

## **PREAMBLE**

A rotation on team 3 at McMaster should give residents the opportunity to become familiar with a wide variety of conditions that present to a level two plus intensive care nursery, a normal well baby nursery, and to children with chronic complex conditions.

## **MEDICAL EXPERT**

1. The resident should have an understanding of the applied anatomy and physiology with respect to the problems and conditions found on the normal nursery and level two nursery, as well as in chronic complex patients admitted to the pediatric ward
2. Demonstrate the unique communication skills necessary to obtain thorough, focused neonatal histories from parents or other caregivers.
3. Elicit key physical signs in children despite potential poor compliance.
4. The pediatric resident should be able to:
  - a. Recognize the unique natural history of neonatal diseases.
  - b. Recognize the heat regulation problems in infants and the need for careful environmental control during evaluation.
  - c. Recognize limited host resistance and high risk of nosocomial infections in newborns.
  - d. Recognize the need to individualize drug dosage and fluid administration on the basis of weight, and be able to calculate expediently nutritional and fluid and electrolyte requirements using standard formulas.
  - e. Recognize and accommodate for the altered physiological drug administration.
  - f. Recognize the normal range and wide variation with respect to diagnostic tests involving infants and children of different ages.
  - g. **Recognized the increasing incidence of NAS and the high risk population it occurs in, and the high needs required by baby and family after delivery.**
5. Be able to diagnose and manage a variety of medical conditions including:
  - a. Newborn illnesses – including jaundice, sepsis, seizures, feeding

problems, failure to thrive, hypoglycemia, RDS, TTN, neonatal resuscitation, prematurity and developmental concerns. Understand the rationale for newborn screening – PKU/hypothyroidism/hearing screening and the expanded newborn screening program.

- b. Respiratory illnesses – **bronchopulmonary dysplasia, chronic lung disease, aspiration pneumonia, congenital airway issues (laryngomalacia, tracheomalacia, and Pierre Robin Syndrome)**
- c. Cardiac disease – including innocent and pathologic murmurs, congenital heart disease, arrhythmias, congestive heart failure .
- d. CNS disease – **Hypoxic ischemic encephalopathy, seizures, intraventricular hemorrhage, acquired brain injury and specific diseases affecting development – ie Cerebral Palsy**
- e. Gastrointestinal diseases- GERD. **NEC, feeding intolerance, feeding and swallowing disorders**
- f. Infectious diseases – including all common viral and bacterial infections.
- g. Dermatology –, newborn rashes.
- h. Hematology – including anemia and thrombocytopenia.
- i. **Genetic syndromes – common chromosomal anomalies including Trisomy 21 and microdeletions**

6. Demonstrate aseptic technique in performing medial procedures including:

- lumbar puncture
- bladder catheterization
- arterial and venous blood sampling
- insertion of umbilical venous and arterial lines

7. Demonstrate proficiency in insertion of naso gastric feeding tubes.

**In addition for Senior Residents, the residents should have proficiency in neonatal intubation and neonatal resuscitation.**

**For the above Medical Expert knowledge and skills, the junior resident should be starting to acquire the knowledge and skills listed 1-7 and be able to manage these patients with supervision. The Senior resident should be competent in his/her knowledge and skills above. The Senior resident should be able to begin to independently manage the patients and make independent treatment decisions.**

## **COMMUNICATOR**

1. Convey pertinent information on the neonatal inpatients in different circumstances (over the phone, during ward rounds and case conferences).
2. Provide accurate and concise written information to other health professionals by means of dictated summaries and consultation notes.

3. Appreciate the importance of communicating with the child's parents and other family members.
4. Understand the crucial role the patient's primary care physician plays not only during the hospitalization, but also after discharge, and communicates with them on a regular basis.

**In addition for Senior Residents:**

- 5. Learn to share and convey favourable and unfavourable information to patients and families and provide updated and accurate medical information if requested to do so, including to provide prenatal counseling for imminent premature deliveries.**

**COLLABORATOR**

1. Involve pediatric sub-specialists in diagnosing and managing children with multisystem complex medical issues.
2. Work together with fellow **team members** to ensure sharing of responsibility and workload in a pleasant and collegial working environment.
3. Recognize the key role the ward nursing staff play in ensuring optimal care for infants and children in hospital.

**In addition for Senior Residents:**

- 4. Be able to coordinate care involving many different medical and allied health professionals.**

**MANAGER**

1. Appreciate the issues surrounding informed consent and refusal of treatment.
2. Understand the costs and cost effectiveness of treatments and interventions for infants in a hospital setting.

**In addition for Senior Residents:**

- 3. Be able to manage the difficult task of ensuring timely admission and discharge of patients on busy active inpatient units.**

- 4. Ensure the smooth and efficient transfer of patients from other hospitals to the L2N, and recognize when transfer from the L2N to the L3 intensive care unit is warranted.**

## **HEALTH ADVOCATE**

1. The resident should be an injury prevention and preventative health advocate which includes:
  - a. Giving accurate information with respect to immunizations.
  - b. Promoting safety in the home.

## **SCHOLAR**

1. Recognize the importance of self-assessment, self-directed learning and personal continuing education combined with integrated patient care.
2. Be able to critically appraise medical literature and apply these skills in practicing evidence-based medicine.

### **In addition for Senior Residents:**

- 3. Value the critical need for ongoing systems of peer review, maintenance of competence, and evaluation of outcomes in the management of sick infants.**
- 4. Teach the principles of neonatal illnesses to medical students, fellow residents and other health professionals.**

## **PROFESSIONAL**

1. Appreciate the particular emotional and ethical issues surrounding the care of a sick infant and the need to involve parents, children's advocates and other caregivers in providing support in difficult situations and circumstances.
2. Be aware of the life-long significance of serious or chronic illnesses in children and their impact on quality of life.
3. Demonstrate appropriate attitudes with respect to gender, culture and ethnicity.

### **In addition for Senior Residents:**

- 4. Appraise the ethics of research concerning children.**

