Neonatal Unit/Neonatal High Dependency Unit (NHDU)

ORIENTATION BOOKLET

For student nurses on clinical placement to Neonatal Unit/NHDU who are undertaking one of the following programmes:

- Bachelor of Science (Nursing) Children's & General Integrated ☐
- Higher Diploma in Nursing Studies (Children's Nursing) ☐
- Bachelor of Science (General) ☐

Student Name:

Preceptor:

Philosophy of Care

On the Neonatal Unit, we are committed to working together to provide holistic, family centred care of the highest standard to you and your baby. Your care will be delivered in a professional, compassionate and caring manner.

We recognise that parents are not just visitors. Our aim is to empower you to support your baby's physical and emotional well-being. Throughout your neonatal journey, we will work in partnership with you to promote bonding and to create a safe and nurturing environment for your baby.

Created by CNEF on Neonatal Unit & CPC Team
Jan 2023

Welcome to the Neonatal Unit/NHDU

We hope you will find working here a rewarding and enjoyable experience. This booklet is intended to give you an overview of the unit the staff and the learning opportunities that are available to you during your placement. The Neonatal Unit is an 18 bedded unit. It has 6 HDU beds, 3 step-down beds and 9 neonatal beds. We care for patients from 30 weeks gestation and 1.5kgs in weight and specialise in neonatal surgical conditions.

The Unit manages a wide variety of conditions including, but not limited to the following

- Surgical conditions including: Duodenal Atresia, Meconium Ileus, Hirschsprung's Disease, Malrotation, Volvulus, Gastroschisis, Exomphalus, Short-gut syndromes, Colostomy/Ileostomy formation, Oesophageal atresia, Congenital Diaphragamatic Hernia (CDH).
- Complications of Prematurity; e.g hyperbilirubinaemia, NEC, hypoglycemia, retinopathy of prematurity
- Respiratory conditions including: bronchiolitis, pertussis, pneumonia,
- ENT conditions including infants with: Tracheostomies, nasal stents, choanal atresia, Nasopharyngeal Airways, laryngeal/tracheal malacia, vascular rings & subglottic stenosis
- General Medical conditions including: Gastro-Oesophageal Reflux, Seizures, Haemangiomas, Syndromes, Failure to Thrive, Obstructive Sleep Apnoea, U.T.I's, Sepsis.
- Dermatology conditions including: Epidermolysis Bullosa, Eczema, Haemangiomas
- Hepatology and Haemophilia
- Endocrine related conditions including: Hypoglycaemia &Hyperinsulinemia.

CHI Crumlin is a tertiary referral centre. The Neonatal Unit receives admissions from maternity units all over the country and internal transfers from the Emergency Dept. and Intensive Care Unit.

Ward Staff

The nursing compliment on the Neonatal Unit consists of Clinical Nurse Managers (CNM 2) and (CNM 1), Clinical Nurse Education Facilitator (CNEFs), Staff Nurses, and Student Nurses.

Our "Hello, My Name Is" badges should also help you remember our names too.

The nursing and medical staff are supported by a team of healthcare assistants (HCA'S) in addition to secretarial, administrative, reception and household staff.

Hours of Placement (All Students)

You will be advised on how many days & weeks you must attend placement for (clinical shifts and reflective practice days) by the following:

- **Supernumerary Nursing students**: Student Allocations Liaison Officer (SALO)
- **PRCNS students**: PRCNS Co-Ordinator

Off Duty

- Your off duty will be decided by the Clinical Nurse Manager 2.
- Changes to your off duty may be facilitated but this is dependent on ward skill mix.
- Duty may be swapped between students only with prior agreement of Clinical Nurse Manager 2.
- During your placement you will be allocated a preceptor and a co-preceptor. We try as much as possible to facilitate students to work alongside your allocated preceptor so that your assessments are performed by nursing staff you have been closely linked with.

➢ **Reflective practice**: You will be facilitated to attend your mandatory reflective practice sessions in the CCNE (Children's Centre for Nurse Education) or online. Reading & unstructured reflective practice will be accommodated but must be undertaken within the department.

