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NICU MANUAL

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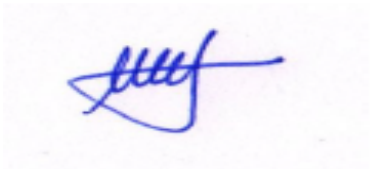
Annual Documents Adequancy & Change Requirements Review

Sr.No	SOP /Doc No	Documents Name	Issue. No	Rev.No	Review Date	Change	Rev No	Revision Date	Reason for Change	Amendment
1	SDH/NICU/01	General nursing Protocol for NICU Unit	1	0	20-Nov-22	No Any Change review Completed	0	20-Nov-23	No Any Change review completed	NO any Amend ment History
2	SDH/NICU/02	Admission and Discharge Criteria for NICU	1	0	20-Nov-22		0	20-Nov-23		
3	SDH/NICU/03	Protocol for Receiving Babies at NICU	1	0	20-Nov-22		0	20-Nov-23		
4	SDH/NICU/04	Care of Normal Newborns	1	0	20-Nov-22		0	20-Nov-23		
5	SDH/NICU/05	Care of Low birth weight baby	1	0	20-Nov-22		0	20-Nov-23		
6	SDH/NICU/06	Care of ventilated Neonates	1	1	20-Nov-22		0	20-Nov-23		
7	SDH/NICU/07	Guideline for medication Administration	1	0	20-Nov-22		0	20-Nov-23		
8	SDH/NICU/08	Infection Control Guidelines for NICU	1	1	20-Nov-22		0	20-Nov-23		
9	SDH/NICU/09	NICU Antibiotic Policy	1	1	20-Nov-22		0	20-Nov-23		
10	SDH/NICU/10	Pre-Procedure Preparation of Neonates	1	1	20-Nov-22		0	20-Nov-23		
11	SDH/NICU/11	Initiation and Maintenance of peripheral IV Lines	1	1	20-Nov-22		0	20-Nov-23		
12	SDH/NICU/12	Initiation and maintenance of Peripheral Arterial Lines	1	1	20-Nov-22		0	20-Nov-23		
13	SDH/NICU/13	Initiation and Maintenance of feeding tubes	1	1	20-Nov-22		0	20-Nov-23		
14	SDH/NICU/14	Pain Management protocol	1	1	20-Nov-22		0	20-Nov-23		
15	SDH/NICU/15	Disinfection Protocol for NICU	1	1	20-Nov-22		0	20-Nov-23		
16	SDH/NICU/16	Guidelines for breast Feeding	1	1	20-Nov-22		0	20-Nov-23		

17	SDH/NICU/17	Guidelines for Kangaroo Mother Care	1	1	20-Nov-22		0	20-Nov-23		
		Original Date	**Effective Date**		**Next date of revision**		**Issue NO**			
		01 Nov 21	**20 November 2023**		**20 November 2024**		1			

Reviewed & Prepared By		**Recommended By**	**Approved By**
DR.Mehwash Shaikh	Mrs.Shraddha suryavanshi	Dr.H.Kalgaonkar	Dr.S.S.Deepak
Pediatrician	Quality Co-ordinator	Chief Medical Administartor	Chairman & Managing Director



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Annual Documents Adequancy & Change Requirements Review

Sr.No	SOP /Doc No	Documents Name	Issue. No	Rev.No	Review Date	Change	Rev No	Revision Date	Reason for Change	Amendment
1	SDH/NICU/01	General nursing Protocol for NICU Unit	1	0	01-Nov-21	No Any Change review Completed	0	20-Nov-22	No Any Change review completed	NO any Amend ment History
2	SDH/NICU/02	Admission and Discharge Criteria for NICU	1	0	01-Nov-21		0	20-Nov-22		
3	SDH/NICU/03	Protocol for Receiving Babies at NICU	1	0	01-Nov-21		0	20-Nov-22		
4	SDH/NICU/04	Care of Normal Newborns	1	0	01-Oct-19		0	20-Nov-22		
5	SDH/NICU/05	Care of Low birth weight baby	1	0	01-Nov-21		0	20-Nov-22		
6	SDH/NICU/06	Care of ventilated Neonates	1	1	01-Nov-21		0	20-Nov-22		
7	SDH/NICU/07	Guideline for medication Administration	1	0	01-Oct-19		0	20-Nov-22		
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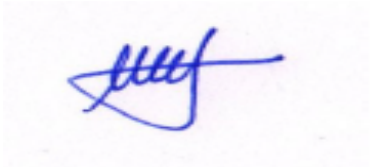
13	SDH/NICU/13	Initiation and Maintenance of feeding tubes	1	1	01-Nov-21		0	20-Nov-22		
14	SDH/NICU/14	Pain Management protocol	1	1	01-Nov-21		0	20-Nov-22		
15	SDH/NICU/15	Disinfection Protocol for NICU	1	1	01-Nov-21		0	20-Nov-22		
16	SDH/NICU/16	Guidelines for breast Feeding	1	1	01-Nov-21		0	20-Nov-22		

17	SDH/NICU/17	Guidelines for Kangaroo Mother Care	1	1	01-Nov-21		0	20-Nov-22		
		Original Date	**Effective Date**		**Next date of revision**		**Issue NO**			
		01 Nov 21	**20 November 2022**		**20 November 2023**		1			

Reviewed & Prepared By		**Recommended By**	**Approved By**
DR.Mehwash Shaikh	Mrs.Shraddha suryavanshi	Dr.H.Kalgaonkar	Dr.S.S.Deepak
Pediatrician	Quality Co-ordinator	Chief Medical Administartor	Chairman & Managing Director



	SAIDEEP HOSPITAL **NEONATAL INTENSIVE CARE UNIT MANUAL**	Doc No	SDH/NICU/01
		Issue No	01
		Rev No.	01
		Date	1 NOV 2021
		Page	1
	Amendment Sheet		

Sr.No	Page No	Clause No	Date of Amendment	Amendment Made	Reasons	Signature of Approval Authority
01.						

