# SUNY Downstate Medical Center -University Hospital of Brooklyn Network Department of Pathology Policy and Procedure



# Subject: LAB 45 QUALITY CONTROL OF THERMOMETERS PROTOCOL

LTR: LTR12894

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Supporting Documents:

Approval Workgroup: Laboratory Administration Approval Group

Revision: 3

# I. PURPOSE:

To insure the accuracy of temperature readings of all thermometers.

## MATERIALS REQUIRED:

37°C water bath Ertco reference thermometer A container large enough to hold several thermometers which will also contain a 10% glycerol solution.

#### 10% glycerol solution

In a large enough container, mix 450 mL of tap water with 50 mL of glycerin.

## II. PROCEDURE:

## 1. Incubator Thermometers

- **A.** Place all incubator thermometers, including the water bath thermometer in a 37.°C water bath along with the reference thermometer.
- B. Record temperatures on the Quality Control of Thermometers (incubator/water baths) form.

Acceptable Temperature Limits: <u>+</u> 1°C of the reference thermometer.

#### 2. <u>Refrigerator Thermometers</u>

- **A.** Place a container filled with 10% glycerol solution in a refrigerator (temperature 2-6°C) for approximately one hour so the solution can reach the temperature of the refrigerator.
- **B.** Place all the refrigerator thermometers into this container along with the reference thermometer.
- **C.** Record temperatures on the *Quality Control of Refrigerators and Freezers* form.

Acceptable Temperature Limits:  $\pm 1^{\circ}$ C of the reference thermometer.

## 3. Freezer Thermometers

- **A.** Place all freezer thermometers, along with the reference thermometer, in a freezer with the temperature below—18°C for 5 minutes.
- B. Record temperatures on the Quality Control of Refrigerators and Freezers forms.
- **C.** Acceptable Temperature Limits:  $\pm 1^{\circ}$ C of the reference thermometer.
- **D.** Any thermometer that reads outside of acceptable limits or shows any irregularity must be brought to the attention of the Supervisor and discarded.

## 4. <u>Reference Thermometer</u>

**A.** The reference thermometer is calibrated annually using measurement standards traceable to the National Institute of Standards and Technology (NIST). A Certificate of Calibration is generated as proof of proper function.

**B.** The reference thermometer is sent to the company annually listed below for calibration.

State Technology Inc. 510 Heron Drive, P.O. Box 266 Bridgeport, NJ 08014

1-856-467-8009 FAX: 1-856-467-9481

#### 5. Broken Mercury Thermometers

Broken thermometers are to be disposed of in a safe manner. Call extension 2395; Environmental Health and Safety personnel will come to discard the thermometers properly.

#### REFERENCE:

AABB Technical Manual Fifteenth Edition, 2005, method 7.2 p.821-822. CAP Transfusion Medicine Checklist, 9/07 AABB Standards, Twenty-Fifth Edition, 2008.