Johns Hopkins Bayview Medical Center

GENERAL CLINICAL RESEARCH CENTER	Policy No. 133 Original Date: May 5, 2000 Previous Date: None Revised Date:
Stadiometer	

PURPOSE : To provide a procedure that assures reliable use of the stadiometer and accurate height measurement determination.

GENERAL INFORMATION (RATIONALE AND GOALS)

1. The stadiometer is a wall mounted counting instrument that gives readings in millimeters over a range of 600mm to 2,100mm. It is a wall mounted instrument made of light alloy with a wooden headboard fixed to a metal carriage that moves freely on ball-bearing rollers.
2. Do not quickly move the headboard up or down, the counter will break. To prevent breakage, it is preferred that headboard be maintained at the topmost position.
3. The unit must be calibrated daily prior to use.

-Contraindications: none

LOCATION : This policy applies to the General Clinical Research Center.

EQUIPMENT: Stadiometer

STAFF RESPONSIBILITIES: GCRC Nursing Staff will calibrate the instrument prior to use. A calibration log will be kept.

POLICY:

1. The stadiometer will be calibrated prior to every measuring session.
2. A calibration log will be kept

PROCEDURE;

1. Calibration Procedure
   a. A metal rod of known length is placed between the headboard and the floor so that it stands vertically.
   b. If the counter does not record the correct length of the rod then loose the two metal retaining screws, and pull away from the main fibre cog of the carriage. In this position the small metal cog of the counter may be turned until the counter records the true length of the metal rod. The counter is then pressed against the backplate so that the teeth of the counter cog and carriage cog engage and the retaining screws are tightened.
   c. The headboard is then moved up and down the backboard a number of times to ensure that the counter continues to give an accurate reading. If not, the counter must be replaced.
   d. The counter at the lowest level should read 00600, which equals 600 mm. or 60 cm.
2. Measuring Procedure
   a. Ask participant to remove their shoes.
   b. Place the heel plate by putting the protruding screws into the holes on the floor. This anchors the plate into place for the measurement, but allows it to be removed on completion.
   c. The participant is instructed to stand upright against the stadiometer such that his buttocks and scapulae are in contact with the backboard, and the heels are together and positioned against the heel

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plate. If the participant suffers from "knock-knees" then the heels are slightly spread so that the knees touch, but do not overlap.

d. Since positioning is key in this procedure, the nurse should check that the participant is in the correct position by starting with the feet and checking each point of contact with the heel plate and backboard moving up the body. Having gotten to the shoulder, then check that they are relaxed by running his hands over the back, feeling the relaxed trapezius muscle.
e. Assure that the participant's arms are relaxed and hanging loosely at the sides.
f. The participants's head should be positioned in the "Frankfurt Plane" (lower orbits of the participant's eyes are horizontal with the eternal auditory meatii) and the headboard of the instrument then moved down to make contact with the vertex of the skull.
g. To assure that the Frankfurt plane is correct, the nurse may grip the participant's head with her/his open hands and pivot it backwards and forward and at the same time observe the counter. The counter should register the greatest height when the head is tilted not too far forward or backwards.
h. It may be advisable to place a weight (about 0.5 kg) on the headboard. The weight will press down on the hair and overcome the natural impact of hairstyle on height determination.
i. When the participant is in the correct position, he is instructed "Take a deep breath and stand tall". This is done to straighten out any kyphosis or lordosis and produce the greatest unaided height.. The nurse applies a light pressure to the mastoid process, not to physically raise the head, but to hold it in position.
j. The participant is then told to "Relax" or "Let the air out" and "Drop the shoulders". The shoulders naturally rise when the participant takes a deep breath

3. Cleaning Procedure
   a. The stadiometer should be dust free. Dust accumulation can increase the friction with which the headboard moves over the backboard.
   b. The counter and side plate can be removed and the cog axles oiled using a light machine oil.

ADVERSE OUTCOMES AND THEIR MANAGEMENT

None

DOCUMENTATION; On Nurses notes, progress notes or protocol sheets per research study guidelines.

Authors, Reviewers, References and Dates:

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References: Equipment package information
Reviewers: GCRC Clinical Nurse Specialists
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