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How accurate are estimates of admission weights on picu?

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Background: On the paediatric intensive care unit (PICU), most drug doses are based on patients' admission weight. Since most patients are acutely unwell on admission to PICU, the admission weight used is often estimated, but it is not known how accurate this estimate is. Commonly used estimates have been shown to be inaccurate.

Aim: To establish how accurately the admission weight (which is often estimated) used for patients admitted to PICU corresponds to their actual weight.

Method: In this prospective observational study in a London teaching hospital, the admission weight used for each patient admitted to PICU was compared to the weight measured at discharge. Patients with a length of stay >50 days were excluded.

Results: 72 of 215 admissions were weighed before discharge from PICU. Of the 72, 16.7% of patients' discharge weight equalled the admission weight used. The difference between admission and discharge weight was >10% for 16.7% patients, and >20% for 2.8% of patients. The mean difference was 4.83%. The APLS formula for estimating weight was used for 15.2% of admissions; when this was used the mean difference was 7.0%.

Conclusion: The majority of discharge weights were similar to the admission weight used. For the patients with a discharge weight very different to the admission weight, drug doses may have been calculated sub-optimally. These patients may benefit from technology that is able to accurately weigh them while acutely unwell (e.g. intubated and ventilated) at admission to PICU.

Biography

Gregory Landon has completed his MBBS at St George's University of London and a Certificate in Learning and Teaching at Queen Mary University of London. He is a Specialist Trainee in Pediatrics in the London Deanery. His interests include Medical Education and Quality Improvement.

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