

Department of Pediatrics  
Fellowship Training Program in Neonatal-Perinatal Medicine  
Curriculum

**Physiology/Pathology Course Thursday 7:45 AM**

**Charles Rosenfeld; Luc Brion**

Placental Growth & Blood Flow  
Placental Transport & Function  
Maternal Nutrients and Fetal Growth & Development  
Hormonal Regulation of Growth & Development  
Alterations in Fetal Growth and Outcome  
Clinical Assessment of Maternal-Fetal Blood Flow and Growth  
Physiology of Amniotic Fluid Production & Clearance  
Cardiac Development & Congenital Heart Disease  
Development and Regulation of Fetal Cardiovascular System  
Cardiovascular Adjustments at Birth  
Postnatal Blood Pressure Regulation  
Ductus Arteriosus: Physiology & Pathophysiology  
Lung Growth and Development: Alveolar and Vascular  
Lung Growth and Development: Surfactant Lipids and Proteins  
Hyaline Membrane Disease: Pathophysiology  
Pulmonary Hypertension: Pathophysiology  
Control of Respiration: Pathophysiology of Apnea  
Control of Respiration: Pharmacology of Theophylline/Caffeine  
Chronic Lung Disease: Pathophysiology  
Postnatal Temperature Regulation – Maria Afanador, MD  
Genetics: Molecular basis of inherited diseases  
Genetics: Cytogenetics in pre- and post-natal diagnosis  
Genetics: Prenatal diagnosis – screening tests and ultrasound  
Genetics: Approach to inborn errors of metabolism  
Genetics: Teratology and dysmorphology  
Renal development and functional maturation  
Fluid and electrolyte balance  
Anomalies of the GI tract: Pathogenesis and Diagnosis I  
Anomalies of the GI tract: Pathogenesis and Diagnosis II  
Gastroesophageal reflux: Pathogenesis and Diagnosis  
Fetal and neonatal glucose homeostasis  
Nutrition: metabolic needs after birth  
Nutrition: use of parenteral nutrients  
Nutrition: initiation and use of oral nutrients  
Nutrition: vitamin and mineral requirements  
Breast Milk and Preterm Feeds  
NEC: pathophysiology  
NEC: epidemiology and diagnosis  
Bilirubin metabolism  
Pathogenesis of hyperbilirubinemia

Hemolytic Diseases of Newborn  
 Anemia of Prematurity & Transfusion Therapy  
 Physiology of Cerebral Blood Flow  
 Neonatal Intracranial Hemorrhage: Epidemiology/Pathogenesis  
 Neonatal Coagulation & Coagulopathy.  
 Neonatal Early Onset Infection  
 Neonatal Nosocomial Infection  
 Diagnosis of Neonatal Infection  
 Perinatal Infection: HIV and Syphilis  
 Perinatal Infection: CMV, Herpes & Toxoplasmosis  
 Fetal/Neonatal Adrenal Development and Function.  
 Fetal/Neonatal Thyroid Development and Function  
 Retinopathy of Prematurity: Retinal Development and Pathogenesis  
 Retinopathy of Prematurity: Epidemiology  
 VLBW Outcome: Neurologic Development  
 VLBW Outcome: Growth  
 Fetal Hydrops: Pathogenesis & Diagnosis  
 Neonatal Pharmacology I  
 Neonatal Pharmacology II  
 Pharmacokinetic calculations

