Electronic Sphygmomanometers: Are They a Source of Mercury in Hospitals?

To the Editor:

The letter by O’Brien\(^1\) on the article by Jones et al\(^2\) and the subsequent response by Jones et al\(^3\) continue to confine debate to areas already established by O’Brien,\(^4\) ie, finding a suitable replacement for the mercury (Hg) sphygmomanometer. However, 2 recent studies finding that aneroid gauges are accurate in US clinical settings\(^5,6\) suggest Hg abatement is set to accelerate in United States, rather than stall as the Jones et al Hg retention position indicates.\(^2\)

Further, it should be noted that electronic devices and computers cycle Hg by collecting and vaporizing it,\(^6\) and hospitals are a ready source of spilt Hg from broken thermometers and leaking sphygmomanometers.\(^7\) Also, computers are themselves hazardous waste in that they contain Hg switches and relays.\(^8\) Recently, it was shown that Hg from thermometers broken in the domestic environment produces significant indoor pollution, decades after the original spillage.\(^9\) One should factor in by several times the domestic environmental exposure for hospital workers, based on high Hg hospital usage; spillage; and then translocation to the domestic environment. Human fatalities caused by one broken fever thermometer in the domestic environment have been reported.\(^10\)

With the above in mind, all electronic equipment used in clinical and domestic settings should be properly labeled to show the Hg content at manufacture and, if not containing Hg, should be labeled as being Hg free. Purchasing arrangements should make this mandatory, and negative consequences in terms of funding should apply for those still purchasing Hg containing equipment.

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Response

The focal issue of the advisory is accurate measurement of blood pressure, not the long-term retention of mercury products in hospitals. Sufficient standards of validation and good programs of calibration of blood pressure instruments are needed. If nonmercury instruments do prove to be accurate over a wide range of clinical circumstances and hospitals adopt rigid calibration programs, there will no longer be a need for discussion of mercury safety regarding blood pressure measurement.

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