

# PROPOSAL FOR A POSTMASTERS IN PEDIATRIC ANESTHESIA

**Introduction:** Identify the Program

**Name of Program:** Wayne State University Nurse Anesthesia Program

**Title of the Major:** Nurse Anesthesia

**Title of the degree:** Graduate Certificate in Pediatric Anesthesia

**School/college in which the program will be housed:** Wayne State University Nurse Anesthesia in Collaboration with Children's Anesthesiology department.

**Abstract of Proposal:**

The purpose of this proposal is to offer advanced training in Pediatric Anesthesiology for CRNAs and Graduate Nurse Anesthetists (GNA). The training would result in a joint venture between Wayne State University school of Nurse Anesthesia and Children's Hospital of Michigan Department of Anesthesia.

The course of study will include a minimum of 12 credit hours Post Masters in Anesthesia. A minimum of 6 months intense training in pediatric anesthesia is required. Upon completion of specialized didactics and clinical experiences in pediatric anesthesia the student will demonstrate competency through an evaluative process with the faculty. Students successful in completing the program will be eligible for a graduate certificate in Pediatric Anesthesia.

## 1.0 Program Rationale

### 1.1 Need.

Pediatric anesthesia is a unique specialty in the field of anesthesia and requires specialized concentrated training beyond the core anesthesia curriculum. Children's Hospital of Michigan can provide the available clinical resources for students. There is a demand for nurse anesthetists with special training beyond the minimum core anesthesia requirements for cardiovascular obstetrics and pediatric anesthesia. Advanced training in these areas minimizes the need for prolonged and costly training on entry into practice and increases the marketability of our graduates.

1.1.1 The needs of the student will be met through lectures, conferences, seminars, journal club, mortality and morbidity conferences, specifically relating to the specialty of pediatric anesthesia. There will be ongoing evaluation of graduate attainment of objectives..

## 2.0 Program Description and Objectives

### 2.1 Objectives.

Provides the student with advanced knowledge in pediatric anesthesia to be able to deliver quality and safe anesthesia to pediatric patients requiring anesthesia for a wide range of surgical procedures.

### 2.2 Admission Requirement

The student must have graduated from an Accredited Nurse Anesthesia Program and completed and passed the national certification examination or is eligible for the national certification examination. Graduates must have maintained a 3.0 GPA in their nurse anesthesia program.

- 2.2.2 1. Satisfactory completion of an accredited nurse anesthesia program with a masters degree.
2. Eligibility for national certification specialty licensure in nurse anesthesia or has a valid specialty licensure as a Certified Registered Nurse Anesthetist (CRNA).
3. Professional and Specialty licensure.
4. Evidence of pediatric course content from the generic anesthesia curriculum.

2.2.4 The student must complete the graduate degree course work in order to be fully committed to the advanced education in the specialty of pediatric anesthesia. The time commitment is 6 months post masters in nurse anesthesia.

### 2.3 Graduation Requirements.

Currently the core anesthesia curriculum for a Masters Degree is offered at a minimum of 60 credits. A minimum of 12 credits will be required following the general completion of the core curriculum for the graduate certificate.

2.3.2 There is a critical need for Nurse Anesthetists skilled to provide quality and safe anesthesia to infants and children. Students must maintain a 3.0 and satisfactory clinical performance.

2.3.3 This curriculum is established for full time students. Completion of a masters degree in anesthesia is required prior to being awarded a certificate in Pediatric Anesthesia. A minimum of 6 months will be required for completing the requirements for Pediatric graduate certification.

The following table identify advanced curriculum specifically for pediatric anesthesia: (see table 1)

2.4 Curriculum.

**DIDACTIC PROGRAM - Table 1**

	Yes	No
A. Are the following didactic components incorporated into the program?		
1. Cardiopulmonary resuscitation; PALS (Ped advanced life support)	X	
2. Pharmacokinetics and pharmacodynamics and mechanisms of drug delivery	X	
3. Cardiovascular, respiratory, renal, hepatic, and central nervous system physiology, pathophysiology, and therapy	X	
4. Metabolic and endocrine effects of surgery and critical illness	X	
5. Infectious disease pathophysiology and therapy	X	
6. Coagulation abnormalities and therapy	X	
7. Normal and abnormal physical and psychological development	X	
8. Trauma, including burn management	X	
9. Congenital anomalies and developmental delay	X	
10. Medical and surgical problems common in children	X	
11. Use and tonicity of local and general anesthetic	X	
12. Airway problems common in children	X	
13. Pain management in pediatric patients of all ages	X	
14. Ethical and legal aspects of care	X	
15. Transport of critically ill patients (inter and intra hospital transport)	X	

B. Intradepartmental activities

ACTIVITY	Contact Hours
Lectures	20
Conferences	12
Morbidity and Mortality Conferences	4
Journal Club	2
Clinical Experiences	80-100 Hrs.