**Evidence-based Medicine Conference Thursday 7:45 AM**

**Myra Wyckoff, Lina Chalak, Becky Ennis, Vishal Kapadia, Mambarambath Jaleel, Luc Brion**

**Reference books:**

Hulley & Cummings  
 Sacket

<b>Introduction to Evidence Based Medicine</b>
<p><b>Chapter 1 H &amp; C:</b> The Anatomy and Physiology of Clinical Research  <b>Article:</b> Texas Neonatal Research Group. Early Surfactant For Neonates With Mild To Moderate Respiratory Distress Syndrome: A Multicenter, Randomized Trial. <i>J Pediatr</i> 2004;144:804-8</p>
<p><b>Chapter 2 H &amp; C:</b> Conceiving of the Research Question  <b>Chapter 3 H &amp; C:</b> Choosing the Study Subjects  <b>PICO:</b> In near-term and term infants does use of moderate whole body hypothermia vs routine care improve long-term neurodevelopmental outcome?  <b>Article:</b> Shankaren et al. <i>N Engl J Med</i> 2005;353:1574-84. Whole-Body Hypothermia for Neonates with Hypoxic-Ischemic Encephalopathy</p>
<p><b>Chapter 4 H &amp; C:</b> Planning the Measurements: Precision and Accuracy  <b>Diagnostic Question:</b> How good is US assessment at predicting fetal weight?  <b>Article:</b> 1) Burd et al. Is Sonographic Assessment of Fetal Weight Influenced by Formula Selection? <i>J Ultrasound Med</i> 2009; 28:1019-1024; 2) A Comparison of Neonatal Mortality Risk Prediction Models in VLBW: <i>Pediatrics</i> 2000;105;1051;            3) Interrater Reliability and Effect of State on Blood Pressure: <i>Pediatrics</i> 2008;122;e590.</p>
<p><b>Chapter 5 H&amp;C:</b> Hypothesis and Underlying Principles            Bring your research question, null hypothesis and alternative hypothesis for your own fellowship research study  <b>PICO:</b> Does Room air vs O2 resuscitation reduce morbidity and mortality in preterm infants  <b>Articles:</b> Rabi et al. Room-air versus oxygen administration for resuscitation of preterm infants: The ROAR Study. <i>Pediatrics</i> 2011;</p>
<p><b>Chapter 6 H&amp;C:</b> Estimating Sample Size and Power  <b>PICO:</b> Does use of IVIG vs Placebo decrease mortality from sepsis in newborns?  <b>Article:</b> The INIS Collaborative Group: Treatment of Neonatal Sepsis with Intravenous Immune Globulin. <i>N Engl</i></p>

