



# MARSDEN

How Accurate Do My Weighing Scales Need To Be?

A Marsden Weighing Group Free Guide  
with help from the UK Weighing Federation



# How Accurate Do My Weighing Scales Need To Be?

Getting an accurate weight reading for a patient in a medical environment is of paramount importance - especially if the weight is to be used for monitoring, diagnosis or administering treatment.

Since 2003, it has only been legal to use an approved scale for such a purpose - because an approved weighing device has the accuracy and reliability to provide a trustworthy weight reading. It is strongly advised that the approved scales used are Class III.

The law behind having to use approved scales comes from the Non-Automatic Weighing Instruments (NAWI) Directive for weighing scales used in the European Union. The lower the class approval, the more accurate the scale is - Class I being the highest level of accuracy.

Specifically, the NAWI directive states that all scales used in the 'determination of mass in the practice of medicine for weighing patients for the purpose of monitoring, diagnosis and medical treatment' must be medically approved. Scales used for slimming classes and fitness centres do not have to be medically approved.

It is vitally important that medical patients are weighed accurately. If a patient is weighed inaccurately, it could have a significant detrimental effect on diagnosis, medication, treatment administered and recovery time.

But how accurate do your scales need to be?

## **Accuracy according to the UK Weighing Federation**

The UK Weighing Federation (UKWF) is the trade association for weighing machine manufacturers and suppliers in the UK. They work with Governments, professional bodies, companies and individuals to improve weighing technology across the industry.

The UKWF follows the NAWI regulation which was made part of UK law in 1992 and took full effect in January 2003.

## **Weighing in metric units has been mandatory since January 2003.**

The accuracies listed on the right for each specific purpose have been determined by the UKWF.

The more serious the reason for the weighing, the finer the accuracy of the scale should be, according to our chart on the right.

The treatment provided to patients can often vary because of their weight, and the more critical a condition, the more vital it is that this information is correct, so exactly the right medication or treatment can be provided.



The chart also applies to babies, who will be weighed to smaller graduations, because generally with scales, the smaller the capacity that is required, the finer the scales accuracy can be.

### Scale Accuracies Required

	Adults	Young Children	Babies
Check weight for records	500g	200g	50g
Regular monitoring to assess weight change	200g	100g	10/20g
Measuring weight to assist medical diagnosis	200g	50/100g	10/20g
Measuring weight for critical treatment e.g. dialysis	50/100g	20/50g	5g
Recording birth weight	N/A	N/A	20g
Measuring weight before and after breast feeding	N/A	N/A	10g

### The Need for Accurate Scales

Though mistakes caused by inaccurate weighing scales are fairly uncommon – the reality is when they occur nearly 70% of the time the patient is affected. This is according to research by the Pennsylvania Patient Safety Authority in the US.

Elderly and paediatric patients are at greater risk of inaccurate weighing, as they are more vulnerable to adverse drug effects. For these patients, their weight is also more likely to change over a short period of time, so it is vital they are weighed accurately on a regular basis.

### Other Causes of Inaccurate Weight Recordings

Issues with patient weight and incorrect diagnosis may not only occur because of inaccurate scales, however.

Often problems can occur when the patient should be weighed, but is unable to do so. If a patient is admitted to a hospital in an emergency they may not be weighed or may not be able to communicate their weight. The weight may be estimated, providing the clinician with an inexact reading.



Studies by the Pennsylvania Patient Safety Advisory have shown that 47% of estimated weights are at least 10% different to the patient's actual weight; a larger than 20% difference in estimated weight to actual weight occurred in 19% of the results.

Another problem arises when practitioners assume a documented weight is either up-to-date or accurate. When a patient is transferred across units they aren't always re-weighed, and a golden opportunity to reassess weight is missed.

It is often the case that whilst undergoing treatment, the weight of the patient may change, so failing to reassess at regular intervals is a risky strategy. A recent Government report, Childhood Obesity: A Plan For Action has called for more frequent weighing of patients.

Medical professionals should also be sceptical of weight provided to them by the patient.

Transferring of weight data between healthcare professionals may also result in errors, especially if the weight is written on paper. Bluetooth-equipped weighing scales are one solution to this.

### Marsden Solutions

	Adults	Young Children	Babies
Checking weight for records	M-550	M-430	M-400
Regular monitoring to assess weight change	M-430	M-410	M-400
Measuring weight to assist medical diagnosis	M-430	M-410	M-400
Measuring weight for critical treatment e.g. dialysis	M-100	M-410	M-300
Recording birth weight	N/A	N/A	M-400
Measuring weight before and after breast feeding	N/A	N/A	M-400

For more information on any of the weighing solutions provided by Marsden and for more information on accurate weighing, contact us on 01709 364296.



## Further Reading:

Nursing Times:

<https://www.nursingtimes.net/nursing-practice/specialisms/assessment-skills/accurate-assessment-of-patient-weight/5068941.article?v=1>

Scales Shop:

<https://www.scaleshop.com/pages/class-iii-medical-scales-guide>

UK Weighing Federation:

<http://www.ukwf.org.uk/c2/uploads/medicalguidancenotes.pdf>

Patient Safety Authority:

[http://patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/2009/Mar6\(1\)/Pages/10.aspx](http://patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/2009/Mar6(1)/Pages/10.aspx)

Childhood Obesity: A Plan for Action (Government report):

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/546588/Childhood\\_obesity\\_2016\\_2\\_acc.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/546588/Childhood_obesity_2016_2_acc.pdf)



# Notes

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Accuracy Assured


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