



MARSDEN

Accurate Assessment of Patient Weight – A Guide for GPs, Pharmacists,
Hospitals and Care Homes

A Marsden Weighing Group White Paper

www.marsden-weighing.co.uk

In this white paper:

- Why is weighing patients an essential part of medical assessment?
- Why do medical staff record inaccurate weights or fail to record data altogether?
- Why is it important to keep equipment maintained?
- What are the best practices for weighing patients?

Across the UK and worldwide, medical establishments - GPs, pharmacists, hospitals and more - use weighing scales as part of their screening processes to help to monitor their patients' health.

But sometimes, weighing patients is delegated to untrained members of staff, using inaccurate weighing equipment and occasionally even missing out the weighing process altogether.

This white paper will help you to appreciate the value of weighing, the importance of recording accurate weight readings, best practices and more - so that you can get the most out of your scales in order to best look after your patients.

1. Why is weighing patients an essential part of medical assessment?

Obtaining and recording an accurate body weight of a patient is an essential part of medical assessment, which should be carried out by trained staff using appropriate equipment.

The basis of why patients should be weighed is formed by three basic principles¹:

- a) To monitor the extent of loss in organ function
- b) To judge the effectiveness of medications (mainly diuretics)
- c) To enable calculations of medical dosages

In A&E units, a 'reductionist approach' has contributed to weighing patients slipping out of routine practice.

It means that the nursing process has become fragmented. Alongside a nurse's judgement, intuition and experience a patient risk assessment cannot be replaced.

In hospitals, one in four patients admitted are already malnourished² so an accurate assessment is needed from the outset to ensure the correct nutritional support is provided.

Registering a patient weight is therefore a fundamental part of nutrition assessment, yet according to Evans & Best (2014)³, it is a duty which is often passed to untrained staff, and equipment used is inappropriate or has not been serviced post-delivery.



When should the patient be weighed?

According to a 2016 Government report into obesity, patients should be weighed 'by default' when they see a GP⁴.

And in hospitals, guidance on nutrition-support for adult states that all inpatients on admission to hospital and all hospital outpatients on their first clinic visit should have a nutritional screening - including weighing - completed. This guidance also says that anyone admitted to a care home should be screened / weighed on admission⁵.

On top of this, people who meet any of the bullet points below should also be assessed at the earliest possible opportunity, due to the risk posed by undernutrition:

- Patients with existing acute and long-term conditions such as chronic obstructive pulmonary disease
- Patients with long-term, progressive conditions such as dementia and cancer
- Patients who have been discharged from hospital recently
- Older people

2. What if medical staff record inaccurate weights or fail to record data altogether?

The need for accurate weight readings

Incorrectly recording a patient's body weight as well as using inaccurate or inappropriate weighing equipment, is likely to have a negative impact on the patient⁶. It can increase the risk of errors in diagnosis interventions, treatment or the medication dosage provided, which can have severe implications for the patient.

Marsden's recent white paper, 'How Accurate Do My Weighing Scales Need To Be?', looked in depth at the need for using specific class accuracies and specific scale graduations for certain medical applications.

Since 2003, it has only been legal to use an approved scale for monitoring, diagnosis or administering treatment – and it has been strongly recommended that these scales are Class III.

The Non-Automatic Weighing Instruments (NAWI) directive states⁷ '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'. Thus, scales for organisations such as slimming classes do not need to be medically approved - unless the weight is to be used by a clinician for a medical purpose.

Though mistakes caused by weighing scales which are inaccurate are uncommon, in 70% of occasions that errors do occur, patients are affected, according to the Pennsylvania Patient Safety Authority in the US.

In 2015, research into stroke victims in the UK⁸ found that 20% of those giving clot-busting drugs are given incorrect medication because their weight has only been guessed - with 7% actually having their survival chances affected because the approximation is so far adrift.



Other problems which may occur - and why training is needed

Lees and Allen-Mills⁹ undertook a small study of nurses responsible for weighing patients in an acute medical admissions unit.

Due to increasing demands on medical services, the research found that the job of weighing patients is often delegated to non-registered, untrained staff. It even found that some nurses do not attach the same importance to weighing as other routine assessments.

This can create many issues, such as the standardisation of weight can be ignored - in other words the weight reading is taken in pounds instead of kilograms. According to the Patient Safety Authority¹⁰, "more than 25% of the 479 reports mention breakdowns that occurred when the patient's weight, measured in pounds or kilograms, was erroneously documented as the patient's weight in kilograms or pounds, respectively. "

In one case a patient's medication dosage was given at three times the necessary amount, because the patient weight was documented in the wrong unit.

The weight is also sometimes taken incorrectly because the weight of clothing etc is included in the total - and is not deducted using the scale's Tare function.

Many staff also showed reluctance to weigh patients, with some referencing an 'uncomfortableness' suggesting that without good reason, recording body weight could be perceived as unnecessary invasion.

This fear has been touched on by Tam Fry, spokesman for the National Obesity Forum, who said¹¹: "You (the pharmacist) needs to be able to strike up conversations about weight in a sensitive way. "Community pharmacies see their customers frequently so are well placed to offer the best advice."

3. Why is it important to keep equipment maintained?

The Importance of Service Contracts

Lees and Allen-Mills continued to suggest that in many centres, weighing scales were not calibrated properly and had not been recalibrated in over a year.

The need for calibrated scales was highlighted by the LACORS report¹², which found of 8000 scales audited in hospitals, a third were inaccurate. A follow-up report also took place in 2014-15¹³, which included doctors' surgeries, health centres, health visitors and pharmacies. It noted that improvements had been made, but still found that analogue Class III scales were the most popular - which when tested readings were commonly 3kg out. Marsden published the findings of the report in their 2015 white paper, 'The National Legal Metrology Report - A GP's Guide'.

