

Building and Other Guidelines

for

- Neonatal Intensive Care Units

- Special Care Baby Units

- Mother Baby Centres



**Family Health Bureau
Ministry of Health
&**

Perinatal Society of Sri Lanka

in collaboration with

Central Engineering Consultancy Bureau

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**World Health
Organization**



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FOREWORD

I wish to congratulate Family Health Bureau and Perinatal Society of Sri Lanka for producing this extremely useful manual which contains guidelines for Neonatal Intensive Care Units, Special Care Baby Units and Mother Baby Centres.

Efficient functioning of these units is a pre-requisite for provision of quality neonatal care services in specialised institutions.

These units are already available in leading Sri Lankan hospitals but there is a wide variation in their quality and coverage.

Therefore this manual will help in ensuring uniformity of neonatal care services offered as well as in improving quality.

I wish to assure my fullest support in obtaining the maximum benefits of these guidelines by curative institutions in their endeavour to provide quality neonatal care Services.

Dr. Ajith Mendis

Director General of Health Services

FOREWORD

I was very happy to have been actively associated with the other members of the group which produced this booklet that was started during my tenure of office as the President of the Perinatal Society of Sri Lanka. There were several hours on many days that we deliberated even about the finest detail of the contents of this book. I offer my sincere thanks to every one of them on behalf of the little babies who are to be born and benefit by the implementations of our recommendations

I do hope that the Ministry of Health will make use of the guidelines laid down in this booklet in its future plans in building, equipping and staffing the baby units. If we have a uniform system in the buildings, similar equipment and identical arrangement of staff, the management and the cost will be reduced. This will also facilitate a comparative study or an audit in the baby units.

Let us on our part as conscientious health care workers contribute our share towards the better outcome of babies who have no say in the society.

Dr. Maxie Fernandopulle
Perinatal Society of Sri Lanka

PREFACE

Neonatal Intensive Care Units, Special Care Baby Units and Mother Baby Centres are vital components of neonatal care services in specialised institutions.

Though these services are already available in several hospitals the need for national guidelines for establishment and functioning of them were felt for a long time.

Family Health Bureau, Ministry of Health joined hands with Perinatal Society of Sri Lanka, Sri Lanka College of Paediatricians and Sri Lanka College of Obstetricians and Gynaecologists to fill this gap and Central Engineering Consultancy Bureau made the important contribution of drafting the sketch plans of the proposed units.

We wish to thank Secretary, Director General of Health Services, Deputy Director General/ Public Health Services and Director/ Tertiary Care Services from the Ministry of Health who assisted us in numerous ways in this task and officials and representatives of the professional colleges who made their contribution at various stages.

This manual wouldn't have been a reality without the financial sponsorship of World Health Organisation and United Nations Children's Fund.

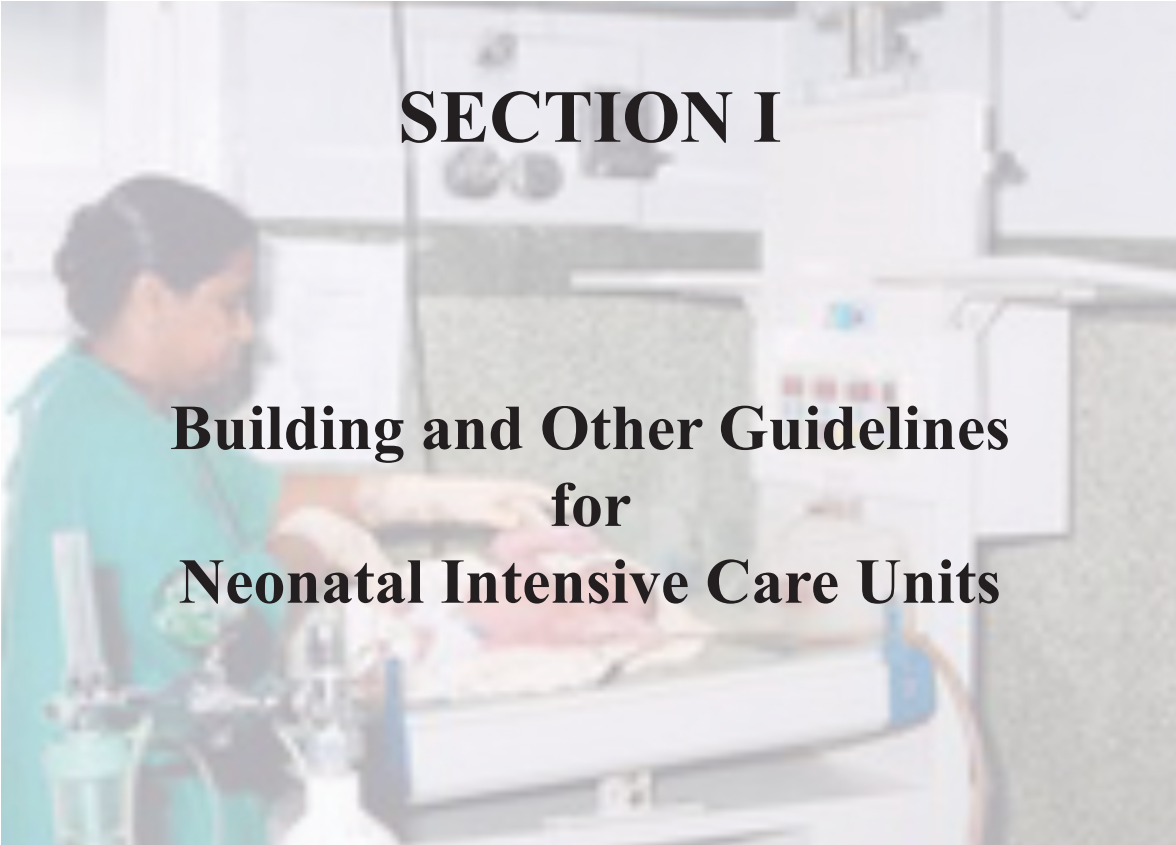
Finally we sincerely hope that all the specialised institutions providing neonatal care services take the maximum use of these guidelines fulfilling the goal of the contributions of improved health status of children of the country.

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Abbreviations

CRP- C Reactive Protein
CSF- Cerebro Spinal Fluid
CSSD- Central Sterilization Suppliers Division
ECG- Electro Cardiogram
ET- Endo Trachial
FBC- Full Blood Count
HDA- High Dependency Area
IV- Intra Venous
LDA- Low Dependency Area
MBU- Mother Baby Unit
MOO- Medical Officers
NICU- Neonatal Intensive Care Unit
O2- Oxygen
PR- Pulse Rate
RP- Respiratory Rate
SCUB- Special Care Baby Unit
SHO- Senior House Officer
UAC- Umbilical Artery Cannulation
UVC- Umbilical Vein Cannulation



SECTION I

Building and Other Guidelines for Neonatal Intensive Care Units

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1.1) Chapter 1

Location & General criteria

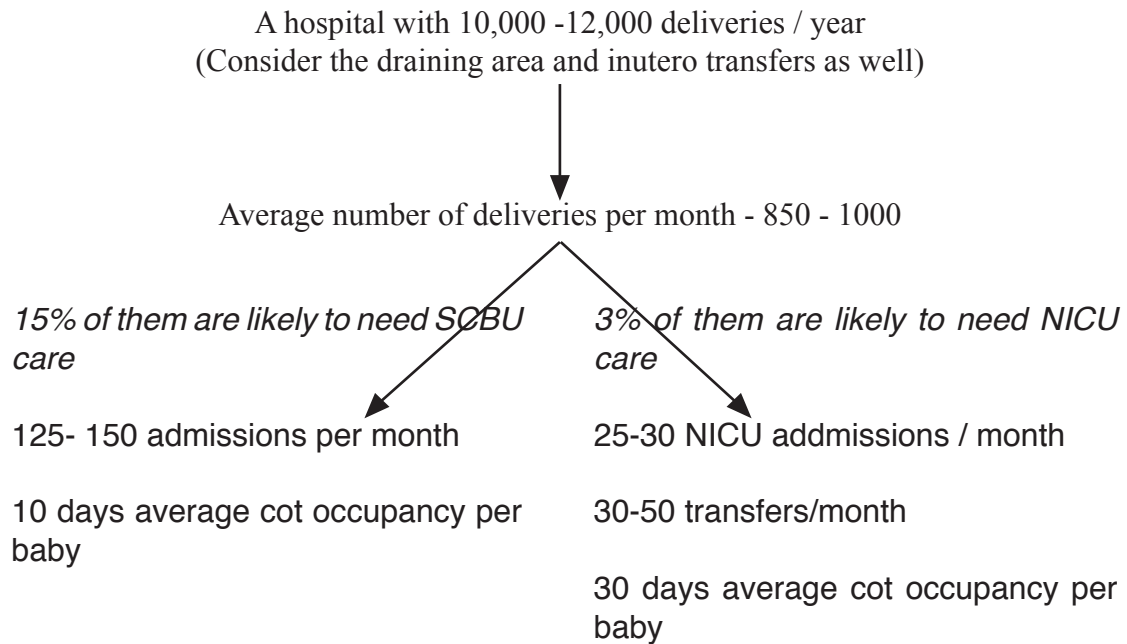
1.1.01 Location

- There should be only an NICU or SCBU per hospital. SCBU should be incorporated into NICU.
- The NICU should be in the same floor, preferably ground floor, and in close proximity to the postnatal ward, labour room and the theatre. When the obstetric and the neonatal care services are on separate floors, dedicated elevator access should be made available.
- It should be away from common toilets and garbage collections.
- Building should be oriented to avoid direct sunlight and it should only be exposed to indirect sunlight.
- Easy access to ambulance for transfers in and transfers out.
- There should be easy access to a mobile X ray unit and the X ray department
- Provision of lorry access for easy unloading of medical gases.

1.1.02 Space

- NICU should consist of following five major sections and other areas as indicated in the plan
 - Section 1 - Stabilisation room
 - Section 2 - High dependency area
 - Section 3 - Low dependency area
 - Section 4 - Isolation area
 - Section 5 - Mother baby unit
- The space should be determined according to the estimated number of deliveries in the hospital concerned.
- This data should be taken by analyzing the deliveries during the past 2-3 years before deciding on the bed strength

Mathematical example



- Following recommendations are made for a NICU with above mentioned hospital statistics.

- Number of slots

Stabilisation room	04
High dependency area	10
Low dependency area	15
Isolation area	04
Total	33

- Number of incubators

Stabilisation room	02
High dependency area	06
Low dependency area	03
Isolation area	01
For washing and drying	03
Total	15

- Ventilators - 04
- Transport incubators - 01
- Space provided for these equipment can be changed according to the number of deliveries / year in the hospital concerned.

1.1.03 Water supply

- The maintenance of 24 hour water supply is mandatory.
- Separate reservoir tank with 2000 litre capacity; a booster pump should be provided for places where water pressure is low, if necessary.

1.1.04 Hand washing facilities

- Hand washing should be made compulsory before entry to NICU.
- Separate section for hand washing and changing of clothes and shoes at the entrance of the NICU.
- Water taps should be elbow operated with isolated valve.
- Sinks should be stainless steel or porcelain and should be sloping. Rectangular wash basins (15"x10"x8") should be available at the entrance and the high dependency unit. Small porcelain sinks can be fixed in other areas. (In some areas stainless steel can not be used due to calcium depositions).
- Number of sinks -

Stabilisation room	02
High dependency area	04
Low dependency area	02
Procedure room	01
Isolation area	04
Sterilisation area	01
Toilet/Washing area	01
Cleaner's area	01
Dirty utility Room	01
Washing area	01

Baby bathing area	01
oilet/Mother baby unit	02
Counselling room	01
Toilet/staff rooms	05
Total	27

- Soap racks to keep pieces of soap for hand washing and towel dispensers should be available.
- Pictorial hand washing instructions should be displayed above all sinks.

1.1.05 Ventilation

- Air conditioning should be available with temperature adjustments, which is optimal for babies and the staff. This minimises collection of files and make the environment comfortable for babies and the staff.
- In places with low ambient temperature, provision of warmers should be considered.
- Ceiling fans should be fixed and cleaned regularly.
- There should be one or more rows of windows with an an aluminium frame at above 5 feet level (Easy cleaning and sustainability should be considered). It should be fixed in a way to promote cross ventilation and to be able to open when the air conditioner is not working.

1.1.06 Ceiling

- Ceiling should be washable and wet moppable.
- Asbestos free cement sheets should be used.

1.1.07 Wall

- The wall should be tiled up to 5 feet upwards from the floor level. A special type of grout should be used to fill the grooves between edges to prevent dust collection.

- Ledges should be tiled or made or made of stainless steel and fixed to walls so that they can be used to place various appliances. Ledges should be approximately 4 feet in length, 12 inches in width and 4 feet in height and should be washable. In view of a long-term need a solid single slab of tile or (if funds could be generated) stainless steel should be considered.
- Ledges should not be made in full length of walls and it should be separate with gaps to accommodate electricity wires according to the cot lay out.
- Ledges should be a available in all areas.

