Recommendations for Blood Pressure Measurement in Human and Experimental Animals; Part 1: Blood Pressure Measurement in Humans

To the Editor:
The members of the Atherosclerosis, Hypertension, and Obesity in the Young Committee of the American Heart Association Council on Cardiovascular Disease in the Young believe it is of clinical importance to point out a discrepancy in the cuff size section of the recent American Heart Association Scientific Statement “Recommendations for Blood Pressure Measurement in Humans.”1 On page 705 of that document, the report states that “the ‘ideal’ cuff should have a bladder length that is 80% and a width that is at least 40% of arm circumference.” The statement quotes a study by Marks and Groch2 that “concluded that the error in measurement of blood pressure is minimized with a cuff width of 46% of the arm circumference.”

Immediately after these 2 statements is a series of 4 bullets giving cuff recommendations. The dimensions given in the bullets call for only 2 cuff widths, 12 and 16 cm, rather than the original text, which called for widths of 10, 13, 16, and 20 cm. If one calculates the percentage of arm circumference that the 16-cm cuff would be in the largest arms (45 to 52 cm), the results range from 35.5% to a low of 30.7%, far from the 46% recommended by Marks and Groch2 and the “at least 40%” within the same statement (5 lines before the 4 bullets).

We realize that there may be some practical reasons to deviate from “ideal,” but 30.7% of the arm circumference would give an artifactual high blood pressure reading (small cuff effect). With the epidemic of obesity currently spreading throughout the United States, we do not think it is scientifically acceptable to recommend an “adult thigh” cuff so far out of line with an evidence-based approach. The scientific statement indicates that cuffs of 20 to 24 cm “would not be clinically usable.” We do not know why this would be true. We use cuffs of those widths in the clinical setting regularly without apparent difficulty.

We would like the authors of the statement to respond to our concerns. We are confident that the published guidelines will result in artifactual elevation of blood pressure in a large number of Americans who require a large adult or thigh blood pressure cuff.

Disclosures
None.

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