J Med 2011;365:1201-1211.
<p><b>*Chapter 7 H&amp;C:</b> Designing a Cohort Study</p> <p><b>Articles:</b> 1)Wyckoff et al. Outcome of extremely low birth weight infants who received delivery room cardiopulmonary resuscitation. J Peds 2011; In Press</p> <p>2) DeMauro et al. Title: Impact of Delivery Room Resuscitation on Outcomes up to 18 Months in Very Low Birth Weight</p> <p>Infants: Results from the Caffeine for Apnea of Prematurity Trial. J Peds 2011; 128(2):e374-381</p>
<p><b>Strauss Chapter 3:</b> Diagnosis and Screening</p> <p><b>*Diagnostic Question:</b> How good a screening test is pulse oximetry for Cyanotic Congenital Heart Disease?</p> <p><b>Articles:</b> 1)Ewer et al. Pulse oximetry screening for congenital heart defects in newborn infants: a test accuracy study. <i>Lancet</i>.2011 ;378:785-794</p> <p>2) Mahle et al. Role of pulse oximetry in examining newborns for congenital heart disease: a scientific statement from the American Heart Association and American Academy of Pediatrics. <i>Circulation</i>. Aug 4 2009;120(5):447-458.</p> <p>3) Sendelbach et al. Pulse oximetry screening at 4 hours of age to detect critical congenital heart defects. <i>Pediatrics</i>. Oct 2008;122(4):e815-820.</p> <p>4) Pulse oximetry screening as a complementary strategy to detect critical congenital heart defects. <i>Acta Paediatrica</i> 2009 98, pp. 682–686 (population study)</p>
<p><b>Chapter 10 H&amp;C:</b> Designing a Randomized Controlled Trial</p> <p><b>*PICO:</b> Are Pressors versus Volume more effective for treatment of neonatal hypotension?</p> <p><b>Articles:</b> 1) Osborn DA, Evans NA. Early volume expansion versus inotrope for prevention of morbidity and mortality in very preterm infants. Cochrane Review</p> <p>2) Lundstrom K, Pryds O, Greisen G. The haemodynamic effects of dopamine and volume expansion in sick preterm infants. <i>Early Hum Dev</i> 2000;57:157:63.</p>
<p><b>PICO:</b> Does early vs late ventricular intervention improve neurodevelopmental outcomes of ELBW with post hemorrhagic ventricular dilatation.</p> <p><b>Articles:</b> 1) Kennedy: <i>Pediatrics</i> 2001;108:597</p> <p>2)Brouwer et al. Neurodevelopmental Outcome of Preterm Infants with Severe Intraventricular Hemorrhage and Therapy for Post-Hemorrhagic Ventricular Dilatation. <i>J Pediatr</i>. 2008;152:648-54.</p> <p>3)Whitelaw et al. Randomized Clinical Trial of Prevention of Hydrocephalus After Intraventricular Hemorrhage in Preterm Infants: Brain-Washing Versus Tapping Fluid. <i>Pediatrics</i>. 119;e1071-e1078;</p> <p>4) Whitelaw A, Jary S, Kmita G, et al. Randomized trial of drainage, irrigation and fibrinolytic therapy for premature infants with posthemorrhagic ventricular dilatation: developmental outcome at 2 years. <i>Pediatrics</i>. Apr 2010;125(4):e852-858.</p>
<p><b>Diagnostic Question: What is a better marker of sepsis-CBC (neutrophils) versus CRP?</b></p> <p>Articles: 1)Manroe et al. The neonatal blood count in health and disease. I. Reference values for neutrophilic cells. <i>J Pediatr</i>. Jul 1979;95(1):89-98.</p> <p>2) Benitz et al. Serial Serum C-Reactive Protein Levels in the Diagnosis of Neonatal Infection. <i>Pediatrics</i>. 1998;102:e41.</p> <p>3) <i>Arch. Dis. Child. Fetal Neonatal Ed.</i> 2004;89;272-273</p>
<p><b>*PICO:</b> Does Prophylactic versus Rescue Surfactant decrease CLD and Mortality?</p> <p>Article: 1) Prophylactic versus selective use of surfactant Soll</p> <p>2)Morley: Cochrane Review</p> <p>3) Kending <a href="#">N Engl J Med</a>. 1991 Mar 28;324(13):865-71</p> <p>4) Kattwinkel <i>Pediatrics</i>. 1993 Jul;92(1):90-8.</p>
<p><b>* PICO:</b> Does IPGE1 versus placebo improve PAH in Term Infants?</p> <p><b>Articles:</b> 1) <i>Pediatr Cardiol</i> 18:3–7, 1997</p> <p>2) <i>Eur Respir J</i> 1998; 12: 932–934</p> <p>3)NRN proposed protocol (IPGE1)</p>