1.1.08 Floor

- The floor has to be tiled. Larger tiles (2 feet by 2 feet) with a matt surface are preferred as there will be fewer borders. Correct fixation and proper apposition of edges is important to minimize grooves for infection control. Special type of grout should be used to fill the grooves between tiles.
- Floor should be made to drain easily and it should be washed weekly.
- Each compartment should have a separate drainage system.

1.1.09 Doors

- Doors in between grids E and D (Annex III) should be swinging in both directions.
- Upper half of doors should be transparent.
- It should be made of a material that is washable and resistant to the impact caused by collision of trollyers.
- Entrance door to keep locked at all times and a bell to be situated at the entrance.
- All the other doors should be ordinary type except in toilets, which should be made of fibreglass or plastic.

1.1.10 Lighting

- Natural sunlight through windows is preferred.
- The lights fixed to the ceiling directly or indirectly are better than lights fixed to a stand on the floor. (Availability of horizontal surfaces should be minimized as much as possible to avoid collection of dust).
- Adequate lighting is very important - one tube light per incubator to be fixed to the ceiling with an independent switch to each light.

1.1.11 Electricity

- Separate square type 13A plugs should be fixed to each cot, incubator and ventilator (few rounded plug points can also be made available in some places as there can be instruments which require a round plug). Plug base should be fixed in a place not contaminated easily with water.
- Number of plugs

Cot	04
Incubator	08
Ventilator	10
- Two 15A and five 13A plug points to be fixed in stabilisation area. Provision of electricity supply for a resuscitator in LDA and HDA.
- Location of electricity, air and O₂ outlets should be decided in consultation with Paediatrician/Neonatologist.
- In the sterilization room, there should be two 15A and one 13A plugs.
- For each staff room there should be two 13 A plug points.
- UPS supported sockets should be made in different colours to identify separately.
- Plugs should be located in the gap between ledges.
- Generator supply to the NICU is mandatory and it should be through main generator supply if possible. If this is not possible separate alternative automated generator supply to high dependency unit, stabilisation area and one light per each section should be available.
- High dependency area and lighting system should have uninterrupted power supply.

1.1.12 Central wall suction system

- If central wall suction is available it should be incorporated into NICU. If not portable suckers should be provided.

1.1.13 Medical Gas

- High dependency area - 2O₂ and one compressed air outlet per cot
- Low dependency area - 1 O₂ and one compressed air outlet for a cot
- Isolation area - 1 O₂ and compressed air outlet for a cot
- Stabilisation room - 2O₂ and one compressed air outlet for a cot to enable to fix a ventilator.
- Gas outlets should be located at a standard level.

1.2) Chapter 2

Functional Areas

Following areas were decided to be included in the basic structure of the building plan.

01) Proch	16) Cleaner's room
02) Trolley transfer & reception area	17) Dirty utility room
03) Scrubbing area	18) Veranda
04) Stabilisation room	19) Toilets for MBU
05) High dependency area	20) Dining room for MBU
06) Low dependency area	21) Mother baby unit
07) Procedure room	22) Breastfeeding room
08) Duty station	23) Counselling room
09) Isolation rooms	24) Doctor's room
10) Incubator washing & drying area	25) Consultant's room
11) Sterilization room	26) Sister's room
12) Sterilized good stores	27) Nurse's room
13) Pantry	28) Minor staff room
14) Drug store room	29) Store room
15) Linen washing room	30) Gas room and unloading bay

1.2.01 Porch

- Space 12m²

1.2.02 Trolley transfer & reception area

- Space 17.2m²

1.2.03 Scrubbing area

- Space 16.74m²
- Wall cupboards should be fixed.

1.2.04 Stabilization room

- Should be located at the entrance.
- Should have 2 costs and 1 open air resuscitaire.
- 2 wall O₂ and 1 compressed air outlet, 2 central suction points, 2 scrub sinks.

1.2.05 High dependency area

- Should consist of 10 slots (4 ventilatory slots at fixed places; 6 interchangeable incubator slots)
- Tiled wall with slabs in all 4 walls (refer the section on wall), plug points (refer the section on electricity) and 4 sinks.
- There should be 1 suction outlet per each slot if central suction is available.
- Identify a separate space in the high dependency area to keep a washable table and chair. This place is important to use as observation area for nursing officers.

1.2.06 Low dependency area

- Should be adjacent to the high dependency area
- Should consist of 15 slots with 3 incubators; 2 sinks

1.2.07 Procedure room

- Should be located towards left side of duty station.
- To be used by both doctors and nurses.
- There should be a sink.

1.2.08 Duty station

- Space 28 m²
- Should continue with same floor of high dependency & low dependency area.
- Cupboards should be fixed extending from floor to the ceiling to avoid dust accumulation. Provisions to fix a fridge should be available.
- Plastic drawers to be fixed under worktop table (to keep stationary) with gaps for seating.

1.2.09 Isolation room

- Space 24.5 m².
- Should consist of 3 cots and 1 incubator. Should have a slot for a ventilator if needed.

1.2.10 Incubator washing & drying area

- Space 45 m².
- For decontamination, washing & drying activities of equipments and incubators etc.
- There should be a washing room with a deep fibreglass sink to decontaminate the equipment with elbow -operated tap with a controllable outlet. Outlet of this sink to be linked to the manhole. Waste water outlet should be connected to sewer line.
- There should be a concrete tiled ledge.
- There should be stainless steel ledges for drying of equipment after washing.
- Hooks should be attached to hang Macintosh etc.

1.2.11 Sterilization room

- Space 11.6 m²
- This room should be available for NiCU staff to use when the CSSD system is not functioning.
- Fixed glass window to be inserted at sterilizing room to monitor decontamination activities in the washing and drying area.
- Sterilizer to be fixed
- Fume extractor is compulsory to be fixed inside the room to prevent fungal growth and to strengthen infection control.
- Power & water supply is mandatory. There should be a sink.
- Two 15A plug point & four 13A plug points to be fixed.
- Worktop should be available.
- Ceiling fan should be fixed in the room.

1.2.12 Sterilized goods stores:

- Space 11.6 m²
- To store all the sterilized equipment and linen received from CSSD & sterilization room.
- Walls should be tiled up to ceiling.
- Tiled ledges should be built at the 4 feet level. There should be inbuilt cupboards with aluminium frame and glass on the other wall.
- Racks with movable drawers can be fixed.

1.2.13 Pantry:

- Space 11.6m²
- Common room to have tea/meals for all the staff.
- Should include a plug base, refrigerator, microwave, ceiling fan, pantry cupboards and a sink.

1.2.14 Storeroom for drugs and surgical equipment:

- Space 11.6m²
- Ceiling fan should be fixed in the room.
- 1 lockable inbuilt glass cupboard should be constructed.
- Stotted angled adjustable iron racks can be fixed to store drugs.

1.2.15 Linen washing room:

- Space 10m²
- To keep the washing machine.
- Two separate tanks should be available inside for decontamination of linen.
- Two plug should be available for washing machine and dryer.

1.2.16 Cleaner's area:

- Space 10.5m²
- There should be a separate small room for the cleaners to keep cleaning equipment.
- Hooks to be fixed in the wall to hang mops etc.
- Ledges should be provided to keep utensils.
- There should be a sink.

1.2.17 Dirty utility room:

- Space 10.5 m²
- This room is for discarded biological waste such as blood stained/soaked linen.
- Should not directly open to the NICU
- Colour code system should be followed for waste disposal.
- A sink and shelves should be included in the utility room.

1.2.18 Veranda:

- There should be lines to put clothes for drying.

1.2.19 Mother baby unit (MBU):

- Space 66.5 m²
- Meant for mothers and babies who are discharged from NICU.
- Ten adult beds and cots should be available.
- There should be a separate area to examine & counsel mothers with feeding problems who are referred from wards or outside referrals.
- There should be facilities for mothers to rest.
- Plug point should be available and ceiling fan should be fixed in the room.
- Lockers should be attached to a wall for mothers to keep their belongings.
- There should be a bathing room for babies, opening to the 'open to sky' area with hot water available.
- There should be provisions for television viewing and piped music.

1.219.1 Toilets for MBU:

- Space 3.75 m²
- There should be a toilet to discard baby's excreta & it should never open directly to the NICU.
- Separate entrance from out side should be available to toilets for the cleaning purposes.

1.2.19.2 Dining room for MBU:

- For use of mothers of babies admitted to MBU.
- Plug point should be fixed.
- Ceiling fans should be fixed.

1.2.19.3 Breastfeeding room:

- Space 14.7 m².
- Should be separate from duty station by a 1/2 wall and a glass pane.
- Should consist of 6 cots, 2 plug points.
- Should include hand washing and drying areas and a sink.
- Ceiling fans should be fixed.

1.2.19.4 Counselling room:

- Space 16.45m².
- Counselling room should be attached to the mother baby unit.
- Ceiling fans should be fixed.

1.2.20 Rooms allocated for staff:

- Consultant's room - Space 12.65m².
- Doctor's room - Space 15.05m².
- Sister's room - Space 10.85 m².
- Nurse's room - Space 10.85 m².

- Minor staff room - Space 10.85 m².
- Lockers should be provided to keep their valuables.
- Ceiling fans should be fixed.
- Two 13 Ampere plug points should be fixed.

1.2.21 Store room:

- Space 9.45 m².
- Each NICU should have a storeroom to keep the unutilized and condemned items/equipments.

1.2.22 Gas room & Unloading bay:

- Space 28 m².
- There should be lorry access to the room.
- There should not be different floor levels between unloading bay & the store room. This will avoid the noise arising during unloading of gas cylinders.
- Gas manifold room should be divided to accommodate O₂ and gas separately.

1.3) Chapter 3

Support Facilities

1.3.1 Laboratory Service

- These services should be available throughout 24 hours for 365 days.
- Laboratory facilities to test for
 - FBC, CRP
 - Capillary and venous blood sugar
 - Blood urea, serum creatinine and electrolytes
 - Serum bilirubin
 - Microscopic examination facilities - eg. blood, CSF and urine
- Blood gas analyser and glucometer should be available within the unit
- Facilities to do in-ward E.C.G. and mobile X-ray unit with the facility to transfer the machine from the X-ray unit should be available.

1.3.2 Transfusion Services

- All NICU should be backed up by a blood bank for minimum blood storage facilities.
- Emergency blood transfusion services should be available for 24 hour period with a trained Medical Officer.
- Fresh frozen plasma and platelets should be provided from the blood bank.

1.3.3 Telephone & Communication

- Telephone facilities are essential.
- Direct dialling facility is preferred for all NICUs & it should be available in the duty station.
- Intercom lines to staff rooms and mother baby unit.

1.3.4 Transport Facilities

- Quick access to ambulance
- NICU should be provided with a separate ambulance & transport incubator and ventilator. So critically ill babies can be transported from peripheral stations to the NICU.

1.4)Chapter4

Standards on staff allocation

1.4.1 General

- All NICUs should have a Neonatologist, a minimum of 14 medical officers and a sister or nurse in charge.
- MOO should be introduced on roster duty basis & there should be two middle level MOO (two SHO) on roster basis.
- These MOO must look after postnatal wards, labour rooms & operation theatres and transport of babies from periphery. One medical officer should always be physically available for 24 hours in NICU & responsible for on calls. There should be a 2nd on call MO for the night shift. Night MO should stay till 10 am or till the morning ward round is over.

	Morning (7 am - 1 pm)	Evening (1 pm - 7 pm)	Night (7 pm - 7 am)	Total
Medical Officers	5(8 am - 2 pm)	3(2 pm - 8 pm)	2(8 pm - 8 am)	14
Nurses	7	5	5	15
Minor staff				
Ordinary labourer(male)	2	2	2	8
Sanitary labourer	1	1	1	4
Labourers for wheel chair (female)	1	1	1	4

1.4.2 Consultant Neonatologist/Paediatrician

- Unit 6 months of age, follow up for babies discharged from NICU/SCBU may be provided by the consultant/s managing the unit.
- If further follow up is necessary these babies should be handed over to the local Paediatrician.

1.4.3 Medical Officers in Neonatology:

- Designation: MO/Neonatology. It should be advertised as MO/Neonatology and as a special post.
- Obligatory training period: There should be obligatory training, period (For a minimum of six weeks) in neonatal care which will be arranged by the consultant in an established unit. Curriculum to be developed by Perinatal Society of Sri Lanka.
- Service Period - 2 years obligatory (extendable up to 4 years because of the training they have received).

1.4.4 Nursing Officers:

- In service training in neonatal nursing in an established unit for 2 months initially and as and when required subsequently. Curriculum to be developed by Perinatal Society of Sri Lanka.

1.4.5 Minor staff

- Only trained staff should handle cleaning.
- Duties of ordinary labourers include transport of mothers to and from NICU and postnatal ward/mother baby unit.

