MEASUREMENT OF HEIGHT USING WALL MOUNTED STATURE METER

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Height is one of the most widely used indicators for assessment of nutritional status and provides an index of linear skeletal growth.

Until a few decades ago many of the surveys were carried out in places without level ground or vertical wall.

Under these circumstances height was measured using either a stadiometer or anthropometry rod.

Stadiometer is a bulky instrument, occupies space and is heavy.

Anthropometry rod is relatively compact but intensive training is required to keep the rod perpendicular and accurately measure the height.

Currently all urban areas and most rural areas most residences have pucca buildings with even flat floor and vertical walls.

Under these conditions the small readily portable wall mounted stature meter is used for measurement of height.

Measurement of height

Instrument to be used: wall mounted stature meter for measurement of height: accuracy 0.1 cm; several models readily available

CHECKING ACCURACY OF THE STATURE METER

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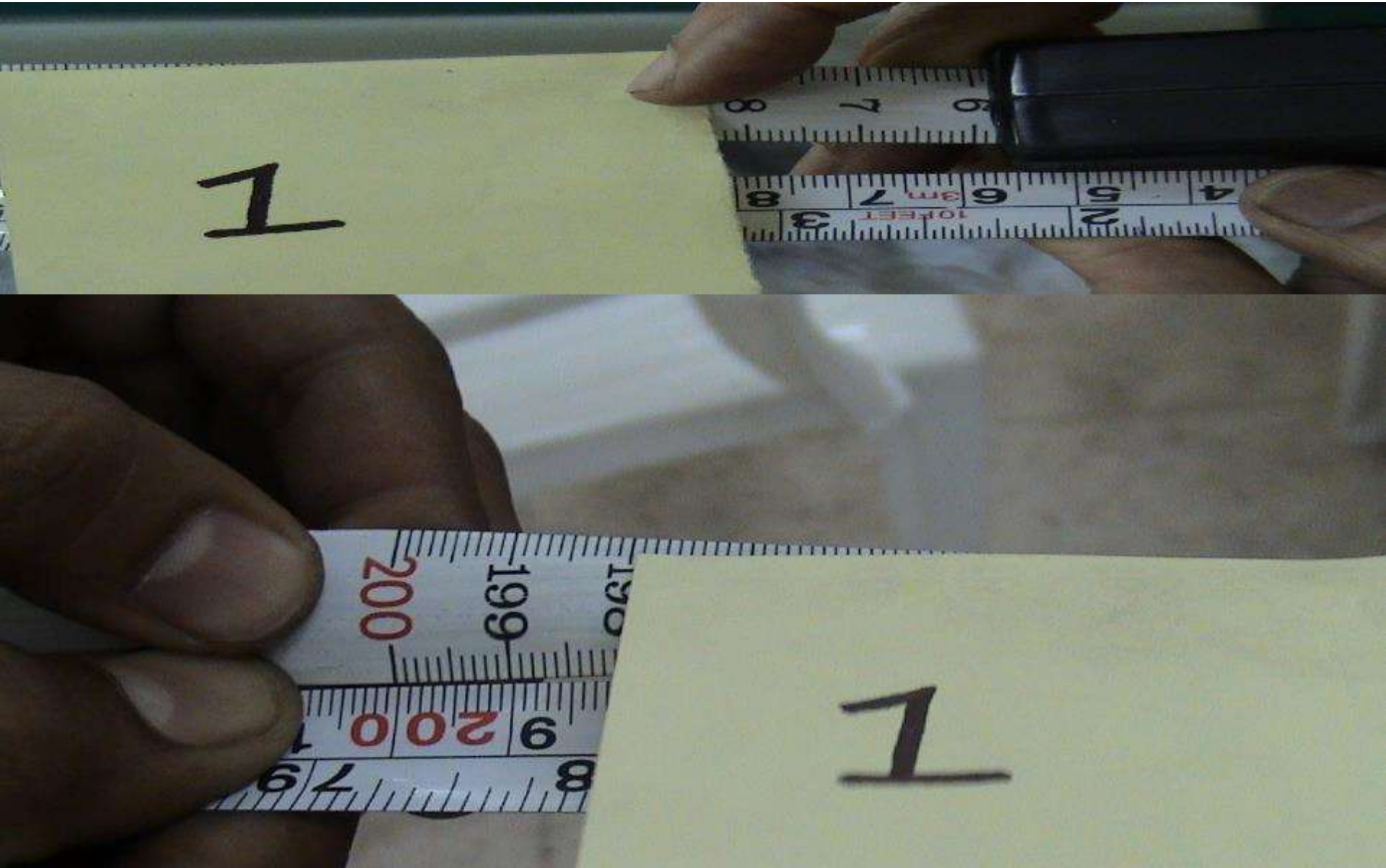
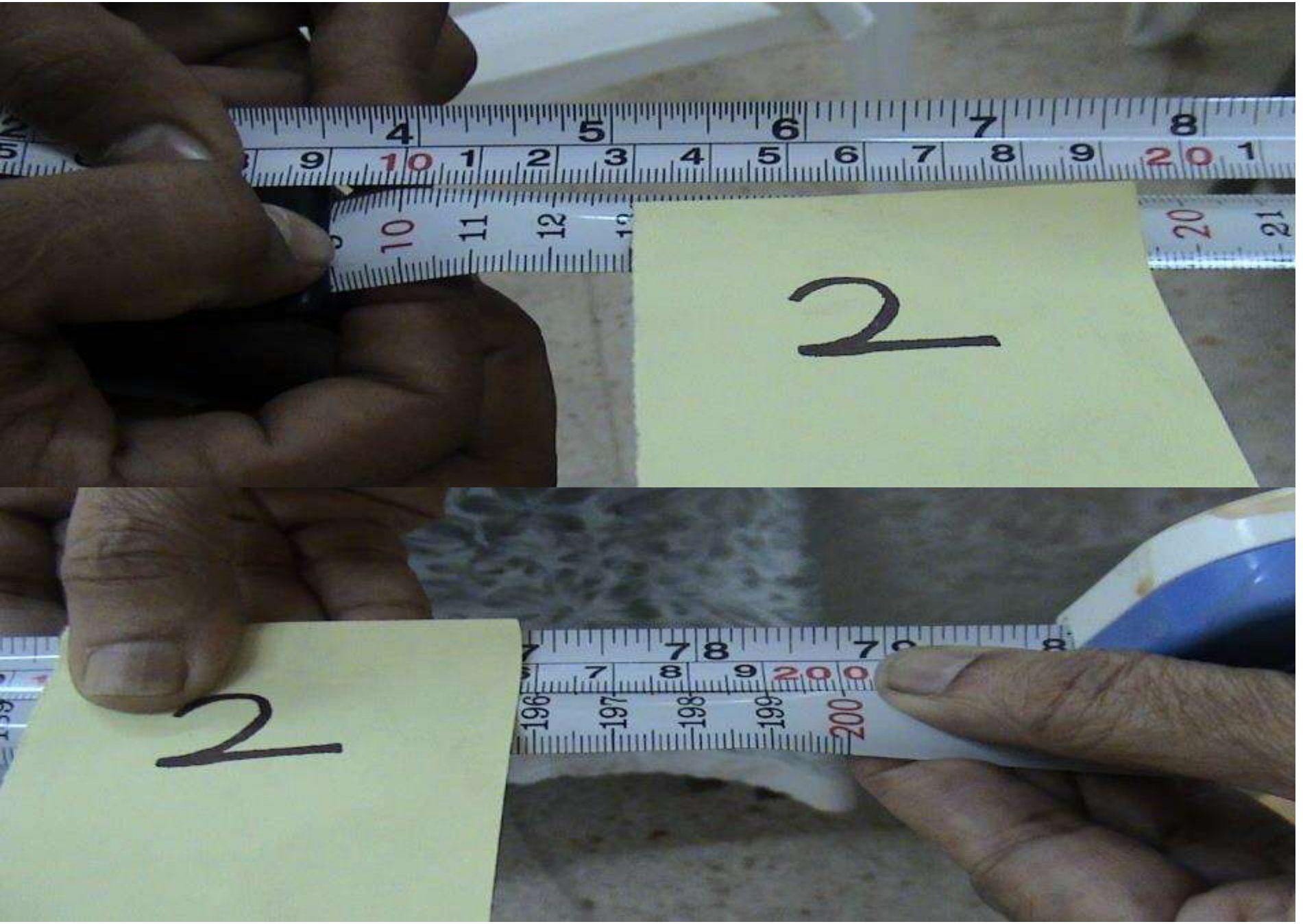
Accuracy of tape in the stature meter is to be tested by comparing it with the standard steel tape certified by the Deptt of Weights and Measures .

