Whittington Health NHS

Measuring Infants and Children
Whittington Hospital

Subject:	Measuring Infants and Children
Policy Number	N/A
Ratified By:	Clinical Guidelines Committee (original)
Date Ratified:	March 2011 (v1) reviewed with minor change October 2014
Version:	2
Policy Executive Owner:	Divisional Director WCF
Designation of Author:	Paediatric Dietitians (Sarah Radford, Roxanne Harbour)
Name of Assurance Committee:	As above
Date Issued:	October 2014
Review Date:	3 years hence
Target Audience:	Nursing, dietetic and medical staff on Ifor ward, Rose's Day Care, Clinic 4D, Paediatric Emergency Department (ED), Children's Ambulatory Unit (CAU).
Key Words:	paediatric, growth, measuring, length, height, weight, head circumference, measuring equipment, anthropometry

Version Control Sheet

Version	Date	Author	Status	Comment
1.0	Aug 2012	Jo Wilson Roxanne Harbour Paediatric Dietitians	Replaced	
2.0	Oct 2014	Sarah Radford Roxanne Harbour Paediatric Dietitians	Active	Changes made: • Target Audience. • More detailed/practical guidance on how to measurement an infant and child with inclusion of illustrations. • Updated for most recent growth charts. • STAMP form added onto appendix. • Additional reference added.

➢ Criteria for use

For the monitoring of growth of all paediatric patients at The Whittington Hospital including those on Rose's Day Care Unit and Ifor ward, CAU, Paediatric ED, as well as paediatric outpatients in Clinic 4D.

➢ Background/ introduction

This protocol was developed to achieve standardised, age appropriate, and routine anthropometry measurements.

Age appropriate anthropometry forms the basis on which to assess nutritional status in the paediatric patient group.

For infants and children below the age of 2 years the weight, length, and head circumference should be measured routinely. For children ≥2 to 18 years weight and standing height are the appropriate measures.

These measurements aid in monitoring the effects of dietary intervention and help when calculating appropriate nutritional requirements for individuals.

It is important that these measurements are done accurately and routinely if they are to be of value.

➢ Inclusion criteria

Paediatric inpatients on Rose's Day Care Unit and Ifor ward, CAU, paediatric ED as well as paediatric outpatients in Clinic 4D, Whittington Hospital.

Patients who are wheelchair bound, are in casts and or have scoliosis may need alternative or additional specialised anthropometry. This needs to be discussed with dietitian.

Patients who are in resuscitation are excluded from this guideline until stable.

➢ CLINICAL MANAGEMENT

1) Weight

During the first 1-2 weeks of life the majority of infants will experience weight loss. After this initial weight loss it is most appropriate to plot weights once weekly on the centile chart. As weight gain does appear to have an individualised, periodic pattern more frequent plotting may cause undue anxiety for staff and parents.

Weighing of sick infants and children is important as an indicator of nutritional adequacy and fluid balance.

All paediatric inpatients will be weighed on admission and emergency attendants at initial assessment. Children should be weighed daily if there are concerns regarding fluid balance. Refer to STAMP for frequency of weight monitoring for inpatients (see appendix 1). Every child must be weighed when seen in outpatients.

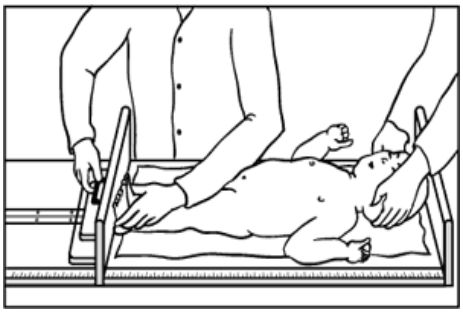
Measuring Technique - Weight

- Use Class III electronic scales in the metric setting
- For infants and children up to 2 years remove all clothes and nappy.
- Children over 2 years should wear light clothing (no nappy, coats, or jackets).
- Always remove shoes.
- If unable to weigh, dietitian to consider alternative measures (e.g. Mid-Upper Arm Circumference, Skinfold thickness).

