

## Neonatology

### STAFF

|                          |                                  |   |
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### IMPORTANT ACHIEVEMENTS

- Extension of the service of the Department of Neonatology with increase in the NICU and SNCU beds occurred from 02.10.2015. At present the department is running with 100 beds.
- Genetic testing & counseling centre has been started.

### SERVICE INFORMATION

**Neonatal Intensive Care Unit (NICU):** It comprises of 33 beds with one stabilization bed in the 2nd floor (Including 8 Surgical NICU beds)

**Special New Born Care Unit (SNCU):** 42 beds at 3rd Floor and 25 beds at ground floor of new Neonatology building.

**Postnatal Ward:** 52 lying in bed. Located at 1st floor, G&O building.

### Activities

- Level III care of sick newborns including ventilation, parenteral nutrition, neonatal surgery,
- The unit is equipped with 18 conventional ventilators and 2 high frequency ventilators, 3 bubble CPAP. Amplitude EEG for continuous brain function monitoring with Video EEG. ECG, Digital X-ray, Ultrasound, Echocardiograph are also available in-house.

- A side laboratory is working for bed side investigations like complete blood count, micro ESR, hematocrit, blood gas estimation, serum electrolytes and blood grouping is done.
- Cardiac surgery for congenital heart disease in collaboration with Department of Cardiothoracic Surgery and Department of Cardiology.
- Follow up services at Neurodevelopment clinic with facility for ROP screening and laser therapy and hearing screening.

**Neurodevelopment Clinic:** On Monday, Wednesday & Friday in new Neonatology building, 1st floor, 2 pm to 6 pm. Follow up for high risk NICU graduates, premature babies with facilities for motor, neurological, vision, hearing, cognitive examination and early intervention under one roof.

**Neonatal OPD:** All Working weekdays at in new Neonatology building ( Monday to Friday from 9 am to 2 pm, Saturday 9 am to 12 Noon)

**Neonatal and fetal surgery OPD:** At new Neonatology building, ground floor, on Tuesday and Saturday.

Regular neonatal surgeries performed at neonatal surgery OT.

Total Neonatal surgery done in 1 Yr average 150 (from January 2016 – November 2016): 128.

#### **RBSK (Rastriya Bal Swasthya Karyakram under Govt. of India)**

Govt. of India has selected neurodevelopment clinic as nodal collaborative centre for Rastriya Bal Swasthya Karyakram for detection of developmental delay and early intervention in West Bengal as well as for Eastern India. Training of the professionals of child development from various districts from West Bengal and MP has been started under this project.

#### **Human Milk Bank**

The Chief Minister, Govt. of West Bengal has inaugurated Eastern India's first Human Milk Bank at the ground floor of new building for Institute of Neonatology, IPGME&R, SSKM Hospital on 7th August, 2013. This is the most advanced and well equipped human milk bank in India. Admitted babies in NICU and SNCU are getting pasteurized milk from this milk bank.

#### **Departmental Sterile Supply Division for NICU**

Departmental sterile supply division situated at the ground floor of G&O building. This division is meant for supplying sterile articles & linens for resuscitation and daily care of the newly born babies admitted in NICU & SNCU to prevent sepsis.

#### **Satellite Unit**

A satellite unit of Department of Neonatology, IPGMER-SSKM hospital, comprising of SNCU, Neonatal ward and NICU has been developed in MR Bangur hospital in 2011. Neurodevelopment follow-up services and ROP screening has been opened for M. R. Bangur Hospital SNCU babies.

#### **Retinopathy of Prematurity clinic**

Screening for retinopathy of prematurity (ROP) of preterm and sick babies required oxygen in NICU and SNCU, IPGMER. & various SNCUs of west Bengal and others referred from other health care facilities. This service is available every week on Wednesday from 4 PM onwards at 1st floor, New building for Institute of Neonatology. In-house LASER therapy (emergency) is also done at NICU for babies, diagnosed as ROP.

