## TRAINING UPDATE

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|---|---|---|---|
| **Lab Location:** | SGAH and WAH | **Date Implemented:** | 10.18.2013 |
| **Department:** | Blood Bank | **Due Date:** | 11.15.2013 |

## DESCRIPTION OF PROCEDURE REVISION

| **Name of procedure:** |
|---|
| Weight Calibration |
| **Description of change(s):** |
| 1. During our last AABB inspection, we learned we have to calibrate the weights we use to QC our scales. We created a new process to meet this requirement.<br><br>2. Each year, we will send the 100mg weight used for Echo scale QC out for calibration.<br><br>3. We will use the Echo weight to calibrate other weights in the blood bank ***after*** calibration. All weights will be calibrated annually.<br><br>4. Essentially, we will use the calibrated weight to obtain the scale tolerance. Then, we will weigh each weight for accuracy. The acceptable ranges for each weight are listed in the procedure and on the form.<br><br>5. We will discuss this procedure in detail at the next BB staff meeting. Please read the procedure PRIOR to the meeting. |

Non-Technical SOP

| | | |
|---|---|---|
| **Title** | **Weight Calibration** | |
| **Prepared by** | Maria Morris | Date: 8.27.2013 |
| **Owner** | Stephanie Codina | Date: 8.27.2013 |

**Laboratory Approval**

| Print Name and Title | Signature | Date |
|---|---|---|
| *Refer to the electronic signature page for approval and approval dates.* | | |
| | | |
| | | |

Local Issue Date: Local Effective Date:

**Review:**

| Print Name | Signature | Date |
|---|---|---|
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## TABLE OF CONTENTS



## 1. PURPOSE

All weights used in blood bank are calibrated annually to ensure proper scale readings. In addition, weights must be recalibrated anytime there is reason to suspect change or damage to a weight.

When possible, weights with certificate of accuracy documenting comparison with a NIST standard will be used.

## 2. SCOPE

This procedure applies to any weights used in blood bank.

## 3. RESPONSIBILITY

All blood bank staff members must understand and adhere to the weight calibration and tracking process.

## 4. DEFINITIONS

- NIST Standard: The National Institute of Standards and Technology is a physical science research laboratory that supplies reference materials of the highest quality. The NIST standard is calibrated to the world standard stored in the BIPM labs in Sevres, France. Calibration of weights against the NIST standard ensures accurate weight measurement.
- NIST-Certified Weight: A weight certified by NIST.
- NIST-Traceable Weight: A weight guaranteed by the manufacturer to meet NIST standards or be traceable to a NIST weight.

## 5. PROCEDURE

### General Information

| Step | Action |
|---|---|
| 1 | All new weights will arrive with a certificate documenting comparison with a NIST-certified or NIST-traceable weight.<br>A. Write the date the weight was received on the certificate.<br>B. File the certificate in the "Weights" folder of the equipment file. The certificate must be maintained for the life of the weight. |
| 2 | All weights will be identified by the serial number. If a serial number is not present, the number that is traceable to the NIST certificate will be used for identification. |
| 3 | Visually inspect all weights for damage prior to use. |
| 4 | A minimum of one weight will be sent out annually to be calibrated against the NIST standard. All other weights will be compared to the NIST-traceable weight in-house.<br>A. The weight selected for send out should be the weight used for the most critical measurement in the blood bank; this is the weight that requires the most accuracy.<br>B. The Quest purchasing department can be contacted to determine the Quest-approved vendor and the process for sending weights out for calibration. |
| 5 | The vendor will return weight and a calibration certificate to the blood bank following the calibration process.<br>A. The supervisor will review, sign, and date the certificate.<br>B. The certificate will be filed in the "weight" folder of the equipment file throughout the life of the weight. |

### Calibration Process

| Step | Action |
|---|---|
| 1 | All weights used in blood bank are calibrated annually to ensure proper scale readings. In addition, weights must be recalibrated anytime there is reason to suspect change or damage to a weight. |
| 2 | Complete the following entries on the Weight Calibration Form.<br>A. Information about the NIST-traceable weight.<br>a. Serial number.<br>b. Intended value of the weight (the mass printed on the weight). |

Form revised 3/1/00

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>2<br>Cont.</td><td>c. Mass correction or tolerance of the weight from the calibration certificate.<br>i. A positive number means the weight is greater than the printed mass.<br>ii. A negative number means the weight is less than the printed mass.<br>B. Information about all weights to be calibrated.<br>a. Serial number.<br>b. Intended value of the weight (the mass printed on the weight).</td></tr>
<tr><td>3</td><td>Tare the scale. For this procedure, use the scale with the most sensitive readings (the one that carries out the lowest decimal place or smallest reading).</td></tr>
<tr><td>4</td><td>Place the NIST-traceable weight on the scale and measure to ensure the scale is reading properly.<br>A. Document the obtained scale weight on the form.<br>B. Re-tare the scale and repeat the measurement if the weight reading does not match the intended weight reading. Notify a supervisor if the discrepancy does not resolve.</td></tr>
<tr><td>5</td><td>Obtain the measured weight of each weight to be calibrated and document the results on the form.</td></tr>
<tr><td>6</td><td>Subtract the mass correction or tolerance of the NIST-traceable weight from each weight value.<br>A. A positive mass correction or tolerance number means the weight is greater than the printed mass and should be subtracted.<br>B. A negative mass correction or tolerance number means the weight is less than the printed mass and should be added (to subtract a negative number from a positive number, you add the two values).</td></tr>
<tr><td>7</td><td>Determine whether the weight is within tolerance limits using the tolerance values.<br><table><tr><th>Intended Value of Weight</th><th>Acceptability Range</th></tr><tr><td>1000g (1 kg)</td><td>997 - 1003 g</td></tr><tr><td>500 g</td><td>498 - 502 g</td></tr><tr><td>200 g</td><td>199 - 201 g</td></tr><tr><td>100 g</td><td>99.75 – 100.25 g (for use with Echo)</td></tr><tr><td>20g</td><td>19 - 21 g</td></tr></table></td></tr>
<tr><td>8</td><td>Immediately remove from service any weight that does not fall in the acceptable range.</td></tr>
</table>

Form revised 3/1/00

## 6. RELATED DOCUMENTS

Certified Weight Calibration Record (Documentation that the NIST-traceable Certificate meets specifications)
Form: Weight Calibration (AG.F259)

## 7. REFERENCES

None

## 8. REVISION HISTORY

| Version | Date | Reason for Revision | Revised By | Approved By |
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## 9. ADDENDA AND APPENDICES

N/A

Quest Diagnostics

Shady Grove Adventist Hospital, Rockville, MD
Washington Adventist Hospital, Takoma Park, MD

# Weight Calibration Form

**NIST-Traceable Weight**

| Serial Number | Intended Value | Mass Correction / Tolerance | Tech |
|---|---|---|---|
| | | | |

**Weights to be Calibrated**

| Serial Number | Intended Value | Weight Obtained | Subtract | Mass Correction / Tolerance of NIST-Traceable Weight | Result | Acceptable Range | Acceptable? Y / N | Tech |
|---|---|---|---|---|---|---|---|---|
| | | | Minus* | | Equals | | | |
| | | | Minus* | | Equals | | | |
| | | | Minus* | | Equals | | | |
| | | | Minus* | | Equals | | | |
| | | | Minus* | | Equals | | | |
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| | | | Minus* | | Equals | | | |

*Add the two numbers to subtract a negative number

Reviewed: _____ Date: _____