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BodPod Test Overview

The BodPod is a device used for measuring body composition, particularly the percentage of body fat and fat free mass. It is a relatively quick and non-invasive method for accurately measuring body composition. The BodPod is considered to be quite accurate, with a margin of error of approximately 3% [1]. The test works on the principle of air displacement plethysmography. It measures the amount of air that is displaced by the person inside the BodPod chamber to determine their body composition. The results of the test provide you with insight into your body composition, making it a valuable tool for understanding your overall health and wellness.

Testing Procedures

For the test, you will wear tight-fitting clothing, such as a swimsuit or compression shorts, as well as a swimming cap. This minimizes the number of air pockets trapped near your body, which can reduce the accuracy of the measurement. We will measure your height and weight, and then you will sit inside the BodPod. The BodPod resembles an egg-shaped chamber, and it has a window for you to look out. You must make sure to remain still and breathe normally for the duration of the test as air moves around the enclosed space where you sit. While the measurements are being taken, you will hear some loud noises coming from the BodPod. This is normal. If you begin to feel uncomfortable in the chamber, you can press a button located by your left knee to open the door.

Using the principles of Boyle's Law, the BodPod measures the volume of air inside the chamber with and without you in it. By comparing these measurements, the volume of your body can be determined. We can then calculate the density of the whole body (mass per unit volume), and once the density of the body is known, we can calculate accurate estimations of your body fat and fat free mass percentages [1].

The test typically takes about 5-10 minutes to complete, but it will vary for each person.

Risks

The risks associated with the BodPod test are generally minor. The risks include (but are not limited to):

- Lightheadedness or dizziness
- Feelings of claustrophobia

To minimize these risks, there is a button located by your left knee when you are sitting inside the BodPod chamber. If you press the button, the door of the BodPod will open immediately. The window on the BodPod will also allow you and the technician to see and communicate with one another. If you feel dizzy or uncomfortable, you can request that the test stop at any time. Finally, emergency equipment and CPR/AED-trained personnel are available.

For further information about the procedure, please contact the Augustana College Kinesiology Department at kinesiologylab@augustana.edu.

[1] Dempster, P. & Aitkens, S. (1995). A new air displacement method for the determination of human body composition. *Medicine and Science in Sports and Exercise*, 27(12), 1692-1697.