Recommended By	Signature	Approved By	Signature
Dr. Hrishikesh Kalgaonkar		Dr. S. S. Deepak	
Chief Medical Administrator		Chairman & Managing Director	

SUMMARY	This document is a part of NICU Manual lays down the general protocols to be followed by all nurses working in the unit
DISTRIBUTION	Part of Neonatal Intensive Care Unit Manual

PURPOSE AND SCOPE

The purpose of this procedure is document general protocols to be followed by all staff posted in the Neonatal ICU

RESPONSIBILITIES

Chairman and Managing Director

The overall responsibility of implementing the policy rests with the CMD of the hospital.

HOD – Neonatology

Responsible for developing and implementing the procedure

Unit Nursing in-Charge.

Responsible for ensuring that the procedures are followed by all staff of the unit

PROCEDURES

- Change the footwear before entering the NICU
- Remove all the ornaments, fold the sleeves above elbow and wash hands as per protocol
- Wear sterile half sleeved gown
- Check and update all the instruments and registers
- Take over the babies and documents from staff, bed to bed, after reading the daily report.

- Do not pick up objects from floor during nursing care.
- Never leave baby unattended under warmer at any circumstances.
- Respond to monitor and equipment alarms promptly.
- Check and record as per monitoring orders
- Double check with senior staff nurse all drug dosages/ routes/ expiry dates/ pharmacological names/ dilution before administration and recording.
- Restrict the number of visitors. Parents may be allowed.
- Establish a good rapport with the parents
- Babies should be nursed in a thermoneutral environment.
- Swaddle and nest the babies well and change their position Q 3- 4 H
- Maintain respectful sound levels in the NICU – Avoid loud talk & alarms, handle gently
- Turn off unnecessary lights and dim the other lights
- Gentle maternal touch should be promoted

REFERENCE

Standards

SUMMARY	This document is a part of NICU Manual lays down the criteria to be used for admissions and discharge to the unit
DISTRIBUTION	Part of Neonatal Intensive Care Unit Manual

PURPOSE AND SCOPE

The purpose of this procedure is document admission and discharge criteria for the unit

RESPONSIBILITIES

Chairman and Managing Director
The overall responsibility of implementing the policy rests with the CMD of the hospital.

HOD – Neonatology

Responsible for developing and implementing the procedure

Unit Nursing in-Charge.

Responsible for ensuring that the procedures are followed by all staff of the unit

PROCEDURES

ADMISSION CRITERIA

- Birth weight of < 2000 gm
- Gestational age <34weeks
- Requiring positive pressure ventilation
- Respiratory distress/ apnea/ seizures/ feed intolerance/ poor feeding/ ?sepsis
- Hypoglycemia/ hypocalcemia/ hypothermia

- Intensive phototherapy
- Bleeding manifestations
- Mother in ICU
- Doctor's discretion
- Inborn babies may be kept in NICU for observation for a period of up to 6 hours if they have mild respiratory distress or have required minimal resuscitation.
- Babies with infective diarrhea, chicken pox, open wounds, skin lesions should not be admitted to NICU. They may be admitted in an isolated room which can be warmed.

DISCHARGE CRITERIA

- Vitals stable without any support
- Maintains temperature without assistance
- Baby feeding well
- Weight gain for 3 consecutive days
- No evidence of infection
- Bilirubin within normal limits
- Health education regarding feeding, hygiene, medications etc. given to parents
- Mother confident of taking care at home

REFERENCES:
Standards

SUMMARY	This document is a part of NICU Manual and lays down protocols for receiving babies at the NICU from other units
DISTRIBUTION	Part of Neonatal Intensive Care Unit Manual

PURPOSE AND SCOPE

The purpose of this procedure is document protocols to be followed by all staff for receiving babies.

RESPONSIBILITIES

Chairman and Managing Director
The overall responsibility of implementing the policy rests with the CMD of the hospital.

HOD – Neonatology

Responsible for developing and implementing the procedure

Unit Nursing in-Charge.

Responsible for ensuring that the procedures are followed by all staff of the unit

PROCEDURES

- Baby is received to the NICU from LR/ OT/ ward
- Strict asepsis is maintained
- Vitals and weight are checked and recorded
- Temperature, airway, breathing and circulation are taken care off.
- Feeds, IV line, IV fluids and drugs as per doctor's instructions
- Mother & baby details are entered in the case sheets
- Admission/ report books updated

REFERENCES

Standards

Recommended By	Signature	Approved By	Signature
Dr. Hrishikesh Kalgaonkar Chief Medical Administrator		Dr. S.S. Deepak Chairman & Managing Director	

SUMMARY	This document is a part of NICU Manual lays down protocols of normal new borns in the NICU
DISTRIBUTION	Part of Neonatal Intensive Care Unit Manual

PURPOSE AND SCOPE

The purpose of this procedure is document protocols for care of normal new borns.

RESPONSIBILITIES

Chairman nd Managing Director
The overall responsibility of implementing the policy rests with the CMD of the hospital.

HOD –Neonatology

Responsible for developing and implementing the procedure

Unit Nursing in-Charge.

Responsible for ensuring that the procedures are followed by all staff of the unit

PROCEDURES

Normal newborn

- Birth weight greater than or equal to 2500 g
- Gestation greater than or equal to 37 wk
- Birth weight between 10th to 90th percentiles on a standard intrauterine growth chart
- No need for assisted ventilation or beyond for resuscitation at birth
- Apgar score greater than or equal to 7 at 1 minute
- No postnatal illness such as resp. distress, sepsis, hypoglycemia, polycythemia etc.