<p><b>*PICO:</b> In premature infants does Indomethicin versus Ibuprofen result in better PDA closure  <b>Articles:</b> 1) <a href="#">Arch Dis Child Fetal Neonatal Ed.</a> 2008 Mar;93(2):F94-9.  2) <i>Pediatr Res</i> 64: 291–297, 2008</p>
<p><b>*PICO:</b> In premature infants does High versus Low Dose Caffeine on long-term Neurodevelopmental Outcome  <b>Articles:</b> 1) Schmidt B et al; Caffeine therapy for apnea of prematurity. <i>N Engl J Med</i> 2006;354:2112-21.  2) Schmidt B et al. Long term effects of caffeine therapy for apnea of prematurity. <i>N Engl J Med</i> 2007;357:1893-902.</p>
<p><b>*PICO:</b> Does CPAP versus intubation in the delivery room decrease the risk of death/BPD in preterm infants?  <b>Articles:</b> 1) Morley et al. Nasal CPAP or intubation at birth for very preterm infants. <i>N Engl J Med</i> 2008;358:700-8.  2) SUPPORT Study Group. Early CPAP versus surfactant in extremely preterm infants. <i>N Engl J Med</i> 2010;362:1970-9.</p>
<p><b>*PICO:</b> Does use of Diuretic therapy compared to placebo decrease the risk of CLD in preterm infants?  <b>Articles:</b> 1) Stewart et al. Distal Renal Tubule diuretics for CLD. <i>Cochrane</i> 2011  2) Stewart et al. Loop diuretics for CLD. <i>Cochrane</i> 2011.  3) Albersheim et al. <i>J Pediatr</i> 1989;115:615  4) Hoffman et al. <i>Journal of Perinatology</i> 2000; 1:41–45.  **Will invite Audra Stewart as guest content expert</p>
<p><b>*PICO:</b> Does hypothermia versus eutermia increase mortality in preterm infants?  <b>Articles:</b> 1) Silverman et al. <i>Pediatrics</i>. 1957;20:477.  2) Silverman et al. <i>Pediatrics</i>. 1958;22:876-886.  3) Silverman et al. <i>Pediatrics</i>. 1963;31:719.  4) Lupton et al. <i>Pediatrics</i>. 2007;119:e643-e649.</p>
<p><b>PICO:</b> Does early versus late initiation of feeds improve outcomes in ELBW infants?</p>
<p><b>PICO:</b> Does early versus late protein administration improve outcomes in ELBW infants?</p>

<b>Topic</b>
<p>Introduction to EBM-Slide presentation  Didactic Reading: How to review a Therapeutic Article: Straus Chap 5 p115-144  PICO Question: For premature infants does Epo-A vs placebo decrease the need for transfusions  Review Article: Von Kohorn et al. <i>Anemia in the Preterm Infant</i>  Therapeutic Article: Ohls et al. <i>Pediatrics</i> 2001; 108:934-42</p>
<p>PICO Question: For premature infants does liberal vs conservative transfusion practice decrease mortality and short term morbidity  Review Article: 2008 <i>Neoreviews</i>: Treatment and Prevention of Neonatal Anemia  Therapeutic Articles: Kirpalani et al. <i>J Pediatr</i> 2006; 149:301-7  Bell et al. <i>Pediatrics</i> 2005; 115:1685-1691</p>
<p>PICO Question: For asphyxiated, encephalopathic term infants, does Whole Body Cooling vs routine management improve survival and long-term neurodevelopmental outcomes  Review Article: Higgins and Shankaran. <i>Hypothermia for hypoxic ischemic encephalopathy in infants ≥36 weeks.</i> <i>EHD.</i> 2009  Therapeutic Articles: Azzopardi et al. <i>NEJM</i> 2009;361:1349-58  Shankarn et al. <i>NEJM</i> 2005;353:1574-84  Gluckman et al. <i>Lancet</i> 2005;365:663-70</p>

<p>PICO Question: For ELBWs, does early indomethacin vs placebo prevent intraventricular hemorrhage and improve long-term outcomes  Review Article: Perlman JM. Clinics in Ped Neuro 2009;16:191-99  Specific Article: Schmidt et al. NEJM 2001;344:1966-72. (TIPP)  Schmidt et al. J Pediatr 2006;148:730-37 (TIPP F/U)</p>
<p>Didactic: How to critique an observational study  Topic: VLBW Outcomes  Specific Article: Stoll et al. Pediatrics 2010;126:443-56</p>
<p>Topic: Early Onset Infection (why do we do what we do for GBS)</p>
<p>Topic: HIV (076 Trial)</p>
<p>Topic: Nosocomial Infections (Fungal Prophylaxis)</p>
<p>Topic: Therapies for congenital infections</p>
<p>Topic: Meconium Management (does not follow physiology)</p>
<p>Topic: Hydrocortisone for Blood Pressure support</p>
<p>Topic: Synthroid supplementation for Preemies</p>
<p>Topic: ROP Prevention (Light study. STOP-ROP, SUPPORT)</p>
<p>Topic: ROP Therapy (Laser vs Cryo)</p>
<p>Topic: Vitamin A for prevention of CLD</p>
<p>Topic: Caffeine for apnea (does not follow physiology)</p>
<p>Topic: iNO for PAH</p>
<p>Topic: Surfactant for HMD</p>

