Capital Health

MEMORANDUM

Biomedical Engineering, VG Site
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To: All Health Care Area Managers

From: John Hamilton, Manager, Biomedical Engineering
Janet Glennie, P Eng, Clinical Engineer, Biomedical Engineering

Date: March 23, 2005

Re: Aneroid Sphygmomanometers

As part of Biomedical Engineering's Continuous Quality Improvement initiatives, we periodically review preventive maintenance procedures for effectiveness and efficiency.

Our review of aneroid sphygmomanometers reveals that the primary failure mode relates to wear of the bulbs, bladders and/or tubing, which can be exacerbated by the kind of environmental cleaners recommended by Infection Control. This wear causes leakage of air which can eventually prevent the sphygmomanometer from reaching a high enough pressure or holding that pressure long enough to take a reading. Fortunately, air leakage is readily detectable by users, and typically long before the problem becomes this extreme.

Another failure mode, which occurs quite infrequently, is a failure or partial failure of the mechanism controlling the positionning of the dial on the meter itself. This type of failure would result in an incorrect blood pressure measurement. Once again, there is an early warning sign of this problem, namely that the needle does not point to zero when not pressurized. (Note that many dials do not have an actual 0 position, but rather have a square at the bottom of the dial, the needle must be positionned within that box when the device is not pressurized.)

Since the anticipated failure modes of the aneroid sphygmomanometer can be easily determined by users of the equipment, Biomedical Engineering has decided to move the aneroid sphygmomanometers from the preventive maintenance program to a strictly corrective maintenance program. This means that Biomedical Engineering technologists will continue to repair aneroid sphygmomanometers, when requested, but will no longer look for these devices on a yearly basis in order to determine if maintenance is required.

Therefore, all end-users of aneroid sphygmomanometers are advised to report to Biomedical Engineering any problems they are experiencing, including excessive air leakage, worn tubing or bulbs, or meters that are not properly zeroed.

Biomedical Engineering also recommends that changes to a patient's medication not be made based solely on the basis of a single blood pressure measurement from a single aneroid sphygmomanometer. Always confirm an unusual or unanticipated reading with another device.

Please note, this decision applies to aneroid sphygmomanometers and not to mercury sphygmomanometers, those with digital readouts or vital signs monitors.

If you have any questions or concerns, please contact your Biomedical Engineering representative.