2) Length / Height

Measuring length is essential for accurate growth assessment as it is indicative of organ and musculo-skeletal growth. Length is also a very stable measure of growth as it is not influenced by changes in hydration status or by cerebral changes. This measurement also helps to determine the nutritional status of an infants and children by comparing the percentile reached for weight against that reached for length.

For the purposes of the Whittington Hospital, all infants and children will be measured on admission to Ifor ward, Roses Day Care or CAU. Refer to STAMP for frequency of length/height monitoring for inpatients (see appendix 1). Outpatients will be measured at monthly intervals or at their next appointment if appointments are > 1 month apart.

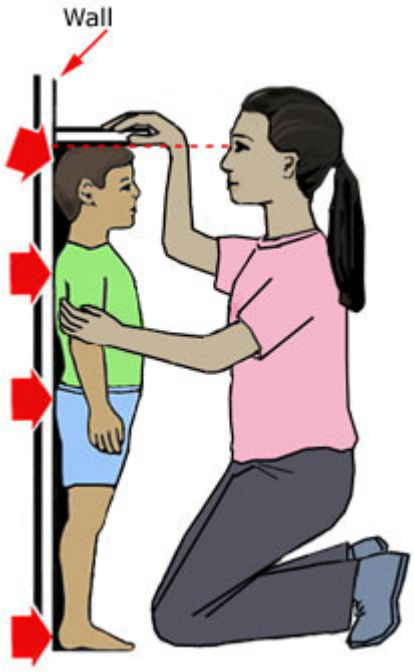


Measuring Technique – Length

- Measure length for infants and children <2 years or <90cm, removing all clothing, shoes, and nappy.
- Use a length-board or mat.
- Remove hats and or hair accessories.
- Ensure the back is straight, legs are together and straight, and head is straight, the heels are against the footboard, the shoulders are touching the baseboard and the crown of the head is touching the headboard.
- 2 people are required for measuring length – one holding the infants head straight and against the headboard and the other one holding the knees together, legs straight and feet against the footboard. The one holding the legs should record the measurement.
- Note: children <2 years who are too long for the length board should be measured standing if possible. If not possible discuss with a dietitian for alternative methods of measurement. This should be recorded in their medical notes and personal child health record.

Measuring Technique - Height

- Measure height for children ≥ 2 years or ≥90cm, removing shoes.
- Use a correctly installed Stadiometer or approved portable measuring device only.
- Remove hats and or hair accessories.
- Measure height recorded to the last millimetre.
- Position feet together with backs of heels touching the board.
- Ensure head touching the board and child is looking straight ahead with the bottom of their ear and nose in a horizontal plane.
- Child must stand as straight as possible (back and legs must be straight, the heels, the buttocks, the shoulder blades and back of head are touching the measurement board).
- Note: children <2 years who are too long for the length board should be measured standing. This should be recorded in their medical notes and personal child health record.
- If a child is unable to stand, measure lying down, using an approved length measuring device and plot as for height. Alternative measurements may be considered e.g. Arm span. This should be recorded in their medical notes and personal child health record.



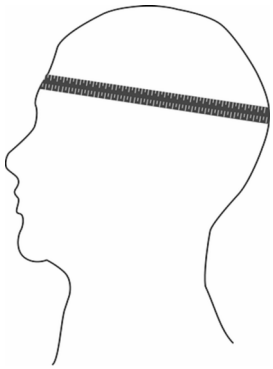
3) Head Circumference

The head circumference measure is an indicator of somatic growth and is a useful measure of nutritional adequacy and age appropriate neurodevelopment in infants and children below the age of 2 years. In the first 2 weeks of life there is a moulding effect of child birth and this should be considered when measuring.

During moderate under nutrition head circumference will continue to increase as weight falters. However during severe under nutrition even head circumference will be affected.

For the purposes of The Whittington Hospital head circumference should be measured on admission and monthly for those patients who remain on the ward for long periods. Outpatients' head circumference will be measured at monthly intervals or at their next appointment if appointments are > 1 month apart.

