



PROCEDURE

Height assessment 2 years and over

Scope (Staff):	Community Health
Scope (Area):	CAHS-CH, WACHS

Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

This document should be read in conjunction with this [disclaimer](#)

Aim

To correctly measure, record and interpret the standing height of children aged two years and over.

Risk

Failure to conduct a height assessment or obtain an accurate height measurement may delay the identification of significant growth deviations for a child.

Background

Measuring height is a non-invasive procedure that can assist in assessing the overall health and wellbeing of a child^{1,2}. When conducted as part of a holistic growth assessment, obtaining height measurements can help to determine whether:

- the child has age-appropriate growth; or
- a growth deviation is apparent that may indicate an underlying health, developmental or social issue which warrants further assessment, early intervention and monitoring³.

For the assessment of growth to be meaningful, serial measurements should be taken and plotted onto a growth chart over a period of time⁴. However, decisions about growth deviations should never be determined solely by these charts⁵. Reviewing growth measurements from previous child health contacts will assist in interpreting overall growth status. Unexpected stasis, or downward or upward movement on the growth chart, indicates the need for further assessment and/or referral⁴.

Key points

- A height assessment should be conducted:
 - at the Universal contact 2 years; or
 - when concerns regarding growth or any other identified risk are raised by a parent/carer or Community Health Nurse at a Universal Plus contact (over two years of age) or through the School Entry Health Assessment (SEHA).
- Standing height should be measured for children over the age of two years (if able to stand unassisted⁶). If unable to stand without assistance, recumbent length should be measured.

Note: A height measurement is required to complete a Body Mass Index (BMI) assessment at the SEHA or any Universal Plus growth assessment in the school health setting. The child must be aged two years or older and standing height must be measured. Plotting of height on height-specific growth charts is not routinely required in the school setting. Refer to [Body Mass Index assessment](#) for further information.

- For children close to two years of age who can stand unassisted, standing height may be measured rather than recumbent length.
- Height assessments are to be performed by staff with appropriate training and assessment skills.
- Suitable equipment and the correct measuring technique should be used. Inaccurately taking, recording or plotting a height measurement can lead to a misleading growth assessment, clinical misinterpretation and unnecessary concern for parents/carers.
- Community Health Nurses need to provide a culturally safe service delivery, which demonstrates a welcoming environment that recognises the importance of cultural beliefs and practices of all clients.
- Community Health Nurses must follow the organisation's overarching Infection Control Policies and perform hand hygiene in accordance with WA Health guidelines at all appropriate stages of the procedure.
- All nurses will refer to the [Nursing and Midwifery Board AHPRA Decision-making framework](#) in relation to scope of practice and delegation of care to ensure that decision-making is consistent, safe, person-centred and evidence-based.

Equipment

- A clean stadiometer (height measurer) or a correctly installed 'pull down' measure, which are designed for the intended purpose. The stadiometer:

- Consists of a vertical board with an attached metric ruler (with a range of 220cm) and a moveable horizontal headboard (ideally spring loaded) that can be brought into contact with the most superior part of the child's head.
 - Should be accurately and firmly mounted on a wall.
 - Has a wide, stable platform or a firm, uncarpeted floor as the base on which the child stands.
 - Should have an easy-to-read, stable tape or digital readout in 0.1cm increments.
 - Should be checked to ensure it has been correctly installed if moved to a new location.
- The stadiometer must be cleaned before and after each use (refer to Appendix 1, [Medical Devices: Single Use, Single Patient Use and Reusable](#)).
 - All nurses will refer to the [Nursing and Midwifery Board AHPRA Decision-making framework](#) in relation to scope of practice and delegation of care to ensure that decision-making is consistent, safe, person-centred and evidence-based.

Procedure

Steps	Additional Information
<p>Explanation</p> <ul style="list-style-type: none"> ● Explain the stadiometer to the child and the parent/carer (if present) and how you are going to use it to see how tall the child is. Describe the procedure to them. ● Allow sufficient time for the discussion of any concerns. 	<p><u>Child health setting:</u></p> <ul style="list-style-type: none"> ● Encourage parent/carer support and involvement with the procedure.
<p>Preparation</p> <ul style="list-style-type: none"> ● Ask the child (and assist them if required) to remove their shoes, and any items or hair accessories worn on the head that may interfere with the measurement. 	<ul style="list-style-type: none"> ● Cultural beliefs and practices should be considered prior to removing any items worn by the infant/young child. Cultural dress must be noted if it impacts the measurement. <p><u>Child health setting:</u></p> <ul style="list-style-type: none"> ● If the child is hesitant, ask the parent/carer if you can take their height measurement first.