#### 2.4.4 Program Structure

1. Case exposure – The graduate student will be participating in a wide range of cases including cardiac with cardio-pulmonary bypass, cardiac without cardio-pulmonary bypass, intra-thoracic non-cardiac cases, solid organ transplantation including kidney and heart, cranio-facial repair, airway surgery, neonatal emergencies including tracheoesophageal fistula, gastroschisis, omphalocele diaphragmatic hernia, necrotizing endocolitis and bowel obstruction.
2. Techniques for anesthesia – The graduate student will be involved with general anesthesia, the placement of epidural, caudal and regional analgesia, the insertion of central venous and arterial catheters. The graduate will learn to be proficient in flexible fiberoptic intubation.
3. Pain management outside the OR – The graduate student will participate in consultations for continuous central neuraxis blocks and PCAs. Attached are the demographics of case experiences available to the trainee. (Tables 2-6)

#### 2.5 Monitoring and Advising of Students.

Students are evaluated monthly by the faculty. Evaluations are compiled and the trainee is given a copy of the evaluation summary each month. The student meets with the pediatric program director for an exit interview after their six month training. If a particular trainee is having difficulty clinically or with families, surgeons or staff, a meeting is arranged with the trainee, the program director and another faculty member.

#### 2.6 Program Implementation

##### **Subspecialty selection process:**

All applicants must have completed an approved nurse anesthesia training program and an application form. Suitable applicants are then invited to visit our institution for a formal interview. All applicants are discussed at a pediatric anesthesiology faculty and Wayne State University faculty meeting and the desired candidates are offered a position. The development and implementation of the program will be shared with programs in the state as well as programs throughout the country.

### 3.4 Program Review by Student

All pediatric anesthesiology students meet with the program director formally 2-3 times through the six-month period. Questions, concerns and comments are presented verbally. An exit interview for all students is performed by the Pediatric Program Director at the end of the training period.

The institution also undergoes a system-wide Graduate Medical Education internal review performed every 2-3 years for all residency and fellowship programs at Wayne State University Detroit Medical Center system. Pediatric anesthesiology for residents was reviewed internally in 1996 and in 1998. All residents participate in continued quality improvement. Any incident that occurs during the perioperative period are recorded and submitted by the student involved in the case. These cases are discussed at our Patient Mortality and Morbidity conference every two months. Student attendance is mandatory and active participation is encouraged.

### 4.0 Program Administration

The program will be conducted by the pediatric faculty in anesthesiology. Administratively, the program will be jointly managed by the chief anesthesiologist at Children's Hospital and the chair of Nurse Anesthesia for Wayne State University Nurse Anesthesia Program.

### 5.2 Faculty Qualifications

The faculty at Children's Anesthesiology department currently are involved in teaching a variety of students including nurse anesthesia students on rotation. The faculty are committed to education and teaching.

### 5.3 Program Resources

5.1 Zestos, MD, D'Augustine, DO, Bhattacharya, MD, P. Worth, Ph.D.

## CURRICULUM FOR PEDIATRIC ANESTHESIA CRNA PROGRAM

### CREDIT

#### **CME Weekly Conference**

2

##### **Advanced Pediatric Topics**

Invited lecturers from within Children's Hospital and outside institutions provide detailed advanced information related to various pediatric anesthesia topics.

#### **Special Topics in Pediatric Anesthesia**

2

##### **(Thursday Mornings – 6 months)**

This lecture series focuses on common topics in Pediatric Anesthesia. Common pediatric problems are reviewed including neonatal anesthesia. Student participation is encouraged.

#### **Case Presentations – Difficult Cases**

2

##### **(Wednesday Mornings – 6 months)**

This case presentation is in Oral Board format with a problem presented and an in-depth review of the topic and the case management. Anatomy and physiology of various diseases including the principles of the anesthetic management are dealt with in detail.

#### **Clinical Practice I – Outpatient Pediatric Anesthesia**

2

Represents 40% of clinical experience focusing on managing airways and common pediatric problems in the outpatient setting.

#### **Clinical Practice II – Complex Pediatric Anesthesia**

3

Represents 40% of clinical time spent caring for patients with major pathology undergoing complex surgical repair. This includes major cranio-facial cases, craniotomies, posterior spinal fusions and major abdominal cases.

#### **Clinical Practice III – Pediatric Cardiac Anesthesia**

1

Represents 20% of cases involving the repair of complex cardiac disease in pediatric patients requiring cardio-pulmonary bypass, thoracotomy and line placement.