



HEALTH HOLDING

HAFER ALBATIN HEALTH  
CLUSTER  
MATERNITY AND  
CHILDREN HOSPITAL

<b>Department:</b>	Neonatal Intensive Care Unit (NICU)		
<b>Document:</b>	Multidisciplinary Policy and Procedure		
<b>Title:</b>	Care of Patient in Incubator		
<b>Applies To:</b>	All NICU Staff and Biomedical engineers		
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## 1. PURPOSE:

- 1.1 Maintenance of thermo neutral ambient temperature.
- 1.2 Observation of very sick neonates.
- 1.3 Provision of desired humidity and oxygenation.
- 1.4 Isolation of newborn babies from infections, unfavourable external environment and stimulations.

## 2. DEFINITIONS:

- 2.1 **Incubator** is an apparatus used to care the premature, low birth weight and very sick babies and the newborns in thermo neutral environment.
- 2.2 Indication of incubation care depends on ability of neonates to sustain and adopt in external environment. But generally all premature babies, babies with low birth weight (<1000g) may be stable, hypothermic child (<32°C), Sick children need incubator and its care.

## 3. POLICY:

- 3.1 Infants should be nursed in the neutral thermal environment and have a core body temperature between 36.5 – 37.2 degrees Celsius.
- 3.2 The neutral thermal environment is the temperature range where heat production is at the minimum needed to maintain normal body temperature. It depends on birth weight, postnatal age, and whether the infant is clothed or naked.
- 3.3 Nursing care is critical in supporting thermoregulation through ongoing assessments and environmental interventions to decrease heat loss for the infant being cared for in an incubator.
- 3.4 Incubators must be moved away from cold sources such as windows, drafts, air conditioning outlet to prevent heat loss by radiation.
- 3.5 Physician order must be written for incubator care.

## 4. PROCEDURE:

### 4.1 Prepare the incubator

- 4.1.1 Pre-warmed to a temperature appropriate to the infant's age, size and condition.
- 4.1.3 Check and record the incubator temperature hourly.
- 4.1.4 Position away from draughts or direct sunlight.
- 4.1.5 On the humidity accordingly:

Gestation on delivery	Humidity percentage	When to discontinue
28-31 weeks	85% of humidity decreasing gradually from 7 days of life	Discontinue at 14 days of life
<28 weeks	85% of humidity decreasing gradually from 7 days of life	Discontinue at 21-28 days of life, depending on prematurity

- 4.1.6 A humidity of 60-70% is sufficient under most circumstances.

- 4.1.7 Humidity is not required for new-borns >32 weeks.
- 4.1.8 Check humidity water level minimum 4 hourly. Top up as necessary.
- 4.1.9 Humidity will create a thin mist on the inside of the incubator. This is acceptable and should disperse down the sides of the incubators.
- 4.1.10 Use servo mode and must always be switched on with the motor running if in use for a baby.

**4.2 Care of baby**

4.2.1 Maintain temperature of neonates based on gestational age.

**4.2.2 Neutral range of environmental temperature**

Age	<1200 grams	1201-1500grams	1501-2500grams	>2500 grams
Day 1	35.0±0.5	34.3±0.5	33.4±1.0	33.0±1.0
Day 2	34.5±0.5	33.7±0.5	32.7±1.0	32.0±1.0
Day 3	34.5±0.5	33.5±0.5	33.0±1.0	32.0±1.0
Day 4 and later	33.5±0.5	32.8±0.5	32.2±1.0	31.5±1.0

- 4.2.3 Access baby by using the portholes, limit opening of large door as this interferes with air temperature.
- 4.2.4 Ensure baby is nursed naked apart from a nappy.
- 4.2.5 Position baby utilizing rolled towels/cloth nappies to provide boundaries that support 'nesting' and flexion of limbs but keeping face clear.
- 4.3 Adjust the incubator temperature by no more or less than 0.5 degree at a time.
- 4.4 Report to the doctor if baby is not maintaining the temperature, generally after two abnormal readings.
- 4.5 Do not bring the neonate out without justifiable cause.
- 4.6 Document time and condition of the neonate.
- 4.7 Cleaning and sterilization
  - 4.7.1 When the incubator is occupied, it should be cleaned daily. Humidifier chamber must be emptied and cleaned daily.
  - 4.7.2 After seven days neonate should be shifted to another incubator and terminal cleaning of the incubator to be done.
- 4.8 Special considerations:
  - 4.8.1 It is important that the incubator should not interfere with observation of the neonate and quality of care.
  - 4.8.2 Sensory stimuli like light and pain should be kept to the minimal.
  - 4.8.3 When neonate develops fever, the incubator modes have to be changed in normal modes.
  - 4.8.4 When the neonate is nursed in prone position, skin sensor is placed over the flank and it should not touch the bed.
  - 4.8.5 The daily linens should be kept within the Nursery to keep warm.
  - 4.8.6 **No alarm should be ignored.**

**5. MATERIAL AND EQUIPMENT:**

- 5.1 Incubators

**6. RESPONSIBILITIES:**

- 6.1 Physician
- 6.2 Nurse
- 6.3 Biomedical engineers to ensure incubator maintenance

**7. APPENDICES:**

N/A

## 8. REFERENCES:

- 8.1 Singh Mehrwan, Care of Newborn, 6th edition, 2004, published by Narinder K Singh, new Delhi-01
- 8.2 Kingdom of Saudi Arabia, Ministry of Health, Assistant Deputy for Hospitals Affairs, Guidelines for Neonatal Care
- 8.3 Ministry of Health – General Nursing Administration Functions and Duties, Policies and Procedures
- 8.4 Lissauer T, Fanaroff A, A, Rodriguez R, J, Weindling M. (2006) Neonatology at a Glance. Blackwell publishing Ltd. Chapter 29, Temperature control.

## 9. APPROVALS:

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