Accuracy of the stature meter is assessed by measuring five individuals five times in the stature meter under testing and comparing the height with measured using the standard stature meter.

CHECKING ACCURACY OF THE STATURE METER TAPE WITH THE STANDARD STEEL TAPE

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All the three stature meter tapes were accurate as compared to steel tape certified by the deptt of weights and measures

CHECKING ACCURACY OF THE STATURE METER

TEST STATURE METER

TEST STATURE METER

TEST STATURE METER

Height measured with the three stature meters were comparable to the height measured by standard stature meter

These three stature meters are accurate upto 0.1 cm and can be used

STANDARD STATURE METER

OTHER PROBLEMS

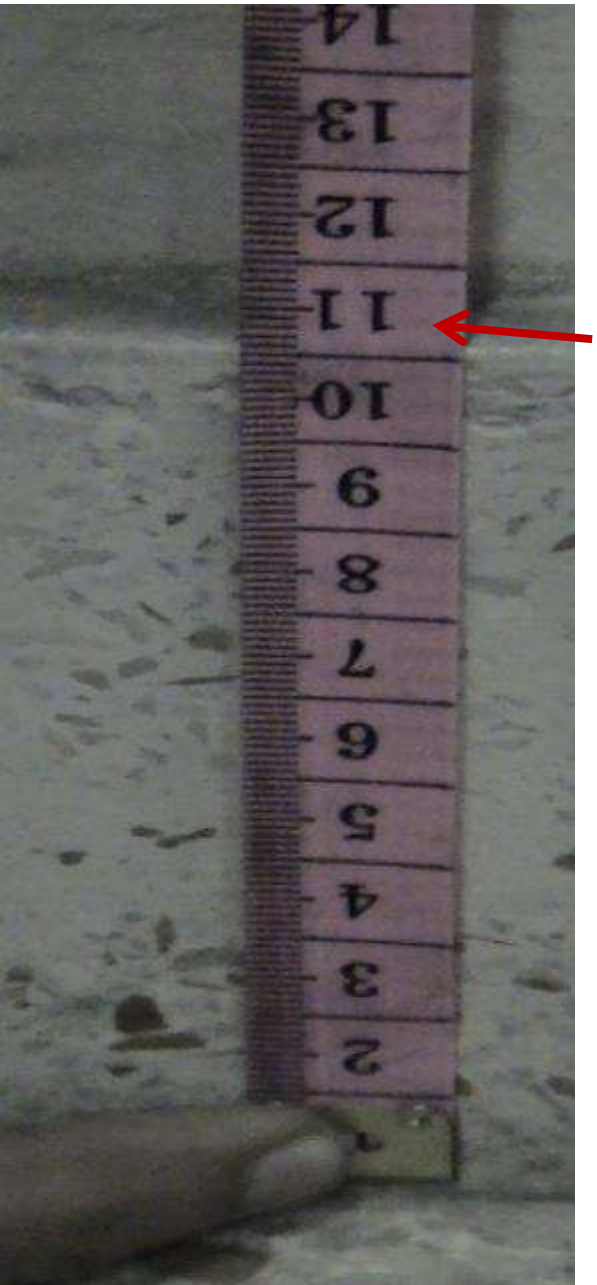
Some stature meter tapes do not unwind fully or smoothly.

Such stature meter may not function under field conditions and so should be rejected and replaced.

The screw holes on the vertical limb may not be evenly placed.

This will result in slanted fixation and lead to errors in measurement of height.

FIXING STATURE METER TO THE WALL AT 200 CM



Measure the height of skirting using a tape - it is 10 cm in this case.

Fix the nail on which the stature meter is hung, so that the horizontal limb of the stature meter resting on the top of skirting reads 10 cm.

Fix the vertical limb of the stature meter to the wall with a double sided tape if the stature meter is used to measure heights in houses.

If the stature meter is used to measure height of a number of persons in places like Anganwadi or community hall, fix the stature meter to the wall by nailing it to the wall through the holes provided in the vertical limb of the equipment.

ENSURING THAT THE TAPE IS WINDING DOWN VERTICALLY

Draw down the tape vertically and ensure that the horizontal limb rests evenly on the floor.