At birth

- Newborn corner with radiant warmer, bag & mask, laryngoscope, suction device, oxygen, and linen, suction catheters, feeding tubes, endotracheal tubes, syringes, needles etc and drugs like adrenaline, NS & naloxone.
- At least one health professional (physician or nurse) trained in neonatal resuscitation
- Clamp the cord at least 1 min after the delivery of the baby.
- Health providers must exercise universal precaution in all cases.
- Asepsis at birth: Clean hands, surface, cut, tie, towel
- Warm chain
    - Warm delivery room with no draft of air
    - Warm towel to receive the baby
    - The infant should be dried thoroughly and the wet linen removed immediately
    - The infant should be placed in skin-to-skin contact with mother/ under warmer
    - The infant should be made to wear the caps and socks.
- Identification tag for the baby
- Apgar score should be recorded at 1 and 5 minutes.

First few hours of life

- Clean the baby at birth with a clean sterile cloth (should not attempt to remove vernix)
- Weigh the baby within one hour of birth on a scale with at least 5 gm sensitivity.
- Administer Vit K1 mg IM to > 34 wks and 0.5 mg IM to < 34 wks infants routinely
- No role of routine stomach wash/ passage of catheter into the stomach/ rectum

- The infant should be examined thoroughly at birth
- Bedding in/ Rooming in
- Breastfeeding must be initiated as early as possible
- Communication with the family

Initial few days of life

- Cord care:
  - Kept open and dry.
  - The nappy should be folded well below the umbilical stump
- Eye care:
  - Cleaned with a sterile swab soaked in normal saline or sterile water.
  - Clean from inner to outer canthus using separate swabs for each eye
- Exclusive breastfeeding
- Evaluation for jaundice: All the infants must be examined for the development and severity of jaundice twice a day for first few days of life.
- Oil massage
- Vaccination**:** All the infants must be offered the immunization before discharge
- Bathing**:** Routine bathing in the hospital should be avoided. May be sponged.
- Sleep Position: 'Back to sleep'

REFERENCES

Standards

SUMMARY	This document is a part of NICU Manual lays down the protocols for handling on Low Birth Weight Neonates
DISTRIBUTION	Part of Neonatal Intensive Care Unit Manual

PURPOSE AND SCOPE

The purpose of this procedure is document protocols for handling LBW neonates

RESPONSIBILITIES

Chairman and Managing Director
The overall responsibility of implementing the policy rests with the CMD of the hospital.

HOD – Neonatology

Responsible for developing and implementing the procedure

Unit Nursing in-Charge.

Responsible for ensuring that the procedures are followed by all staff of the unit

PROCEDURES

Delivery room

- Follow NRP guidelines
- Cord blood for grouping & typing. DCT, bilirubin & PCV as indicated.

Transport

- Transfer the baby well wrapped in pre-warmed clothes.
- During the transfer observe the baby for
  - Hypothermia

- Respiratory distress
- Apnea
- Cyanosis

On admission to NICU

- Receive the baby on sterile sheet.
- Check the weight, temperature, HR, RR, CRT, SaO_2, blood pressure& GRBS
- Send the following investigations
  - Complete Blood Count
  - CRP
  - Gastric aspirate for polymorph count if PROM > 18 hrs
  - Blood culture
  - Chest X-ray if needed

Subsequently in NICU

- Nurse the baby in radiant warmer.
- Cover the bassinet with polythene if < 32 wks/ 1500 gms
- Nest the baby and change the position Q4H
- Close monitoring
- Investigations as per protocol
  - GRBS Q8H or as per IDM protocol

- Metabolic screen, serum electrolytes, creatinine and bilirubin after 48 hrs
- Cranial ultrasound on day 3 and before discharge for babies <1500 gm
- Any investigation as indicated

- Fluids as per protocol
  - > 32 wks/ 1500 gms 60 mL/ kg/ day→upto 150 mL/ kg/ day
  - 28 – 32 wks/ 1000 – 1500 gms 80 mL/ kg/ day→upto 160 mL/ kg/ day
  - < 28 wks/ 1000 gms 100 mL/ kg/ day→upto 180 mL/ kg/ day
  - Start IVF for all babies with gest age < 32 wks/ birth wt< 1500 gms
  - Start 5% D for babies < 28 wksgestn and 10% D for babies > 28 wksgestn
  - Replace RT aspirates mL to mLwith ½ NS/ RL if > 10 mL/ kg/ day
- Feeds as per protocol
  - > 34 wks / > 1800 gms Breastfeeds / Pallada
  - 32 – 34 wks/ 1500 – 1800 gms Pallada
  - 30 – 32 wks / 1200 – 1500 gms Trophic feeds (< 10 mL/ kg/ day)
  - < 30 wks/ < 1200 gms Initiate trophic feeds when stable
  - If tolerating well → Increase 20 – 30 mL/ kg/ day
  - Aspirate before every feed.
    - If gastric aspirate is < 25% of the previous feed, then put the aspirate back and give the recommended feed.
    - If gastric aspirate is > 50% and abdominal girth increases then omit feed and observe, keep the baby nil oral and investigate for NEC.

- Start 10% amino acids for birth wt< 1500 gms on day 3 of life
  - Start at 1 g/kg/d and increase it to maximum of 3.5 g/kg/d
- Start 10% lipids for babies < 1000 gms on day 3 of life.
  - Start at 0.5 gm/ kg/ d and increase it to maximum of 3.5 gm/ kg/ d.

- In case of sepsis, limit lipid dose to 2 gm/ kg/ d.
- Monitor triglycerides levels weekly.

- Sodium supplementation
  - Add Na^+ from day 2
  - 2 – 3 mEq/ Kg for term babies and 3 – 5 mEq/kg for preterm babies.
- Potassium supplementation
  - Start Isolyte P from day 3 of life
  - Change to $^1/_5$ DNS if K^+> 5.5 mEq/ L
- Calcium supplementation
  - Inj. 10% Ca gluconate 2 mL/ kg in 1:1 dil as slow IV if $MgSO_4$ to mother
  - Add 4 mL/ kg/ day 10% Calcium gluconate to IVF from day 1
  - Oral calcium 100-150 mg/ kg/ day, once 50% of feeds is reached and continue till baby reaches 6 months.
- Vitamin and Zinc supplementation
  - Start MVI on day 2
  - Give a multivitamin preparation to provide for RDA.
    - Vit.A 360 – 600 IU/ kg/ d Vit. B_1 24 – 300 µg/ kg/ d
    - Vit B_2 72 – 720 µg/ kg/ d Vit B_6 42 – 300 µg/ kg/ d
    - Vit C 08 – 48 mg/ kg/ d Vit D 800 – 1600 IU/ d
    - Zinc 600 µg/ kg/ d
- Iron supplementation
  - Start at 2 completed weeks.
    - < 1000 gms 4 mg/ kg/ day upto 12 months.
    - 1000 – 1500 gms 3 mg/ kg/ day upto 12 months.
    - > 1500 gms 2 mg/ kg/ day upto 12 months
- Start Caffeine citrate/ Aminophylline for babies < 32 wks.

