EDITORIAL

Whither Conventional Blood Pressure Measurement?

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The technique for measuring blood pressure (BP) was introduced into clinical medicine in 1896 and has survived largely unchanged for more than a century, despite being an inherently inaccurate technique that is fraught with many sources of error.[1] To overcome the many shortcomings of the technique, international hypertension organizations have produced a daunting list of recommendations. These include the following: the subject should not have eaten, smoked tobacco, or ingested caffeine or alcohol before the procedure; the subject should be relaxed in a quiet environment without interruption from conversation, telephones, or bleeps; the subject should be seated in a chair with a straight back, with legs uncrossed and feet flat on the floor with the arm supported at heart level; and the observers should be trained to minimize observer bias and terminal digit preference.[2]

Now Sala et al[3] have shown that in patients with treated and untreated essential hypertension BP should be measured with the patient seated on chair rather than on the side of a bed to avoid overestimating BP. All of which, not unsurprisingly, leads one to the inevitable realization that these recommendations are rarely—if ever—followed in clinical practice. Add to this the susceptibility of the technique to the white coat effect,[4] and the environmental ban on mercury,[1] and one is forced to ask why we persist in measuring BP using a mercury sphygmomanometer and stethoscope. Indeed, even the argument that conventional measurement will live on as a screening test for hypertension has been weakened by the relatively new phenomenon of masked hypertension, denoting subjects with normal conventional measurement and elevated ambulatory BP, who are at greater risk from the cardiovascular sequelae of hypertension.[5]

We live in a technological age, and yet it is remarkable how reluctant physicians have been to embrace the advantages of automated BP measurement—be it ambulatory, self-BP measurement, or automated measurement—in the office. In the past, manufacturers of automated BP-measuring devices have been slow to accommodate the demands of clinicians for accurate devices; but this attitude has changed in recent years with manufacturers responding to invitations from international bodies to enter into dialogue with the mutual objective of measuring BP more accurately according to clinical circumstances. It is up to us as clinicians to respond and to lead the way forward—making use of the considerable advantages of modern technology.

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