1.4.6 Operator for gas room / central suction:

- One labourer from each shift should be trained.

Annex I

Equipment list - NICU

A) Electrical equipment:

- 1) Multipara monitors - 4 (Paediatric ECG, PR, RR, SPO₂, NIBP, apnoeic alarm)
- 2) Pulse oximeters - 2
- 3) Open resuscitation table with overhead warmer with facility to store drugs/equipment - 2
- 4) Neonatal resuscitation trolley - low cost -2(Annex2)
- 5) Syringe pumps - 10
- 6) Infusion pumps - 6
- 7) Nebuliser (oxygen driven) - heavy duty - 2
- 8) Electronic weighing scale (digital) - one for each cubicle
- 9) Portable suckers (one jar) - 6 (if central suction is not available)
- 2 portable suckers (if central suction is available)
- 10) Cold light for IV cannulation (locally made)
- 11) Spot lamp (portable) - 2
- 12) Computer
- 13) UPS - depending on equipment capacity

B) Basic layout equipment:

- 1) Central suction - jars x 12, controller, pressure regulator for controller, wall probes

C) Surgical inventory items:

- 1) Umbilical probes - 4
- 2) Phototherapy units (blue light) - 10 (4 double surface units; 1 with a light from bottom)
- 3) Perspex shields - 10
- 4) Neonatal stethoscopes - 20
- 5) Steel drums - 6 for hand towels
- 6) I.V. infusion stands - 12
- 7) X-ray illuminator (wide size) - 01

8) Ward round trolley

Tapes - 20

Torch

Ophthalmoscope

Charts - Growth

- Bilirubin

Lab Request forms

Calculator

- 9) O₂ cylinders with flow meters and humidifier bottle - 4
- 10) Empty O₂ cylinders - 10
- 11) Head box (locally made) - 15
- 12) 33 cots (preferably Perspex, low tech cots) and 10 incubators, 4 ventilators
- 13) 1-2 wheel chairs should be allocated for the NICU to bring mothers from the post natal ward for breast feeding

D) Consumables:

- 1) Digital Thermometer - Low reading - 20

E) Others:

- 1) Umbilical cannulation set (UAC/UVC)-2
- 2) Exchange transfusion set with 3 way taps
- 3) Wall dispenser - betadine & hibithane
- 4) Wall clocks - 3

Annex II

Neonatal resuscitation trolley

Specifications:

- 1) Overhead radiant warmer with a stop clock
- 2) Low pressure sucker with meter adjustable to 100-150 mmHg pressure (low pressure sucker)
- 3) Oxygen cylinder with functioning flow meter with pressure regulator with valve key.

Equipment:

- 1) Neonatal ambu bag (250 ml) with the reservoir and O₂ masks of both sizes (term and preterm)
- 2) Laryngoscope with straight blades of both sizes, No:0 and No: 1
- 3)

ET tubes - birth weight (g)	Internal diameter (mm)
<1000g	2.5
1000-2000	3.0
2000-4000	3.5
>4000	3.5-4
- 4) ET tube introducer stilette (plastic/flexible)
- 5) Straight suction catheters with thumb port - FG 6 and 10 (2-3 each)
- 6) Feeding tube FG-5,6,7,8 (2 each)
- 7) Emergency tray with
 - Syringes 2ml(x5), 5ml(x5), 10ml(x3), 1ml(x5)
 - Cannula 23G/25G (2 each)
 - Umbilical catheterisation pack - scalpel, artery forceps x 2, suture material, metal probe, 3 way tap, 2 Ø silk, scissors, 3.5 umbilical catheter, radio-opaque dye

Drugs

Adrenaline - 1/10 000 (1 in 10 dilution of 1/1000 solution) - 1 vial

Naloxone - 1 vial (400ug/ml)

0.9% N.saline - preferably 5ml vial

8.4% NaHCO₃ - 2 vials

10% dextrose - 1 bottle

Distilled water - 5ml vial x 5

11) Blood sample bottles, culture bottles

A photograph of a healthcare worker in blue scrubs attending to a baby in a hospital bed. The worker is wearing a gold chain and is focused on the baby. The baby is lying in a metal hospital bed with a white blanket. The background shows a typical hospital room setting with a tiled wall and some medical equipment.

Section II
Building and Other
Guidelines
for
Special Care Baby Units

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2.1) Chapter 1

Location and General Criteria

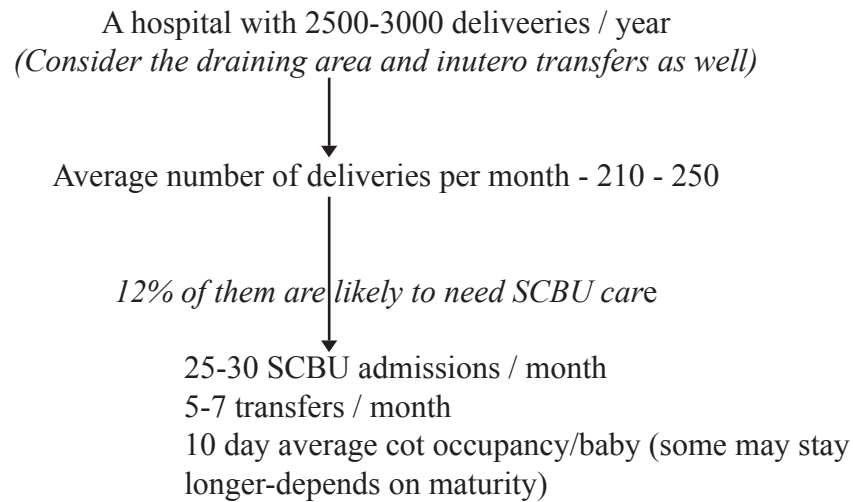
2.1.01 Location

- The SCBU should be in the same floor and in close proximity to the maternity unit. When the obstetric and the neonatal care services are on separate floors, dedicated elevator access should be made available.
- It should be away from common toilets and garbage collections.
- Building should be oriented to avoid direct sunlight and it should only be exposed to indirect sunlight.
- Easy access to ambulance for transfers in and transfers out.
- Provision of lorry access for easy unloading of medical gases.
- There should be easy access to a mobile X-ray unit and to the X-ray department.

2.1.02 Space

- SCBU should consist of the following four major sections and other areas as indicated in the plan.
 - Section 1 - high dependency care
 - Section 2 - low dependency care
 - Section 3 - isolation area
 - Section 4 - mother baby unit
- The space should be determined according to the estimated number of deliveries in the hospital concerned.
- This data should be taken by analyzing the deliveries during the past 2-3 years before deciding on the bed strength.

Mathematical example:



- Following recommendations are made for a SCBU with above mentioned hospital statistics.
- Number of slots

Cots	10
Incubators	04
Ventilators	01
Total	15
- Space provided for the above can be changed according to the number of deliveries per year in the hospital concerned.

2.1.03 Water supply:

- The maintenance of 24 hours water supply is mandatory.
- Separate reservoir tank with a 2000 litre capacity; a booster pump should be provided for places where water pressure is low, if necessary.

2.1.04 Hand washing facilities:

- Hand washing should be made compulsory for everyone before entry to SCBU.
- Separate section for hand washing and changing of clothes and shoes at the entrance to the SCBU must be available.
- Water taps should be elbow operated with an isolated valve.

- Sinks should be stainless steel or porcelain and should be sloping. Rectangular washbasins (15''x10''x8'') should be available at the entrance and the high dependency unit. Small porcelain sinks can be fixed in other areas. (In some areas stainless steel cannot be used due to calcium depositions.)
- Number of sinks-

High dependency area	02
Low dependency area	04
Procedure room	01
Isolation area	02
Toilet/Washing area	01
Cleaners Area	01
Dirty Utility Room	01
Baby bathing area	01
Toilet/Mother baby unit	01
Feeding room	01
Toilet/Staff rooms	05
Total	20
- Soap racks to keep pieces of soap for hand washing and towel dispensers should be available.
- Pictorial hand washing instructions should be displayed above all sinks.

2.1.05 Ventilation:

- Air conditioning should be available with temperature adjustments, which is optimal for babies and the staff. This minimises collection of flies and make the environment comfortable for babies and the staff.
- In places with low ambient temperature, provision of warmers should be considered.
- Ceiling fans should be fixed and cleaned regularly.
- There should be one or more rows of windows with an aluminium frame at above 5 feet level. (Easy cleaning and sustainability should be considered). It should be fixed in a way to promote cross ventilation and to be able to open when the air conditioner is not working.

2.1.06 Ceiling:

- Ceiling should be washable and wet moppable.
- Asbestors free cement sheets should be used.

2.1.07 Wall:

- The wall should be tiled up to 5 feet from the floor level. A special type of grout should be used to fill the groved between edges to prevent dust collection.
- Ledges should be tiled or made of stainless steel and to be fixed to walls so that they can be used to place various appliances. Ledges should be approximately 4 feet in length, 12 inches in width and 4 feet in heght and should be washable. In view of a long-term need a solid single slab of tile or (if funds could be generated) stainless steel should be considered.
- Ledges should not be made in full length of walls and it should be separated with gaps to accommodate electricity wires according to the cot lay out.
- Ledges should be available in all three compartments.

2.1.08 Floor:

- The floor has to be tiled. Large tiles (2 feet by 2 feet) with a matt surface are preferred as there will be fewer borders. Correct fixation and proper apposition of edges is important to minimize grooves for infection control. A special type of grouts should be used to fill the groves.
- Floor should be made to drain esaily and it should be washed weekly.
- Each section should be have a separate drainage system.

2.1.09 Doors:

- Doors in between grids E and D (Annex III) should be swinging in both directions. Upper half of doors should be transparent. It should be made out of a material, which is wasable and resistant to the impact caused by collision of trolleys.
- Entrance door to be kept locked at all times and a bell to be fixed at the entrance.
- All the other door should be ordinary type except in toilets, which should be made of fibreglass or plastic.

2.1.10 Lighting:

- Natural sunlight through windows is preferred.
- The lights fixed to the ceiling directly or indirectly are better than lights fixed to a stand on the floor. (Availability of horizontal surfaces should be minimized as much as possible to avoid collection of dust)
- Adequate lighting is very important - one tube light per incubator to be fixed to the ceiling with an independent switch to each light.
- Generator supply to the SCBU is mandatory and it should be through main generator supply if possible. If this is not possible separate alternative automated generator supply to few plug points and lighting system in the high dependency area, cots, ventilators and incubators should be available.
- High dependency area and lighting system should have uninterrupted power supply.

2.1.11 Electricity:

- Separate square type 13A plugs should be fixed to each cot, incubator and ventilator (Few rounded plug points can also be made available in some places as there can be instruments which require round plugs). Plugs should be fixed in a place not contaminated easily with water.
- Number of plugs

Cot	04
Incubator	08
Ventilator	10
- One 15A and five 13A plug points to be fixed in resuscitation area. Provision of electricity supply for a resuscitator in LDA and HDA.
- Location of electricity, air and O2 outlets should be decided in consultation with Paediatrician/Neonatologist.
- In the sterilization room, there should be two 15A and one 13A plug.
- For each staff room there should be two 13A plug points.
- UPS supported sockets should be made in different colours to identify them separately.
- Plugs should be located in the gaps between the ledges.

2.1.12 Central wall suction system:

- Central wall suction system should be incorporated if available in hospital. If not portable suckers should be provided.

2.1.13 Medical Gas:

- High dependency area - 2O₂ and 1 compressed air outlet per cot
- Low dependency area - 1O₂ and one compressed air outlet for a cot.
- Isolation area - 2O₂ and one compressed air outlet for a cot to enable to fix a ventilator.
- Gas outlets should be located at a standard level.

2.2) Chapter 2

Functional areas

Following area were decided to be included in the basic structure of the building plan.

- | | |
|---------------------------------------|--------------------------------|
| 01) Porch | 15) Cleaner's room |
| 02) Trolley transfer & reception area | 16) Dirty utility room |
| 03) Scrubbing area | 17) Dining room for MBU |
| 04) Low dependency area | 18) Toilet for MBU |
| 05) High dependency area | 19) Mother baby unit |
| 06) Procedure room | 20) Breastfeeding room |
| 07) Duty station | 21) Counselling room |
| 08) Isolation room | 22) Doctor's room |
| 09) Incubator washing & drying area | 23) Consultant's room |
| 10) Sterilization room | 24) Sister's room |
| 11) Sterilized good stores | 25) Nurse's room |
| 12) Pantry | 26) Minor staff room |
| 13) Drug store room | 27) Storeroom |
| 14) Linen washing room | 28) Gas room and unloading bay |

2.2.01. Scrubbing area:

- Space 16.74m²

2.2.02 Trolley transfer & Reception area:

- Space 17.2 m²

2.2.03 Porch

- Space 12m²

2.2.04 Low dependency area:

- Space 59.5m²
- Should consist of 9 slots.