### **SERVICE INFORMATION**

### Statistics report for 2010-2016 NICU

| Year             | Total live birth | Inborn admission | Outborn admission | Survival rate at NICU |
|------------------|------------------|------------------|-------------------|-----------------------|
| 2010             | 2579             | 1143             | 219               | 93.17%                |
| 2011             | 2938             | 1107             | 292               | 92.9%                 |
| 2012             | 3223             | 883              | 407               | 92%                   |
| 2013             | 3400             | 875              | 320               | 88.4%                 |
| 2014             | 3802             | 903              | 289               | 88.7%                 |
| 2015             | 4080             | 839              | 401               | 86.4%                 |
| 2016 (up to Nov) | 3654             | 1042             | 602               | 89.0%                 |

### OPD statistics (Jan 2016 – Nov 2016)

| S. No. | OPD                     | No of cases |
|--------|-------------------------|-------------|
| 1      | Neonatal Medicine OPD   | 5607        |
| 2      | Neonatal Surgery OPD    | 150         |
| 3      | Neurodevelopment Clinic | 6032        |
| 4      | RBSK OPD                | 8107        |

### MORTALITY (Jan 2016 – Nov 2016)

| INBORN            |              |                   | OUTBORN                 |              |              |
|-------------------|--------------|-------------------|-------------------------|--------------|--------------|
| Total live births | Total deaths | Inborn NMR        | Total Outborn admission | Total deaths | Out born CFR |
| 3654              | 95           | 25.99 per 1000 LB | 602                     | 87           | 14.45%       |

### Month wise statistics of NICU : 2015

| MONTH     | LIVE BIRTH | NICU ADMISSION |         |       | DISCHARGE |         |       | MORTALITY |         |       | AVERAGE LENGTH OF STAY |
|-----------|------------|----------------|---------|-------|-----------|---------|-------|-----------|---------|-------|------------------------|
|           |            | INBORN         | OUTBORN | TOTAL | INBORN    | OUTBORN | TOTAL | INBORN    | OUTBORN | TOTAL |                        |
| Jan-16    | 314        | 85             | 44      | 129   | 70        | 29      | 99    | 10        | 10      | 20    | 26.5                   |
| Feb-16    | 276        | 112            | 55      | 167   | 79        | 38      | 117   | 11        | 08      | 19    | 22                     |
| Mar-16    | 281        | 96             | 50      | 146   | 56        | 36      | 92    | 07        | 08      | 15    | 23                     |
| April-16  | 298        | 66             | 44      | 110   | 51        | 30      | 81    | 05        | 07      | 12    | 16                     |
| May-16    | 319        | 86             | 48      | 134   | 60        | 30      | 90    | 04        | 06      | 10    | 18                     |
| June-16   | 294        | 79             | 41      | 120   | 51        | 19      | 70    | 09        | 10      | 19    | 18                     |
| July - 16 | 366        | 103            | 46      | 149   | 73        | 18      | 91    | 11        | 04      | 15    | 19                     |
| Aug-16    | 365        | 88             | 65      | 153   | 79        | 56      | 135   | 06        | 10      | 16    | 21.5                   |
| Sep-16    | 355        | 97             | 79      | 176   | 79        | 65      | 144   | 05        | 06      | 11    | 20.5                   |
| Oct-16    | 411        | 121            | 69      | 190   | 87        | 27      | 114   | 10        | 09      | 19    | 20.5                   |
| Nov-16    | 375        | 109            | 61      | 170   | 77        | 34      | 111   | 17        | 09      | 26    | 21                     |

