (BMI less than 18.5)
  Healthy/normal weight (BMI 18.5 to 24.9)
  Overweight (BMI 25 to 29.9)
  Obese (BMI 30 to 39.9 higher)
  Severely obese (BMI 40 or higher)
- ✓ These categories have been linked to health outcomes. For example, obesity is a key risk factor for liver disease. Fat can be deposited in the liver, leading to inflammation and scarring. Metabolic syndrome, which is related to obesity, is the most common cause of liver disease in the United States.

Shortcomings of BMI

- ✓ BMI is not a perfect measure of body fat or the health risks associated with weight.
- ✓ BMI does not distinguish fat from muscle. In some cases, this can lead to a BMI in the healthy range for individuals who would benefit from building muscle mass. For example:
  - ❑ Individuals in the early stages of lung disease may have a BMI in the healthy range even though they have muscle loss and excess body fat. This occurs due to breathing impairment that limits exercise but not food intake.
  - ❑ Individuals naturally lose muscle and gain body fat as they age. Older adults may have a BMI in the healthy range even though they have an unhealthy amount of body fat.
- ✓ People with a lot of muscle—such as athletes or people who lift weights—often have a high BMI even though they do not have excess fat.
- ✓ BMI does not account for fat distribution. Fat around the organs in the belly (called visceral fat) has higher health risks than fat stored just under the skin (called subcutaneous fat). Both types of fat weigh the same—and therefore have the same effect on BMI—but have different effects on health.

Why BMI is Important to Alphas

- ✓ Despite the shortcomings described above, BMI is a good indicator of whether weight is likely to increase an individual's risk for health problems. Of particular importance to Alphas, BMI is related to risk of developing liver disease and to poor outcomes among individuals with lung disease.
- ✓ Obesity increases the risk of liver disease because fat can be deposited in the liver. Obesity affects Alphas more than other individuals.
- ✓ Excess weight can lead to shortness of breath, especially among individuals who have lung disease.
- ✓ At the other end of the spectrum, being underweight also can lead to shortness of breath. In addition, Alphas with lung disease who are underweight are more likely to have lung infections, exacerbations, and a shortened lifespan.
- ✓ BMI influences many health outcomes. Some additional health problems that are related to high BMI are high blood pressure, diabetes, high cholesterol, and sleep apnea.

Additional Resources

- ✓ AlphaNet's Big Fat Reference Guide (BFRG) includes information on BMI and how to maintain a healthy weight. Anyone can access AlphaNet's BFRG. AlphaNet Subscribers can access the BFRG through their Subscriber Portal. Chapter 15 of the BFRG describes risk factors for liver disease, including excess weight. Chapter 26 focuses on exercise. Chapter 27 focuses on nutrition.
- ✓ AlphaNet has created several one-page documents that focus on weight management and health conditions related to excess weight. These documents are available here. On this webpage, look for the documents related to liver risk factors, metabolic health, GLP-1 medications, and sleep apnea. This webpage also includes tips for underweight Alphas.
- ✓ A journal article about the connection between obesity and health among Alphas is available here.
- ✓ A BMI calculator is available from the National Institutes of Health here.