

TRAINING UPDATE

Lab Location:	GEC, SGMC & WOMC	Date Distributed:	7/15/2021
Department:	All staff (except BB, has own SOP)	Due Date:	8/15/2021

DESCRIPTION OF REVISION

Name of procedure:
Laboratory Refrigerator and Freezer Preventive Maintenance SGAH.QA987 v2 Refrigerator Temperature and Maintenance Form AG.F395.4 Freezer Temperature and Maintenance Form AG.F396.4 Refrigerator / Freezer Annual Maintenance Log AG.F601.1
Description of change(s):
SOP: Header: added FWMC Section 5: Added semi-annual maintenance by vendor, added record review process (<i>deleted all quarterly maint.</i>) Section 6: Added annual maintenance log
FORMS: On Refrigerator and Freezer logs - the section for quarterly / annual maintenance was removed and FWMC was added to the header. There is a new log for the annual maintenance that will be documented by lab personnel and scheduled by the Recurring Calendar
The revised SOP & Forms will be implemented Aug 1, 2021

Document your compliance with this training update by taking the quiz in the MTS system.

Non-Technical SOP

Title	Laboratory Refrigerator and Freezer Preventive Maintenance	
Prepared by	Ashkan Chini	Date: 12/6/2017
Owner	Cynthia Bowman-Gholston, Robert SanLuis	Date: 12/6/2017

Laboratory Approval		
Print Name and Title	Signature	Date
<i>Refer to the electronic signature page for approval and approval dates.</i>		
Local Issue Date:		Local Effective Date:

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1. PURPOSE

All laboratory refrigerators and freezers must be regularly inspected and maintained to ensure units are functioning correctly.

2. SCOPE

This procedure applies to all laboratory refrigerators and freezers that are used for storing specimens and/or reagents for testing.

Notes: Helmer units with alarms require calibration and additional function checks.

Blood bank has additional requirements and follows a different procedure.

3. RESPONSIBILITY

All laboratory staff must understand and adhere to this procedure.

4. DEFINITIONS

N/A

5. PROCEDURE

DAILY MAINTENANCE

Step	Action
1	Laboratory refrigerators and freezers have defined acceptable temperature ranges to accommodate the storage contents. <ul style="list-style-type: none"> A. Refrigerators: 2 – 8°C B. Freezers <ul style="list-style-type: none"> • Vista and EXL calibrator storage: -15 to -25°C • Other laboratory freezers: -20 to -50°C
2	Read and record the following temperatures on the appropriate temperature / maintenance form. <ul style="list-style-type: none"> A. Thermometer read to the nearest 0.5 degree (for example, 2.5 or 3.0) B. Digital display read to the nearest 0.1 degree (for example, 2.6 or 2.7), if applicable
3	Interpret the unit’s operation. <ul style="list-style-type: none"> A. If satisfactory, document “S”. B. If unsatisfactory, document “U”. <ul style="list-style-type: none"> a. Document corrective action on the reverse side of the form. b. Notify a supervisor if unable to resolve. c. If the temperature is out of range, move the contents to another unit with an acceptable range.

SEMI-ANNUAL MAINTENANCE

Step	Action
1	An outside vendor is contracted to performing the following maintenance twice per year, as applicable: <ul style="list-style-type: none"> • Temperature alarm tests (high and low) • Power failure alarm check • Calibrate temperature probe • Clean/vacuum condenser grill • Wipe clean and inspect door gasket • Inspect and clean the probe bottle • Inspect external drain pan (freezers only)
2	The vendor is responsible for providing detailed reports for each unit that is inspected and tested.
3	The Supervisor, Technical Specialist or designee is responsible for: <ul style="list-style-type: none"> • maintaining an equipment inventory and confirming each unit is inspected • coordinating service with the vendor • receiving the vendor reports

RECORD REVIEW

Step	Action
1	Maintenance checks performed by laboratory staff are reviewed weekly by the Group Lead, Supervisor or designee and monthly by the designated CLIA Supervisor.
2	Maintenance checks performed by another company are reviewed upon receipt by the Supervisor, Manager or Director. Review must indicate if performance is acceptable or not, and include corrective action if appropriate.