Absence Reporting:

If you are absent for any reason you must follow the reporting structure below:

Absence Reporting	
Supernumerary Nursing Students (1^{st}; 2^{nd}; 3^{rd} & 4^{th} yrs.)	**Rostered Student Nurses** (PRCNS & Interns)
1. Ring the Clinical Area	**1. Ring** Nursing Admin
2. Email: student.absence@olchc.ie	**2. Ring** the Clinical Area
	3. Email: PRCNS Co-Ordinator (PRCNS) /**Email:** student.absence@olchc.ie (Interns)
Please refer to the **full** guideline for further information hours, absences and returning to placement:	
➢ *Supernumerary students Guidelines on Absenteeism and Duty, Supernumerary Nursing Students BSc Nursing Children's and General -Nov. 2020*	➢ *CHI Crumlin Guideline on Duty Public Holiday Absenteeism for Rostered Stds 2021*

NB: check off duty prior to being off for a few days in case of last minute changes

Break Times

Breakfast	30 minutes (between 8.30 & 10.30am)
Lunch	45 minutes (between 12.15 & 2pm)
Tea	30 minutes (between 5 & 6pm)

Management of Emergencies on the Neonatal Unit.

The emergency number throughout the hospital is **2222**; please wait for voice confirming that the call has gone through. Please make yourself familiar with the Major Emergency plan for the Neonatal Unit as well as the location of the ECG Monitor, the Emergency Trolley, fire extinguishers and fire exits.

Ward routine for nurse/patient allocation:

This is only a brief summary of the nursing care received by our patient's each day. The infant's specific nursing care is planned and delivered only after a careful assessment of the infant's nursing needs.

- **07.30**: Ward report, using ISBAR 3, commences. It includes a brief summary of nursing care, safety pause and patient allocations. Safety Pause highlights patients with similar names as another patient (S.N.A.P), patients with infection control alerts, patients with increasing PEWS or patients who there is a concern over. You will also be linked with your preceptor for the day.
- After the allocations, the CNM1 or the nurse in charge will give you a more detailed handover on your patients. Your preceptor/CNM1/CNF will provide you with support and guidance throughout the day.
- **08.15**: Assess patients, preform baseline PEWS and safety checks. Plan and prioritise your patient's care incorporating a specific care plan, in conjunction with parents, and after carefully assessing your patient's needs. Complete the white board in the patient rooms.
- **09.00:** Where possible participate in ward rounds for your patients.
- **11.**00: Begin documenting care plans and communication sheets after consultant rounds with changes in treatment and medications. Document all investigations requested and those that have been performed. Check results if available. **Ensure all documentation in the 'end of bed notes' e.g Pews/Fluid balance is completed in real time and not retrospectively at the end of the day.**
- **12.00** A brief handover is performed with the CNM and the nurse working opposite you. Continue to update your care plans regularly throughout the afternoon. All of your documentation must be co-signed by a staff nurse.

  If you are leaving the ward or going on a break please remember to update the nurse working opposite you/CNM 1 before you leave.

  19.00: Handover to the nurse who is doing the ward report and ensure ISBAR is updated on the computer.

Children's Health Ireland at Crumlin

Sample Plan of Care:

	Feeds	Medications	PEWS	Investigations/Other
John	09.00	10.00	10.00	Bloods
	13.00	14.00		Bath
	17.00	18.00	18.00	Weight
Mary	10.00	10.00	10.00	Stool
	13.00	12.00		MSU
	16.00	14.00	14.00	Chest X-ray
	19.00	18.00	18.00	
Paul	08.30	10.00	08.30	Discharge Plan
	12.00	12.00	12.00	Prescription
	16.30		16.00	PHN Letter/phone call
		18.00		OPD Appt

Please ensure to liaise with the CNM 1/Nurse in charge regularly throughout the day regarding your patient's condition, change in their treatment plan or if they become a potential discharge.

Notify the CNM1 or Nurse in charge of any deterioration in your patient's condition IMMEDIATELY

Other Relevant Information

Patient Safety:

Patient safety is of paramount importance in paediatric nursing care.