2.2.05 High dependency area:

- Space 42 m²
- Should consist of 4 slots.
- Identify a separate space in the high dependency area to keep a washable table and chair. This place is important to use as observation area.

2.2.06 Procedure room:

- Should be located towards the left side of duty station.
- To be used by both doctors and nurses.
- There should be a sink for hand washing.

2.2.07 Duty station:

- Space 28 m²
- Should continue with same floor of high dependency & low dependency area.
- Cupboards should be fixed extending from floor to the ceiling to avoid dust accumulation. Provisions to fix a fridge should be available.
- Plastic drawers to be fixed under worktop table (to keep stationary) with gaps for seating.

2.2.08 Isolation room:

- Space 24.5m².
- Should consist of 2 slots with 1 slot for ventilator or incubator.

2.2.09 Incubator washing & drying area:

- Space 45 m²
- For decontamination, washing & drying activities of equipment and incubators etc.

- There should be a washing room with a deep fiberglass sink to decontaminate the equipment with elbow-operated tap with a controllable outlet. Outlet of this sink to be linked to the manhole. Waste water outlet should be connected to sewer line.
- There should be stainless steel ledges for drying of equipment after washing.

2.2.10 Sterilization room

- Space 11.6 m²
- This room should be available for SCBU staff to use when the CSSD system is not functioning.
- Fixed glass window to be inserted at sterilizing room to monitor decontamination activities in the washing and drying area.
- Sterilizer to be fixed.
- Fume extractor is compulsory to be fixed inside the room to prevent fungal growth and to strengthen infection control.
- Power & water supply is mandatory.
- Two 15A plug point & four 13A plug points to be fixed.
- Worktop should be available.
- Ceiling fan should be fixed in the room.

2.2.11 Sterilized good stores:

- Space 11.6m²
- To store all the sterilized equipments received from CSSD & sterilizing room.
- Walls should be tiled up to the ceiling.
- Tiled ledges should be built at the level of 4 feet. There should be inbuilt cupboards with aluminium frame and glass on the other wall.
- Racks with movable drawers should be fixed.

2.2.12 Pantry:

- Space 11.6 m²
- Common room to have tea / meals for all the staff.
- Should include two plug bases, pantry cupboards and a sink.

2.2.13 Storeroom for drugs and surgical equipment:

- Space 11.6 m²
- Fridge, plug points should be available.
- Ceiling fan should be fixed in the room.
- 1 lockable inbuilt glass cupboard should be constructed.
- Slotted angled adjustable iron racks can be fixed to store drugs.

2.2.14 Linen washing room:

- Space 10 m²
- To keep the washing machine.
- Two separate tanks should be available for decontamination of linen.
- Two plug points should be available for the washing machine and dryer.

2.2.15 Cleaner's room

- Space 10.5m².
- There should be a separate small room for the cleaners to keep their cleaning equipment.
- Hooks to be fixed in the wall to hang mops etc.
- Ledges should be provided to keep utensils.

2.2.16 Dirty utility room

- Space 10.5 m²
- This room is for discarded biological waste such as blood stained/soaked linen.
- Should not directly open to the SCBU.
- Colour code system should be followed for waste disposal.
- A sink and shelves should be included in the utility room.

2.2.17 Mother baby unit:

- Space 66.5 m²
- Six adult beds and cots attached should be available.
- There should be a separate area to examine & counsel mothers with feeding problems who are referred from wards & outside the hospital.
- There should be facilities for mothers to rest.
- Plug points should be available and ceiling fan should be fixed in the room.
- Lockers should be attached to a wall for mothers to keep their belongings.
- There should be provisions for television viewing and piped music.

2.2.17.1 Dining room for the mother baby unit:

- Space 19.25 m²
- For use of mother of babies admitted to mother baby unit.

2.2.17.2 Toilets for mother baby unit:

- Space 3.75 m²
- There should be a toilet to discard baby's excreta & should never be opened directly into the SCBU.
- Separate entrance from outside should be available to toilets for cleaning purposes.

2.2.17.3 Breast feeding room:

- Space 14.7m²
- Should be separated from duty station by a 1/2 wall and a glass pane.
- Ceiling fan should be fixed

2.2.17.4 Counselling room:

- Space 16.45m²
- Counselling room should be attached to the mother baby unit.
- Ceiling fans should be fixed.

2.2.18 Rooms allocated for staff

- Consultant's room - Space 12.65m²
- Doctor's room - Space 15.05m²
- Sister's room - Space 10.85m²
- Nurse's room - Space 10.85m²
- Minor staff room - Space 10.85m²
- Ceiling fans should be fixed.
- Two 13 Ampere plug points should be fixed.

2.2.19 General storeroom:

- Space 9.45m²
- Each SCBU should have a storeroom to keep the unutilized and condemned items/equipment.

2.2.20 Gas room & unloading bay:

- Space 28m²
- There should not be different floor levels between unloading bay & the storeroom. This will reduce the noise arising during unloading of gas cylinders.
- Gas manifold room should be divided to accommodate O₂ and gas separately.

2.3) Chapter 3

Support facilities

2.3.1 Laboratory Service

- These services should be available throughout 24 hours for 365 days.
- Laboratory facilities to test for
 - FBC, CRP
 - Capillary / venous blood sugar
 - Blood urea, serum creatinine and electrolytes
 - Serum bilirubin
 - Microscopic examination facilities - e.g. blood, CSF and urine
- Blood gas analyser and glucometer should be available within the unit.
- Facilities to do in-ward E.C.G. and mobile X-ray unit with the facility to transfer the machine from the X-ray unit should be available.

2.3.2 Transfusion Services

- All SCBU should be backed up by a blood bank for minimum blood storage facilities.
- MOO should be trained in providing emergency blood transfusion & available for 24 hour period with a trained Medical Officer.
- Fresh frozen plasma and platelets should be provided from the blood bank.

2.3.3. Telephone & Communication

- Telephone facilities are essential.
- Direct dialling facility is preferred for all SCBU's & it should be available in the duty station.
- Intercom lines to staff rooms and mother baby unit.

2.3.4 Transport Facilities

- Early and quick access to ambulance.
- Provincial hospitals should be provided with separate ambulance & transport incubator so that critically ill babies can be transported from peripheral stations to the SCBU.
- At a later date the regional SCBU should have a transport team with transport incubators & ventilators to pick up babies from the other hospitals in the region.

2.4) Chapter 4

Standars in staff allocation

2.4.1 General

- A unit with 30 Admissions per month (10% admissions out of 250-300 deliveries peer month) should have a Consultant Paediatrician/Neonatalogist, a minimum of 8 medical officers and a sister or nurse in charge.
- MOO should be introduced in shift duty basis & there should be two middle level MOO (two SHOO) in on call basis.
- These MOO must look after postnatal wards, labour rooms & operation theatres and transport of babies from periphery. One medical officer should always be physically available for 24 hours in SCBU & responsible for on calls. There should be a 2nd on call MO for the night shift. Night shift MO should stay till 10 am till the morning ward round is over.

	Morning (7 a.m. - 1 p.m)	Evening (1 p.m. - 7 p.m)	Night (7 p.m. - 7 a.m)
Medical Officers	4 (8 am - 2 pm)	3 (2 pm - 8 pm)	1 (8 pm - 8 am)
Nurses	5	4	3
Minor Staff			
Ordinary labourer	4	3	2
Sanitary labourer	1	1	1

2.4.2 Consultant Neonatologists/Paediatrician

- For hospitals with more than 3000 deliveries/year the consultant cadre should be increased accordingly.
- Until 6 months of age, follow up for babies discharged from SCBU may be provided by the consultants/ managing the unit.
- If further follow up is necessary these babies should be handed over to the local Paediatrician.

2.4.3 Medical Officers in Neonatology:

- Designation: MO/Neonatology. It should be advertised as MO/Neonatology and as a special post.
- Obligatory training period: There should be obligatory training, period (for a minimum of six weeks) in neonatal care which will be arranged by the consultant in an established unit. Curriculum to be developed by Perinatal Society of Sri Lanka.
- Service Period - 2 years obligatory (extendable up to 4 years because of the training they have received).

2.4.4 Nursing Officers:

- In services training in neonatal nursing in an established unit for 2 months initially and as and when required subsequently. Curriculum to be developed by Perinatal Society of Sri Lanka.

2.4.5 Minor staff:

- Only trained staff should handle cleaning.
- Duties of ordinary labourers include transport of mothers to and from SCBU and postnatal ward / mother baby unit.

2.4.6 Operator for gas room/central suction:

- One labourer from each shift should be trained.

Annex I

Equipment list - SCBU

A) Electrical equipment:

- 1) Multipara monitors - 2 (Paediatric ECG, PR, RR, SPO₂, NIBP, apnoeic alarm)
- 2) Pluse oximeters - 2
- 3) Open resuscitation table with overhead warmer with facility to store drugs/ equipment - 2
- 4) Neonatal resuscitation trolley - low cost - 2 (Annex 2)
- 5) Syringe pumps - 10
- 6) Infusion pumps - 6
- 7) Nebuliser (oxygen driven) - heavy duty - 2
- 8) Electronic weighing scale (digital) - one for each cubice
- 9) Portable suckers (one jar) - 6 (if central suction is not available), 2 portable suckers (if central suction is available)
- 10) Cold light for IV cannulation (locally made)
- 11) Spot lamp (portable) - 2
- 12) UPS - depending on equipment capacity

B) Basic layout equipment:

- 1) Central suction - jars x 12, controller, pressure regulator for controller, wall probes.

C) Surgical inventory items:

- 1) Umbilical probes - 4
- 2) Phototherapy units (blue light) - 10 (4 double surface units; 1 with a light from bottom)
- 3) Perspex shields - 6
- 4) Neonatal stethoscopes - 20
- 5) Steel drums - 6 for hand towels
- 6) I.V. infusion stands - 12
- 7) X-ray illuminator (wide size) - 01

- 8) Ward round trolley
 - Taps - 20
 - Torch
 - Ophthalmoscope
 - Charts - Growth
 - Bilirubin
 - Lab Request forms
 - Calculator
- 9) O₂ cylinders with flow meters and humidifier bottle-2
- 10) Empty O₂ cylinders - 10
- 11) Head box (locally made) - 10
- 12) 15 cots (preferably perspex, low tech cots), 6 incubators, 4 ventilators
- 13) 1 -2 wheel chairs should be allocated for the SCBU to bring mothers from the postnatal ward for breast feeding

D) Consumables:

- 1) Digital Thermometer - Low reading - 20

E) Others:

- 1) Umbilical cannulation set (UAC/UVC) - 2
- 2) Exchange transfusion set with 3 ways taps
- 3) Wall dispenser - betadine & hibithane
- 4) Wall clock - 3

Annex II

Neonatal resuscitation trolley

Specifications

- 1) Overhead radiant warmer with a stop clock
- 2) Low pressure sucker with meter adjustable to 100-150 mmHg pressure (low pressure sucker)
- 3) Oxygen cylinder with functioning flow meter with pressure regulator with valve key.