- Caffeine citrate 20 mg/ kg stat IV/ PO → 5 – 10 mg/ kg Q6H IV/ PO
- Aminophylline 5 mg/ kg stat IV/ PO → 2 mg/ kg Q6H IV/ PO

- Kangaroo Mother Care and Developmentally Supportive Care

REFERENCES

Standards

	SAIDEEP HOSPITAL **NEONATAL INTENSIVE CARE UNIT MANUAL**	Doc No	SDH/NICU/06
		Issue No	01
		Rev No.	01
		Date	1 Nov 21
		Pages	1
	Document Title : Care of Ventilated Neonates		

SUMMARY	This document is a part of NICU Manual discuss handling of neonates on ventilation
DISTRIBUTION	Part of Neonatal Intensive Care Unit Manual

PURPOSE AND SCOPE

The purpose of this procedure is document protocols for handling neonates on ventilators.

RESPONSIBILITIES

Chairman and Managing Director
The overall responsibility of implementing the policy rests with the CMD of the hospital.

HOD – Neonatology

Responsible for developing and implementing the procedure

Unit Nursing in-Charge.

Responsible for ensuring that the procedures are followed by all staff of the unit

PROCEDURES

- Select appropriate size tube/ prong/ mask
- Confirm the position by appropriate means
- Confirm the ventilator settings before connecting the patient
- Maintain target saturations
    - Preterm : 88 – 93%
    - Term : 90 – 95%
    - MAS/ PPHN : 95 – 100%

Recommended By	Signature	Approved By	Signature
Dr. Hrishikesh Kalgaonkar Chief Medical Administrator		Dr. S.S. Deepal Chairman & Managing Director	

- Alarm limits are kept 2% higher and lower than the desired range

- Ensure adequate sedation/ analgesia
- Monitor respiratory distress score
- Send ET tip for culture at the time of extubation
- Routine suctioning is not recommended. Suction only when necessary.
  - Avoid suctioning for 30 minutes to 1 hr after feeding unless it is necessary
  - Oxygen source and bag and mask should be available at bedside.
  - Strict asepsis
  - Do not exceed suction pressure of 100 mm of Hg.
  - Attach appropriate size catheter to suction tubing.
  - Occlude catheter completely and set pressure on suction to 100mm of Hg
  - Pre-oxygenate the patient prior to disconnection of ventilator
  - Gently insert catheter to the measured distance
  - Apply suction only on withdrawal of catheter. Limit attempts to 3-5 seconds or less. Don't apply suction while inserting catheter.
  - Between attempts, bag the baby and rinse catheter in sterile water by applying suction.
  - After suctioning, reposition the infant
  - Discard catheter after single use

REFERENCES

Standards

SAIDEEP HEALTHCARE & RESEARCH PVT. LTD.	**SAIDEEP HOSPITAL** **NEONATAL INTENSIVE CARE UNIT MANUAL**	Doc No	SDH/NICU/07
		Issue No	01
		Rev No.	00
		Date	1 Oct 19
		Page	1
	Document Title : Guidelines for Medication Administration		

SUMMARY	This document is a part of NICU Manual lays down the guidelines for Medication Administration to be followed in NICU
DISTRIBUTION	Part of Neonatal Intensive Care Unit Manual

PURPOSE AND SCOPE

The purpose of this procedure is document guidelines for medication administration with in NICU.

RESPONSIBILITIES

Chairman and Managing Director
The overall responsibility of implementing the policy rests with the CMD of the hospital.

HOD – Neonatology

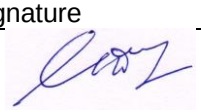
Responsible for developing and implementing the procedure

Unit Nursing in-Charge.

Responsible for ensuring that the procedures are followed by all staff of the unit

PROCEDURES

1. Ask for a written order by a doctor (verbal order only in emergency situation)
2. Administer only medications you have prepared or verified.
3. Observe for all the five rights for administering medicines (right patient/drug/dose/route/time)
4. Give medications from legibly labeled containers
5. Read the label of medication 3 times.
    a. Before taking the medication
    b. Before removing the dose from the container
    c. Before returning the container to the place
6. Always document immediately after medication is given

Recommended By	Signature	Approved By	Signature
Dr. Hrishikesh Kalgaonkar		Dr. S.S. Deepak	
Chief Medical Administrator		Chairman & Managing Director	

7. The amount of diluents used for administration of IV medications should be recorded and subtracted from the recommended daily fluid requirements.
8. It is important to check High Alert Medication doses with another nurse or doctor before administration.

REFERENCES

Standards

Recommended By	Signature	Approved By	Signature
Dr. Hrishikesh Kalgaonkar		Dr. S.S. Deepak	
Chief Medical Administrator		Chairman & Managing Director	

SUMMARY	This document is a part of NICU Manual lays down the unit specific infection control guidelines
DISTRIBUTION	Part of Neonatal Intensive Care Unit Manual

PURPOSE AND SCOPE

The purpose of this procedure is document general protocols to be followed by all staff posted in the Neonatal ICU

RESPONSIBILITIES

Chairman and Managing Director
The overall responsibility of implementing the policy rests with the CMD of the hospital.

HOD – Neonatology

Responsible for developing and implementing the procedure

Unit Nursing in-Charge.

