



IMMUNISATION

Cold chain management and vaccine storage

Did you know?? Immunisation is one of the **most successful** and cost effective health interventions **ever**¹.

However!! Vaccines must be **stored correctly** to be effective.

Failure to store and handle vaccines correctly can result in vaccines becoming **destroyed** or less effective, and patients will **not get protection** against disease.

If we don't protect our vaccines, they won't protect our community!

Australian national guidelines:

All immunisation providers within Australia must adhere to the National vaccine storage guidelines "[Strive for 5, 3rd edition](#)", updated June 2019.

NSW state requirements:

In **addition** to the national guidelines, immunisation providers in NSW are required to adhere to the NSW state requirements for cold chain management and vaccine storage. NSW Health have been conducting random audits of practice compliance.

NSW Health compulsory education module

- NSW Health [online module](#) on Vaccine storage and Cold chain management became compulsory as at 31 July 2019. It is recommended that **all staff complete module**, but minimum requirement is for one staff member to complete module. Certificates to be kept on file.

NSW Health Checklists and Guidelines

- [Cold chain toolkit](#) – NSW health guidelines, August 2020
 - Print for **all staff** to read (only 19 pages, compared to 100 page Strive for 5)
- [Vaccine storage checklist](#) – NSW health checklist
 - Print and **complete checklist** to ensure that your practice complies with all NSW requirements

NSW Health Audit

- Compliance audits will include checking:
 - all vaccines administered in the practice are notified to the Australian Immunisation Register
 - adherence to correct vaccine storage and cold chain management
 - staff training requirements (completion of online module)
- Non-compliance will result in **VAN suspension** (vaccine account number)
- Each Public Health Unit in NSW are selecting a practice at random to audit **every month**.

Equipment required:

For everyday storage of vaccines, practices are required to have a **vaccine specific fridge**, **data logger**, and **min/max thermometer** (either in-built into fridge, or portable). In addition to this, practices are required to have equipment to store vaccines in the event of a power outage: either a UPS battery pack, or power outage equipment.

Fridge:

- must be a **vaccine specific fridge**, NOT domestic fridge
- domestic fridges are not built to store vaccines and must NOT be used
- see examples of [vaccine specific fridges](#)

Min/max thermometer:

- in-built into fridge
- or portable eg [HLP portable min/max](#)

Data loggers:

- small electronic devices that measure and record temperatures continuously at set intervals
- data loggers should be set to record at **5-minute intervals**
- see examples of [data loggers](#) on the market

Power outage equipment:

- practices **must** have alternative vaccine storage in the event of a power failure
- see protocol for [managing a power failure](#)
- alternative vaccine storage include:
 - a UPS (uninterrupted power supply) battery pack, or
 - a large cooler with ice sheets, bubble wrap, min/max thermometer

Monitoring & documentation:

The following temperature monitoring and documentation are all **mandatory requirements**, as per the National vaccine storage guidelines "[Strive for 5, 3rd edition](#)".

Twice Daily: manually record temperatures when opening practice, and at close of practice

- record **minimum**, **maximum**, and **current** temperatures
- **reset** thermometer (clear memory) after recording
- manually record on either [temperature chart](#) or [temperature graph](#)
- records to be kept according to medico-legal requirements

Weekly: download, save and analyse data from logger

- download and save data: on the same day each week – [document on chart](#)
- analyse data: check for temperature breaches outside the +2°C to +8°C range – all breaches to be investigated and reported where appropriate (see below)
- additional downloads: required each time min/max reading is outside of normal range

Yearly: complete self-audit

- self-audit is compulsory
- see [Vaccine storage self-audit](#)
- audit documents (including fridge service certificates) to be filed

Display requirements

The following posters and stickers must also be displayed at each practice.

Strive for 5 poster

- [poster](#) required to be on display at practice
- assign **primary person** responsible for vaccine management
- assign **back-up person** responsible for vaccine management
- poster to be updated **annually**

Strive for 5 stickers

- [Sticker 1](#) to be displayed on **power point** that fridge is connected to
- [Sticker 2](#) to be displayed on **electrical power box**
- [Sticker 3](#) to be displayed on **fridge door**

Temperature deviation vs Cold chain breach

Temperatures outside the +2°C to +8°C range are either considered “temperature deviations” or “cold chain breaches”. It is important to be able to identify cold chain breaches, and understand actions that need to be taken.

What is a temperature deviation?

- temperatures between +8°C to +12°C for *less than 15 minutes*
- deviations are **not** considered a cold chain breach
- **ACTION:** all deviations to be documented on [Vaccine storage trouble sheet](#) (page 2)

What is a cold chain breach (CCB)?

- see printable [poster](#) to help identify cold chain breaches
- all temperatures **below +2°C** = CCB
- all temperatures **above +12°C** = CCB
- temperatures **between +8°C to +12°C** for *more than 15 minutes* = CCB
- **ACTION:** all CCBs **must** be reported to Public Health Unit

Cold chain breach process

What to do following a cold chain breach:

- Immediately QUARANTINE vaccines
- Advise all staff and put a sign on the fridge:
 - **“Vaccines QUARANTINED – DO NOT use, DO NOT discard”**
- Report breach to Public Health Unit (PHU)
- **DO NOT use** the vaccines until further instruction from the Public Health Unit
- **DO NOT discard** the vaccines until further instruction from the Public Health Unit

How to report a breach:

- You will need the following documents:
 - Complete [Cold Chain Breach Reporting Form](#)
 - Data logger graph
 - Data logger 5 minute report
 - Min/max temperature chart
- Email to your local Public Health Unit:
 - **South Eastern Sydney LHD:** SESLHD-PublicHealthUnit-IMMTeam@health.nsw.gov.au
 - **Sydney LHD:** SLHD-Immunisation@health.nsw.gov.au
 - To find your local PHU, call **1300 066 055**

Next steps - What to do with the vaccines:

- Keep vaccines QUARANTINED – DO NOT use, DO NOT discard
- Public Health Unit will email the form back to you with advice
- You will be provided with instructions on:
 - which vaccines to **“retain”**
 - which vaccines to **“discard”**
- **Discard vaccines** are to be disposed of at local pharmacy
- **Retained vaccines** are required to be labelled with the **“Cold chain breach sticker”**:



Order **Cold Chain Breach stickers** free from the Better Health Centre:

- Phone: **(02) 9887 5450**
- Email: NSLHD-BHC@health.nsw.gov.au

Here is a link to a [printable version](#) of this information for practices to print and display.

Remember:

If we don't protect our vaccines, they won't protect our community!