



FACT SHEET

Cold Chain Management and Power Failure

What is Cold Chain?

The 'cold chain' is the system of transporting and storing vaccines within the safe temperature range of +2°C to +8°C.

What is a Cold Chain Breach?

A 'cold chain breach' has occurred if vaccine storage temperatures have been outside the recommended range of +2°C to +8°C. It excludes fluctuations up to +12°C, lasting no longer than 15 minutes. When vaccines are repeatedly exposed to temperatures outside the +2°C to +8°C range, the loss of potency is cumulative and cannot be reversed.

Responsibilities of Safe Vaccine Storage and Management?

Twice Daily :

Record the current, minimum and maximum temperature of the vaccine refrigerator twice daily (morning and afternoon) and reset the min/max thermometer each time after recording. This needs to be done every day the practice is open, including weekends.

Weekly :

Download and review data from your data logger.

Annually :

- Have the refrigerator serviced (contact the manufacturer)
- Calibrate thermometers/data loggers and change batteries
- Perform vaccine storage self-audit (Appendix 2 of National Vaccine Storage Guidelines - Strive for 5).



Report temperatures outside the +2°C to +8°C range to your Public Health Unit. Do not use or discard vaccines until advice is received from the Public Health Unit.

Management of Power or Fridge Failure

Each immunisation facility should have a back-up plan and alternative vaccine storage (i.e. backup generator, battery or cooler) if a power failure or fridge failure occurs. Keep in mind there may only be 20–30 minutes before the vaccine refrigerator temperature rises above +8°C when there is a power failure so alternative storage must be ready quickly.

What to do when Power goes off (if using cool box/esky as alternative storage)

1. Immediately isolate the vaccines, keep refrigerated between +2°C to +8°C and put a sign on the refrigerator stating 'Power out. Do not use vaccines. Keep refrigerator door closed.'
2. Cover the glass door with insulating material (cardboard, bubble wrap or a blanket) and place ice bricks in empty spaces, taking care not to place them alongside vaccines, and keep the door closed.
3. Closely monitor the refrigerator temperature. If the temperature rises to +8°C, move vaccines to a prepared cool box or esky as follows:
 - Place one layer of ice/gel packs at bottom of the esky (do not condition* ice/gel packs in time sensitive cases such as power failure) ☐
 - Place two layers of insulating material (i.e. polystyrene chips, bubble wrap) on top of ice/gel packs (ensure vaccine stock is not in direct contact with ice/gel packs)
 - Place vaccines on top of insulating material ☐ Place the probe of min/max digital thermometer inside a vaccine box in the centre of the vaccine stock
 - If practical, move data logger to esky
 - Place two layers of insulating material on top of vaccines
 - Place one layer of ice/gel packs on top of insulating material and close and seal the lid of the esky
 - Place min/max digital thermometer on top of the cooler and monitor the temperature at least hourly. When Power Is Returned



When Power Is Returned

1. Record the refrigerator minimum and maximum temperature then reset the min/max thermometer.
2. Ensure the refrigerator temperature has returned to between +2°C and +8°C before returning vaccines to the refrigerator.

Reporting a Cold Chain Breach

If a cold chain breach has occurred, report it to Public Health Unit immediately. Isolate vaccines and do not use or discard vaccines until advice is received from the Public Health Unit.

- 1300 066 055
- Albury Public Health Unit 02 6080 8900 option 2

Further information

- National Vaccine Storage Guidelines-Strive for 5
- HETI Vaccine Storage and Cold Chain Management training module available at Vaccine Storage and Cold Chain Management
- Contact Murrumbidgee PHN if you require training or further information about cold chain management:

MPHN Immunisation Support

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***Condition – See National Vaccine Storage Guidelines – Strive for 5 Section 9.4 – Freezing and Conditioning ice packs and gel packs (page 33)**