Responsible for ensuring that the procedures are followed by all staff of the unit

PROCEDURES

- Hand washing – 2 min before NICU entry and procedures; 20 sec in between babies.
- Use of gloves especially for procedures and while handling diapers, both the gloves and diaper to be disposed at patient bedside bin.
- ET suctioning – single use sterile gloves, catheters and normal saline vials.
- IV lines – proper pre preparation, insertion, and dressings changed 48 hourly, 3 way covered with sterile dressing.
- Improve skin integrity with use of emollients.
- Decrease number of skin punctures.
- Drug delivery through a central line.
- Decrease duration of central lines
- Decrease duration of IV lipids

- Proper skin preparation before drawing cultures
- Use of laminar flow while preparing IVF and TPN
- As far as possible use single dose vials, avoid contamination of multi dose vials.
- Do not use a single bottle for >24 hours.
- Change syringe/ burette set for parenteral fluid at least once in 24 hours.
- Use multidose vials, ampoules & parenteral nutrition preparations within 24 hours.
- Use lotions and syrups within 1 month of opening.
- Wipe the junctions of cannula with liberal amount of spirit and wait for 2 minutes before connecting IV fluid or drugs administration.
- Adequate disposables
- Avoid unnecessary H_2 blockers
- Avoid use of post natal steroids
- Early feeding with breast milk
- Follow antibiotic policies strictly
- Follow admission policies strictly
- Keep separate tape, stethoscopes, thermometer for each baby.
- Do not keep fomites such as pens, files, x-ray films etc beside the baby.

REFERENCES

Standards

SUMMARY	This document is a part of NICU Manual policies pertaining to antibiotic usage in NICU
DISTRIBUTION	Part of Neonatal Intensive Care Unit Manual

PURPOSE AND SCOPE

The purpose of this procedure is document antibiotic policy for the unit

RESPONSIBILITIES

Chairman and Managing Director
The overall responsibility of implementing the policy rests with the CMD of the hospital.

HOD – Neonatology

Responsible for developing and implementing the procedure

Unit Nursing in-Charge.

Responsible for ensuring that the procedures are followed by all staff of the unit

PROCEDURES

Indications for sepsis work up:

- PROM in mother > 24 hour
- Foul smelling liquor/ Evidence of Chorioamnionitis in mother
- Intrapartum fever
- UTI in mother within 2 weeks prior to delivery
- More than 3 vaginal examinations during labor
- Very low birth weight (<1500 g)
- Perinatal asphyxia (Apgar score < 4 at 1 min)

- Clinical evidence of sepsis.

Sepsis work up includes:

- Total blood count, differential count, ANC, platelet count, bandforms, I;T ratio
- CRP
- Micro ESR
- Gastric lavage for cells (before 1st feed and < 6 hrs)
- CXR (if indicated)
- CSF analysis (if indicated)
- Blood culture (Mandatory before start and change of antibiotics)

First line antibiotics* (* Periodically rotated)	**Second line antibiotics**	**Third line antibiotics**
Ampicillin & Amikacin or Cefuroxime &Netilmycin or Augmentin & Gentamicin	Piperacillin + Tazobactum& Genta/ Amik/ Netil	Meropenem & Genta/ Amik/ Netil
Change antibiotics as per culture & sensitivity.		
Septic screen negative		No antibiotics
Septic screen positive		Antibiotics till culture reports
Culture positive		14 days
Pneumonia		7 – 10 days
Meningitis		21 days/ 2wks post sterile c/s
Septic arthritis		42 days

REFERENCES

Standards

SUMMARY	This document is a part of NICU Manual lays down the protocols for preparing the babies for various procedures
DISTRIBUTION	Part of Neonatal Intensive Care Unit Manual

PURPOSE AND SCOPE

The purpose of this procedure is document protocols for preparation of neonates for various procures

RESPONSIBILITIES

Chairman and Managing Director
The overall responsibility of implementing the policy rests with the CMD of the hospital.

HOD – Neonatology

Responsible for developing and implementing the procedure

Unit Nursing in-Charge.

Responsible for ensuring that the procedures are followed by all staff of the unit
PROCEDURES

1. Take informed consent if needed
2. Ensure proper monitoring during the procedure
3. Set the instruments needed for the procedure
4. Wash hands
5. Wear gloves
6. Prepare skin site. Confine to smallest possible area of the skin.

7. Swab with spirit first, allow it to dry.
8. Swab betadine on site and allow it to dry.
9. Wipe off with spirit again, allow it to dry.
10. Skin is now ready for procedure.

REFERENCES

Standards

SUMMARY	This document is a part of NICU Manual lays down the protocols to be followed for initiation and maintenance of peripheral IV lines for neonates
DISTRIBUTION	Part of Neonatal Intensive Care Unit Manual

PURPOSE AND SCOPE

The purpose of this procedure is document protocols for initiation and maintenance of peripheral lines.

RESPONSIBILITIES

Chairman and Managing Director
The overall responsibility of implementing the policy rests with the CMD of the hospital.

HOD – Neonatology

Responsible for developing and implementing the procedure

Unit Nursing in-Charge.

Responsible for ensuring that the procedures are followed by all staff of the unit

PROCEDURES

Initiation

1. Wash hands, assemble and prepare necessary equipments at the bedside
2. Prepare infant for procedure with adequate pain management steps
3. Have second person to hold the infant to minimize stress.
4. Identify suitable veins in arms/ legs.
5. Maintain strict aseptic precautions
6. Ensure skin stretched but not taut

7. Insert needle slowly at 40 to 60^{0}angle with bevel up. After piercing the skin, decrease the angle to almost skin level.
8. Blood flow back into the set may be seen
9. When blood appears, thread cannula forward while removing stylet
10. Never re-insert needle into cannula
11. Attach extension set and gently flush
12. Fix the cannula and splint the limb
13. Wash hands after the procedure is completed.
14. Document the following
    - Location
    - Date & time
    - Size of the needle
    - IV initiator
    - Total number of attempts

