

## Slide 2

Some of the surviving preterm babies may have neurodevelopment disability (NDD) in the form of cerebral palsy, cognition problems, visual, hearing and behaviour related problems. Intact outcomes, i.e. survival without disability requires screening these at-risk preterm babies to detect early deviations from normal development and employ timely interventions.

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We as paediatricians have the responsibility to continue care of babies who are born preterm and discharged after special care in NICU.

In this webinar we will learn all about the care of preterm babies after discharge from NICU

1. Discharge planning – what to include in the discharge summary and a checklist to be used before discharge
2. Medical care
  - a. Monitoring of growth
  - b. Nutrition advice
  - c. Immunizations of preterm baby
3. Neurodevelopment assessment
  - a. Recommendations on screening of babies (for prevention of NDD)
  - b. Suggested schedule for multi-domain development screening tests

## Slide 4

Continuity of care from NICU to home requires discharge planning

- Each unit should have place dedicated to follow up services that include all / most of the services under one roof
- Dedicated personnel must coordinate the screening of at-risk babies
- The unit may plan one or more days of the week dedicated to follow up

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The preterm baby's family must be given a discharge summary that includes all risk factors from antenatal period and after birth that may risk development of a preterm baby e.g. antenatal steroids, need for resuscitation at birth, need for oxygen and ventilation. This will ensure continuity of care after discharge from NICU

## Slide 6

Having a check list will ensure patient safety and improve quality of discharge process. A model check list from our hospital is displayed. The objectives of care can be clubbed under the heads medical care and neurodevelopment assessment

## Slide 7

As paediatricians we often are familiar with medical care of neonates. There are some issues specific to preterm babies

## Slide 8

Preterm babies take little longer (about 2 weeks) than term babies to regain birth weight. After that they must gain about 15-20 grams / day. Head growth may be faster (0.5-1.0 cm / week) than term babies, in the first weeks.

## Slide 9

Baby's weight, length and OFC must be plotted on growth charts for preterm babies, weekly in the first few weeks of life. Fenton's growth chart is a favored preterm growth chart. Tracking of weight and OFC on growth charts is more informative than the numbers

## Slide 10

Fenton's growth chart allows plotting till 50 weeks PMA. One can change to WHO growth charts thereafter.

## Slide 11

Preterm babies must be fed breast milk alone till 6 months age, and complementary feeding started after that, like in term born babies.

## Slide 12

Preterm babies are at higher risk of infections and timely immunization is even more important. There is no change in the schedule of immunization from term born babies. The babies must be vaccinated as per their chronological age. Studies on preterm babies showed that the protective levels of immune response were demonstrated after standard dose and schedule.

## Slide 13

BCG and OPV can be given at or after 34 weeks gestation, once the baby is medically stable and ready to go home.

Hepatitis B may be given after 30 days or at discharge (if the mother is protected / or negative for Hep B).

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Besides medical care, preterm babies must be screened at the right time by the right methods for neurodevelopment assessment

Slide 15 The success of a follow up program depends on the parents knowledge of need for screening and benefits of timely intervention. They must be educated at regular intervals, while the baby is in NICU and later, on the need for such testing, schedules and anticipated interventions e.g. laser photocoagulation, hearing aid etc

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ROP screening must be completed as discussed and vision assessed at 9-12 months for refraction and squint.

Hearing screen and diagnostic testing must be completed before the baby is 6 months old

Development assessment must be done periodically (suggest 4, 8 and 12 months)

A neurosonogram should be done at 1-2 weeks and repeated at 36- 40 weeks of life

Baby may be referred to a specialist (neurologist, orthopedician, physical medicine etc) and need intervention, if deviation in development is found

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- Often the preterm babies are discharged before the ROP screening is complete
- The families must be educated on the need to follow up till ophthalmologist informs that screening is complete / treatment of ROP is required

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In addition to the ROP checks, preterm babies must be examined by eye specialists at 9 – 12 months age for refraction, squint and other visual

problems. They are at high risk of myopia, strabismus, late retinal detachment and many other eye problems.

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Preterm / sick babies are at increased risk of sensorineural hearing loss. The universal screening for hearing impairment using OAE will miss sensorineural hearing loss. Hence, preterm babies must have an AABR screen before discharge from hospital. An abnormal hearing screening must be followed by diagnostic evaluation and decision to intervene made before the baby is 6 months old. Delay in treatment can adversely affect language development.

#### Slide 20

Neurodevelopment assessment includes assessment of tone and motor milestones to detect cerebral palsy early. Multi – domain development tests must evaluate cognition, vision, hearing and language as well. Some of these tools are CDC grade, Denver II, Bayley scale etc. Periodic checks at 4, 8 and 12 months of age corrected for prematurity are suggested. At each visit, baby may be initiated on interventions, if deviation in development is noted

#### Slide 21

Appropriate follow up is an opportunity to detect early and correct deviations in development. This will minimize disability in preterm survivors.

The neonatologist must remain the nodal person to explain to the family the findings of the screening tests and treatments planned for NDD. Coordination of the specialists visits may be facilitate by dedicated staff. They are involved in parent education, managing appointments and guiding parents to intervention programs

#### Slide 22

The goal of saving preterm babies, intact, i.e. with neurodisability can be achieved by timely screening as discussed and appropriate interventions.