**Resuscitation conference Monday 12 PM**

**Myra Wyckoff and L&D Faculty**

Indications for high-risk delivery that should prompt calling the Resuscitation Team and in addition when the Resuscitation team should call for additional support (Fellow, NNP, Faculty)

Non-Reassuring Fetal Heart Rate Tracings

Physiology of primary and secondary apnea in response to hypoxia

The importance of gathering maternal and fetal information prior to delivery

The importance of setting-up and checking all equipment that one might need for an effective resuscitation  
 Oxygen use for preterm infants in the delivery room  
 Oxygen versus RA for Resuscitation  
 The routine use of oxygen in the DR for vigorous infants  
 Initial Steps of Resuscitation  
 Temperature Regulation in the Delivery Room-Term and Preterm  
 The paramount importance of providing effective ventilation (how do you achieve it, how do you judge the effectiveness)  
 Self-inflating bags, anesthesia bags, T-Piece Resuscitators  
 Meconium physiology  
 Management of the meconium exposed infant  
 The difficult airway that cannot be intubated  
 EXIT Procedure-indications and management  
 Use of LMA  
 Stabilization of the pre-term newborn  
 Stabilization of the hydropic newborn  
 Stabilization of the hypovolemic newborn  
 Stabilization of the newborn with diaphragmatic hernia  
 Stabilization of the newborn with cyanotic congenital heart disease  
 Stabilization of the newborn with abdominal wall defects  
 Stabilization of the Rh disease infant  
 Stabilization of the infant with spinal defect  
 Stabilization of the infant with Pierre-Robin  
 Differential Diagnosis of the severely depressed infant  
 Importance of leadership and good communication during resuscitation  
 Coordination of cardiac compressions during neonatal CPR  
 Physiology of cardiac compressions during neonatal CPR  
 Placement of emergent IV access in the DR  
 Evidence for use of epinephrine during neonatal CPR  
 Evidence for use of volume administration during neonatal CPR  
 Evidence for use of sodium bicarbonate during neonatal CPR  
 Evidence for use of Naloxone during neonatal resuscitation  
 Consideration and management of pneumothorax in the delivery room  
 Indications for and issues regarding intubation in the DR  
 When is it appropriate to redirect care in the delivery room  
 When is it appropriate to not initiate resuscitation  
 How to communicate with families in the delivery room  
 How to communicate with families during antenatal consult  
 Benefits and risks of End-tidal CO<sub>2</sub> detectors to confirm airway placement in the DR  
 Resuscitation of the newborn outside the delivery room (NICU)  
 Resuscitation of the newborn outside the delivery room (ambulance dock, ER etc)  
 Use and abuse of the Apgar Score  
 How to utilize QA in the DR to improve performance  
 Effects of maternal anesthesia on newborn stabilization

**OB/GYN Ultrasound, Prenatal Diagnosis & Genetics Grand Rounds**

**Friday 12 PM Jodi Dash and Diane Twickler**

Anomaly Reviews and Updates  
 Thorax  
 The Endometrium and Sonohysterography  
 Fetal Cardiac Evaluation  
 Genetic Counseling Strategies for Health Care Providers

Fetal GI  
Trisomy 13 and 18  
Fetal GU  
Fetal Skeletal Dysplasias  
Applications of Molecular Cytogenetics  
Placenta and Cervix  
Imaging Maternal Complications  
Twins  
First and Second Trimester Down Syndrome Screening  
Fetal CNS  
Cystic Fibrosis & Other Genetic Carrier Testing  
Innovations in Fetal Therapy

**Mortality/morbidity at Parkland and CMC AND CLINICAL CARE CONFERENCE Tuesday 12 PM (CMC) and Thursday 12 PM (PHHS)**

**Lina Chalak**

Respiratory  
Surfactant therapy  
Artificial ventilation: conventional  
HFO  
High frequency Jet ventilation  
BPD  
Pulmonary hemorrhage  
Meconium Aspiration  
Apnea of prematurity  
Apnea of infancy  
PFT's  
Respiratory surgical problems in the newborn  
CCAM/Pulmonary sequestration  
Congenital diaphragmatic hernia  
PPHN, nitric oxide  
PIE  
Pneumothorax