Monitoring

1. Observe the site for leakage
2. Observe the site for signs of inflammation
3. Documentation of site condition should be done as frequently as possible
4. Inform physician immediately if any signs of inflammation are present
5. Observe for the following complications:

a. Infiltration – leakage of IV fluid into the interstitial tissue, observe for puffiness and color change around site. Flush gently

b. Phlebitis – chemical or physical irritation. Observe for redness, warmth

c. Clotting – may result from phlebitis. Confirm patency by gently flushing with normal saline.

d. Blanching at the site – the needle may be in an artery or may be interstitial.

e. Check both proximal and distal to IV site and if any of the above condition exists then remove IV

Discontinuation

1. Check the doctor's order or notify doctor in the event of suspected extravasations
2. Stop flow of fluid
3. Wash hands
4. Wear gloves
5. Hold needle firmly in place and gently lift enough tape to allow removal of IV catheter
6. Remove tape and adhesives. Press the site with cotton swabs till oozing stops. Then apply healex spray and seal the puncture site.
7. If site is purulent, send a swab for culture and sensitivity
8. Change the line every 72 hours

REFERENCES

Standards

SAIDEEP HEALTHCARE & RESEARCH PVT. LTD.	**SAIDEEP HOSPITAL** **NEONATAL INTENSIVE CARE UNIT MANUAL**	Doc No	SDH/NICU/12
		Issue No	01
		Rev No.	01
		Date	1 Nov 21
		Page	1
	Document Title : Initiation and Maintenance of Peripheral arterial Lines		

SUMMARY	This document is a part of NICU Manual lays down the protocols to be followed for initiation and maintenance of peripheral arterial lines for neonates
DISTRIBUTION	Part of Neonatal Intensive Care Unit Manual

PURPOSE AND SCOPE

The purpose of this procedure is document protocols for initiation and maintenance of peripheral arterial lines.

RESPONSIBILITIES

Chairman and Managing Director
The overall responsibility of implementing the policy rests with the CMD of the hospital.

HOD – Neonatology

Responsible for developing and implementing the procedure

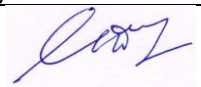
Unit Nursing in-Charge.

Responsible for ensuring that the procedures are followed by all staff of the unit

PROCEDURES

INITIATION & MAINTENANCE OF PERIPHERAL ARTERIAL LINE

1. Perform Allen's test to check adequacy of ulnar collateral circulation
2. Restrain infant's forearm and hand with wrist in extension
3. Identify artery by palpation. Transillumination may be helpful.
4. Strict asepsis

Recommended By	Signature	Approved By	Signature
Dr. Hrishikesh Kalgaonkar		Dr. S.S. Deepal	
Chief Medical Administrator		Chairman & Managing Director	

5. Pass neoflon at 30-40^{0}angle to skin.
6. Remove stylet and withdraw cannula slowly until arterial blood flow is established
7. Advance cannula into the artery.
8. Attach neoflon firmly to three way stop clock.
9. Infuse 1 ml/hr of heparinised saline by constant infusion pump.
10. Secure cannula by transparent tape or microscope to allow continuous visualization of skin entry site. Ensure that all fingers are visible for frequent inspection.
11. Change IV tubing solution every 24 hours.
12. Use cannula for sampling only, no other fluid except heparinized saline should be administered via cannula.

INITIATION & MAINTENANCE OF CENTRAL LINE

1. Wash hands, assemble and prepare necessary equipments at the bedside
2. Prepare infant for procedure with adequate pain management steps
3. Have second person to hold the infant to minimize stress.
4. Identify suitable vein
5. Maintain strict aseptic precautions while insertion
6. Document the following
    - Location
    - Date & Time

- Size of the catheter
- IV initiator
- Total number of attempts

7. Ensure the position before connecting fluids
8. Maintain strict asepsis while connecting fluids & administering injections

Sent the tip for culture on removal

REFERENCES

Standards

SUMMARY	This document is a part of NICU Manual lays down the protocols to be followed for initiation and maintenance of feeding tubes for neonates
DISTRIBUTION	Part of Neonatal Intensive Care Unit Manual

PURPOSE AND SCOPE

The purpose of this procedure is document protocols for initiation and maintenance of feeding tubes.

RESPONSIBILITIES

Chairman and Managing Director
The overall responsibility of implementing the policy rests with the CMD of the hospital.

HOD – Neonatology

Responsible for developing and implementing the procedure

Unit Nursing in-Charge.

Responsible for ensuring that the procedures are followed by all staff of the unit

PROCEDURES

1. Maintain strict asepsis
2. Position baby on right side or in a supine position with head elevated
3. Measure from the bridge of the nose to the tip of the ear lobe down to the midway between tip of the xiphoid process and umbilicus
4. Mark the tube with tape or maintain measurement with thumb and finger, as this indicates the appropriate distance the tube must be passed to enter the stomach.

5. Orogastic is preferred over nasogastric as the neonates are obligate nasal breathers
6. Establish correct placement of the feeding tube
7. Observe baby for choking, gasping or cyanosis during insertion of tube. Withdraw tube immediately if baby appears to be in any distress.
8. Tape the tube in place or always keep one hand on the tube from slipping.
9. To remove intragastric line always withdraws tube gently while pinching top end.
10. Keep end of tube closed unless being used for gastric decompression
11. Ensure the position prior to each feed

REFERENCES

Standards

SAIDEEP HEALTHCARE & RESEARCH PVT. LTD.	**SAIDEEP HOSPITAL** **NEONATAL INTENSIVE CARE UNIT MANUAL**	Doc No	SDH/NICU/15
		Issue No	01
		Rev No.	01
		Date	Nov 21
		Pages	1
	Document Title : Pain Management Protocols		

SUMMARY	This document is a part of NICU Manual describes pain management protocols to be followed in the unit
DISTRIBUTION	Part of Neonatal Intensive Care Unit Manual

PURPOSE AND SCOPE

The purpose of this procedure is document protocols for main management in neonatal care

RESPONSIBILITIES

Chairman and Managing Director
The overall responsibility of implementing the policy rests with the CMD of the hospital.