### Bed occupancy and duration of stay at NICU : 2016

| Month  | Bed occupancy | Duration of stay (days) |         |         |
|--------|---------------|-------------------------|---------|---------|
|        |               | Inborn                  | Outborn | Average |
| Jan-16 | 69%           | 25                      | 28      | 26.5    |
| Feb-16 | 75%           | 25                      | 18      | 21.5    |
| Mar-16 | 72%           | 15                      | 13      | 14      |
| Apr-16 | 77%           | 15                      | 17      | 16      |
| May-16 | 76%           | 18                      | 18      | 18      |
| Jun-16 | 76%           | 18                      | 18      | 18      |
| Jul-16 | 76%           | 25                      | 21      | 23      |
| Aug-16 | 81%           | 26                      | 17      | 21.5    |
| Sep-16 | 84%           | 22                      | 19      | 20.5    |
| Oct-16 | 87%           | 21                      | 20      | 20.5    |
| Nov-16 | 84%           | 21                      | 20      | 20.5    |

## TEACHING & TRAINING ACTIVITY

- **DM neonatology course** 3 year DM Neonatology course permitted by MCI started in 2011 with annual intake of two students.
- **Clinical training for DNB in medical genetics**
- **Post Basic Diploma course in Neonatal Nursing** ( 1 year) approved by Indian Nursing Council & West Bengal Nursing Council.
- **Post graduate training (MD pediatrics)**
- **Training of M.Sc. Nursing students** from this institute and also from other medical colleges.
- **FBNC Training** (4+14 Days) for nurses.

## RESEARCH LABORATORY SERVICE

### Neonatal microbiology research laboratory

- Blood culture & sensitivity by Bactec method, culture of different body fluid, fungal culture of NICU babies & samples from districts SNCU.
- Identification of pathogen, antimicrobial sensitivity & resistance pattern.

### Genetic Research laboratory:

- Genetic testing & counseling centre at the department of neonatology, SSKM hospital.

## PUBLICATIONS

### Books / Manuals (2012-16)

- Manual of Neonatal Protocols (for doctor and nurses).
- Book on pediatric nursing.
- Book on basic newborn care at community level (local language).
- Book on neurodevelopmental follow up and early intervention.

### Journal articles (2012-16)

- Chatterjee S, Datta S, Roy S, Ramanan L, Saha A, Viswanathan R, Som T, Basu S. Carbapenem resistance in *Acinetobacter baumannii* and other *Acinetobacter* spp. causing neonatal sepsis: focus on NDM-1 and Its linkage to ISAb<sub>a</sub>125. *Frontier in Microbiology*, 2016. <http://dx.doi.org/10.3389/fmicb.2016.01126>
- Mondal U, Prasad R. Congenital arhinia: a rare case report and review of literature. *Indian Journal of Otolaryngology and Head & Neck Surgery*, July' 2016.
- Amitava Sur, Syamal Kumar Sardar and Anshuman Paria - Left Sided Oesophageal Lung: A Diagnostic Challenge, *Case Reports in Pediatrics*, February 2013.
- Amitava Sur, Syamal Kumar Sardar and Anshuman Paria - Caudal Duplication Syndrome, *Journal of Clinical Neonatology*, March 31, 2013.
- Mitra S, Saha AK, Sardar SK, Singh AK - Remission of congenital complete heart block without AntoRo/La antibodies, *Annals of Pediatric Cardiology*, 2013.
- Anindya Kumar Saha, Syamal Kumar Sardar and Amitava Sur - Congenital sternal cleft along with persistent left sided superior Vena Cava- a rare presentation, *Case reports in Pediatrics*, June 2013.
- Viswanathan R, Singh A, Ghosh C, Mukherjee S, Sardar S and Basu S - Experience of Setting Up a Microbiology Service for rural Facility Based Sick Newborn Care Unit *Journal of Tropical Pediatrics*, February 2012.
- Suman Sarkar, Shymal Kumar Sardar, Dinesh Munian, Subham Bhattacharya and Bhuban Majhi - An Anomalous Left Superior Venacava Draining into Left Atrium in association with Fetal Valproate Syndrome, *Indian Journal of Pediatrics*, May 2012.