DURHAM REGION
HEALTH DEPARTMENT

Choosing a Temperature Monitoring Device

Health Care Providers (HCP) are responsible for purchasing their own vaccine thermometers.
HCPs can follow-up with their temperature monitoring device supplier directly with any concerns, training, and warranty.

When choosing a temperature monitoring device, the purchased device must have the following features:

- Measures temperature to the 0.1°C
- Tracks minimum and maximum temperatures since the last time the device was cleared, plus the current temperature.

Note: A data logger temperature monitoring device is programmed to take temperatures at timed intervals, which can be used to determine the exact length of time vaccine was exposed in a cold chain incident (CCI). This can greatly reduce the amount of vaccine wasted during a CCI. A data logger is recommended where possible and for sites who stores over $5000.00 of vaccine.

Digital Min/Max Thermometer:
Glycol Thermometer

- Traceable® Memory Monitoring Refrigerator/Freezer Thermometer, Jumbo Display
- High Resolution Traceable® Memory Monitoring Refrigerator/ Freezer Thermometer

Uninterrupted Temperature Monitoring Device: **Data Logger**

- Thermco™ Fridge-tag™ Freezer 2L Vaccine Thermometer Data Logger
- FlashLink Model 20938
- LogTag TRED30-7

Combination Device:
Glycol Min/Max Thermometer combined with Data Logger

- Thermco™ Vaccine Temperature Data Logger with Software-Less Reporting

Digital Min/Max Thermometer:
Airbase Thermometer
**Preferred for Vaccine Cooler Transport*

- BIOS Professional Refrigerator/Freezer Vaccine Thermometer
- GENEQ Inc. Scientific Instruments

Tips to Ensure Accurate Temperature Reads when Using Thermometers

1. Ensure batteries are changed every 6 months.
2. Ensure the probe is securely attached to facilitate accurate temperature log readings.
3. Calibration and maintenance are required every two years to ensure optimal accuracy.
4. Probe must be placed in the center of the fridge above the vaccines.

Glycol Thermometers

Glycol thermometers are thermometers designed specifically for monitoring vaccine temperature. These thermometers contain a temperature – sensing probe inside a sealed vial containing a glycol solution that ensures the accuracy of temperature recording within +/- 1 degree Celsius.

The glycol solution in the vial acts as a thermal buffer, that does not respond to rapid fluctuations cause by air temperature associated with opening of the refrigerator door. Thus, it helps to prevent intermittent air currents from throwing the readings off and averages out the temperatures of the surrounds, thus, reflecting the actual temperature of the vaccines inside the fridge.

Comparison between Glycol-Enhance Probe Thermometers and Air-Based Thermometers

Thermometer Type	Glycol-Encased Probe Thermometer	Air-Based Thermometer
Digital display of current, maximum and minimum temperatures in increments of 0.1°C	yes	yes
Temperature sensor probe connected to the digital display via cable to allow temperatures to be read without opening the door	yes	yes
Thermal mass to mitigate short fluctuations in temperature reading due to changes in air flow	yes	no
Mimics liquid state of vaccines and provides reliable measure of vaccine temperature when accurate to ±1.0°C	yes	no
Use in vaccine refrigeration storage units	optimal, recommended	acceptable, Meets minimum requirements

Disclaimer: This is not an exhaustive list of options. As a Public Health Unit, we are precluded from endorsing any specific product or vendor. Ultimately, the terms and conditions of your purchase are between you and your vendor. It is the responsibility of the premises to ensure all Ministry Vaccine Storage and Handling requirements are met with any device they purchase for monitoring publicly-funded vaccines.

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