



# MARSDEN

A Marsden Guide To Weighing a Child or Young Person

[www.marsden-weighing.co.uk](http://www.marsden-weighing.co.uk)



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## Introduction

"A healthy, adequately nourished and emotionally secure child or young person grows at an optimal rate," according to Stanhope (1994). Thus, an accurate assessment and measurement of weight is vital to monitor their health.

Weighing provides a sensitive guide in order to monitor whether the child is underweight or overweight. If their weight is outside the normal range it can demonstrate health complications, as well as psychological consequences.

In summary, weighing can provide insight into the child's:

- Health
- Development
- Nutritional status
- Response to treatment

Weighing is also used for the accurate calculation of drug doses (alongside BSA), intravenous, oral fluid replacement and oral parenteral feeds.

<http://www.gosh.nhs.uk/health-professionals/clinical-guidelines/weight-measuring-childyoung-person>

## The link between weight and conditions

Poor growth may be the first or only indicator for a concern - with many diseases not displaying other obvious symptoms.

A slow rate of growth can also suggest a pathological disorder requiring diagnosis or treatment. These include malabsorption, an eating disorder, hypertension, psychosocial problems and more.

Subsequently, regular measurement of children and young people can allow early diagnosis of these problems.

<http://www.gosh.nhs.uk/health-professionals/clinical-guidelines/weight-measuring-childyoung-person>

“ **Accurate assessment and measurement of weight is vital to monitor a child's health.** ”





## When and how often should a child be weighed?

The British Society for Paediatrics and Endocrinology state:  
“Measurements of a child’s height and weight is the key method of identifying disorders of growth. The routine monitoring of height and weight assists in the diagnosis of problems which might either be missed or become apparent later in life when treatment may be less successful.”

<https://www.nursingtimes.net/Journals/1/Files/2010/12/2/Standards%20for%20the%20weighing%20of%20infants.pdf>

At Great Ormond Street Hospital for Children, all children and young people, including day cases, must be weighed within 24 hours of admission. From then on they require weekly weights, and it is recommended that departments agree on a specific day in the week where all patients are weighed.

The following groups may need to be weighed more frequently:

- Infants under one year of age
- Children and young people who are nutritionally unstable and who are receiving active nutrition intervention
- Children and young people receiving large amounts of intravenous fluids, for example parenteral nutrition
- Those with fluid balance problems, for example renal, cardiac, oncology and bone marrow transplant patients

<http://www.gosh.nhs.uk/health-professionals/clinical-guidelines/weight-measuring-childyoung-person>

“**Measuring a child’s weight is the key method to identifying disorders in growth.**”





## Calculating weight for drug dosages

The Standards for Medicine Management clearly states that as part of administering medication, a nurse must record the weight of a patient on a prescription sheet - this applies for all children.

The weight may be measured by an unregistered member of nursing staff, if they have been assessed as competent in the skill and are supervised.

In the British National Formulary for Children (BNFC), many of the doses for children are standardised by weight, which emphasises the need for accurate measures.

Doses are calculated by multiplying standardised measures by the child's body weight in kilogrammes.

<https://www.nursingtimes.net/Journals/1/Files/2010/12/2/Standards%20for%20the%20weighing%20of%20infants.pdf>

## What should be done with the weight reading?

The weight measurement should be recording in the following areas (RCN, 2013):

- The child/young person's health care / parent held record
- The Patient Assessment Form (PAF)
- The Nutrition Screening Record
- The Electronic patient record including electronic prescribing system
- Plotted on a centile chart

All documentation should include the date, time and name of the measurer along with a signature and job role.

<http://www.gosh.nhs.uk/health-professionals/clinical-guidelines/weight-measuring-childyoung-person>

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**Many drug doses for children are based on weight.**

”





## Scale accuracy required

Weighing in metric has been mandatory in the medical profession since 2003. To help with choosing and using the right weighing scales, the UK Weighing Federation (UKWF) has determined the accuracies required for specific purposes.

	Young Children	Babies
Check weight for records	200g	50g
Regular monitoring to assess weight change	100g	10/20g
Measuring weight to assist medical diagnosis	50/100g	10/20g
Measuring weight for critical treatment e.g. dialysis	20/50g	5g
Recording birth weight	N/A	20g
Measuring weight before and after breast feeding	N/A	10g

“

**Weighing in metric has been mandatory since 2003.**

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## Weighing the child: preparation

You should inform the family (and the child if they are age appropriate):

- Why a weight measurement is required
- What it entails
- How long the procedure is likely to take

Before measuring you should consider:

- Gender
- Culture
- Religious beliefs
- Dignity and privacy

The Child Growth Foundation (2012) states, "A child under the age of two should be weighed naked." Above the age of two years they should be weighed in minimal clothing or light underwear.

The following items should always be removed:

- Nappies
- Shoes
- Pocket contents

Should any clothing not be removed or any additional equipment used, a note should be added to the child's health care records.

RCN (2013) states: "It is important to use visual observation and good communication skills when obtaining a child/young person's weight. It is also important to note the views/reactions of the child/young person and family when the weight is obtained as part of a holistic assessment.

<http://www.gosh.nhs.uk/health-professionals/clinical-guidelines/weight-measuring-childyoung-person>

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**Note the views of the family  
when a child's weight is  
obtained.**

”



# Weighing the child: equipment

Regardless of the equipment being used, the technique used to weigh a child or young person is the same.