Cardiovascular system:

ECMO: PICU  
EKG, arrhythmia  
Pacing  
Transitional/Post natal circulation  
Cyanosis  
2D echo  
CHF  
Congenital heart disease: differential diagnosis  
Cardiac surgery in neonates  
Hypotension, Shock  
Single ventricle  
TAPVR  
Coarctation  
HLH  
Conotruncal anomalies  
Heterotaxy  
Cardiomyopathy  
Myocarditis

Vein of Galen  
AVM  
Cardiac tumor

Growth and nutrition:

Small for gestational age/IUGR  
Macrosomia  
IDM, Gestational diabetes  
Abnormalities in fetal growth, SGA, LGA, perinatal

Endocrinology/Metabolism

Hypoglycemia  
Hyperglycemia  
Metabolic diseases (2 or 3 talks)  
Neonatal screening  
Galactosemia

Endocrinology:

Calcium and phosphate  
Osteopenia  
Hypoglycemia  
Thyroid treatment  
Ambiguous genitalia  
Steroids treatment

Genetics:

Prenatal genetic diagnosis  
Approach to congenital malformations  
Down syndrome  
Trisomy 13  
Trisomy 18  
Other chromosomal anomalies  
Craniofacial malformations: treatment  
Craniosynostosis

GI Tract:

NEC  
Gastroschisis, omphalocele  
TEF  
Duodenal Atresia/stenosis  
Jejunal/ileal stenosis/atresia  
Malrotation  
Meconium plug/ileus  
Short bowel syndrome  
Bile secretion, metabolism  
Liver disease/ cholestasis  
Mec plug/ileus  
Intestinal obstructions  
Hirschsprung & related  
Anal atresia  
Cloaca

Hematology/Oncology:



Hyperbilirubinemia,  
Anemia, hematopoiesis  
Polycythemia  
Neutropenia  
Thrombocytopenia; Alloimmune thrombocytopenia  
Thrombophilia  
Hemostasis  
Blood transfusion  
Blood typing and antibodies screening  
Erythropoietin in newborn  
Leukemoid reaction  
Teratoma  
Neuroblastoma  
Angioma  
Vascular tumor  
Retinoblastoma  
Myofibromatosis  
Iron

Renal, fluids:

Acute renal failure  
Congenital renal anomalies with renal failure  
Hypertension  
Fluid management: Approach to hyponatremia, hypernatremia, hyperkalemia, acidosis  
GU Anomalies: medical therapy  
Surgery for GU anomalies  
Hydrops

Infectious diseases

HIV  
GBS  
Syphilis  
TORCH  
TB  
Hepatitis  
Parvo virus  
Herpes  
Yeast  
RSV  
Listeria  
Gram negative sepsis

Immunology:

Immune deficiency diseases  
HLH  
Neonatal Lupus

Other systemic diseases

Tuberous sclerosis  
Neurofibromatosis  
Cystic fibrosis

Neurology:

EEG  
Congenital muscle disorders  
NTD's, hydrocephalus, folic acid  
Congenital CNS malformations  
Holoprosencephaly, agenesis of corpus callosum  
Dandy Walker  
Head trauma,  
Brachial plexus injury  
Pain management  
aEEG  
Hydrocephalus and management  
Seizures  
Stroke  
Microcephaly  
Myasthenia  
Other Neuromuscular disorders  
Hypoxic Ischemic Encephalopathy

Pain, sedation

Neonatal anesthesia  
Withdrawal/ Toxicology  
Pain management

Eye, ENT, dermatology

ROP  
Vitamin E supplementation  
Skin maturation  
Vesicles and bullae  
Hearing screening, hearing loss  
Stridor in neonates  
Glaucoma  
Cataract