Measuring Technique - Head Circumference



- Remove hats and or hair accessories.
- Patient must be in a supported upright position + looking straight ahead.
- Measure using a disposable paper tape.
- Measurement should be made just above the eyes and should include the maximum circumference of the head.

➢ Recording Measurements

All measurements should be recorded in the patient's nursing and medical notes. If available, record in the child's personal child health record.

Plot all anthropometry for children under 2 years of age on the UK-WHO 0-4 years growth charts (2009). For children over 2 years of age the UK-WHO 2-18 years must be used (2012). Preterm infants should be plotted on the UK-WHO Low Birthweight Growth Charts (2009).

There are specific growth charts available for certain diagnosis (e.g. Down's syndrome, Williams syndrome).

➢ Cleaning scales and length measures

Scales:

- Disconnect from the mains before cleaning
- Put paper towel on the scales before the child
- Use alcohol based wipes to clean the scales after use
- (Do not use large amounts of water as this may damage the electronics)

Length measuring equipment:

- Put paper towel on the length measure before the child
- Use alcohol based wipes to clean the length measure after use.

➢ APPENDICES

Appendix 1: STAMP form

Step 1 – Diagnosis				
Does the child have a diagnosis that has any nutritional implications?	Score	1st screening	2nd screening	3rd screening
Definite nutritional implications	3			
Possible nutritional implications	2			
No nutritional implications	0			
Step 2 – Nutritional intake				
What is the child's nutritional intake?	Score	1st screening	2nd screening	3rd screening
No nutritional intake	3			
Recently decreased or poor nutritional intake	2			
No change in eating patterns and good nutritional intake	0			
Step 3 – Weight and height				
Use a growth chart or the centile quick reference tables to determine the child's measurements	Score	1st screening wt: ht:	2nd screening wt: ht:	3rd screening wt: ht:
> 3 centile spaces/≥ 3 columns apart (or weight < 2nd centile)	3			
> 2 centile spaces/= 2 columns apart	1			
0 to 1 centile spaces/columns apart	0			
Step 4 – Overall risk of malnutrition				
Add up the scores from the boxes in steps 1–3 to calculate the overall risk of malnutrition	Score	1st screening	2nd screening	3rd screening
High risk	≥4			
Medium risk	2–3			
Low risk	0–1			
Step 5 – Care plan				
What is the child's overall risk of malnutrition, as calculated in step 4?	Use management guidelines and/or local nutrition policies to develop a care plan for the child			
High risk	•Refer the child to a Dietitian, nutritional support team, or consultant			☐
	• Monitor as per care plan			☐
	• Refer to paediatric nutrition team			☐
Medium risk	• Monitor the child's nutritional intake for 3 days			☐
	• Repeat the STAMP screening after 3 days			☐
	• Amend care plan as required			☐
Low risk	• Continue routine clinical care			☐
	• Repeat the STAMP screening weekly while the child is an in-patient			☐
	• Amend care plan as required			☐
	• Obese - refer by the consultant to community dietetic services			☐

➢ CONTACTS

Specialist Paediatric Dietitian	Bleep 2662/2971 Ext 5181
Ifor Ward Manager	Ext 5442
PACU Clinical Manager	Ext 3769
CAU	Ext 3561

➢ REFERENCES

Shaw V. Lawson M (ed.) *Clinical Paediatric Dietetics.* 3rd ed. Oxford: Blackwell Publishing limited; 2007

UK-WHO Growth Chart 0-4 years. Department of Health; 2012

UK-WHO Growth Chart 2-18 years. Department of Health; 2009

UK-WHO Low Birthweight Growth Chart. Department of Health; 2009

Marsden MPATP-230 Weighing Scales Operation Manuel. Oxfordshire: Marsden Weighing Group Ltd;2009

Marsden MPBS-50 Weighing Scales Operation Manuel. Oxfordshire: Marsden Weighing Group Ltd; 2009.