Equipment:

- 1) Neonatal ambu bag (250 ml) with the reservoir and O₂ masks of both sizes (term and preterm)
- 2) Laryngoscope with straight blades of both sizes, No:0 and No: 1
- 3) ET tubes -

birth weight (g)	Internal diameter (mm)
<1000g	2.5
1000-2000	3.0
2000-4000	3.5
>4000	3.5-4
- 4) ET tube introducer stilet (plastic/flexible)
- 5) Straight suction catheters with thumbport - FG 6 and 10 (2-3 each)
- 6) Feeding tube FG-5, 6, 7, 8 (2 each)
- 7) Emergency tray with
 - Syringes 2ml(x5), 5ml(x5), 10ml(x3), 1ml(x5)
 - Canula 23G/25G(2 each)
 - Umbilical catheterisation pack - scalpel, artery forceps x 2, suture material, metal probe, 3 way tap, 2 Ø silk, scissors, 3.5 umbilical catheter, radio-opaque dye

Drugs-Adrenaline - 1/10 000 (1 in 10 dilution of 1/1000 solution) - 1 vial

Naloxone - 1 vial (400up/ml)

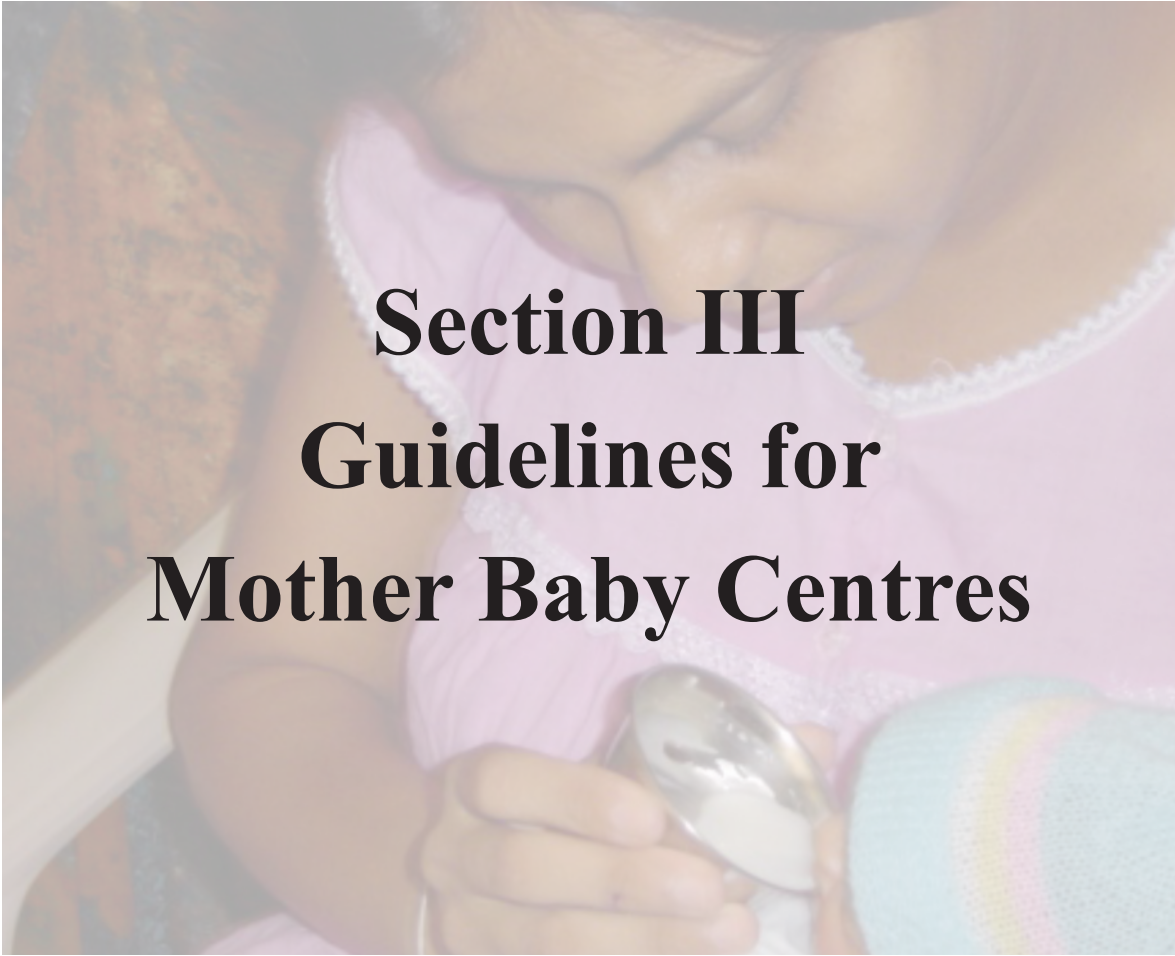
0.9% N.saline - preferably 5ml vial

8.4% NaHCO₃ - 2 vials

10% dextrose - 1 bottle

Distilled water - 5ml vial x 5

8) Blood sample bottles, culture bottles

A photograph of a woman with dark hair, wearing a pink shirt with a white lace collar, holding a baby. The baby is wrapped in a light blue blanket with a rainbow pattern. The woman is looking down at the baby. The image is slightly faded and serves as a background for the title.

Section III

Guidelines for

Mother Baby Centres

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Background

It has been identified internationally the importance of having lactation management centres and mother baby units attached to maternity and neonatal care units for promotion of breast feeding as well as proper maternal and infant care.

The importance of exclusive breast feeding in promoting the nutritional status and development of infants and protecting them from infections has clearly been demonstrated. It has been scientifically proven that skilled assistance mothers get in establishing lactation during early postpartum period is crucial for successful establishment of lactation. Early establishment of lactation in neonates ensures proper weight gain in infants and contributes to reduction of child malnutrition. Lactation Management Centres where feeding problems of infants are attended to plays a vital role in achieving this objective.

Mother Baby Unit where mothers could be admitted with babies would reduce overcrowding in NICU/SCBU as well as in postnatal wards. It is a transit place between the hospital and home where mothers and babies are kept together. Admission of babies who don't need NICU/SCBU care in the MBU is an extremely cost effective way of managing them.

Therefore Ministry of Health has decided to set up Mother Baby Centres, which is a combination of Lactation Management Centres and Mother Baby Units, in all specialised institutions providing maternal and neonatal care services. Availability of a standard set guidelines is required for efficient functioning of these centres.

Functions:

- 1) To anticipate, identify and attend to mothers and babies who develop or are likely to develop lactation problems. e.g. multiple pregnancies, mothers with inverted nipples, diabetes, preterm deliveries, Caesarean Section (CS) etc.
- 2) To attend to feeding problems of babies referred from maternity units and other referrals including those of public health staff, GP's and self referrals.
- 3) To provide lodging facilities/day facilities for mothers and babies who are referred from within and outside the hospital for observation especially for feeding problems.
- 4) To organise and coordinate breastfeeding promotion activities within the institution and the catchment area.
- 5) To ensure in coordination with Health Education Unit of the institution that mothers who receive antenatal care from the hospital are adequately knowledgeable and confident about newborn care with special emphasis on breastfeeding.
- 6) To develop knowledge, attitudes and skills amongst mothers on routine neonatal care to look after their babies at home with more emphasis on babies with special needs. (e.g. cleft lip & palate, multiple pregnancies, very low birth weight babies, premature babies, asphyxiated babies etc.)
- 7) To counsel mothers on problems of their neonates (e.g. congenital abnormalities, neonatal deaths).

Admission criteria

- ❖ Mothers along with babies with feeding problems.
- ❖ Babies in stable condition who need further observation before being sent home from SCBU/NICU or postnatal ward.
- ❖ Mothers who need their skills developed on managing their babies.

Exclusion criteria:

Acutely ill neonates should not be admitted to MBC.

Responsibility:

This unit need to function as a part of the NICU/SCBU. Responsibility is with Neonatologist or Paediatrician.

3.1) Chapter 1

Location and General Criteria

3.1.01) Location

- ❖ Ideally MBC should be built as a part of the NICU or SCBU. If this is not possible it should be located in close proximity to neonatal care units. Should be in the same floor, preferably ground floor, and close proximity to the postnatal ward. When obstetric and MBC services are on separate floors, dedicated elevator access should be made available.
- ❖ Effort should be made to create a homely environment within the MBC.
- ❖ It should be away from common toilets and garbage collections.
- ❖ A hospital with an average monthly deliveries of 500-1000 should have an MBC with 10 adult beds and 15 cots.

3.1.02) Space

- ❖ Space 66.5m² (for 15 cots.)
- ❖ The space should be determined according to the estimated number of deliveries in the hospital concerned.

3.1.03) Rooms to be included-

- ❖ Lactation management centre
- ❖ Counselling room
- ❖ Duty station
- ❖ Mother baby unit
- ❖ Dining room
- ❖ Staff rooms (if not available for NICU/SCBU)
- ❖ Stores (if MBC is built separately from NICU/SCBU)
- ❖ Toilets
- ❖ Baby bathing area
- ❖ Open area (open to the sky)

3.1.04) Water Supply

- ❖ To maintain 24 hours water supply is mandatory.

3.1.05) Hand washing Facilities

- ❖ Water taps should be elbow operated with isolated valve.
- ❖ Wash basins are required for lactation management centre, duty station, mother baby unit, dining room, staff rooms, toilets and baby bathing area.
- ❖ Soap rack to keep pieces of soap for hand washing and towel dispensers should be available.
- ❖ Pictorial hand washing instructions should be provided above all sinks.

3.1.06) Ventilation

- ❖ There should be ceiling fans and cross ventilation. Ceiling fans should be cleaned regularly.
- ❖ There should be one or more rows of windows with an aluminium frame at above 5 feet level (easy cleaning and sustainability should be considered). It should be fixed in a way to promote cross ventilation.
- ❖ In places with low ambient temperature, provision of warmers should be considered for MBC.

3.1.07) Ceiling

- ❖ Ceiling should be washable/wet moppable.
- ❖ Asbestos free cement sheet should be used.

3.1.08) Wall

- ❖ The wall should be tiled up to 5 feet upwards from the floor level. A special type of grout should be used to fill the grooves between edges to prevent dust collection.
- ❖ Ledges should be available in the lactation management centre to keep stackable baby baskets.

3.1.09) Floor

- ❖ The floor has to be tiled. Larger tiles (2 feet by 2 feet) with a matt surface are preferred as there will be fewer borders. Correct fixation and proper apposition of edges is important to minimize grooves for infection control. Special type of grout should be used to fill the grooves between tiles.
- ❖ Floor should be made to drain easily
- ❖ There should be separate gutters for draining

3.1.10) Doors

- ❖ All the doors should be ordinary type except in toilets, which should be made of fibreglass or plastic.

3.1.11) Lighting

- ❖ Natural sunlighting through windows is preferred.
- ❖ The lights fixed to the ceiling directly or indirectly are better than lights fixed to a stand on the floor. (Availability of horizontal surfaces should be minimized as much as possible to avoid collection of dust.)

3.1.12) Electricity

- ❖ Location of electricity and plug points should be decided in consultation with Paediatrician / Neonatologist
- ❖ One plug point should be available for each bed. One slot to be used as a special bed with 5 plug points.

3.2) Chapter 2

Functional aresa

3.2.01 Lactation Management Centre:

- ❖ Space 20m²
- ❖ Should be separated from Duty Station by a 1/2 wall up to 3 feet from the floor and a glass panel
- ❖ Should be separated from Counselling Room by a door, a 1/2 wall up to 3 feet from the floor and a glass panel.
- ❖ Should accommodate 5 cots, 1 bed and 15 plastic arm chairs.
- ❖ There should be stackable baby baskets to keep babies and wall lockers for mothers to keep their utensils (can be plastic drawer type ones.)
- ❖ There should be a sink with elbow operate tap.
- ❖ There should be a foldable nappy changing area.
- ❖ Ceiling fans should be fixed.

3.2.02 Mother baby unit:

- ❖ Space 66.5 m² (for 10 beds.)
- ❖ Ten adult beds and 15 cots should be available. There should be a slot for resuscitation / phototherapy.
- ❖ Bed, cot and chair should be arranged together.
- ❖ Plug points should be available and wall fans should be fixed in the room. It should not be air conditioned.
- ❖ Lockers should be attached to a wall for mothers to keep their belongings.
- ❖ There should be facilities for mothers to relax with provisions for reading, television viewing and piped music.
- ❖ In the duty station a worktop of about 20 inches width should be fixed. Lockers should be fixed below it.

3.2.03 Conselling and education room:

- ❖ Space 16.45 m²
- ❖ There should be a seprate area to examine babies & counsel mothers.
- ❖ Ceiling fans should be fixed.
- ❖ There should be facilities for fixing a television set and VCD.

3.2.04. Dining Room

- ❖ Entrance should be towards th open corridor.
- ❖ Four plug points should be fixed.
- ❖ Ceiling fans should be fixed.
- ❖ Facilities should be available for mothers/ staff to prepare tea.
- ❖ Washbasin and pantry cupboards to be fixed.

3.2.05. Toilets

- ❖ Space 3.75 m²
- ❖ Thre should be a toilet to discard baby's excreata & it should never open directly to the MBC.
- ❖ Separate entrance from out side should be available to toilets for the cleaning purposes and visits by outsiders.

3.2.06.Open Area (open to the sky):

- ❖ For bathing of babies and drying of clothes.
- ❖ There should be facilities for mothers to relax as well.
- ❖ Preferbaly hot water should be available (if possible solar powered).
- ❖ Stand attached to the washbasin to be built to keep bathtubs to bathe babies.
- ❖ Ledges should be build to keep washbasins.
- ❖ Hangers should be availbale for drying of clothes.
- ❖ Cement benches should be build.
- ❖ Lanscaping to be done.

3.3) Chapter 3

Staff

(For an institution with 500 deliveries)

- Responsibility - Neonatologist / Paediatrician
- There should be a separate staff for MBC. (But should be allocated from NICU/SCBU roster)
- There should be a Nursing Officer in charge under the supervision of Nursing sister of NICU/SCBU.
- Medical Officers and Nursing staff should be trained in 40 hour lactation management training course.

