



# Clinical Laboratory Department POLICY AND PROCEDURE

POLICY NUMBER: 1154  
VERSION: 3

## **SUBJECT: Equipment Calibration and Validation**

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- Temperature of incubator, water baths, heat blocks, and refrigerators are to be taken daily and recorded.
- CO<sub>2</sub> incubator is continuously monitored for % CO<sub>2</sub> and temperature. The CO<sub>2</sub> is monitored by an audible alarm which sounds when the CO<sub>2</sub> % deviates from the set point (9%) by more than 1% (< 8% or > 10%). In addition, readings are taken daily and recorded on the Micro temp chart as well as in the REES system automatically.
- CO<sub>2</sub> is verified monthly by checking the CO<sub>2</sub> concentration readout of the incubator with the Fyrite system. Readings of both the Fyrite and the CO<sub>2</sub> are recorded on the monthly section of the incubator PM log. Reading must match within  $\pm 1/2\%$ . Failure to do so should result in a phone call to the manufacturer. See micro equipment notebook in POCT office.
- CO<sub>2</sub> incubator is equipped with High-Low temperature alarms, which are set at 36°C and 34°C. It is also monitored by the REES system. Adjustments are made to all equipment as needed. Back-up systems are employed if corrections cannot be made. Back-up for CO<sub>2</sub> environment is a CO<sub>2</sub> generating system stored in the upper cabinet near the incubator.
- CO<sub>2</sub> tanks are changed by Building/Crafts Department when notified by lab personnel of need. This should be done when the tanks switch from right to left or left to right. This is monitored daily.
- Air flow velocity in the Biological Safety Cabinet is read and recorded daily. Acceptable airflow is 0.24 +/- 20%. The BSC is serviced twice a year by contract agency.
- Volume calibration of the "calibrated" 0.001 mL urine loops are done weekly and recorded on the monthly QC log. When found to be unacceptable, it is replaced with a new loop.

### Procedure:

Visually inspect the loop to make sure it is still round and the circle has not parted. Insert the end of the loop through the green end of the loop calibrator (it should fit without using force). Make sure the loop will not fit over the red end of the loop calibrator. The loop calibrator is designed to calibrate only 26-gauge wire.

### References:

*ASM Manual*, 4<sup>th</sup> Edition

Loop Calibrator Package Insert, Hardy Diagnostics

*Biological Safety Principles and Practices*, 4<sup>th</sup> Edition. Fleming and Hunt. 2006

Thermo Scientific CO<sub>2</sub> manual, 2003

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<b>Approved By:</b> Brian Yee (PHYS SPEC PATHOLOGY)	
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<b>Revised:</b>	8/18/95cw - updated; 11/21/00cw - updated; 3/19/04 jh - urine calib changed from monthly to weekly; 4/15/04 dnb - update hdh to hdhs 3/20/08 lg - reformat, removed cal of microscope micrometer, added renok cal reference, 5/17/10 jh-removed renok calib. 5/31/12 jh- added "The BD Bio-bag type", removed "...a candle jar...", removed "adjusted and verified or" 12/12/14jh changes for new building equipment (CO2, & BSC) 3/21/17jh typos, change in approver to Dr.Yee
<b>Written By:</b> Jill Hartenstein (CLINICAL LABORATORY SCIENTIST II)	
<b>Distribution:</b>	