

PROTECT YOUR VACCINES PROTECT YOUR PATIENTS

Immunizations help save lives, prevent serious illnesses, and are recognized as one of the most effective public health interventions.

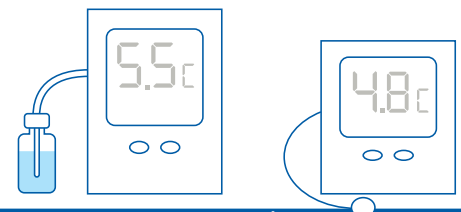
Vaccines have very specific storage and handling requirements that must be followed to maintain effectiveness. Vaccines exposed to temperatures outside of their specified range may have reduced potency, resulting in lack of protection against vaccine preventable diseases.

Digital temperature monitoring devices are a critical component in cold chain maintenance. Accurate temperature readings (within $\pm 1.0^{\circ}\text{C}$) will determine whether vaccines are stored at required temperatures. Inaccurate temperature readings may significantly impact a health care provider's ability to assess whether cold chain temperatures are maintained at their practice. Consequently, vaccines potentially exposed to temperatures outside of $+2.0^{\circ}\text{C}$ and $+8.0^{\circ}\text{C}$ range with reduced potency may be unknowingly administered to patients.

Air-based max/min thermometers that are sourced by the Ministry of Health are available from York Region Public Health (YRPH) at no cost to health care providers. Although air-based thermometers meet minimum requirements for vaccine temperature monitoring, glycol-encased probe thermometers provide more reliable measures of actual vaccine temperature. YRPH recommends that health care providers consider upgrading to glycol-encased probe thermometers for more accurate temperature monitoring of their vaccine refrigerators. Glycol-encased probes provide thermal mass at the sensor which mimics the liquid state of vaccines. In addition, these units do not react to the rapid fluctuations in air temperature that are frequently associated with opening of the refrigerator door.

All temperature monitoring devices must meet the minimum requirements as outlined in the Ministry of Health Vaccine Storage and Handling Guidelines, 2021 (or as current). Thermometers are checked for accuracy during annual cold chain maintenance inspections conducted by YRPH.

DIGITAL MAX/MIN THERMOMETERS



Thermometer Type	Glycol-Encased Probe Thermometer	Air-Based Thermometer
Digital display of current, maximum, and minimum temperatures in increments of 0.1°C	✓	✓
Temperature sensor probe connected to the digital display via cable to allow temperature to be read without opening the door	✓	✓
Thermal mass to mitigate short fluctuations in temperature readings due to changes in air flow	✓	✗
Mimics liquid state of vaccines and provides reliable measure of vaccine temperature when accurate to $\pm 1.0^{\circ}\text{C}$	✓	✗
Use in vaccine refrigeration storage units	optimal, recommended	acceptable, meets minimum requirements

Disclaimer: YRPH is precluded from endorsing a specific product or vendor.

Please contact the Vaccine Inventory program at 1-877-464-9675 ext. 74033 or visit our website at york.ca/vaccineinventory for more details.

References: Ministry of Health Vaccine Storage & Handling Guidelines (2021), Government of Canada National Vaccine Storage & Handling Guidelines for Immunization Providers (2015)