Orthopedics

Hip dysplasia

OTHER:

Teaching and Assessing Professionalism: ABP and APPD 2008  
Conflict resolution  
Cultural diversity, disparities  
Medicolegal aspects of neonatology  
Computers in medicine  
Perinatal/neonatal Ethics  
Practice management  
Neonatology practice venue  
Finances: Medicaid/medicare/insurance/Billing  
Breaking bad news: Prenatal  
Breaking bad news: Redirecting care  
Breaking bad news: DNR  
Transport, altitude physiology  
Asphyxia

**Life after Fellowship (Wednesday 12 PM): 3-year cycle**

**Luc Brion and Sunjun Kang**

Second year fellows (March); Initial steps before the interview: individual development plan, establishing priorities

All fellows; presentation by Senior fellows (May or June presentation)

Third year fellows (Sept/Oct): Job search, Interview/negotiation,

Billing: various models: Bill Engle

Spring session for 2<sup>nd</sup> year fellows: CV, portfolio, letter

Tracks: Private Practice

Clinician/Educator

Administrator

Clinical Scholar

Basic Sciences

**Orientation of First Year Fellows**

**Luc Brion**

UTSW Orientation: Human Resources 6363 Forest Park Rd, 14th floor.

Children's Medical Center General Orientation: CMC, Doctor's Dining Room

Parkland's All Day General Orientation: Parkland, Gooch Auditorium

Neonatal-Perinatal Medicine Fellowship orientation,

Pediatrics Conference Room F3.112

'Division of Neonatology Welcome Breakfast'

Goals and Objectives of the program

Department of Pediatrics and UTSW

Clinical training

Education in neonatology, pediatrics and UTSW

Scholarship

Evaluation and feedback

A.W. Faculty Club – Lunch

Parkland 5 South E Conference –Orientation to Parkland resuscitation and NNICU

Transport Ventilator: Bronchotron: F3.112

Transport Services, Love Field Airport, 8111 Lemmon Ave., Ste 200, Dallas, TX 75209

Transport operations and expectations

Rotor Wing training

Flight Safety

Fixed Wing Safety Training

Neonatal nutrition

Fluid management

Acid-base

Orientation to NICHD Neonatal Network

Parkland Respiratory Therapy NNICU- Parkland 5 South E Conf Rm:

Conventional ventilation

High-frequency ventilation,

CPAP, oxygenation

Ventilatory/airway support  
Oxygen and blood gases  
Artificial ventilation  
Pulmonary hypertension  
High frequency oscillation  
Fellows NICU Procedure Skills Lab

CMC NICU Respiratory Therapy Orientation:  
Siemens ventilator,  
High-frequency jet ventilation,  
End tidal CO<sub>2</sub>,  
High frequency oscillation

Computer programs for CMC rotations: EPIC, iSite, Apollo

MFM highlights

**Department of Pediatrics: Fellows Core Conference – Thursday 5 PM**

**Charles Rosenfeld**

1. Physician Care – Fatigue, Impairment, CME
2. Prevention of Medical Errors – QA, Recertification
3. Program Administration
4. Economic and Development of Health Care
5. Proficiency in Teaching – Bedside, Large Groups
6. Principles of Evidenced-Based Medicine
7. Critical Literature Review
8. Bioethics – Patient care, Research
9. Preparation of Funding Applications
10. Preparation of Research protocols
11. Study Design
12. Research Methodology: Clinical, Laboratory
13. Biostatistics
14. Career Development – Choices

Specific Topics

Fatigue and On-Call Schedule  
Why is a Research Experience Required?  
Choosing a Clinical or Basic Research Mentor  
Intrusive Regulations and the Medical Profession  
Protection of Research Subjects: Learning the Alphabet  
How to Write an Informed Consent  
Masters Program in Clinical Investigation  
Faculty Presentation of Clinical Research  
Ethics of Animal Research  
IACUC Requirements for Animal Research  
Faculty Presentation of Laboratory Research  
Physician Impairment  
Why Continuing Medical Education And Recertification?  
Choosing a Career Path  
Principles of Evidenced-Based Medicine  
How to use Evidenced-Based Medicine  
Career Development: Small Group Discussion x 3  
Faculty Research Presentations