HOD – Neonatology

Responsible for developing and implementing the procedure

Unit Nursing in-Charge.

Responsible for ensuring that the procedures are followed by all staff of the unit

PROCEDURES

- Follow Cluster care
- Plan invasive procedures when the baby is awake
- Do only necessary procedures (Eg. ET suctioning only when there are secretions)
- Use a lancet for heel prick
- Minimize the number of attempts per procedure
- Once a procedure is over, do not plan another procedure for at least two hour

Recommended By	Signature	Approved By	Signature
Dr. Hrishikesh Kalgaonkar Chief Medical Administrator		Dr. S.S. Deepak Chairman & Managing Director	

- Combination of oral sucrose/glucose &non pharmacological methods (NNS, KMC, swaddling) for minor procedures
- Topical anesthetics - venipuncture, LP, and IV catheter insertion when time permits.
- As far as possible do the procedure with the baby in KMC or swaddled/ nested.

Procedure	**Environment** Sensorial saturation KMC	**Non Pharmacologic** Sucrose NNS Breast milk	**Pharmacologic**
Heel lancet	√	√	-
Line/ Sample	√ Smaller needle 24-26	√	EMLA 60 min 4% Lignocaine 30 min Opioids
IM/SC	√ Try IV	√	EMLA
Intubation			Opiate ± muscle relax (ketamine, propofol, midazolam)
LP	√ Avoid flexion 24G needle	√	EMLA Opioid Midazolam
Chest tube	√	√	EMLA 1% Lignocaine Opioids Ketamine
ROP screening	√ Avoid feed times Avoid speculum	√	Oxybuprocaine 0.4% Tetracaine 1% Opioid Ketamine

REFERENCES

Standards

Recommended By	Signature	Approved By	Signature
Dr. Hrishikesh Kalgaonkar Chief Medical Administrator		Dr. S.S. Deepak Chairman & Managing Director	

	SAIDEEP HOSPITAL NEONATAL INTENSIVE CARE UNIT MANUAL	Doc No	SDH/NICU/16
		Issue No	01
		Rev No.	01
		Date	1 Nov 21
		Pages	1
	Document Title : Disinfection Protocols for NICU		

SUMMARY	This document is a part of NICU Manual describes disinfection process for NICU
DISTRIBUTION	Part of Neonatal Intensive Care Unit Manual

PURPOSE AND SCOPE

The purpose of this procedure is document protocols specifying use of various disinfectants and their indication in the context of NICU

RESPONSIBILITIES

Chairman and Managing Director
The overall responsibility of implementing the policy rests with the CMD of the hospital.

HOD – Neonatology

Responsible for developing and implementing the procedure

Unit Nursing in-Charge.

Responsible for ensuring that the procedures are followed by all staff of the unit

PROCEDURES

Name	Indication	Directions for use & Comments
Bacillocid spray (2%)	Walls Incubators, Warmers Weighing machines	Put off the Ac during the time of spray
Cidex (2%)	O_2& suction tubing	Clean with soap and water before cidex

Recommended By	Signature	Approved By	Signature
Dr. Hrishikesh Kalgaonkar Chief Medical Administrator		Dr. S.S. Deepak Chairman & Managing Director	

(Gluteraldehyde)	Mask, bag, reservoir	Once prepared, its active for 14 days Time of contact: 4 – 6 hrs for sterilization 15 min for disinfection
Sodium Hypochlorite	Sharps, needles…	Keep the solution covered To be chaged every 24 hrs
Soap & Water	O_2 hood, utensils, trays, masks, buckets	Feeding utensils to be then boiled for 10 min
Phenyl	Floor	-----
Spirit	Laryngoscopes, tapes, probes, steth ... Skin preparation	-----
Betadine	Skin preparation	-----

REFERENCES

Standards

SAIDEEP HEALTHCARE & RESEARCH PVT. LTD.	**SAIDEEP HOSPITAL** **NEONATAL INTENSIVE CARE UNIT MANUAL**	Doc No	SDH/NICU/17
		Issue No	01
		Rev No.	01
		Date	1 Nov 21
		Page	1
	Document Title : Guideline for Breast Feeding		

SUMMARY	This document is a part of NICU Manual describes guidelines for breast feeding for patient and family education
DISTRIBUTION	Part of Neonatal Intensive Care Unit Manual

PURPOSE AND SCOPE

The purpose of this procedure is document guidelines for breast feeding

RESPONSIBILITIES

Medical Director
The overall responsibility of implementing the policy rests with the MD of the hospital.

HOD –Neonatology

Responsible for developing and implementing the procedure

Unit Nursing in-Charge.

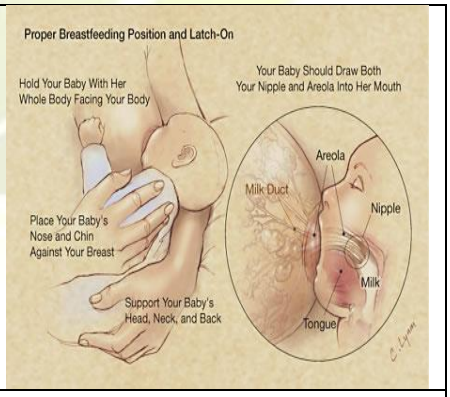
Responsible for ensuring that the procedures are followed by all staff of the unit

PROCEDURES

BREAST FEEDING

POSITION
The head, neck and the body should be in a straight line.
The whole body of the baby should be well supported.
Baby's tummy should touch the mother's tummy.
Baby should be turned toward the mother.

ATTACHMENT
The baby's chin touching the breast.
Lower lip turned outward.
Mouth is wide open.
Almost the entire areola (dark part) in the baby's mouth.



IS THE BABY GETTING MILK?

Recommended By	Signature	Approved By	Signature
Dr. Hrishikesh Kalgaonkar Chief Medical Administrator		Dr. S.S. Deepak Chairman & Managing Director	

Suck – Swallow – Rest cycle

Cheeks full

IS THE MILK ADEQUATE?

