



Government of West Bengal
Institute of Postgraduate Medical Education & Research
Centre of Excellence in Medical Education & Research

Neonatology

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IMPORTANT ACHIEVEMENTS

- Extension of the service of the Department of Neonatology with increase in the NICU and SNCU beds. At present the department is running with 100 beds.
- Currently the department is being expanded in an 8th storied building for comprehensive and holistic neonatal services in multiple domains, research and training activities – first of this kind in Eastern India.
- Clinic for the expectant mother for **Antenatal counselling** for fetal pathology has been started.
- Research project on neonatal screening of **Inborn Error of Metabolism** has been started in ground floor of Neonatology building. Disorders like Galactosemia , Congenital hypothyroidism , Congenital adrenal hyperplasia, Biotinase deficiency and G-6PD deficiency are being screened at present.
- The department has been designated as **Newborn care Resource Centre** for training in neonatology in the state of West Bengal by Department of Healthy and Family Welfare of the state government.

TEACHING & TRAINING ACTIVITY

- **DM neonatology course** 3-year DM Neonatology course permitted by MCI started in 2011 with annual intake of two students. From permitted status, recently one of the two DM seats has been recognized.
- **Post graduate training (MD pediatrics):** as part of Pediatrics curriculum.
- **Training of M.Sc. Nursing students** from this institute and also from other medical colleges.
- **Center for various state sponsored training under FBMNC, Govt of West Bengal:** Training for nurses and doctors for FBNC module, noninvasive ventilation, infection control, preterm package and NRP.
- **State Resource centre for training in Neonatology:** The department has been designated as Resource Centre for training in neonatology in the state of West Bengal by Department of Healthy and Family Welfare, Govt. of West Bengal.
- **Training of state wise DEIC at RBSK nodal centre, Department of Neonatology**

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 district SNCU.
- Identification of pathogen, antimicrobial sensitivity & resistance pattern.

Genetic research laboratory:

- Genetic Testing & Counseling Centre.

PUBLICATIONS

Journal articles

SN	Title	Authors	Journal	Year
1	Prediction of surfactant requirement in Indian preterm infants by lung ultrasound scores: a diagnostic accuracy study from a developing country	Tanima Roy, Somnath Pal, Syamal Sardar, Suchandra Mukherjee, Moumita Ghosh	European Journal of Pediatrics	November 2022
2	A case of multifocal hepatic hemangioma in a newborn.	Somnath Pal, Rajib Loshan Bora, Tanima Roy, Syamal Sardar, Suchandra Mukherjee	Annals of Medical Science & Research	September 2022
3	A three-arm randomized control trial of different nasal interfaces on the safety and efficacy of nasal intermittent positive-pressure ventilation in preterm newborns.	Syamal Sardar, Somnath Pal, Moumita Ghosh	Indian Journal of Pediatrics	2022
4	Prevalence of fetal malformations: an experience from a tertiary care hospital	Ranjit Mukherjee, Uttam Kumar Mondal (corresponding author) ,	Perinatology	April –June 2022

		Suchandra Mukherjee, Manashi Purkait		
5	Clinical and echocardiographic characteristics associated with evolution of patent ductus arteriosus in preterm neonates: A prospective cohort study.	Anindya Kumar Saha (corresponding author) , Syamal Kumar Sardar , Bhuban Majhi, Suparna Chatterjee	Journal of Neonatal Perinatal Medicine	April 2022
6	Premedication with Fentanyl for Less Invasive Surfactant Application (LISA): A Randomized Controlled Trial.	Habibullah Sk , Bijan Saha , Suchandra Mukherjee , Avijit Hazra	Journal of Tropical Pediatrics	February, 2022
7	Effect of antenatal dexamethasone in late preterm period on neonatal hypoglycemia: a prospective cohort study from a developing country.	Somnath Pal, Syamal Sardar, Nirmalya Sarkar, Moumita Ghosh, Suparna Chatterjee	Journal of Tropical Pediatrics	February 2022

SERVICE INFORMATION

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

Special Newborn Care Unit: 42 beds at 3rd Floor new Neonatology building.