Principles of Bedside Teaching  
Quality Assurance & Prevention of Medical Errors  
Choice of Performance Indicators in the Practice of Medicine  
Evidence-base Medicine  
Practicing Evidence-base Medicine

List of topics for high risk pregnancy conference, 5 South Classroom, Monday 8 AM  
Scott Roberts

Preconceptional counseling	Preterm labor
Folic acid	Abnormal labor
Biophysical profile	Fetal heart tracing
Antenatal testing	Fetal distress
Doppler	Premature rupture of membranes
Fetal growth restriction	Cesarean section
Amniocentesis and CVS	Forceps and vacuum
Polyhydramnios	Anesthesia
Oligohydramnios	Breech delivery
Isoimmunization	Shoulder dystocia
Hydrops fetalis	Chorioamnionitis
Placenta	Herpes
Abruptio placentae	HIV
Placenta praevia	CMV
Preeclampsia	Syphilis
Chronic hypertension	Hepatitis
Cardiovascular disease	Rubella
Pulmonary disease	Toxoplasmosis
Diabetes mellitus	Tuberculosis
Thyroid disorders	Group B streptococcus
Renal failure	Chickenpox
Connective tissue disorders	Listeria
Systemic lupus erythematosus	Multiple pregnancy
Thrombocytopenia	Twin-to-twin transfusion
Thromboembolic disorders	Scalp edema/cystic hygroma
Hepatic/biliary disorders	Screening for trisomy
Cancer	Fetal tachyarrhythmia
Trauma	AV block
Intravenous drug abuse	Congenital heart disease
Cocaine	Neural tube defects
Seizures, epilepsy	Fetal hydrocephalus
Neuromuscular disorders	Fetal microcephaly
Psychiatric disorders during pregnancy	Fetal hydronephrosis
Postpartum depression	Fetal surgical intervention
Post-term pregnancy	CCAM
Induction of labor	Congenital diaphragmatic hernia

**Imaging Series for Fellows in Neonatal-Perinatal Medicine:**

**Marcia Pritchard & Luc Brion** :G3.207, 2 sessions a year:

Head ultrasonogram  
Head CT  
Head MR,  
Bone/soft tissue (Eugene Sheffield),

Abdomen,  
Chest

Contrast studies/intervention radiology: IVP, VCUG, Barium enema, esophagogram, Ba swallow/upper GI,  
position of lines and chest tubes

Echocardiogram (Claudio Ramaciotti): normal, CHD, function, PDA, PAH

**Professionalism Series (3-year series):**

**LPB & Lina Chalak**, 2-3 sessions a year:

1. Didactic

Introduction to Professionalism: Luc Brion  
Social Networks: Dorothy Sendelbach  
Medicolegal aspects of Neonatal-Perinatal Medicine  
Texas Medical Board vs. other Boards  
Acculturation  
Impaired physician  
Leadership  
Aiming at excellence  
Palliative care  
Personality: DISC

2. Case scenarios, communications, role playing

Communications with NNPs  
Communications with parents  
Consents,  
Communicating bad news,  
Role playing

**Quality Improvement Series (3-year series):**

**M Frost, M Jaleel, V Kakkilay, V Kapadia:**

6 sessions a year (3 didactic, 3 QI project presentations):

- a. Basics on QI: Strategies, Tools and Methods (e.g., PDSA, Lean and Six Sigma Principles),
- b. Quality Measurement: constructing, interpreting and evaluating a measurement
- c. Safety: risks, disclosure, prevention, system/human factors, analytical tools, high-reliability organization
- d. Medical Informatics
- e. Interface between QI, Law and Medical Ethics
- f. Statistical analysis in QI
- g. Organization Design and Management
- h. Economics and Finance in QI
- i. Utilization Management
- j. External Quality Improvement