

Too polite to ask? The inaccuracy of guessing patients' weight.

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Patient weight is an important variable for the anaesthetist's calculation of drug dosages and infusion regimes, as well as various monitoring protocols. For obese patients recent guidance suggests the use of alternative measures such as Adjusted Body Weight or Ideal Body Weight for dosing calculations.¹ Both of these require knowledge of the patient's Total Body Weight (TBW). The results of an audit in our trust showed that only 25% of emergency patients (general surgery and gynaecology) were weighed in comparison to 99% of elective patients. Of the 75% without a documented weight, we assume that the patient's weight was estimated (5% had an estimated weight in medical notes). The importance of accurate weight estimation is evident. Three surveys were undertaken to try and evaluate whether anaesthetists or patients were better at estimating a person's weight.

Methods:

Initially, 32 members of the anaesthetic department (consultants and trainees) were asked to estimate the weight of a single volunteer. In addition, 65 patients were asked to estimate the weight of a different volunteer. Finally, 41 pre-operative patients were asked to guess their own weight before they were weighed.

Results:

Fifty six percent (56%) of the anaesthetists underestimated the weight of the volunteer by more than 5kg (maximum error -22kg). Thirty eight percent (38%) of the anaesthetists' estimates were within 5kg of the volunteer's TBW. Only 6% overestimated the volunteer's weight by more than 5kg (maximum error +9kg). Fifty five percent (55%) of patients underestimated the weight of the volunteer by more than 5kg (maximum error -17.5kg). Forty percent (40%) of the estimates were within 5 kg of TBW. Five percent (5%) overestimated the weight by more than 5kg (maximum error +19kg). When patients estimated their own weight, 88% were within 5kg of their actual weight (5% overestimated and 7% underestimated by more than 5kg of TBW). Patients' mean estimate for their own weight was 79.4kg (SD14kg) and measured mean was 79.8kg (SD 13.6kg).

Discussion:

Inaccuracy in weight estimation could lead to increased risk of drug errors for patients. The findings of our study suggest that both anaesthetists and patients are equally poor at estimating other people's weight but that our patient population seem to be good at estimating their own weight. As a response to these findings, we are increasing the availability of weighing scales in surgical wards in the hospital. We also suggest that in the absence of measurements it would be prudent to ask the patient to estimate their mass rather than the anaesthetist guessing.

References:

1. Association of Anaesthetists of Great Britain and Ireland. Peri-operative management of the obese surgical patient 2015. *Anaesthesia* 2015, 70, pages 859–876. Available at URL: https://www.aagbi.org/sites/default/files/Peri_operative_management_obese_patientWEB.pdf

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