- Always ensure that the infant has an ID band in situ displaying the correct Name/Number/Date of birth/Ward, - must be on the infant's arm or leg, loose enough not to mark skin. (ID Band on patient cot not acceptable unless patient has fragile skin or allergy).
- When preparing a bath, always use the cold tap first and ensure water is at correct temperature.
- Hand hygiene is vital to safeguard the infants within our care. White aprons and surgical masks are worn for all patient cares. Please verify with the CNM 1 what the correct PPE is for your patient if they are in isolation.
- Please familiarise yourself with the bathroom situation at the beginning of every shift. As we only have one toilet this could change depending on cohort of isolation patients.

- For safety/infection control reasons parents are not permitted in the ward kitchen.

- To prevent scalds, hot drinks are not permitted our policy in patient rooms on the Neonatal Unit. Infants are not permitted to go into the ward kitchen or the parent's kitchen.
- Scalds can also be prevented by unplugging and emptying bottle warmers in cubicles after use
- Sterile bottles should be used for infants under 1 year.
- The safe administration of expressed breast milk is imperative. EBM can be administered for 48 hours if freshly expressed. If it has been defrosted it is only safe for administration within 24 hours. It is treated as a drug and must be double checked and signed out by 2 staff. Intern and PRCNS students may sign out EBM with a qualified staff member. EBM must also be double checked at the bedside. If you are taking breast milk from a parent to store in the fridge/freezer ensure that an EBM label has been filled out and placed on the bottle.
- When a baby is in a cot, ensure that the cot sides are raised and secured in position
- All patient's weights must be double checked with a staff nurse.
- If a member of the public is on the ward and is unknown to you, please ask can you help them to ensure they are in the correct department

Immunisation Schedule: For most recent information please refer to: the following website:

HSE.ie/ immunisations and the OLCHC Medication Policy 2017.

Check in Procedure for Patients Coming to Theatre

- Patient's identification bracelet.
- Appropriate consent form signed.
    - Adequate fasting status *6 hours for food and milk*
    - *4 hours for breast milk*
    - *1 hour for clear fluids*

POST OPERATIVE PLAN: OBSERVATIONS:

Frequency of assessing & recording Paediatric Early Warning System (PEWS) should always be guided by each patient's clinical condition & the post-operative anaesthetic instructions. Any patients with respiratory compromise or patients on opioid infusions should be on continuous Pulse Oximetry. Please **do not read heart rate from monitor**, please **palpate pulse or listen with a stethoscope** as appropriate for the age of the child. Document PEWS clearly and contemporaneously, do not write them in later! The plan below is just a guide on frequency of vital signs assessment:

- ¼ hourly for 2 hours (this should be started in recovery so finished 2 hrs from time patient comes into recovery)
- ½ hourly for 2 hours
- 1 hourly for 2 hours
- 4 hourly when stable

Normal ranges of vital signs

The normal ranges for vital signs in paediatrics vary depending on the infant's/child's age.

Please consult the age appropriate Paediatric Observation Chart (PEWS). Please also be mindful of corrected age if your patient is an ex-prem.

There are five charts: 0-3 months 4-11 months 1-4 years 5-11 years 12+ years

Drug Calculation:

$$\frac{\text{Amount Required}}{\text{Amount present in medication}} \times \frac{\text{volume}}{1}$$

Example: John needs Paracetamol. 15mg/kg dose Prescribed. John weights 5kg

Prescription is 75mg (15mg x 5kg). To work out Volume to give to John 75 ÷120 = 0.625 x 5mls = 3.1mls

Urinary Output:

Expected urinary output for a child: 1ml/kg/hour: Example Mary 3/52 old weights 4kg. Urinary Catheter in situ post op. Drained 200mls in 24 hours.

Urine output = 200mls ÷ 4 = 50mls per kg

To work out per hour. Divide total per kg by 24 hours = 50mls ÷24 = 2mls/kg/hr

Intravenous Fluids Calculations:

Intravenous fluid intake for an infant is prescribed according to the infant's weight. To calculate the fluid requirements for a child in 24hours:

First 10kgs of body weight	100mls/kg
Next 10kgs of body weight	50mls/kg
Every kg thereafter	20mls/kg

Newborn Enteral Feeding Requirements:

Day 1 of Life	60mls/kg/day	Day 4 of Life	130mls/kg/day
Day 2 of Life	80~~90~~mls/kg/day	Day 5 of Life	150mls/kg/day
Day 3 of Life	100mls/kg/day	Then	150-~~200~~ 180mls/kg/day

** All neonatal patients <7 days old and who are not orally feeding should be nursed on 10% Dextrose IVF at appropriate rate. (+/- 0.45Nacl, +/- KCL).

