



Perinatal  
Outreach  
Program of  
Southwestern  
Ontario

# Partner

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## Obstetrical Nerve Injury

Alison McDonald, MD, Obstetrical Resident

Dept. of Obstetrics & Gynecology, Faculty of Medicine & Dentistry, UWO

Edited by Renato Natale, MD, FRCSC

Chief, Dept. of Obstetrics, London Hospitals

Obstetrical Co-Director, Perinatal Outreach Program of Southwestern Ontario

### INTRODUCTION

**A**lthough neurologic injury sustained during labour and delivery are relatively rare (0.008-0.92%)<sup>1</sup>, it is important to prevent these injuries, and to recognize them when they occur. Nerve injuries sustained by the obstetric patient are generally short-lived, but can be a cause of significant short-term and, more rarely, long-term morbidity. We most often consider lower extremity neuropathies in association with labour and delivery, but upper extremity injuries can be sustained as well. Neurologic injury can occur during labour, spontaneous vaginal delivery, operative vaginal delivery, or cesarean section. This article will review the common lower and upper extremity neuropathies associated with labour and delivery, pertinent neuroanatomy, mechanisms of injury, and means of preventing injury during care of the obstetrical patient. The discussion will not include neurologic injury specifically related to obstetrical anaesthesia, although it must be understood that Obstetrics and Anaesthesia work in concert in our patients' care.

Acute nerve injury may occur as a result of transection, traction, compression, or vascular injury. Compression or traction on a nerve can result in compromised perineural blood flow and resulting ischemia. This can cause focal demyelination and conduction block,

which generally resolves quickly via remyelination. In more serious injuries, there can be axonal damage, which resolves more slowly, and can cause permanent impairment of nerve function.<sup>2</sup> Signs and symptoms of impending nerve damage may be masked in labour by anaesthesia, or may be dismissed by health care providers who consider them part of labour discomfort.<sup>2</sup> Also, patients with epidural anaesthesia may be unaware of discomfort and the need to change position regularly.<sup>1</sup>

### LUMBOSACRAL PLEXUS

The lumbosacral trunk is formed by the L-4 and L-5 nerve roots. It travels in close contact with the ala of the sacrum adjacent to the sacroiliac joint and is cushioned by the psoas muscle except at its terminal portion

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near the pelvic brim where it is joined by the S-1 nerve root to form the sciatic nerve. It is here that the plexus becomes susceptible to compression by the fetal head as it descends into the pelvis.<sup>2</sup> Radicular symptoms can also be caused by bulging or ruptured intervertebral discs, trauma, infection, inflammation, or muscle spasm.<sup>1</sup>

Lumbosacral plexus or trunk injury can cause foot drop, and other neurologic symptoms consistent with peripheral mononeuropathies (single or multiple) of the nerves that branch from the plexus. Risk factors for lumbosacral plexus or trunk injuries include fetal macrosomia, malpresentations (occiput posterior or brow presentation), and certain pelvic features like platypelloid pelvis, shallow anterior sacral ala, and flattened sacral promontory.<sup>3</sup>

#### **LATERAL FEMORAL CUTANEOUS NERVE**

The lateral femoral cutaneous nerve exits the pelvis under the inguinal ligament and then passes medial and inferior to the anterior superior iliac spine. It is a pure sensory nerve which supplies the anterolateral thigh. Injury to the lateral femoral cutaneous nerve causes burning, pain, or numbness of the anterolateral thigh, known as meralgia paresthetica syndrome.<sup>4</sup> The lateral femoral cutaneous nerve is at risk of injury during prolonged pushing with hip flexion as the nerve is compressed under the inguinal ligament. A wide Pfannensteil incision at cesarean section may lead to transection of the lateral femoral cutaneous nerve<sup>4</sup>. Compression injuries due to the use of self-retaining retractors used in abdominal gynecologic procedures can also occur. Obstetricians may consider frequent position changes in labour, avoidance of prolonged hip flexion, and shortening the pushing time by allowing for passive descent of the fetus before pushing begins as means of avoiding lateral femoral cutaneous nerve injury<sup>4</sup>.

#### **FEMORAL NERVE**

The femoral nerve emerges from the psoas muscle, travels between psoas and iliacus muscles, then passes under the inguinal ligament, lateral to the femoral vein and artery.

