

Basic Principles of Vaccine Storage Management

Keep all vaccines in the range +2°C to +8°C

“Strive for 5°C”

(this gives greater leeway for protection from temperature fluctuations)

- ▶ **Purpose built vaccine fridges are recommended.**
- ▶ **Modification of domestic refrigerators is necessary to reduce the risk of adverse vaccine storage events.**

The Refrigerator

- ✦ The refrigerator should be used exclusively for the storage of vaccines.
- ✦ The refrigerator maintains temperatures without fluctuating into the danger zones (<+2°C, >+8°C).
- ✦ The refrigerator is reliable and has not required repairs over the last 2 years.
- ✦ The refrigerator is free of any water or coolant leaks.
- ✦ The refrigerator compressor is quiet (a noisy/audible compressor may require attention).
- ✦ The seals are in good condition and are sealing tightly.
- ✦ The door of the refrigerator closes properly.
- ✦ The refrigerator is an adequate size for the practice storage needs.

Using a domestic refrigerator for vaccine storage

Step 1: *Place the refrigerator out of direct sunlight*

- ensure air is able to circulate around the back and sides (as per manufacturers instructions). Be aware of seasonal changes in the room temperature that may affect the temperature of the refrigerator.

Step 2: *Mark the power source clearly so the refrigerator is not unplugged or turned off accidentally.*

Step 3: *Place water bottles or ice packs/gel packs in your freezer*

- this will assist in stabilising the temperature in your refrigerator.

Step 4: *Fill the lower drawers and the door with plastic bottles/containers filled with water*

- Leave a small space between the bottles/containers. This will help stabilise the temperature by increasing the 'cold mass'- ie, it keeps the temperature inside the fridge more stable and reduces warming periods when the refrigerator is opened.

Step 5: 'Know your vaccine refrigerator' by monitoring and recording the temperatures throughout the refrigerator.

Step 6: Modify and stabilise the temperature of the vaccine refrigerator before stocking with vaccine.

Step 7: Store vaccines in their original packaging in enclosed plastic containers/drawers.

- Label containers clearly with name(s) of vaccine(s). Do not crowd the vaccines by overfilling the shelves. Allow space between containers for air circulation. Vaccines must never be stored in the door of the refrigerator.
- Storing vaccines in their original packaging, in enclosed plastic containers, helps to protect them from temperature fluctuations.
- Overstocking of vaccine will place all vaccines at risk as cold air circulation will be impeded and consistent, stable temperatures throughout the refrigerator will be difficult to achieve.

Step 8: Place freeze-sensitive vaccines on shelves with stable temperatures. Place freeze-tolerant vaccines on shelves identified as being the coldest.

Step 9: Ensure that each domestic refrigerator storing vaccine has a Celsius digital minimum/maximum thermometer and a temperature recording chart.

- Thermometers need to be accurate - check the accuracy and change the battery at least every 12 months or as specified by the manufacturer.

Step 10: Place the digital minimum/maximum thermometer probe inside a vaccine box in a container storing freeze-sensitive vaccines.

- Label the box as 'empty' or 'probe' so the probe won't be inadvertently moved.

Step 11: Check and record temps at least daily, before vaccines are used.

- It is highly desirable to check refrigerator temperatures twice daily (at the beginning and end of each day).

Step 12: Keep the door closed as much as possible.

- Place a sign on the fridge "Please keep door openings to a minimum"

Step 13: One person is responsible for adjusting refrigerator controls.

- All staff should be appropriately trained to ensure continuous monitoring.

Step 14: Establish protocols for cold chain breaches.

- This will minimise the risk of ineffective vaccine being administered, resulting in recall for revaccination. All staff need to be aware of these protocols.

Step 15: Complete a vaccine storage audit at least every 12 months.

- This enables you to have confidence that you are administering safe and effective vaccines.