Calculating Enteral Feeds for infants:

Claire 5/7 old. Weighting 4kg. Presented with overfeeding. Instructed to reduce volume of feeds to appropriate amount for age

For 5 day old baby should be on 150mls/kg/day = 150mls x 4 = 600mls

Infants should be fed depending on condition and team instruction 3 – 4 hourly

If 3 hourly feeds = 8 feeds per day (24 ÷ 3)

If 4 hourly feeds = 6 feeds per day (24÷4)

Calculating Intravenous Fluids for infants:

Mary 3/7 old 3 weighting 3kg. Fasting for Liver U/S. Team prescribe 100mls/kg/day of 10% Dextrose. What rate of fluid will be prescribed?

100mls/kg = 100mls x 3kg = 300mls in 24 hours

Rate for 1 hour= 300mls ÷24 hours = 12.5mls/hr

Learning Opportunities on on the Neonatal Unit

To help you to focus your learning, we have compiled a list of practical elements of nursing care which you should have the opportunity to complete during your placement. Please let us know if there is something you particularly want to see or do and we will do our best to facilitate you.
(This is not an exhaustive list):

Maintaining a safe environment

- Perform an admission assessment of an infant
- Complete nursing documentation. Opening and closing care plans.
- Assist in the discharge planning of a child
- Paediatric pain assessment
- Implement isolation precautions
- Perform an MRSA screen and MDRO screen.
- Care for an Intravenous cannula under supervision. Use of Peripheral Venous Care Bundle.
- Be aware of potential safety hazards on the ward
- Transfer a child to and from theatre with a staff nurse
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- Observe/Participate (as appropriate) in medication administration (Please note there is no specific drug round on the Neonatal Unit. You are responsible for ensuring your patient receives their medications on time)

Breathing and circulation

- Monitor and record vital signs in infants - including apical pulse
- Monitor and record pre and post-operative observations
- Obtaining manual Doppler Blood Pressure.
- Obtaining Capillary re-fill time
- Caring for children with Airvo / CPAP.
- Early detection of a deteriorating child & escalation as appropriate.

Eating and drinking

- Assess the infant's normal feeding patterns and intervening when appropriate.
- Monitor and record an infant's fluid balance
- Calculate an infant's fluid requirements
- Make up an infant formula feed and/or bottle feed an infant
- Check the position of and pass an NG tube
- Feed an infant through an NG or gastrostomy tube

Elimination

- Assess the infant's normal routine
- Monitor and record an infant's output
- Change an infant's nappy and attend to nappy area care
- Obtain urine / stool / sputum specimens
- Monitor and record nasogastric losses

Personal cleansing and dressing

- Attend to infant's hygiene needs
- Bath an infant
- Attend to an infant's oral, eye & umbilical care
- Perform a wound swab
- Assist/perform a dressing e.g PEG
- Assist/perform specific skin care for babies who require it.

Communication

- Improve communication with children and parents
- Explore concept of play
- Explore parent's experiences of hospitalization

Learning resources available on the Neonatal Unit

- Infant's nursing and medical notes
- History taking from parents
- Nursing staff including CNF/CNM's & S/N & members of the multi-disciplinary team

  - Nurse Practice Development Guidelines on Intranet
- Internet resources
- Online journals (available in the library)
- Apps / Videos
- Textbooks (Available in CNM office)

Supports

Do not be afraid to ask for help or to come to us if you have any issues or questions. There are lots of people to support you including:

- Clinical Placement Co-ordinators
- Clinical Nurse Managers
- CNEF
- Registered Nurses
- Centre of Nurse Education Staff
- Colleagues
- Preceptor & Co-preceptor

We hope you enjoy your placement on the Neonatal Unit. We take learning seriously and are here to support you to ensure you get the most out of your time with us.

Student Signature: _____

Preceptor/CNF Signature: _____