	Morning (7 a.m. - 1 p.m)	Evening (1pm-7pm)	Night (7 pm - 7 am)
Medical Officers	(8 am - 2 pm) 01	(2pm - 8pm) 01	(8 pm - 8 am) Mo on call/NICU
Nursing Officer	03	02	02
Minor staff	02	01	01

3.4) Chapter 4

3.4.1) Equipment

A) Electrical equipment

- 1) Neonatal suckers x 2
- 2) Baby warmer
- 3) Hand dryers x 4
- 4) Steriliser for sterilising the feeding cups and utensils x 1
- 5) Emergency lamps x 2
- 6) Refrigerator for the dining room
- 7) Boiler
- 8) Washing machine with dryer
- 9) A television set / DVD or VCD for the counselling room
- 10) Computer & Printer

B) surgical inventory items:

- 1) Phototherapy units x 2 (single 1, double 1)
- 2) Digital weighing scales x1
- 3) Neonatal stethoscopes (low cost) x 2
- 4) Sphygmomanometers x 2
- 5) Laryngoscope x 1 (neonatal straight blade)
- 6) Neonatal ambu bags x 1
- 7) Drug trolleys x 1
- 8) O₂ cylinders and stands x 2
- 9) Saline stands x 2

D) Consumables:

- 1) Digital Thermometer - Low reading x 5
- 2) Small stainless steel feeding cups with lids x 20
- 3) Saucers, cups, glasses, plate racks, kettle and jugs for keeping water for the dining room.

E) Miscellaneous:

- 1) Rectangular trays to keep feeding cups x 4
- 2) Wall Clock x 1
- 3) Water filter x 1
- 4) Waste bins (colour code system should be practiced)
- 5) Pedal bins for soiled nappies x 10

3.4.2) Furniture

- Adult low beds with drawers in the MBC x 10
- 1 bed for mothers in the feeding room
- 1 bed for the staff room
- Stainless steel baby cots with lower half to keep baby's items
- Feeding chairs to breastfeed - wide wooden chairs with low arm rest x10 +wide plastic chairs without low arm rest x15
- Shoe rack
- Stainless steel cloth hangers for drying (fixed outside)
- Linen cupboards
- Baby bathing tubs x 3
- Stackable baskets to carry babies x 3
- A bookrack in the counselling room
- Dining table and 15 chairs
- Pantry cupboards
- Easy chairs for corridors x 15
- Chair and table for duty station
- Computer table and chair

3.4.3) Telephone facilities

- ❖ Incoming only direct line and intercom lines should be available for mother baby centre.

3.4.4) Registers -

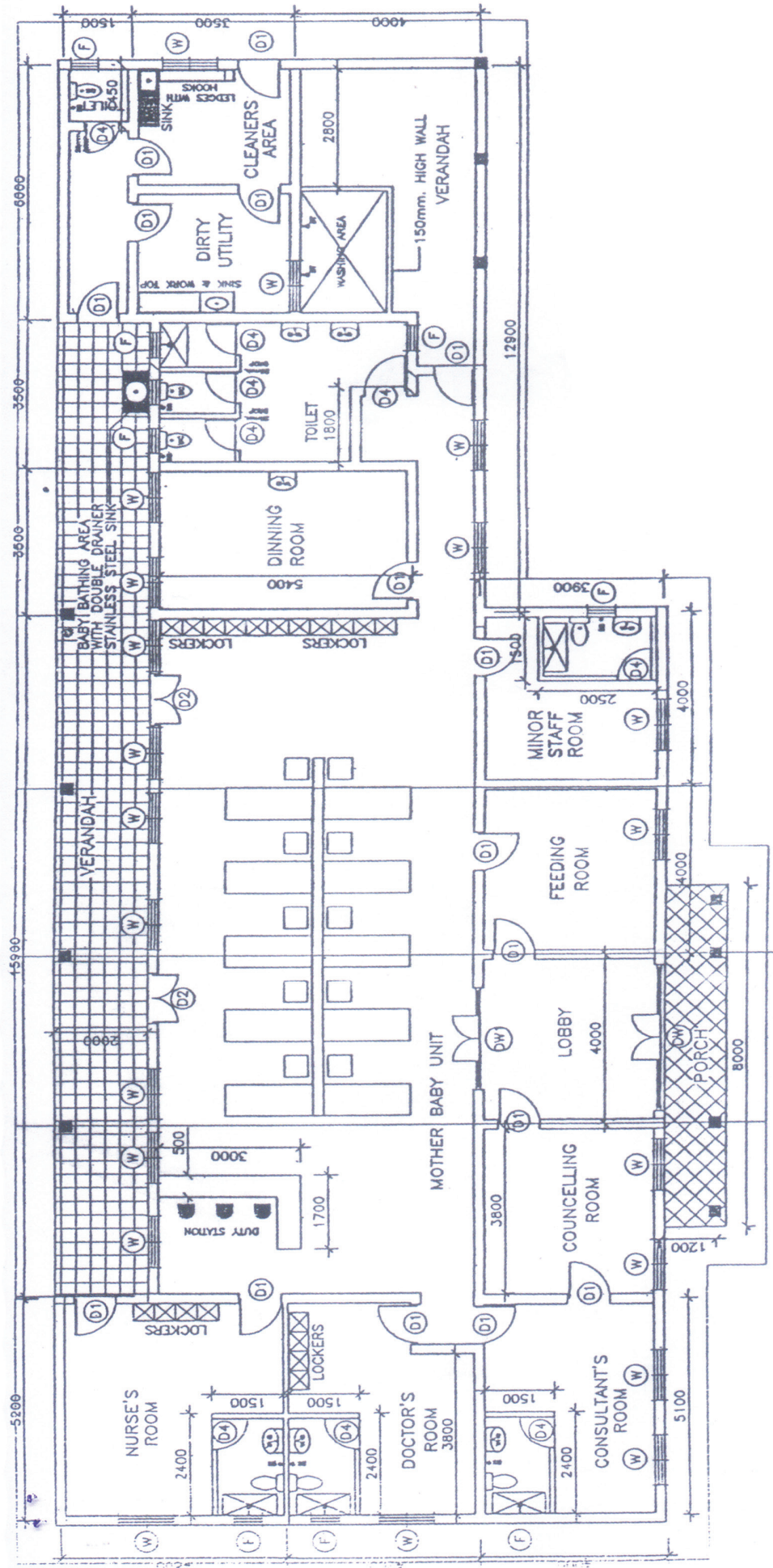
- v Admission Register for MBC
- v Admission Register for Day Centre

Records -

- v Neonatal Admission Note
- v Screening note for LMC
- v Discharge Checklist

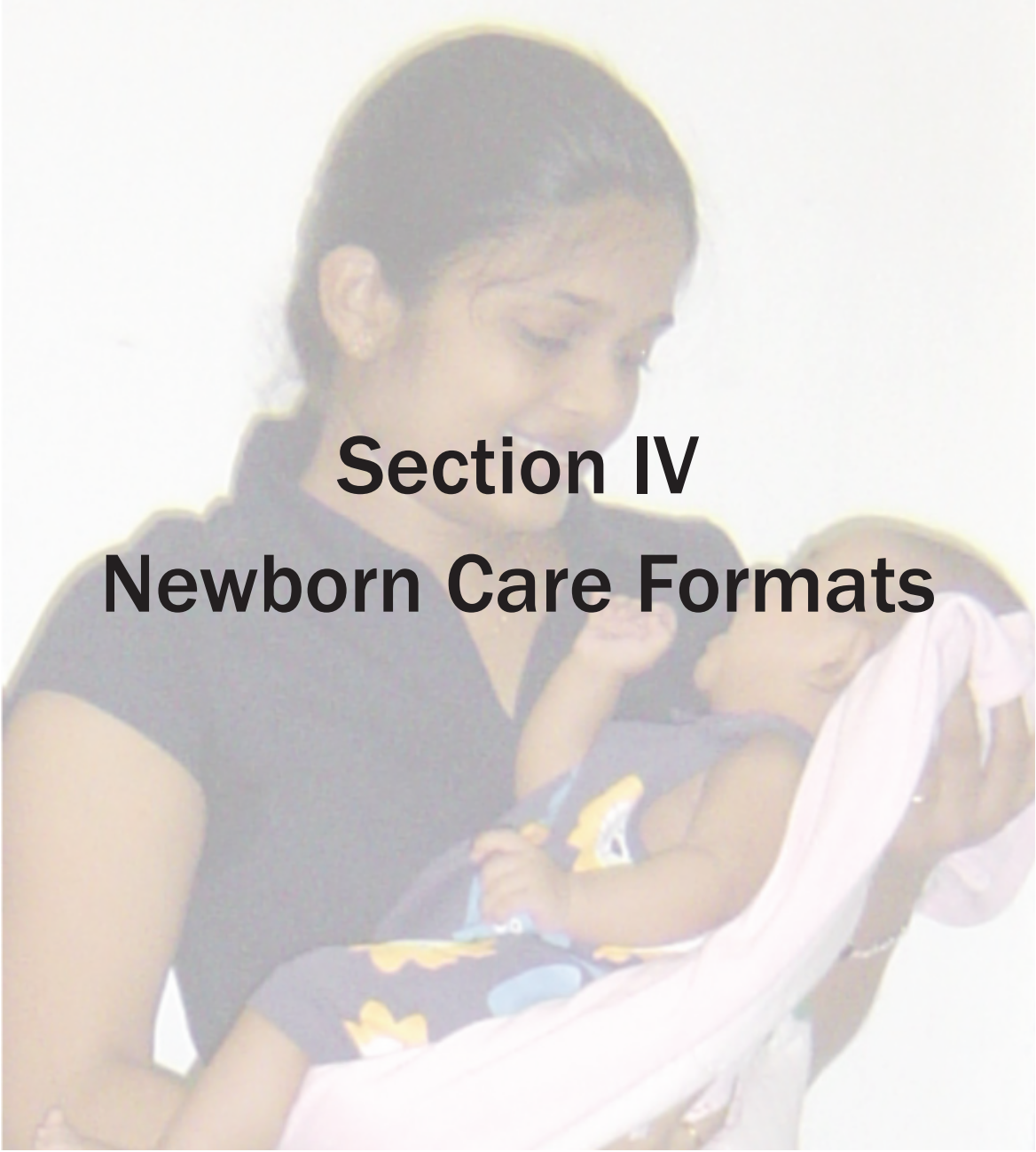
Returns

- v Separate format to be developed



GROUND FLOOR PLAN

SCALE:- 1:100

A photograph of a woman with dark hair tied back, wearing a dark blue shirt, holding a newborn baby. The baby is wearing a blue onesie with yellow and white patterns and is wrapped in a pink blanket. The woman is looking down at the baby with a gentle smile. The background is a plain, light-colored wall.

Section IV

Newborn Care Formats

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Guidelines

Neonatal Examination Format:

- Every baby should be examined after birth by a Medical Officer (MO/ Neonatology or Obstetric House Officer) before discharge. This format should be used to record findings of these examinations.
- This format should be kept in the labour room.
- For every birth this format has to be attached to mother's BHT in labour room. If the baby is born in the OT, the midwife who attends to delivery should obtain this format from the Labour Room at the time of taking the disc number.
- Part I A to be filled by Nursing Officer of the labour room/operation theatre.
- Part I A: Place of Birth – Unit where the baby was born. Other variables to be filled are self explanatory.
- Part I B to be filled by Medical Officer/Labour Room or by Obstetric House Officer.
- Part I C to be filled by MO/Labour Room or by Obstetric House Officer.
- Part II & III to be filled by Obstetric/ Paediatric House Officer within 48 hours of delivery.
- Part III: Under follow up plan – follow up by PHM should also be included under follow up by MOH.
- Part IV to be filled by Medical Officer at the time of discharge.
- Part V to be filled by the Nursing officer at the time of discharge.
- If the baby is transferred to NICU/SCBU this format should be sent along with the baby and in the mother's BHT it should be mentioned the place baby is sent and the reason for sending (preferably using a rubber stamp).

Neonatal Transfer Form:

- Should filled for all the babies transferred from one institution to another.
- Officer transferring the neonate is responsible for filling the format as well as the checklist.
- Whenever possible, 'consent for transfer to/ 'in page 2 should be filled by parent / guardian in his / her own handwriting.
- Both the format & the checklist should be sent along with the neonate.

SCBU/ NICU Admission Register:

- To be maintained at every SCBU and NICU.
- Column 9: in addition to POG, maturity of baby should also be included in the same column.
- Please refer page 1 of the register for other instructions.

Neonatal Admission Sheet:

- To be filled for babies who get admitted to SCBU or NICU or treated or investigated in post natal ward, in place of ordinary BHT.
- This is issued from OPD.
- Filling of the format is self explanatory.

SCBU/ NICU History Record Sheet:

- To be filled for babies born in the same institution to SCBU or treated investigated in post natal ward, in place of ordinary BHT.
- This can be issued from labour room/ operating theatre or post natal ward.
- Neonatal Examination Format should be attached to this and a note to that effect entered in mother's BHT.
- Whenever possible, the 'consent for surgery/ special treatment' section should be filled by parent/ guardian in his/her own handwriting.

Neonatal Diagnosis Card:

- When the baby is investigated or treated at SCBU or NICU or even at postnatal ward and for any problem, the diagnosis card should be given for baby in addition to the diagnosis card given to the mother.
- To be written in red in case of neonatal death.
- Appropriate place managed (whether NICU, SCBU or PN Ward) should be circled.
- Should not be used for normal deliveries.