In one investigated case, a child cancer patient was weighed using ordinary bathroom scales so that staff could calculate the amount of radiation to be administered as part of her treatment. The scales wrongly indicated that the girl had gained weight during the day, despite not having eaten and suffering from suspected dehydration. Potentially, this could have led to a potentially harmful dose of radiation being administered.



Following the report, the Department of Health published the recommendation below:

LACORS advice is that weighing equipment should be tested a minimum of once a year. If the user considers the equipment may be giving inaccurate readings during the intervening period, it should be taken out of use and subjected to interim inspection.

Cllr Geoffrey Theobald OBE, Chairman of LACORS, said: "An inaccurate petrol pump or supermarket scale isn't exactly a matter of life or death but getting an accurate, consistent weight reading for a hospital patient could be. When you consider why a patient would be weighed – to calculate dosage for medication, anaesthetic or even radiation – you realise the importance of getting weight right."

A service contract ensures scales are checked annually – meeting the LACORS recommendation – to ensure accuracy, safety and reliability from the scale.

For more information about service contracts, email service@marsdengroup.co.uk.

4. What are the best practices for weighing patients?

By following the points listed above about when and by whom a patient is weighed, by ensuring the assessment is carried out by the correct staff and by ensuring the weighing scale is regularly serviced you can ensure best practice is achieved for weighing patients.

What if the patient cannot be weighed in the standard way?

Sometimes, it may not be possible to weigh a patient on a standard scale. They may be unable to stand, or might even be bed-bound. However, this does not mean that a weight cannot be taken for records.

In these situations, there are two solutions.

- Use a bed weigher or chair scale - these are available in many forms to make patient weighing as easy as possible
- Check their medical records - if medical records are up to date, they should provide you with a weight from their most recent weigh-in

Only in exceptional circumstances should a patient, or their next of kin, be asked to provide a weight reading, as the accuracy of this could be dubious.



Conclusion

Recording and documenting an accurate patient body weight is a fundamental part of the screening process to monitor fluid balance, administer treatment and calculate medication. Staff are key to ensuring an accurate body weight is gathered and recorded. Weight should not be seen as a one-off admission, but should be used as a tool in continuously monitoring a patient's health.

The importance of weight, therefore means that monitoring should be carried out by a staff member with appropriate knowledge and training.

As the LACORS recommendation stated, it is vital that you should check that the scale you are using is Class III Approved and is serviced / calibrated annually. At Marsden, we have a team of engineers situated nationwide that are on hand to repair and maintain your weighing scales. To enquire about a service visit for your scales, visit the service section of our website.

White Paper Takeaways

- Patients should be weighed 'by default' when they see a GP or are admitted to hospital or a care home.
- Scales used should be Class III Approved, in accordance with the NAWI directive.
- Pharmacies are well placed to provide medical advice and shouldn't be phased by any 'uncomfortableness' linked with weighing.
- Staff weighing patients should be trained and competent.
- Weighing scales should be serviced / recalibrated a minimum of once a year to ensure the scales are accurate.

Scales for patient weighing in hospitals

All scales in hospitals legally need to be Class III Approved. Marsden has a range of Class III scales suitable for hospitals including floor scales, baby scales, column scales, as well as scales specifically for bariatric patients.

For bedbound patients, the Marsden M-950 makes bed weighing easy with four weighing pads which can be situated under the wheels of the bed. Any sheets - and the bed - can be removed from the scale's reading using the Tare function on the scale.



Recommended Hospital Scales

Marsden M-300



Capacity: 15kg
Accuracy: 2g < 6kg > 5g

Marsden M-100



Capacity: 300kg
Accuracy: 50g < 150kg > 100g

Marsden M-200



Capacity 250kg/300kg
Accuracy: 50g < 150kg > 100g

Marsden M-950



Capacity: 600kg/1000kg
Accuracy: 200g/500g



Scales for patient weighing in GP surgeries

As mentioned, many GPs are still using Class III scales which may not be appropriate and have been shown to be inaccurate. The Marsden M-550 is five times more accurate than traditional mechanical Class III scales - and the M-550 is Class III Approved.

An alternative weighing solution is the Marsden M-545, which features a remote display to keep readings private and take away some of the uncomfortableness that patients and nurses feel when weighing.

Marsden M-430



Capacity: 220kg
Accuracy: 200g

Marsden M-550



Capacity: 160kg
Accuracy: 200g < 150kg > 500g

Marsden M-110



Capacity: 250kg
Accuracy: 100g

M-700 Adult/Toddler/Baby Scale



Capacity 150kg
Accuracy: 20g/50g



Scales for weighing patients in care homes

Marsden's M-650 is a professional wheelchair platform with black or white base options available. The ramps of the platform have gentle incline to make it easier to push your wheelchair onto the scale.

Alternatively, Marsden's M-200 chair scale has a high capacity and large weighing base making it suitable for bariatric patients, as well as including Bluetooth connectivity. The classic-design Marsden M-210 is also available for patients who need to be seated.

For patients with dementia, Marsden's M-650 and M-420 are available with a white base. Weight loss is common for people with dementia, and the new scales - as opposed to traditional scales with a black base - mean patients with visual/spatial problems feel less stressed, and are less likely to suffer from a fall.

Marsden M-600



Capacity: 200kg
Accuracy: 100g

Marsden M-200



Capacity 250kg/300kg
Accuracy: 50g < 150kg > 100g

Marsden M-650



Capacity: 300kg
Accuracy: 100g

Marsden M-950



Capacity: 600kg/1000kg
Accuracy: 200g/500g



References

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