Check the baby passes urine 6-8 times in 24 hours.

Baby sleep for 2-3 hours after the feeds

Baby gain weight 10 - 20 gms/ kg/ day

NORMAL PHENOMENON

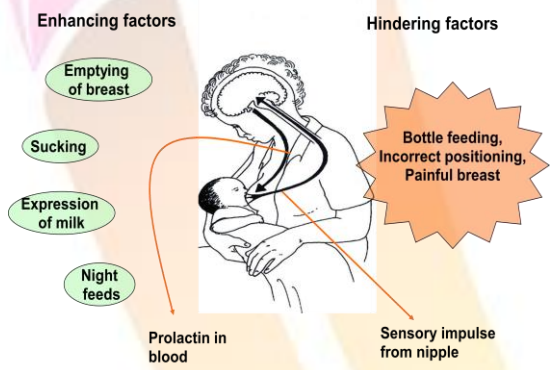
Milk (colostrum) volume minimal for first 48 hrs

Meconium only once in first 24 hrs and urine only once in first 48 hrs

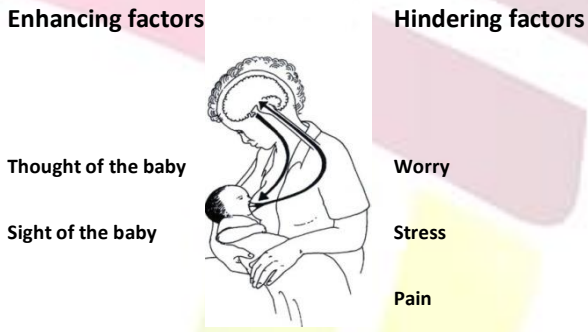
Weight loss up to 10%

Regain birth weight by 10 – 14 days

PROLACTIN REFLEX – Milk Secretion



OXYTOCIN REFLEX – Milk Ejection



FEEDING TWINS

REFERENCES

Standards

Recommended By	Signature	Approved By	Signature
Dr. Hrishikesh Kalgaonkar Chief Medical Administrator		Dr. S.S. Deepak Chairman & Managing Director	

SUMMARY	This document is a part of NICU Manual describes guidelines for Kangaroo Mother Care for patient and family education
DISTRIBUTION	Part of Neonatal Intensive Care Unit Manual

PURPOSE AND SCOPE

The purpose of this procedure is document guidelines for Kangaroo Mother Care.

RESPONSIBILITIES

Chairman and Managing Director
The overall responsibility of implementing the policy rests with the CMD of the hospital.

HOD – Neonatology

Responsible for developing and implementing the procedure

Unit Nursing in-Charge.

Responsible for ensuring that the procedures are followed by all staff of the unit

PROCEDURES

Definition

Early prolonged and continuous skin to skin contact between the mother and her low birth weight infant, both in hospital and after discharge

Components

1. Skin-to-skin contact
2. Exclusive breastfeeding
3. Early discharge from the hospital

Pre-requisites

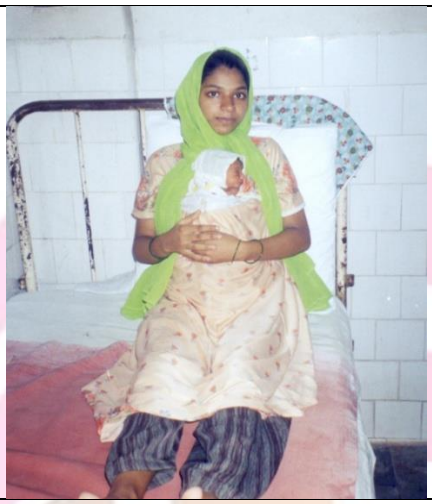
1. Support to the mother in hospital and at home

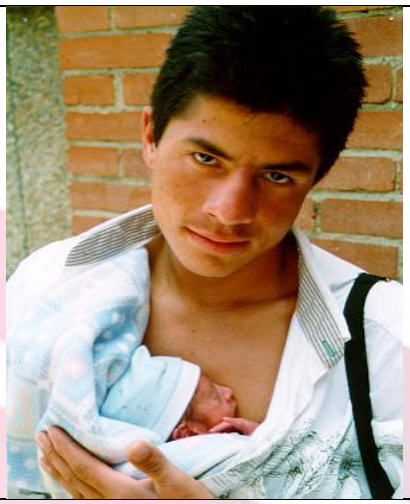
2. Post-discharge follow up

Benefits of KMC		
<u>Physiological</u> ↑Heart rate ↑Respiratory rate ↑Oxygen saturation ↓Desaturations ↓Apnoea ↑Temperature ↑Cortisol ↑ Weight gain ↓ Infections Blood glucose stability	<u>Behavioural</u> Improve sleep ↓ Crying Analgesic <u>Breastfeeding</u> ↑ Milk production ↑ Exclusivity ↑ Duration ↑ Initiation	<u>Neurobehavioral</u> ↑ General development ↑ Mental/motor scores ↑ Brain maturation <u>Psychosocial</u> ↓ Maternal/paternal anxiety ↑ Mat/pat satisfaction Better mat/ pat – infant attachment& interactions

Procedure

- Start KMC for babies < 2000 gm as early as possible
- Dress the baby in a soak proof diaper, woolen cap and socks.
- Place the baby between the mother's breasts in skin to skin contact.
- Secure the baby to the mother by long piece of cloth.
- Ensure the baby is in upright position to prevent aspiration.
- Encourage the mother to keep the baby in KMC for as long as possible
- Maintain a chart of number of hours the mother has provided KMC.
- Advise the mother to continue to provide KMC at home.





Discontinuation

- When the baby refuses KMC by excessive crying or jumping out of KMC.

REFERENCES

Standards

Recommended By	Signature	Approved By	Signature
Dr. Hrishikesh Kalgaonkar Chief Medical Administrator		Dr. S.S. Deepak Chairman & Managing Director	