
Procedure for Equipment Calibration and Maintenance

1.0 Purpose – This procedure specifies the required elements for the calibration and maintenance of equipment used by the Evidence Control Section.

2.0 Scope – This procedure applies to the equipment used by the Evidence Control Section in Raleigh.

3.0 Definitions – N/A

4.0 Equipment, Materials and Reagents

4.1 Equipment

- NIST-traceable digital thermometers
- Refrigerators
- Freezers

5.0 Procedure

5.1 General Evidence Requirements

5.1.1 All evidence shall be received under proper packaging and seal in accordance with the Laboratory Policy and Procedure for Evidence Submissions.

5.1.2 Evidence which may experience deleterious change without refrigeration shall be placed in an evidence refrigerator as quickly as possible. Evidence shall remain refrigerated until transferred to a Laboratory Section.

5.1.3 Evidence which may experience deleterious change without freezing shall be placed in an evidence freezer as quickly as possible. Evidence shall remain frozen until transferred to a Laboratory Section.

5.2 Thermometers

5.2.1 Digital thermometers shall be used to monitor temperatures on freezers and refrigerators in the Section as needed.

5.2.1.1 Digital thermometers shall be purchased from an external vendor and shall be NIST-traceable.

5.2.2 All thermometers used to monitor the temperature shall have an expiration date.

5.2.2.1 The expiration date shall be recorded on the certificate received on the thermometer. These certificates shall be stored with the temperature logs.

5.2.2.2 Prior to the expiration date, the Forensic Scientist Supervisor of the Evidence Control Section or designee shall order new thermometers.

5.3 New Refrigerators and Freezers

5.3.1 New refrigerators and freezers shall have their temperature checked using a NIST-traceable thermometer.

5.3.2 New refrigerators and freezers shall be monitored and the temperature recorded hourly (during business hours) until the temperature remains in the appropriate range for 24 hours.

5.3.2.1 The refrigerators shall be in the range of 2 °C – 8 °C.

5.3.2.2 The freezers shall be at 0 °C or below.

5.4 Performance Checks

5.4.1 Each refrigerator and freezer shall have the temperature monitored by a designated Evidence Technician.

5.4.1.1 The refrigerators shall be in the range of 2 °C – 8 °C.

5.4.1.2 The freezers shall be at 0 °C or below.

5.4.2 Refrigerators and freezers with digital thermometers shall be monitored each working day.

5.4.2.1 Temperatures shall be recorded on the Refrigerator/Freezer Temperature Log.

5.4.2.2 All logs shall be labeled with each refrigerator or freezer serial number.

5.4.3 Refrigerators with manual temperature charts shall be monitored each working day.

5.4.3.1 Temperature charts shall be changed weekly.

5.4.3.2 All charts shall be labeled with each refrigerator serial number. Charts shall be initialed to signify the temperature is in compliance with the criteria.

5.5 Maintenance

5.5.1 If the temperature is found to be out of range or maintenance is being performed, an Evidence Technician shall transfer all evidence into a second refrigerator or freezer. A manual adjustment shall be performed to bring the temperature back into range. The temperature shall be adjusted and recorded hourly (during business hours) until the temperature remains in the appropriate range for 24 hours.

5.5.2 If the refrigerator or freezer cannot be stabilized within the desired temperature range, it shall be taken out of service. The Evidence Technician shall coordinate with the Section Supervisor to arrange for service.

5.5.3 Any maintenance to the coolant systems must be performed by a qualified refrigeration specialist.

6.0 Safety

6.1 Use gloves when dealing with equipment which has been used with blood.

7.0 References

- Operator manuals for equipment used

8.0 Records

- Refrigerator/Freezer Temperature Log

9.0 Attachments – N/A

Revision History		
Effective Date	Version Number	Reason
01/25/2019	1	Original Document