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THE IMPACT OF RELATION BETWEEN CUFF SIZE AND ARM CIRCUMFERENCE ON BLOOD PRESSURE MEASUREMENT

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Objectives To explore the influence of relation between cuff size and arm circumference on accuracy of blood pressure (BP) measurement.

Methods 300 patients needed for invasive arterial manometry were enrolled. Before operation, invasive and non-invasive BP were measured three times, and got mean BP. Height, weight, upper arm circumference(UAC) were measured, and to calculate body mass index (BMI), mean BP (MBP).

Results The mean UAC was (28.8 ± 3.9) cm in these 300 patients, and 71.3% patients in this cohort of subjects have UAC greater than 27 cm. Invasive BP measured were higher than those by ordinary cuff non-invasive measurement. With increasing UAC, non-invasive BP readings increased by ordinary cuff, and the difference to invasive BP was greater.

Conclusions Using appropriate cuff-bladder can reduce the pseudo-hypertension incidence in blood pressure measurement.