VACCINOLOGY I

COLD CHAIN - MAINTENANCE AND MONITORING

* ***Srinivas G Kasi***

Abstract: *The cold chain, also known as the immunization supply chain, is the lifeline of any immunization program. It is a system of storing and transporting vaccine at the recommended temperature range from the point of manufacture to point of use. The main components are personnel, equipment and protocols. The cold chain equipment in use are the domestic refrigerators, ice-lined refrigerators and the purpose-built refrigerators. Temperature monitoring devices include the vaccine vial monitors, thermometers, data loggers and freeze indicators. Passive storage devices include vaccine carriers and cold boxes. Vaccines should be stored in a recommended manner for optimal storage and maintenance of the recommended temperature range. New technologies and innovations are being harnessed to improve the performance of the cold chain system.*

Keywords: *Vaccine, Cold chain.*

* Consultant Pediatrician,
Convener, ACVIP 2020-21
email: sgkasi@gmail.com

Points to Remember

- ***Cold chain is a system of storing and transporting vaccine at the recommended temperature range from the point of manufacture to point of use.***
- ***The main components of the cold chain are personnel, equipment and protocols.***
- ***The cold chain equipment used for storing and transporting vaccines may be active or passive systems. Active system refrigerators operate on electricity obtained from a power grid and off-grid using either LPG, kerosene or solar power. Passive systems consist of cold boxes and vaccine carriers, involving no active refrigeration mechanism.***
- ***Vaccine storage in the refrigerators should be based on thermolability of the vaccines and adequate knowledge of temperature zones within the device.***
- ***Temperature monitoring devices include the vaccine vial monitors, thermometers, data loggers and freeze indicators.***
- ***A 'cold chain breach' is said to have occurred if vaccine storage temperatures are beyond the recommended range of +2°C to +8°C and an action plan should be made for such eventualities.***

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