Steps	Additional Information
<p>Measuring</p> <ul style="list-style-type: none"> • Position the child under the stadiometer, facing away from the equipment or wall. • Ask the child (and assist them if required) to stand with their: <ul style="list-style-type: none"> ○ bare feet close together ○ legs straight ○ arms at their sides ○ shoulders relaxed. • Ask the child to look straight ahead and take a big breath in and out to relax. • Check the child is standing in the correct position with their head, shoulder blades, bottom and heels in contact with the stadiometer or wall. • Bring the measuring device down to rest on the most superior part of the child's head, compressing their hair. Note the height measurement to the nearest 0.1cm. • Ask the child to step off and back onto the stadiometer. With the child in the correct position, take the height measurement a second time. Note the measurement to the nearest 0.1cm. • Find the average of the two height measurements to the nearest 0.1cm. • If the two measurements differ by 0.5cm or more, take a third height measurement. • Using the two closest measurements, calculate the average height measurement to the nearest 0.1cm. 	<ul style="list-style-type: none"> • Using a laminated template showing an outline of two feet may help the child to stand in the correct place. • The child's head must be positioned in the Frankfort Plane. As shown in the image below, this is achieved when the lower edge of the eye socket (Orbitale) is in the same horizontal plane as the notch above the flap of the ear (Tragion)⁷. <div data-bbox="938 846 1362 1133" data-label="Image"> <p>The diagram shows a profile view of a child's head. A horizontal line is drawn through the lower edge of the eye socket (Orbitale) and the notch above the ear flap (Tragion). This line is labeled 'Frankfort Horizontal Plane'. The child's head is tilted so that this plane is horizontal, parallel to the ground.</p> </div> <p>(Image source: Centres for Disease Control and Prevention, 2017)</p>

Steps	Additional Information
<p>Recording</p> <p><u>Child health setting:</u></p> <ul style="list-style-type: none"> • CAHS-CH Nurses must use a CDIS assessment screen to record the standing height measurement. The measurement will be automatically plotted on the relevant growth chart. • WACHS Nurses must enter the standing height measurement in relevant CHIS qualifiers and review it on the appropriate centile chart. • CAHS-CH and WACHS Nurses should note in CDIS/CHIS: <ul style="list-style-type: none"> ○ Whether recumbent length or standing height has been measured. ○ Any factors that may have interfered with the accuracy of the measurement (e.g. if the child is in plaster, a harness or any item that is unable to be removed). • If CDIS/CHIS are temporarily unavailable, the relevant paper-based growth chart should be used to precisely plot the height measurement (see <i>Additional Information</i>). The measurement should be entered into CDIS/CHIS, when available. <p><u>Primary school setting (SEHA):</u></p> <ul style="list-style-type: none"> • Refer to the Universal contact School Entry Health Assessment for instructions on how to record the measurement, and retain and dispose of SEHA forms. 	<ul style="list-style-type: none"> • Age is plotted in completed weeks/months/years, as appropriate. • If an unexpected growth trajectory is evident when the measurement is plotted on the relevant growth chart, re-take the measurement to check for accuracy. <p><u>Paper-based recording in the child health setting:</u></p> <ul style="list-style-type: none"> • Plot the measurement on the relevant growth chart: <ul style="list-style-type: none"> ○ World Health Organization (WHO) <i>Height-for-age: 2 to 5 years</i> (Girls or Boys) ○ Centres for Disease Control and Prevention (CDC) <i>Stature-for-age Percentiles, 2 to 20 years</i> (Girls or Boys) • Where a child is aged two years or over and standing height cannot be measured, measure recumbent length and plot on the relevant growth chart: <ul style="list-style-type: none"> ○ WHO <i>Height-for-age: 2 to 5 years</i> (Girls or Boys) ○ CDC <i>Stature-for age Percentiles, 2 to 20 years</i> (Girls or Boys) <p>See Length Assessment 0-2 years</p> <ul style="list-style-type: none"> • For more information about assessing and interpreting growth, refer to:

