

Common Linear Growth Measurement Errors

Some instruments do not have the proper components (e.g., tape measures, wall charts, floppy-arm devices mounted to weight scales) and others may be installed incorrectly and uncalibrated.

The infant/child/adolescent is often only measured once.

Length is often measured by one person alone.

Length is often measured with clothing and/or the diaper is too snug to allow for full extension. When attempting to extend an infant's body fully, the crown of the head may not remain against the headboard, shoulders and/or hips may rotate, and the child may arch the back. Many people only extend one leg instead of holding the legs together and flat with both heels flat against footboard and toes pointing upward.

Many people fail to remove shoes, heavy clothing, or hair ornaments on the crown of the head when measuring height. Height may be measured while the child is standing on carpet or non-flat surfaces. Children may stand with heels raised, knees bent, and/or in lordotic or slumping posture.

The head is not always positioned in the Frankfort plane so either the chin is tucked or neck is stretched up and back, which reduces the maximum length or height.

When height measurements are not read at eye level, parallax errors can occur. A parallax error is an error in reading an instrument because the examiner's eyes and point of measurement are not in a perpendicular line to the plane of the ruler.

Measurers are often inattentive to the child's posture and movement.

Measurement data is often not recorded immediately and therefore may be recorded incorrectly.