Neonatal Examination Format

(to be attached to the mother's BHT)

H : 1162

Par 1A

to be filled by nursing officer (labour room/OT)

Maternal BHT No:

Disc No:

Ward No

Name of the Mother :

Mother's age (years)

Parity

No. of living Children

Mother's blood group

Date of birth of baby

EDD

EDD by USS

POA (weeks)

Pregnancy

Time of birth

.....am/pm

Single

☐

Multiple

☐

Place of birth

.....

Single	Spontaneo		Mode of induction
	Induced		

Single	SVD					
	AVD	Breech		Vacuum		Indie of induction
		Forceps		Manipulated		
	SVD	Elective		Emergency		

APGAR Score	1 min	5 min	10 min
Colour			
Muscle			
Respiratory effort			
Heart rate			
Response to stimuli			
Total			

Sex

Weight (g)

Length (cm)

OFC (cm)

Baby kept warm

Time of first feed

Vit given 1mg / 0.5mgorally / IM

M	F	Undetermined

Any other problems / observations identified identified by Nursing Officers (Labour room)

.....

Name of Nursing Officer : 1 Midwife :

2

PHO was informed Yes ☐ No ☐ if yes time.....am / pm

Baby sent :- Postnatal ward ☐ SCB ☐ NICU Transferred out to.....

Time :-.....am / pm

Date:.....

Par 1B

(Should be completed by MO.LR/ Obstetric Medical Officer before sending the baby out from the LR/OT)

Relevant past obstetric :

Pastb medical complications & drug history :

Complications of pregnancy :

Relevant social history :

PROM in hours		
Chorioamnionitis	Yes	No
Maternal pyrexia	Yes	No
HVS positive	Yes	No
Prolonged 2nd stage	Yes	No
Previous child with GBS	Yes	No

Other risk

Oligohydramnios ☐

Polyhydramnios ☐

Liquor ☐

Clear ☐

Meconium ☐

Thin ☐

Moderate ☐

particulate ☐

Offensive ☐

Maternal Medications	Maternal Medications	Last dose given at
Antibiotics		
Steroids 1 st dose		
2 nd dose		
Pethidine (last dose)		
Insulin (last dose)		

(To be filled by Medical officer / obstetric Medical officer when applicable)

Resuscitation Notes - (Fill the APGAR score in Part A)

Airway opening manoeuvres

- Head in neutral position ☐
- Jaw thrust ☐
- Oral airway ☐
- Inspection with laryngoscope ☐

Ventilation

- Five Inflation breathes ☐
- Ventilation breaths ☐
- Chest compressions ☐
- Intubation ☐

Drugs given	Dose/Route
NaHCO ₃	
Adrenaline	
10% dextrose	
0.9% N. Saline	
Naloxone	
Other	

Time of establishment of spontaneous respiration.....am/pm

In the presence of Meconium

- No suction required ☐
- Vocal cords Visualized ☐
- Suction under direct vision ☐
- Suction through ET tube ☐

Plan of Management

- To be sent to PN ward ☐
- To be sent NICU/SCBU ☐
- Keep baby warm ☐
- To be observed in LR ☐
- Fit for breastfeeding ☐

Maturity assessment postnatally (in weeks).....

Name & Designation of Medical Officer.....

Other Comments:

.....

.....

.....

.....

.....

.....

.....

Time :.....am/pm

Par II**A) Neonatal Examination**

Date:/...../.....Time: am/pm

(To be filled by MO/Neonatal Care)

Maturity of baby ☐☐ weeksBaby's Growth SGA ☐ AGA ☐ LGA ☐ Baby's blood group ☐☐

Component	Status		Component	Status	
	Normal	Abnormal		Normal	Abnormal
Peripheries pink and warm			Scalp		
Hydration			Mouth / lips		
Response to handling			patate		
Capillary refilling time			Ears		
Pulse rate / volume			Abdomen		
Heart murmurs			Umbilicus		
Femoral pulse			Genitalia		
Respiratory rate			Anus		
Grunting	Absent	Present	Hips		
Intercostal/subcostal recession	Absent	Present	Spine		
Tone			Limbs		
OFC			Dysmorphic features	Present	Absent
Fontanelle/subcostal lines			Superficial infections-skin/cord	Present	Absent
Eyes/red/red reflex			Birth injuries	Present	Absent

Details of the abnormalities:

.....

.....

.....

Name of Medical Officer:.....

Par II**To be filled by post natal ward nursing officer)**

Breastfeeding	Day 1	Day 2	Day 3	On discharge
Positioning (good/needs support)				
Attachment (good/needs support)				
Breastfeeding well established				
Feeding Problems identified				

Meconium passed within 24hrs of birth

Urinary frequency		
Frequency of bowel opening		

Referrals to Lactation

Management Centre (LMC) Date:/...../.....Time (am/pm)

Plan of management at LMC

.....

Review Visits: (LMS)

1.
2.
3.
4.
5.

Continuation Notes :

Day 01	Day 02	Day 03	Day 04

Par IV

DISCHARGE NOTES

(Must be completed when the baby is discharged from the hospital)

Date:...../...../.....Time :.....am/pm.

Action taken / plan suggested

Diagnosis on discharge / other problems

1.
2.
3.

Plan of management of Consultants / SR / Registrar / SHO / MO on discharge :

Baby transferred to :.....

BCG given Yes ☐ No ☐ If yes date...../...../.....

Discharge examination conducted Yes ☐ No ☐

Follow up plan	Institution/Ward	Date/Time
1. By MOH		
2. Specialist clinic		
3. Review in clinic / ward		

Name of the Medical Officer:

Par V

DISCHARGE CHECK LIST (To be filled by Nursing officer on discharge)

01. BCG given		08. CHDR given with all the details entered	
02. Vit K given		09. Diagnosis Card given with weight on discharge written	
03. Neonatal examination done		10. Parents counselled on discharge	
04. Breastfeeding established		11. Follow up clinic	
05. Urine output satisfactory		12. Danger signs of the baby explained to the parents	
06. Meconium passed		13. In an event of neonatal death - Parents counselled	
07. Birth chit given		- Diagnosis card given	

Name of the Nursing Officer:.....

Date...../...../.....Time.....am/pm

Admission Register

Neonatal Intensive Care Unit Special Care Baby Unit

.....

Guideline - NICU/SCBU Register

General Instructions:

- To be maintained at every SCBU and NICU
- All entries should be made by Nursing Officer up to column no: 14 on admission.
- Rest of the columns to be filled on the day of discharge.
- Cause and time of death of all deaths should be filled in red colour

Column3:

- Disc number of the baby

Column 5:

- Address of the permanent residence of the mother of the baby

Column 6:

- Please indicate clearly whether the age is in hour

Column 12:

- Rest of the columns to be filled on the day of discharge.
- Cause and time of death of all deaths should be filled in red colour

Column15:

- Please write clearly the number of the ward / name of the institution to which the baby has been sent after discharge

SCBU/NICU Register

(1) Admission	(2) Serial no:	(3) Number	(4) Full name of	(5) Address and contact	(6) On adm:	(7) set	(8) Birth	(9) POG	(10) Birth (grams) weight
Time	Daily	Disc	Baby	telephone number	Age (hrs/days)				
	Monthly	Baby's BHT	Mother		Weight (grams)				
	Yearly	Mother's BHT							
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									

SCBU/NICU Register

(11) Placeo of delivery	(12) Mode of admission				(13) Indication for admisson	(14) Name of admitting N.O.	(15) Diacharge					(16) Final diagn osis/ Cause of death	(17) Name of N.O.on dis- charge
	Antenatal Ward	LR/OT	Transfer institution	Postnatal Ward			Discharge		Death	Transfer	Time		
			Self								Date		

SCBU/NICU History Records Sheet
(To be attached to Neonatal Examination Format only.)

Note of Nursing Staff

Name of hospital:

Ward no:

Name:	Age	Sex	Date of admission
Admission number			Time of admission (ward)
Disc number	Date of birth		
Mother's name	Age	Ward no:	Mother's adm no. no

General examination of neonate

General condition	Temp	Resp.	Pulse	Weight (g)			Blood group
				Weight (cm)			
				OFC (cm)			
Doctor informed	Yes	No	If yes, time				

Consent for surgery / treatment

Date:..... Name:..... Signature:

To be filled by MO/HO

Reason for admission:

.....

.....

.....

Instructions of admitting officer

Keep warm	
O ₂	
Feeding	
To be seen by MO stat	

Examination finding on admission

Time: am/pm Date:

CVS	Periphery cold / warm		RS	Peripheral cyanosis	
	Heart Rate			Grunting	
	Capillary filling time			Flaring of alac nasi	
	Pulse rate / volume			Respiratory rate	
	Femoral pulse			Intercostal/subcostal recession	
	Murmurs				
Abdomen	Liver		CNS	Tone/Handling	
				Subtle seizures	
				Anterior fontenelle	

Other finding and comments:

Name of Medical /House Officer:

Problems Identified on Admission:

1.

2.

3.

4.

Investigations requested and special preparations for Procedures (with the signature of the officer requesting):

Management / Feeding plan by PHO

Opinion of the Consultant:

.....

.....

.....

.....

Parents / guardian Counselling	Yes	No	If yes by whom.....
Baby transferred to			

Neonatal Admission Sheet

(For admission from OPD to Neonatology Unit)
(To be kept at OPD)

H : 1167

Admission notes at the OPD

Name of the hospital : Monther's name : Date of admission:
am/pm
 Name of the neonate : Mother's admission : Time of admission:
 Date of birth :/...../..... Nationality : Ward no:
 Birth weight : Religion : Admission no:
 Sex : Guardian's name : Permanent address of the guardian:
 Age of the baby:

To be filled by Admitting Officer at OPD

General condition	Respiratory RR	Peripheral circulation Pulse
Temp		Baby's blood group :

Reason for admission & treatment suggested.....

 Name of admission MO : Signature.....
 Baby sent of : Timeam/pm

To be filled by the nursing officer at SCBU

Time(am/pm)

Status on admission :

 Weigh (g)..... Length (cm)..... OFC (cm)..... Time of last feed.....
 Observation by admitting NO:

To be filled by Medical (Details of Pregnancy / delivery)

Single ☐ Multiple (No:) ☐ POA (Weeks) ☐ Not known ☐
 Mother's age :
 EDD :/...../.....
 Date of delivery :/...../..... Time :am/pm Information from mother's/baby's diagnosis card:
 Place of delivery:

 Mode of delivery :

 Indication for intervention (if any):

Prolonged 2nd stage	Y	N	Maternal pyrexia	Y	N
Previous child with GBS	Y	N	HVS positive	Y	N

Mother's blood group :

Maternal History

Pastmedical history :.....

Drug history :.....

Complications of pregnancy :.....

Complications of labour :.....

Relevant social history :.....

Resuscitation notes from Neonatal Diagnosis Card

APGAR Score

1 min	5 min	10 min

Medication required at time of resuscitation:

.....
.....

Vit.k given 0.5 mg/1mg given at birth Y ☐ N ☐

Maturity assessed at birth.....in weeks

Baby's growth SGA ☐ AGA ☐ LGA ☐

Neonatal examination

Component	Status		Component	Status	
	Normal	Abnormal		Normal	Abnormal
Peripheries Pink warm			Scalp		
Hydration			Palate		
Response to handling			Mouth / lips		
Capillary refilling time			Ears		
pulse rate/volume			Abdomen		
Hear murmurs			Umbilicus		
Femoral pulse			Genitalia		
Respiratory rate			Anus		
Grunting			Hips		
Intercostal/subcostal recession			Spine		
Tone			Limbs		
OFC			Dysmorphic features	Present	Absent
Fontanelle / suture line			Superficial infections-skin/cord	Present	Absent
Eyes / red reflex			Birth injuries	Present	Absent

Details of the abnormalities

.....
.....
.....
.....

Discharge notes: (to be completed when the baby is discharged from the hospital)

Parents/guardian counselled Yes ☐ No ☐ **If yes by whom :**

Problems (clinical/social) / Diagnosis on discharge	Action taken/suggested investigations

Opinion of Consultants / SR / Registrar / SHO / MO:

.....

.....

.....

Baby transferred to :

BCG Given Yes ☐ No ☐ If yes date :/...../.....

Discharge examination conducted Yes ☐ No ☐

Follow up plan	Institution/Ward	Date/Time
1. By MOH/PHM		
2. Specialist clinic		
3. Review in clinic/ward		

Name of the Medical Officer :

Date :/...../..... Timeam/pm

In an event of Neonatal Death:

Date of death/...../.....

Time of deatha.m/p.m.

Probable cause of death:

.....

.....

.....

Contributory factors:

1.....

2.....

3.....

Summary of postmortem findings:

.....

.....

.....

.....

.....

.....

.....

PIM finding according to Wigglesworth classification:

.....

.....

.....

.....

