

**Alpha-1 Antitrypsin Deficiency and Low Weight**

- ✓ Alpha-1 antitrypsin deficiency can lead to lung and liver disease.
- ✓ Lung and liver disease can cause people to be underweight.
- ✓ Underweight people with lung or liver disease can have worse outcomes.

**Lung Disease**

- ✓ There are multiple ways that lung disease can lead to being underweight, including:
  - ☐ Using more energy to breathe:
    - An individual without chronic obstructive pulmonary disease (COPD) uses approximately 100 calories per day to expand and contract the muscles involved with breathing
    - Individuals with COPD use between 430 and 720 calories per day just for the work of breathing, even if they are not aware of this extra work
  - ☐ Eating less because:
    - The lungs take up more room, which causes you to become full faster
    - A full stomach increases shortness of breath due to pressure on the diaphragm
  - ☐ Decreased appetite due to some medications that are prescribed for lung disease
  - ☐ Mood changes such as depression (due to life changes) can result in a decreased appetite
- ✓ Being underweight is associated with worse outcomes among individuals with lung disease, including:
  - ☐ Decreased survival
  - ☐ More frequent lung infections and worse outcomes of pneumonia
  - ☐ Less exercise tolerance and loss of muscle mass
  - ☐ Weak respiratory muscles and worse shortness of breath

**Liver Disease**

- ✓ There are multiple ways that liver disease can lead to being underweight, including:
  - ☐ Loss of appetite, nausea, vomiting, fatigue, and weakness due to liver disease
  - ☐ Cirrhosis can impair the liver's ability to break down food and process nutrients
  - ☐ Muscle wasting occurs from liver disease
  - ☐ Fluid accumulation can mask the loss of muscles, because weight stays unchanged
- ✓ Being underweight is associated with worse outcomes among individuals with liver disease, especially cirrhosis. These malnutrition outcomes include:
  - ☐ Higher rates of liver disease complications such as infections, brain dysfunction due to liver failure (hepatic encephalopathy), and fluid buildup in the abdomen (ascites)
  - ☐ Decreased survival, before and after liver transplant

**Steps You Can Take to Gain Weight**

- ✓ There are different approaches to improving your weight.
- ✓ Work with your healthcare provider to determine the underlying cause(s) of your low weight, treat the cause(s), and develop the best plan for you.
- ✓ AlphaNet's [Big Fat Reference Guide](#) (BFRG) includes a chapter on nutrition. Below are some tips from the BFRG to help improve your appetite and manage mealtime fatigue:
  - ☐ Choose foods that are easy to prepare and eat
  - ☐ Keep food visible and within easy reach
  - ☐ Eat small, frequent meals and snacks
  - ☐ Walk or do light activity to stimulate your appetite (at least 30 minutes before meals)
  - ☐ Drink beverages after a meal instead of before or during a meal so you do not feel as full
  - ☐ Make eating a pleasurable experience, not a chore
  - ☐ Plan meals that include your favorite foods
  - ☐ Try eating the high-calorie foods in your meal first
  - ☐ Freeze extra portions of what you cook so you can have a quick meal when you're tired
  - ☐ Try eating your main meal early in the day so you have enough energy to last you for the day