- **Compliance with this guideline (how and when the guideline will be monitored e.g. audit and which committee the results will be reported to) Please use the tool provided at the end of this template**

To be completed and attached to any procedural document when submitted to the appropriate committee for consideration and approval

		Yes/No	Comments
1.	**Does the procedural document affect one group less or more favourably than another on the basis of:**		
	• Race	No	
	• Ethnic origins (including gypsies and travellers)	No	
	• Nationality	No	
	• Gender	No	
	• Culture	No	
	• Religion or belief	No	
	• Sexual orientation including lesbian, gay and bisexual people	No	
	• Age	No	
	• Disability - learning disabilities, physical disability, sensory impairment and mental health problems	No	
2.	**Is there any evidence that some groups are affected differently?**	No	
3.	**If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?**	No	
4.	**Is the impact of the procedural document likely to be negative?**	No	
5.	**If so can the impact be avoided?**	N/A	
6.	**What alternatives are there to achieving the procedural document without the impact?**	N/A	
7.	**Can we reduce the impact by taking different action?**	N/A	

Checklist for the Review and Approval of Procedural Document

To be completed and attached to any procedural document when submitted to the relevant committee for consideration and approval.

	Title of document being reviewed:	Yes/No	Comments
1.	**Title**		
	Is the title clear and unambiguous?	Yes	
	Is it clear whether the document is a guideline, policy, protocol or standard?	Yes	
2.	**Rationale**		
	Are reasons for development of the document stated?	Yes	
3.	**Development Process**		
	Is it clear that the relevant people/groups have been involved in the development of the document?	Yes	
	Are people involved in the development?	Yes	
	Is there evidence of consultation with stakeholders and users?	Yes	
4.	**Content**		
	Is the objective of the document clear?	Yes	
	Is the target population clear and unambiguous?	Yes	
	Are the intended outcomes described?	Yes	
5.	**Evidence Base**		
	Are key references cited in full?	N/A	
	Are supporting documents referenced?	N/A	
6.	**Approval**		
	Does the document identify which committee/ group will approve it?	Yes	
7.	**Dissemination and Implementation**		
	Is there an outline/plan to identify how this will be done?	Yes	
8.	**Document Control**		
	Does the document identify where it will be held?	Yes	
9.	**Process to Monitor Compliance and**		

	Title of document being reviewed:	Yes/No	Comments
	Effectiveness		
	Are there measurable standards or KPIs to support the monitoring of compliance with and effectiveness of the document?	Yes	
	Is there a plan to review or audit compliance with the document?	Yes	
10.	**Review Date**		
	Is the review date identified?	Yes	
	Is the frequency of review identified? If so is it acceptable?	Yes	
11.	**Overall Responsibility for the Document**		
	Is it clear who will be responsible for co-ordinating the dissemination, implementation and review of the document?	Yes	

Executive Sponsor Approval			
If you approve the document, please sign and date it and forward to the author. Procedural documents will not be forwarded for ratification without Executive Sponsor Approval			
Name		Date	
Signature			
Relevant Committee Approval			
The Director of Nursing and Patient Experience's signature below confirms that this procedural document was ratified by the appropriate Governance Committee.			
Name		Date	
Signature			
Responsible Committee Approval – only applies to reviewed procedural documents with minor changes			
The Committee Chair's signature below confirms that this procedural document was ratified by the responsible Committee			
Name		Date	
Name of Committee		Name & role of Committee Chair	
Signature			

Tool to Develop Monitoring Arrangements for Policies and guidelines

What key element(s) need(s) monitoring as per local approved policy or guidance?	Who will lead on this aspect of monitoring? Name the lead and what is the role of the multidisciplinary team or others if any.	What tool will be used to monitor/check/observe/Asses s/inspect/ authenticate that everything is working according to this key element from the approved policy?	How often is the need to monitor each element? How often is the need complete a report ? How often is the need to share the report?	What committee will the completed report go to?
Element to be monitored	**Lead**	**Tool**	**Frequency**	**Reporting arrangements**
Clinical (local + national) Guidelines. **Equipment (calibration + maintenance).**	**Roxanne Harbour – Paediatric Dietitian** **Sarah Radford – Paediatric Dietitian**	**Calibration of equipment.** **When policy reviewed.**	**Calibration of equipment monthly.** **Review + share policy every 2 years. Policy to be available on intranet.**	**Nutrition Steering Group.**