Child Health Resource Package: Neonatal Experiential Learning Site

Cornerstones of Neonatal Care

Making life easier…

Warmth

Prevent Hypothermia

- Labour ward and theatre must be kept at 24 - 26°C
- Dry babies immediately after birth with a soft towelling towel and wrap in a second **warm, dry towel**
- Ensure that there is a good overhead heater in the infant resuscitation area
- Keep incubators and resuscitaires warm, even when not in use
- Keep the baby with the mother in the kangaroo position (KMC)
- Nurse babies less than 1.5kg in an incubator or in KMC, continue KMC even after discharge
- Keep the room (nurseries, post natal wards) warm i.e. at 24 - 26°C, but **not** higher
- Dress **all** babies in a vest, nappy, booties and a woollen cap. If incubated, do not wrap in a blanket
- Keep the baby away from windows and draughts

Temperature settings for closed incubators

Check the temperature of manual incubators every hour and keep them at the following temperatures according to the baby's weight and age. Record the incubator temperature AND the baby's temperature every hour using the "Basic Neonatal Care Nursing Observations" chart.

	Days after delivery						
Birth weight	**0**	**5**	**10**	**15**	**20**	**25**	**30**
< 1000g – 1500g	35.5	35.0	35.0	34.5	34.0	33.5	33.0
1500g – 2000g	35.0	34.0	33.5	33.5	33.0	32.5	32.5
2000g – 2500g	34.0	33.0	32.5	32.0	32.0	32.0	32.0
2500g – 3000g	33.5	32.5	32.0	31.0	31.0	31.0	31.0
> 3000g	33.0	32.0	31.0	30.0	30.0	30.0	30.0

These settings are a guide. They must be increased or decreased according to baby's temperature
Never set incubator to more than 1°C higher than the baby's temperature at a time

Air

The single most important event in the transition from foetal to neonatal life is the INFLATION of the lungs. If baby cannot do this, you must do it for her/him (see Neonatal Resuscitation Poster and Guideline)

Oxygen Do's and Don'ts

- Do give a baby oxygen, who needs oxygen
- Do use the minimum O_2 necessary to maintain O_2 saturation 85-93%
- Don't give **more** O_2 than is needed and don't give **less** O_2 than is needed
- Don't transport a baby who needs O_2 out of oxygen
- Don't take a baby out of O_2 for feeds or drugs or cuddles or bathing or procedures (use a nasogastric tube for feeds if necessary)
- Do monitor oxygen delivery and saturation on a designated monitoring sheet

Oxygen Techniques

The mainstays of O_2 therapy for neonates should be NASAL Prong, Catheter or CPAP. Headboxes are good in the acute scenario, but should be done away with as soon as possible. Give theophylline (5mg/kg load and 1-2mg/kg 12 hourly maintenance to prevent apnoea in ALL preterm babies.

Method	Comments	Flow and concentration	Advantages	Problems
Nasal Catheter	Cut 2 small holes in a FG5 feeding tube, align with the nostrils & secure with tape	0.5 – 2 l/minute	Baby can be fed orally/breastfeed	Watch out for blocked nostrils
Nasal Prongs	Place the prongs just into the baby's nostrils Secure the prongs with tape	0.5 – 2 l/minute	Baby can be fed orally/breastfeed	Watch out for blocked nostrils. Watch out for pressure sores
Nasal CPAP	Should be used in all district hospitals	Flow 8-12 l/min to obtain CPAP of 6-8 cmH_2O FiO_2 to keep sats 85-93%	Requires minimal medical and nursing expertise	Nasal piece MUST fit properly and can be dislodged.
IPPV	Refer to appropriate NICU	Minimum settings for babies requirement	Life saving	Requires medical and nursing expertise

Pulse oximeters should be used in ALL hospitals on ALL babies requiring oxygen

Love

The baby friendly hospital initiative is about LOVE and CARING, not DICTATES and DOGMA

Food

How Much to Give

	Total fluids (ml/kg/day)
Day 1	60
Day 2	90
Day 3	90
Day 4	120
Day 5	120
Day 6	150
Day 7	150

Notes

- Always individualise intake
- Give an extra 20 ml/kg/day if preterm
- Give an extra 30 ml/kg to babies under radiant warmers or phototherapy
- Don't rush orals (starting or increasing), but also don't delay unnecessarily
- Take extra care in immature, small and sick babies
- Use urine output as a guide for adequate intake

What to Give

Feed all babies **within 30 minutes of birth** (unless contra-indicated e.g. severe respiratory distress)

If the baby is <u>able to suckle</u>

- Babies more than 34 weeks gestation are usually able to suckle
- Initiate breastfeeding within 30 minutes of birth
- Breastfeed and encourage EXCLUSIVE breastfeeding
- Allow mothers to breastfeed on demand (at least 8 times a day) and practice rooming in

If the baby <u>should not be fed yet</u> (GIT or airway problems)

- Commence IVI maintenance fluids (neonatolyte) at the appropriate rate
- Gradually add feeds from day 2
- Increase the feeds gradually if there is no vomiting, apnoea or abdominal distension
- IVI fluids can be continued alone for a maximum of 3 days. Thereafter, if still unable to feed, arrange for transfer

If the baby is <u>unable to suckle</u> or the mother and baby are <u>separated</u>

- Give EBM via NGT or cup
- Use formula if EBM is not available
- VLBW babies may need 2 hourly or even 1 hourly feeding

If baby's mother has <u>chosen to formula feed</u>

- < 1.5 kg – use pre-term formula
- > 1.5 kg – use normal formula
- Use a cup, but don't stop mother using a bottle if she wants to

If baby <u>REQUIRES exclusive breast milk</u> (PMTCT), and mother cannot provide

- Give intravenous neonatalyte until mother can breastfeed (review daily)

For preterm babies, start multivitamin (0,6ml concentrated drops) and vitamin D 400IU daily on day 14, and Ferrodrops 0,6ml daily on day 42. Continue iron and vitamins for the first year of life

<u>Babies at Risk</u>

Small Babies

<u>Growth restricted</u>	<u>Immature</u>
<2500g	<35 weeks

Sick Babies

- Blue, pale, cold
- Lethargic +/- poor feeding
- Jittery
- "Distressed"
- Congenital abnormalities

Infection

(See guideline "Sepsis Neonatorum")

Prevent

- Screen for syphilis antenatally
- Ensure the PMTCT protocol is followed exactly
- Take maternal pyrexia, P/PROM seriously
- Wash your hands between every baby
- Staff your nursery properly, and with a clearly identified sister in charge at all times
- Do not overcrowd
- Ensure adequate spacing between babies
- Have dedicated nursery equipment
- Ensure sterile preparation of ALL feeds

Suspect

- Regard all preterm babies as at risk
- Take non-specific signs (lethargy, poor feeding, hypothermia, hypoglycaemia, respiratory distress) seriously

Find and Identify

If bacteraemia is possible do:

1. Blood culture
2. Lumbar puncture
3. Urine dipstix

Treat

- Maintain and monitor temperature, blood sugar and O_2 saturation

Use:

1. Ampicillin 50mg/kg/dose 12 hourly IV and
2. Gentamicin 5mg/kg/dose 24 hourly

By getting the basics right, and picking up and managing "Sepsis Neonatorum" early, you will make this common neonatal problem less difficult for you to handle, and less deadly for the babies you look after

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