Educated the parents regarding Special Clinics

Hearing ROP

Name of Nursing Officer : Date :/...../..... Time..... am/pm

To be filled by the Nursing Officer

Breastfeeding	Day 1	Day 2	Day 3	On discharge
Positioning (good/needs support)				
Attachment (good/needs support)				
Breastfeeding well established				
Feeding problems identified				

	last 6 hrs	last 24 hrs
Urinary frequency		
Frequency of bowel opening		

Review visits:

.....

Referrals to Lactation

Management Centre (LMC)

Date:/...../.....

Time(am/pm)

Plan of management at LMC

Problems Identified on Admission: 1.....
 2.....
 3.....
 4.....
 .

Consent for surgery / treatment:

Intervention :

Name : Date : Signature:

Management & feeding plan by Medical Officer

.....

Date :/...../..... Time:(am/pm)

Opinion of Consultant/SR/Registrar/SHO regarding further management:

.....

Continuation sheet SCBU/ICU/NICU

Neonatal Transfer Form

(Transfer of neonate from one institution to another)

H : 1166

General Notes:

From :..... to

Name of the baby:..... Age:..... Sex:.....

Name of the mother:..... Guardian:.....

Permanent address:..... Telephone no:.....

..... Religion

..... Race/Nationality:.....

Consent for transfer :

Name of parent:.....

Singnature of parent:.....

Indication for transfer:.....

.....

.....

Suggested plan by referring consultant:.....

.....

.....

.....

Managment summery at reffering hospital:

Antenatal history

Parity

Antenatal complications:.....

Risk factors for sepsis:.....

.....

NVD ☐ Forceps ☐ Vacuum ☐

LSCS Em. ☐ Ele. ☐

Resuscitation notes -

Airway opening manouvres

Head in neutral position

Jaw thrust

Oral airway

Inspection with laryngoscope

Ventilation

- ☐ Inflation breaths
- ☐ Ventilation breaths
- ☐ Chest compressions
- ☐ Intubation

Date of birth...../...../.....

Time of birth:.....am/pm

Birth weight (g).....

Place of birth.....

EDD:.....

Gestation:.....weeks

Indication for intervention

1.....

2.....

3.....

APGAR Score

1m ☐ 5m ☐ 10m ☐

Drugs NaHCO3 ☐

Adrenalin ☐

Dextrose ☐

Presentation to the local hospital:

Problems since birth

Date	Problem identified	Day of the		

Relevant clinical examination findings:

Investigation findings at referring hospital (Please Indicate the dates)

(a) Haematological

(b) Microbiological

.....	
.....	
.....	

(c) Radiological Investigation Including u/s scans

.....
.....

Medications given at referring hospital

Antibiotics / other medications	Dose & route	Frequency	Duration	Time of last dose
1.....				
2.....				
3.....				
4.....				
5.....				

who is accompanying the baby

Mother ☐

Father ☐

Guardian ☐

Consent for transfer to /

Name:.....

Signature:.....

Date:.....

NEONATAL TRANSFER FROM - PRE DEPARTURE CHECK LIST

Date & time of departure : am/pm

Accompanying Medical Officer:

Accompanying Nursing Officer:

1. Airway

	Yes	No
a) Neutral and patent airway maintained	☐	☐
b) Guedel airway	☐	☐
c) ETT sizeand lip level.....		
d) ETT anchored well	☐	☐
e. ETT in correct position in CXR	☐	☐
f. Has stomach been emptied with NG tube?	☐	☐
g. Pneumothorax	☐	☐
h. ICT inserted Y ☐ N ☐ and functioning well	☐	☐

2. Breathing

a. Oxygen delivery	Yes	No		Yes	No
i In Air	☐	☐	Head box	☐	☐
ii Tight face mask	☐	☐	IPPV through face mask	☐	☐
iii Loose face mask	☐	☐	IPPV through ETT	☐	☐
iv Nasal Prongs	☐	☐	IPPV through ventilator	☐	☐

b. Litres of oxygen.....minute

c. Chest expansion adequate	Yes	No
	☐	☐

d. Is air entry equal	Yes	No
	☐	☐

e. Assessment

i. RR/minute.....	Recessions	Yes	No
ii. Last ABG satisfactory		☐	☐
PH.....PaO2.....PaCO2.....HCO3.....BE.....			
iii. Last SpO2.....	Cyanosis	☐	☐
		Yes	No

3. Circulation

a. Number of IV lines	1 ☐	2 ☐		
b. IV lines secured well			☐	☐
c. IV lines Flushing well			☐	☐
d. Fluid boluses 10ml/kgboluses				
e. Inotropic				

Assessment

f. Pulse rate.....minute	Pulse volume good	☐	weak	☐
g. MAP.....mmHg	CRFT <2 seconds	☐	>2 seconds	☐
h. Extremities warm ☐ cold ☐	Skin colour pale	☐	Mottled	☐

4. Disability

a. Fits Y ☐ N ☐	Generalized	☐	Focal	☐	Subtle	☐
c. Breathing pattern:	Hyperventilation	☐			Cheyne-Stokes Breathing	☐
	Apnoeas	☐			Gasping	☐
d. Posture:	Normal	☐	Hypotonic	☐	Hypertonic	☐

5. Temperature

	Yes	No
a. Axillary temperature....., Rewarming done	☐	☐
b. Plastic bag Caps	☐	☐
c. Kangaroo mother care	☐	☐
d. Warm blankets	☐	☐
e. Hot-water blankets	☐	☐

6. Check list**a. Documents**

	Yes	No
* A Referral letter to VP of the receiving unit	☐	☐
* Admission letter to MO/OPD	☐	☐
* Observation charts	☐	☐
* CXR	☐	☐
* ECG	☐	☐
* Investigation reports	☐	☐
* Other specimens e.g. mother's blood sample if mother is not accompanying baby	☐	☐
* parent's consent	☐	☐
* Parents informed of receiving unit	☐	☐
* Informed the receiving hospital of estimated time of arrival	☐	☐

b. Equipments in the ambulance

* Oxygen cylinders secured	☐	☐
* Sufficient oxygen cylinders available	☐	☐
* Pulse oxymeter secured and battery back up	☐	☐
* Infusion secured and running reliably	☐	☐
* Emergency lamp available	☐	☐
* Portable suction apparatus & functioning well	☐	☐
* Laryngoscope available and functioning	☐	☐
* Is a space ETT available and cut at desired level	☐	☐
* Sufficient crystalloids available for journey?	☐	☐
* Glucometer	☐	☐
* Ventilator with battery back up	☐	☐
* Drugs taken in to syringes	☐	☐
* Sodium bicarbonate syringe (diluted)	☐	☐
* Adrenaline (diluted)	☐	☐
* Dextrose	☐	☐

Staff

Given treatment to prevent motion sickness	☐	☐
List of contact numbers in case of emergency	☐	☐

Discussed with accompanying Medical Officer & Nursing Officer

What to do in the event of

* Slow deterioration	☐	☐
* Acute deterioration (blocked/dislodged ETT,pneumothorax, fits)	☐	☐
* Cardiac arrest	☐	☐
* Death	☐	☐

Date:.....

.....

.....

Name & Signature of
Transferring OfficerHead of the
Institution

NEONATAL DIAGNOSIS CARD

Name of the hospital : Date of admission to hospital :

Mother's Name : Date of admission to NICU/SCBU :

Neonatal BHT no : Date of discharge from NICU/SCBU :

Weight on admission : Date of discharge from hospital :

Age on admission : Date of birth :/...../.....

Sex : EDD :/...../.....

Source of the patient : Birth weight (g) :

Length (cm) : OFC (cm) :

POG (weeks) : Maturity (weeks) :

Indication for admission:

SGA ☐ AGA ☐ LGA ☐

.....

.....

.....

.....

Diagnosis / Problems :

1.

2.

3.

4.

5. ..

Mother's blood group

Baby's blood group

.....
Name of the Consultant

Discharge notes

weight on discharge (g):..... OFC on discharge (cm).....

Vitamin K.....(mg) given at birth BCG given

Discharge examination done Yes No

Date:/...../..... time:..... am/pm

Medications: (including MVT & Iron supplements).

Date for screening :/...../.....

Date for cranial U/S scan :/...../.....

Date for hearing assessment :/...../.....

Referred MOH clinic at weeks of age

Local hospital clinic

Specialist clinic

Name of the Medical Officer :

Obstetric details

Mother's age (g):.....Parity.....

Antenatal problems:

.....

Maternal medications

.....

Mode of delivery:.....

Indications for intervention:

.....

Liquor - Clear ☐ Meconium stained ☐

APGAR score Medications:

1 min	2 min	10 min

PROM (No. of hours).....

Maternal fever

.....

Resuscitation

Required

Not required

.....

Intubation & ventilation required at.....of age

Total hours of ventilatory support.....

PIP..... PEEP.....O₂.....

Supportive care:

Phototherapy :..... From day to

I V fluids :..... From day to

Enteral feeds :..... Started on day

.....

On discharge tolerating

/..... hrly.

..... (ml/kg/day)

Inotropes :..... Required on day omitted on

.....

O₂ therapy :..... Required on day omitted on

Haematological investigations

(please write the highest and the lowest values)

Date		
WBC		
N		
PLT		
Hib		
SBR (I)		
SBR (D)		
CRP		

Radiological investigations

(including these dates)

Microbiological investigations

(including these dates)

.....

Antibiotic

Dose, route & frequency

Duration / no.

of doses

1.....

2.....

3.....

4.....

Other relevant examination and investigation findings:

.....

Neonatal Monthly Return

Name of the Institution

Month/Year:

	Institution				Number of Ventilated Babies				Number of Ventilated Babies						
Weight	Total No.of Births	No. SCBU Admissions	Discharges	Deaths	Total No.of Births	Discharges	Deaths	Transferred out	Transferred in	Discharges	Deaths	Transferred in	Transferred out	Transferred NMR	Transferred NMR
	>2.5 kg														
	2499 - 1500g														
	1499 -1000g														
	999 - 500g														
	<500g														
	Maturity														
>37 wks															
34 - 36 wks															
31 - 33 wks															
28 - 30 wks															
< 28 wks															

[illegible]

7th April, 2011.
Ministry of Health,
"Suwasiripaya", 385,
Rev. Baddegama Wimalawansa Thero Mawatha,
Colombo 10.

Circular Letter No; General Circular No. 02 - 72 / 2011
All DDGs Ministry of Health,
All Directors of Ministry of Health,
All Provincial Directors of Health Services,
All Directors of Teaching Hospitals,
All Regional Directors of Health Services,
All Heads of Institutions,
All Medical Officers of Health,

Formats on Newborn Care

The circular replaces the previous General Circular No: 01-10/2007 of the Ministry of Health. Ministry of Health has introduced a standard set of formats on newborn care to all the maternity and newborn care institutions in the country in order to facilitate improvement of services. Standard formats would strengthen the maintenance and flow of information on newborn care at different levels. The circular

The set of formats introduced include Neonatal Examination Format H 1162, NICU/SCBU Admission Register, NICU/SCBU History Record Sheet H 1164, Neonatal Diagnosis Card H 1165, Neonatal Transfer Form H 1166, Neonatal Admission Sheet H 1167 and Neonatal Monthly Return H 1168. These formats were developed by the Family Health Bureau of the Ministry of Health with representatives from Perinatal Society of Sri Lanka, Sri Lanka College of Obstetricians and Gynecologists and Sri Lanka College of Paediatricians.

Heads of Institutions should make arrangements to create awareness amongst staff attached to Maternity/Neonatal care units and OPD regarding these formats and ensure its usage appropriately. Sisters in charge of following units should keep adequate stocks of formats indicated for each unit and ensure that they are appropriately utilized.

Labour Room	-Neonatal Examination Format –H :1162 -NICU/SCBU History Record Sheet –H :1164 -Neonatal Transfer Form – H :1166
Neonatal Intensive Care Unit/Special Care Baby Unit (NICU/SCBU)	- NICU/SCBU Admission Register - Neonatal Diagnosis Card –H:1165 - Neonatal Transfer Form – H :1166 -Neonatal Monthly Return - H : 1168
Post natal ward	- NICU/SCBU History Records Sheet – H : 1164 - Neonatal Diagnosis Card –H:1165 - Neonatal Transfer Form – H :1166
OPD	-Neonatal Admission Sheet – H :1167

All officers concerned should comply with the above instructions and make every effort to successfully use these formats in all the maternal and neonatal care units in the country.

Sgd. Dr. Ajith Mendis,
Director General of Health services/ Ministry of Health

Cc; Secretary – Ministry of Health,
Add. Secretary / Medical Services,
All Provincial Secretaries of Health Services,
President/ Sri Lanka College of Medical Administrators,
President/ Sri Lanka College of Paediatricians,
President/ College of Community Physicians of Sri Lanka,
President/ Sri Lanka College of Obstetricians and Gynecologists,
President/ Perinatal Society of Sri Lanka,
President/ Government Medical Officers Association.

