



Vaccine Storage and Handling Guide

Improper storage and handling can reduce vaccine effectiveness, cost thousands of dollars in wasted vaccines and reduce patient confidence in vaccines if they have to be revaccinated.

Well-trained staff members, proper equipment for vaccine storage and temperature monitoring are key to effective vaccine storage and handling. Use this guide to make sure your vaccines are properly stored and handled.

These guidelines are in accordance with the Centers for Disease Control and Prevention (CDC) recommendations. Visit the CDC's "Vaccine Storage and Handling" webpage for additional information: [cdc.gov/vaccines/recs/storage](https://www.cdc.gov/vaccines/recs/storage).

Personnel, Training and Education

Successful vaccine storage and handling starts with well-trained staff members. Identify and assign vaccine storage and handling responsibilities to a primary vaccine coordinator and at least one backup coordinator.

Be sure to provide training and continuing education on vaccine storage and handling to staff members who:

- Are new or temporary
- Handle or administer vaccines
- Accept vaccine shipments
- Have access to vaccine storage units

You should also provide training and continuing education whenever new vaccines are stocked, whenever CDC vaccine recommendations are updated and when vaccine storage and handling guidelines and recommendations change.

For training resources on vaccine storage and handling, visit the CDC's web-based training page at www2a.cdc.gov/nip/isd/ycts/mod1/courses/sh/start.asp.

Storage Units

Vaccines are best stored in stand-alone pharmaceutical-grade refrigerator and freezer units. Vaccines may also be stored in stand-alone household-grade refrigerator units, or stand-alone household-grade refrigerator/freezer combination units using only the refrigerator compartment and a separate stand-alone freezer. Combination units should have separate temperature controls for the refrigerator and freezer units. **Never store vaccines in dormitory- or bar-style refrigerator units (small, single-door combined units with an internal freezer compartment).**

Storage units must be able to maintain proper temperatures and should have enough space to store vaccines without crowding. Deli, fruit and vegetable drawers should be removed from household-grade refrigerator units. Use water bottles to stabilize temperatures in refrigerator storage units and frozen ice packs to stabilize temperatures in freezer units.

The following guidelines can help you effectively store vaccines:

- Group vaccines by type in the storage unit. Allow space in between the vaccine boxes for air to circulate.
- Keep short-dated vaccines in the front of the storage unit and longer-dated vaccines in the back.
- Do not store vaccines on the bottom of the unit, in the door or near air vents.





Temperature Recommendations

The temperature of **refrigerator** units must be set between **2°C (36°F) and 8°C (46°F)**. **Freezer** units must be set between **-15°C (+5°F) and -50°C (-58°F)**.

Maintain storage unit temperature logs. Check and log refrigerator and freezer temperatures **at least twice a day** and include the minimum and maximum temperature readings. Visit the Immunization Action Coalition website to download a temperature log: immunize.org/handouts/temperature-logs.asp.

In the case of a temperature excursion, bring units back into the correct temperature range and move the exposed vaccines to an emergency unit that is in the correct range. Keep exposed vaccines in a separate container and label "DO NOT USE". Contact the vaccine manufacturers to find out if the vaccines are still viable.



Thermometers

Every vaccine storage unit must have a thermometer.

- **Best Practice:** Use a continuous temperature monitoring device, such as a digital data logging thermometer with buffered probe. Make sure the thermometer has a current and valid Certificate of Calibration Testing (Report of Calibration). Record temperatures at 15 to 30 minute intervals.
- **Not Recommended:** Alcohol or mercury thermometers, bi-metal stem temperature monitoring devices, food temperature monitoring devices, chart recorders and infrared temperature monitoring devices are not recommended for temperature monitoring.



Power Supply

An uninterrupted power supply is key to maintaining the correct vaccine temperature range. These tips can help you avoid a break in power:

- Plug in only one storage unit per electrical outlet to avoid creating a fire hazard or triggering a safety switch that would turn off power.
- Use a safety-lock plug or an outlet cover to prevent the unit from being unplugged.
- Post warning signs on storage units and at outlets, fuses and circuit breakers connected to the storage units to prevent building workers from turning off power to the units.
- Ensure good air circulation around the outside of the storage unit by placing it in a well-ventilated room and leaving space between the unit, ceiling and any walls.