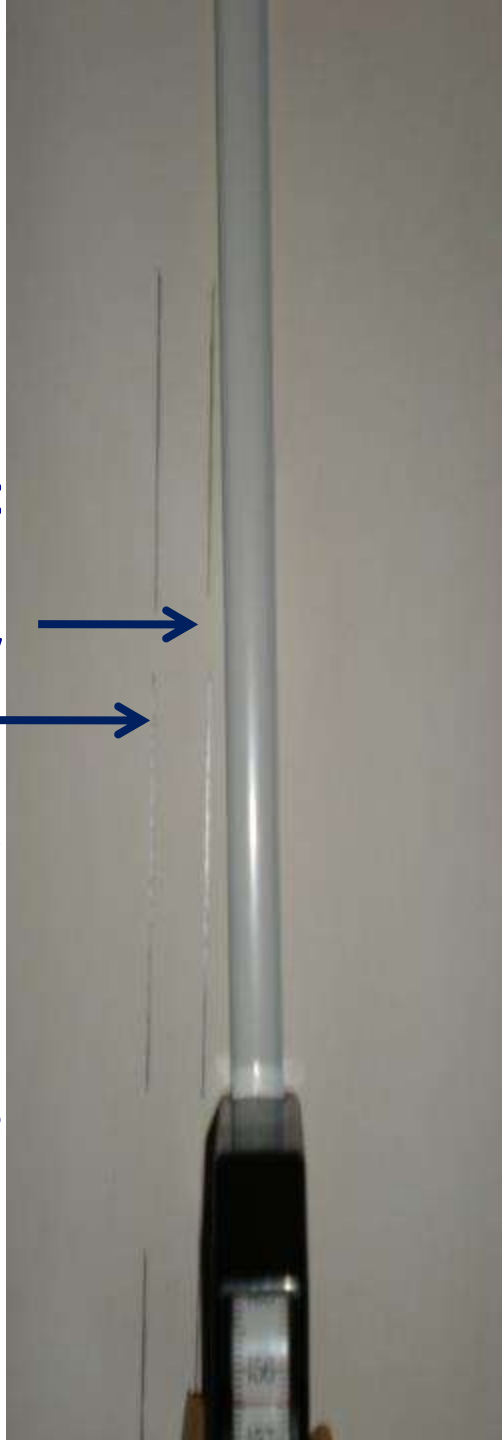
Draw a line on either side of the tape, so that it is possible to check whether the tape is being drawn down without any obliquity while height is measured.

ENSURING THAT THE TAPE IS WINDING DOWN VERTICALLY

Two lines were drawn one on either side of the tape when it was held at 90 degree vertical plane; these are indicated by two arrows.

These lines indicate when the tape is being drawn obliquely.

This obliquity has to be corrected before the height of the child is measured.



MEASUREMENT OF HEIGHT

The person should be barefoot and hair should be flat

Feet to be together with heels, buttocks, shoulder touching the wall

Tragus of the ear and the lower orbital margin should be in at the horizontal plane. This is called Frankfurt Plane.

The horizontal limb of the stature meter should be firmly placed on the top of the head but should not be pressed

The eyes of the investigator should be in level with the window showing the reading. The height should measured to the nearest 0.1 cm

Standing on a stool and stooping to read the height of taller persons

If the subject is taller than the investigator then a stool should be used to ensure that the eye of person who takes the measurement is on the same level as the window providing the reading in the stature meter

If the subject is shorter, the investigator should stoop to take the measurement

Stooping to read the height of shorter person

POSITIONING THE PERSON FOR HEIGHT MEASUREMENT

The girl is standing straight;

Heals, knee, buttocks, shoulders and back of the head are touching the wall.

The head is held in Frankfurt Plane - tragus is in line with the lower orbital margin.

POSITIONING THE PERSON FOR HEIGHT MEASUREMENT

POSITIONING THE PERSON FOR HEIGHT MEASUREMENT

MEASURING HEIGHT IN A CHILD

Tell the child clearly how he should stand. If he is making mistakes verbally tell him how to correct it. Measuring person should not touch the child and try to correct posture

Child is standing straight. Heals, knee, buttocks, back, shoulders and back of the head are touching the wall. Head is held in Frankfurt plane with the horizontal limb of the instrument resting on the top of the child's head.

His height is 94 cm

POSITIONING THE PERSON FOR HEIGHT MEASUREMENT

This woman is standing straight with heels, knees (not in the picture), buttocks, shoulders and back of the head touching the wall.

She is looking straight ahead with head held in Frankfurt plane.

The horizontal limb of the stature meter is resting on the top of her head. Her height is 146.5cm