

Measuring Height Using Arm Span and Knee Height

Why is it important to collect Height and Weight?

- Height and weight can be used to calculate a person's Body Mass Index (BMI)
- A person's BMI can tell you whether they are within a normal weight range for their height, or if their underweight or overweight

How do you measure someone's Height?

- Arm Span
 - Measure from the tip of the middle finger on hand to the tip of the middle finger on the other hand
 - Ensure the athlete's arms are outstretched as far as possible prior to and during measurement
 - Use an anthropometer to collect this measurement (*a straight rod with measurements etched on it*)
 - The sliding tabs on either end of the anthropometer should touch the athlete's middle finger
 - If a site does not have an anthropometer they can use a tape measure
 - Record the height to the nearest 1/8th inch or 0.1 centimeter
- Knee Height
 - This measurement requires a sliding broad-blade caliper
 - This device consists of an adjustable measuring stick with a blade attached to each end at a 90° angle
 - You must have the athlete sit down (*it can be in a chair*) and bend one of their legs at a 90 degree angle
 - Place one end of the caliper under the heel of the foot and the other end is placed on top of the thigh just above the knee cap
 - The end on the thigh should be compressed to the leg within a comfortable amount of pressure for the athlete
 - The shaft (*the longer part*) of the caliper should be held parallel to leg (*in between the two ends of the caliper*)
 - Record the measurement
 - Repeat the process and record the measurement again
 - The average of two measurements is converted to height in centimeters using one of the following equations:
 - For women:
 - Height in cm = $84.88 + (0.24 \times \text{age of athlete}) + (1.83 \times \text{knee height})$
 - For men:
 - Height in cm = $64.19 + (0.04 \times \text{age of athlete}) + (2.02 \times \text{knee height})$

Things that can affect Height measurements:

- Misreading the measurement
- Recording the incorrect measurement
- Measuring height with shoes and hats
- Not using the same measurement instrument throughout the data collection period