Steps	Additional Information
	<ul style="list-style-type: none"> ○ Body Mass Index assessment ○ Growth - birth to 18 years ○ Growth - static or downward trajectory ○ Length assessment 0 - 2 years ○ Overweight and obesity ○ Weight assessment 2 years and over <ul style="list-style-type: none"> ● Serial measurements showing unexpected changes in the growth trajectories require additional assessment and/or referral.
<p>Interpretation</p> <p><u>Child health setting:</u></p> <ul style="list-style-type: none"> ● Interpret the height measurement on the growth chart as part of a holistic growth assessment. Serial measurements of height, weight and head circumference must be considered. ● Discuss the findings and growth pattern with the parent/carer. <p><u>Primary school setting (SEHA):</u></p> <ul style="list-style-type: none"> ● Rather than being a stand alone assessment, height is measured as a component of the BMI calculation. See Body Mass Index assessment for more information. 	
<p>Referral</p> <ul style="list-style-type: none"> ● If concerned about growth, refer the infant/young child to a medical practitioner for further assessment. 	<ul style="list-style-type: none"> ● For further information about the referral process for static or downward growth, refer to Growth – static or downward trajectory.

Training

Staff are required to complete the *Child Growth* eLearning Training Package as per the CAHS-CH [Practice Framework for Community Health Nurses](#) or the WACHS Practice Framework for Population Health Nurses.

References
1. Casadei K and Kiel J. Anthropometric Measurement. 2022. Available from: www.ncbi.nlm.nih.gov/books/NBK537315/
2. Wake SK, Zewotir T and Muluneh EK. Latent growth analysis of children's height growth trajectories. <i>J Dev Orig Health Dis.</i> 2023;14(2):294-301.
3. The Royal Children's Hospital Melbourne. About child growth (E-learning module). No year. Available from: www.rch.org.au/childgrowth .
4. Secker D. Promoting optimal monitoring of child growth in Canada: using the new WHO growth charts. <i>Can J Diet Pract Res.</i> 2010;71(1):e1-3.
5. The Royal Children's Hospital Melbourne. The 10 top things about growth charts. Victoria: The Royal Children's Hospital Melbourne; 2013. Available from: www.rch.org.au/uploadedFiles/Main/Content/childgrowth/10%20top%20things%20about%20growth%20charts_Nov2013.pdf .
6. World Health Organization. Job-aid - Weighing and measuring a child. Training Course on Child Growth Assessment - WHO Child Growth Standards. 2008.
7. Centres for Disease Control and Prevention. National Health and Nutrition Examination Survey (NHANES) - Anthropometry Procedures Manual. 2017. Available from: wwwn.cdc.gov/nchs/data/nhanes/2017-2018/manuals/2017_Anthropometry_Procedures_Manual.pdf .

Related internal policies, procedures and guidelines
The following documents can be accessed in the CH Clinical Nursing Manual: HealthPoint link or Internet link or for WACHS staff in the WACHS Policy link
Body Mass Index assessment
Growth - birth – 18 years
Growth – static or downward trajectory
Length assessment 0 – 2 years
Overweight and obesity
Physical Assessment 0 – 4 years
Universal contact 2 years
Universal contact School Entry Health Assessment
Universal Plus – Child Health
Universal Plus – School Health
Weight assessment 2 years and over
The following documents can be accessed in the CAHS Infection Control Policies manual on HealthPoint.
Infection Control Policies

The following forms can be accessed from the CAHS-Community Health Forms page on HealthPoint.
Body Mass Index – Boys (CHS430B)
Body Mass Index – Girls (CHS430A)

Related internal resources (including related forms)
How Children Develop – 0 -12 years Resource
Practice guide for Community Health Nurses
Practice Framework for Community Health Nurses

Related external resources (including related forms)
CDC Stature-for-age percentiles (Girls) 2 to 20 years
CDC Stature-for-age percentiles (Boys) 2 to 20 years
WHO Height-for-age (Girls) 2 to 5 Years
WHO Height-for-age (Boys) 2 to 5 Years
WHO Length-for-age (Girls) Birth to 2 years
WHO Length-for-age (Boys) Birth to 2 years

This document can be made available in alternative formats on request.

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Healthy kids, healthy communities

Compassion
Excellence
Collaboration
Accountability
Equity
Respect

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