ANNUAL MAINTENANCE

Step	Action
Note:	This maintenance is scheduled on the QA Recurring Calendar
1	Remove the probe from the bottle.
2	Wipe the probe with a hospital-approved disinfectant wipe and allow to air dry.
3	Remove the bottle from the bracket and empty the solution from the bottle.
4	Clean the bottle with 10% bleach.
5	Refill the bottle with new solution <ul style="list-style-type: none"> • 10% glycerol for refrigerators • 50% propylene glycol for freezers
6	Place the bottle in the refrigerator/freezer to allow it to come to the appropriate temperature. Insert the probe once the solution reaches the allowable range to prevent alarm activation.
7	Document cleaning on the form.

6. RELATED DOCUMENTS

- Form: Refrigerator Temperature and Maintenance Form (AG.F395)
- Form: Freezer Temperature and Maintenance Form (AG.F396)
- Form: **Refrigerator / Freezer Annual Maintenance Log (AG.F601)**
- SOP: Temperature and Humidity Quality Control

7. REFERENCES

1. Helmer Undercounter Refrigerator, Blood Bank SOP GEC. BB06.
2. Helmer Scientific Inc., Refrigerator Service Manual 360077-1/C; 2014
3. Helmer Scientific Inc., Refrigerator Service Manual 360087-1/R; 2012
4. Helmer Scientific Inc., Refrigerator Service Manual 360127-1/A; 2014
5. Helmer Scientific Inc., Refrigerator Service Manual 360126-D/D; 2014
6. ThermoFisher Scientific, Refrigerator Service Manual 324019H01 Rev. A; 2011

8. REVISION HISTORY

Version	Date	Reason for Revision	Revised By	Approved By
0	11/8/19	Header: Changed WAH to WOMC	L Barrett	N Cacciabeve
1	7/6/21	Header: Added FWMC Section 5: Added semi-annual maintenance by vendor, added record review process Section 6: Added annual log	L Barrett	N Cacciabeve

9. ADDENDA AND APPENDICES

None



Refrigerator Temperature / Maintenance Form

- Shady Grove Medical Center
- White Oak Medical Center
- Germantown Emergency Center
- Fort Washington Medical Center

ID _____
Model _____

Serial Number: _____ **Interp:** S = satisfactory, temp w/in acceptable range
Month/Year: _____ U = unsatisfactory, circle result and document corrective
action; notify supervisor immediately

CHECK DAILY						
Date	Tech Code	Internal Thermometer 2-8°C Read to nearest half degree (.0 or .5)	Digital Temp 2-8°C Read to one decimal place. Put N/A if Not Applicable	Interp S / U	Corrective Action Use back of page if more space is needed	Weekly Review
1						
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3						
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30						
31						

Monthly Review: _____ **Date:** _____

Corrective Action Codes:

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| <p>A. Rechecked temperature (<i>Log repeat temperature</i>)</p> <p>B. Adjusted Thermostat (<i>Retake temperature in 1 hour</i>)</p> <p>C. Contacted repair service</p> | <p>D. Contents removed and equipment taken out of service</p> <p>E. Other: (<i>Document on reverse side of this sheet</i>)</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|



Freezer Temperature / Maintenance Form

- Shady Grove Medical Center
- White Oak Medical Center
- Germantown Emergency Center
- Fort Washington Medical Center

Freezer Range (check one):

- 20 to -50C
- 20 to -25C GEC only
- 15 to -25C

ID _____

Serial Number: _____

Model _____

Month/Year: _____

Interp: S = satisfactory, temp w/in acceptable range. U = unsatisfactory, circle result & document corrective action; notify supervisor immediately

CHECK DAILY

Date	Tech Code	Internal Thermometer Read to nearest half degree (.0 or .5)	Digital Temp Read to one decimal place. Put N/A if Not Applicable	Interp S / U	Corrective Action Use back of page if more space is needed	Weekly Review
1						
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Monthly Review: _____

Date: _____

Corrective Action Codes:

- A. Rechecked temperature (*Log repeat temperature*)
- B. Adjusted Thermostat (*Retake temperature in 1 hour*)
- C. Contacted repair service
- D. Contents removed and equipment taken out of service
- E. Other: (*Document on reverse side of this sheet*)