Neonatal ward / KMC ward: 20 bedded unit with facility of mother-infant dyad staying together at 3rd floor of Neonatology building

Neonatal and fetal surgery division : Neonatal surgery intensive care unit along with dedicated neonatal OT .

Postnatal Ward: For care of babies who are roomed in with mother in Maternity ward , G & O building .

Regular service activities

- Level III care of sick newborns including ventilation (conventional and high frequency), parenteral nutrition, neonatal surgery, peritoneal dialysis.
- The unit is equipped with 23 conventional ventilators and 2 high frequency ventilators, 3 bubble CPAP and 15 HHHFNC. 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, serumelectrolytes and blood grouping is done.
- Provision for complicated neonatal surgeries for congenital and acquired disorders.
- Selected cardiac surgery for congenital heart disease in collaboration with Department of Cardiothoracic Surgery and Department of Cardiology.
- Comprehensive 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, 9 am to 2 pm. Follow-up for high risk NICU graduates, premature babies with facilities for motor, neurological, vision, hearing, cognitive examination and early intervention, all under one roof.

Antenatal counselling Clinic (Fetology clinic): Clinic for counselling of expectant mother for various fetal diseases or genetic diseases has been started at 1st floor of new Neonatology building (Three days in a week – Monday, Wednesday and Friday). Genetic counselling is also done in selected cases in collaboration with Biomedical Genomic Center by appointment only.

Neonatal OPD: All working weekdays 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.

DEIC (District early intervention center): On Tuesday and Thursday, DEIC clinic is run as part of RBSK program for early identification and management of Defects at Birth, Deficiencies, Diseases, Developmental delays including disabilities. Babies are referred by school health team, district mobile team of RBSK as well as by pediatrics and neurology departments of various government hospitals.

RBSK (Rastriya Bal Swasthya Karyakram under Government 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.

Comprehensive Lactation Management Center

The Chief Minister, Govt. of West Bengal has inaugurated Eastern India's first Human Milk Bank or Comprehensive Lactation Management Center (CLMC) at the ground floor of new building for Institute of Neonatology, IPGME&R and SSKM Hospital on 7th August, 2013. This is the most advanced and well equipped Lactational Management center 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 is situated at the ground floor of G&O building. This is meant to supply sterile articles & linens for resuscitation and daily care of newborn babies admitted in NICU & SNCU to prevent sepsis.

Retinopathy of Prematurity Clinic

Screening for retinopathy of prematurity (ROP) of preterm and sick babies requiring oxygen in NICU and SNCU, IPGME&R and various SNCUs of West Bengal and referred from other health care facilities. This service is available every week on Monday and Wednesday from 9:00 AM 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.

Senior consultant of Ophthalmology Dr. Pranab Das has joined in Department of Neonatology for screening and management of retinopathy of prematurity and neonatal ophthalmological disorder.

New services

Perinatal orthopedics clinic : It has been started in collaboration with Dept of Orthopedics to deal with congenital disorders of bone and joints in fetus and newborn (every Thursday at department of Neonatology).

Preconception clinic : It has been started in collaboration with department of community medicine , dept of Gynecology and Obstetrics at Main block on every Wednesday .

Statistics report for NICU: 2010-2019

Year	Total live birth	Inborn admission	Outborn admission	Survival rate at NICU
2010	2579	1143	219	93.1%
2011	2938	1107	292	92.9%
2012	3223	883	407	92.0%
2013	3400	875	320	88.4%
2014	3802	903	289	88.7%
2015	4080	839	401	86.4%
2016	4004	1151	668	89.4%
2017	4806	1663	544	91.2%
2018	5416	1743	555	90.7%
2019	5532	2255	575	91.9%
2020	7626	3123	643	91.9 %
2021	7398	3547	615	93.8%

OPD statistics: 2020 (From December 2020 to November 2021)

OPD	Count
General Neonatology OPD	8171
Neurodevelopment Clinic (New cases and follow-up)	7054
RBSK OPD (New cases and follow up)	12793
ROP screening (No of new screening performed)	1011
No of LASER procedures done for ROP	35

Indoor admission statistics: From December 2021 to November 2022

Total inborn admission	Inborn death	Inborn CFR	Total outborn admission	Outborn death	Outborn CFR
3359	214	6.37%	647	82	12.67%