The following equipment is recommended:

- 0-2 years (up to 14kg): baby scales
- >2 years (over 14kg): stand on/floor scales or scales with a seat
- Complex needs children will require an hoist weigher or wheelchair scale

If the child/young person is unwell or the situation is an emergency where scales cannot be used, a professional can estimate their weight (RCN, 2013). However as soon as it is safe to do so, an accurate weight must be obtained.

If the patient is distressed, the parent can stand on the floor scale with the child. Firstly, the parent should stand on the floor scale alone and the 'Tare' button pressed to remove their weight. Then the parent can hold the child and only the child's weight will be displayed. Alternatively, a chair scale can be used and these same steps followed.

<http://www.gosh.nhs.uk/health-professionals/clinical-guidelines/weight-measuring-childyoung-person>

In specific areas such as Renal Units, Paediatric Intensive Care Units and Burn Units where the weight of the patient is paramount, it may be suitable for bed weighing scales to be used. Departments should ensure that induction and training on the scale is provided.

<https://www.nursingtimes.net/Journals/1/Files/2010/12/2/Standards%20for%20the%20weighing%20of%20infants.pdf>

Weighing scales should be checked to ensure they are in good working order, calibrated and clean.

Measuring equipment must be checked:

- Before use
- After use
- Annually by a qualified engineer

<http://www.gosh.nhs.uk/health-professionals/clinical-guidelines/weight-measuring-childyoung-person>

The National Medical Weighing Project was established by the Local Authorities Coordinators of Regulatory Services (LACORS) in 2008. The report found:

- One third of all hospital scales tested were found to be inaccurate
- Only 16% of the hospitals visited provided training for their staff in how to use the equipment correctly
- Just under one third of the hospitals visited did not inspect their equipment at all
- Three-quarters of hospitals held an inventory of the equipment on site, however many of these records were not kept up to date and the inspectors found many unrecorded scales when they visited the hospitals
- 40% of the scales assessed were 'switchable' – in other words they could display metric, imperial and other units. The key risk is that a drug dose could be calculated based on a readout that was assumed to be metric.

Subsequently, all medical scales used in the weighing of children need to meet the following standards:

- One department in each hospital or trust is responsible for the procurement, provision and maintenance of all weighing equipment for that organisation
- Each trust ensures that a programme of testing for their equipment is in place
- Training for the use of weighing equipment is incorporated into each trust's training and induction procedures
- Any equipment which is found to be inaccurate is removed from service and either repaired or replaced
- All new weighing equipment is of Class III (suitably precise for medical applications)
- Scales purchased for medical purposes are only capable of metric display. There must be no capacity for switching or dual weight unit readouts
- Accurate records of servicing of equipment must be kept
- All weighing equipment is cleaned between different patients in accordance with local infection control policies.

<https://www.nursingtimes.net/Journals/1/Files/2010/12/2/Standards%20for%20the%20weighing%20of%20infants.pdf>







## Weighing the child: technique

Before commencing the weigh-in, please ensure:

- Standard precautions are applied for all patients. If in additional isolation, other precautions (such as personal protective equipment) need to be applied.
- If the patient is nursed in isolation, weighing equipment should be taken to the patient's room
- Ensure hands are cleaned

To reduce stress and discomfort, a distraction technique can be applied. Two members of staff may be involved in the weighing process to make it easier.

The child must be completely on the scale to ensure weight is accurate.

When recording the weight, do not under any circumstances round the measurement up or down. Record the figure shown on the scale to the last complete gram. If suitable, the weight reading can be rounded to the nearest 100g for children greater than 4kg. Weight can be transferred to the child's medical records manually or via data transfer, if this option is available on the scale.

<http://www.gosh.nhs.uk/health-professionals/clinical-guidelines/weight-measuring-childyoung-person>

## Weighing the child: completing the process

When weighing is complete, the child should be redressed and left comfortable.

When the measuring equipment has been used it should be cleaned thoroughly and disinfected. If the scale is contaminated with blood, it should be cleaned using appropriate equipment and protective clothing should be worn.

Those staff members involved in the weighing must perform a handwash following the procedure.

Staff members with appropriate training and experience can record the weight data in the child's health care record, in the Patient Assessment Form (PAF), in the Nutrition Screening Flowchart, on the Electronic Prescribing System, or plot a growth centile chart.

When noting this information include date, time and the name of the person that made the measurement.

<http://www.gosh.nhs.uk/health-professionals/clinical-guidelines/weight-measuring-childyoung-person>

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**It may be easier to use two members of staff during the weighing process.**

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## What to do if the weight is a cause for concern

It is worth noting that a single weight measurement is of limited value when a child's nutritional status is being assessed.

If there are any concerns over the weight measurement, first the parent or carer should be consulted regarding any change in appetite or feeding pattern. Previous weight measurements should also be referred to for comparison.

The nurse should follow the organisation's procedures when referring the child to a dietetics department.

<https://www.nursingtimes.net/Journals/1/Files/2010/12/2/Standards%20for%20the%20weighing%20of%20infants.pdf>

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**Use previous weight readings for comparison.**

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## Scales recommended for weighing children

Marsden M-400/M-410



M-400: Capacity: 20kg  
M-400: Accuracy: 5g < 10kg > 10g

M-410: Capacity: 50kg  
M-410: Accuracy: 10g < 20kg > 20g

Marsden M-420



Capacity: 220kg  
Accuracy: 50g < 150kg > 100g

Marsden M-230



Capacity: 120kg  
Accuracy: 50g

Marsden M-700



Capacity: 150kg  
Accuracy Baby: 60kg x 20g  
Accuracy Adult: 150kg x 50g





Accuracy Assured

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