Injury to the femoral nerve can result in quadriceps weakness and/or sensory

symptoms of the anteromedial thigh. Motor compromise can cause significant functional impairment. Compression of the femoral nerve under the inguinal ligament can occur with prolonged pushing in extreme hip flexion<sup>4</sup>. Since the femoral nerve does not traverse the true pelvis, it is relatively unaffected by factors such as cephalopelvic disproportion which is implicated in lumbosacral trunk and sciatic lesions.<sup>3</sup>

#### **COMMON PERONEAL NERVE**

The common peroneal nerve separates from the posterior tibial branch of the sciatic nerve above the popliteal fossa, perforates between the insertions of the gastrocnemius and plantaris muscles to pass over the lateral head of fibula and descend down the lateral calf. Injury to the common peroneal nerve can result in paresthesias on the dorsa of the feet and lateral calves, as well as foot drop. There have been several cases of peroneal nerve palsy related to prolonged squatting during childbirth<sup>5</sup>, hyperflexion of the knees during delivery<sup>6</sup>, and direct compression of the nerve over the fibular head by the patient holding her own legs with fingers placed over the anterior tibia and palms over the fibular head.<sup>7</sup> Certain types of stirrups which may be used for pushing during the second stage of labour in patients with epidurals, may also cause compression of the common peroneal nerve. This seems more likely to occur though during gynecologic surgery when the patient needs to be placed in stirrups for the lithotomy position.

#### **SCIATIC NERVE**

Reports in the gynecology literature suggest the possibility of sciatic nerve stretch injury in high lithotomy position with prolonged hip hyperflexion and excessive external rotation. Certainly this mechanism of injury during vaginal delivery is plausible as well. The sciatic nerve may be compressed by the fetal head at the pelvic brim during descent into the pelvis.<sup>3</sup> One case report suggests that positioning of the patient undergoing cesarean section in the dorsal supine position with left lateral tilt can apply enough pressure to the left buttock to cause a sciatic neuropathy, especially if the pressure is prolonged.<sup>8</sup>



# Newborn Hearing Loss

Jin Wang, MD, Neonatal Fellow, NICU St. Joseph's Health Care London  
 Edited by Kevin Coughlin, BScH, MD, MHSc Bioethics, FRCPC, FAAP  
 Neonatal-Perinatal Medicine, St. Joseph's Health Care  
 Neonatal Co-Director, Perinatal Outreach Program of Southwestern Ontario

## INTRODUCTION

**T**he Infant Hearing Program is becoming familiar to both newborn health care professional and parents in Ontario. It was started in 2002 to identify infants born deaf, hard of hearing, or those at risk of early, progressive childhood hearing loss. Newborn hearing screening is important because it achieves optimum success since the recommended age to begin the rehabilitation with a deaf or hard of hearing infant is no later than 6 months. The average age of identification prior to universal newborn screening was 2.5 years of age. The program improves the time to identification of childhood hearing deficits by 4 months and the average time to beginning rehabilitation by 6 months. All babies with a confirmed hearing loss and their families will begin services that support communication before 6 months of age. The earlier they are identified, the more time there is to take advantage of the services. With support, children who are deaf or hard of hearing can grow up learning language and communicating similar to children who hear normally.

About four in 1000 babies are born deaf, hard of hearing or will develop early, progressive childhood hearing loss. This number is increased to around three percent in babies who require intensive care after. As a healthcare professional who may work with this special population, it is helpful to understand more detail about hearing loss.

## DEFINITIONS OF HEARING LOSS

There are many types of hearing loss, classified according to different definitions.

**Congenital:** Occurring before or at birth.

**Pre-lingual:** A hearing loss occurring before the development of speech and language.

**Post-lingual or adventitious:** A hearing loss occurring after the development of speech and language. As opposed to prelingual, before the development of speech.

**Unilateral:** A hearing loss involving only one ear.

**Bilateral:** A hearing loss involving both ears.

**Conductive:** Loss of hearing sensitivity caused by problems involving either the outer or middle ear. Common causes of conductive losses are: perforated eardrum, infection in the middle ear, build-up of ear wax, problems with any of the three little bones in the middle ear, atresia and stenosis. Atresia is the complete closing off of the ear canal as in congenitally absent or malformed outer ears. Stenosis is the narrowing of canal. Many of these problems can be treated by medication or surgery and hearing can be restored.

**Sensori-neural:** Loss of hearing sensitivity caused by damage to the hair cells in the inner ear or along nerve pathways to the brain. The loss is permanent and cannot be cured by medication or surgery. The causes are many: German measles or other viral infections in pregnancy, birth asphyxia, prolonged high fever, other illnesses such as measles, rubella, mumps and meningitis, toxic effects of some drugs and injury to the skull. There are also a number of inherited forms of hearing loss. In about half of the cases, no cause for hearing loss can be identified.

**Mixed:** A combination of sensori-neural and conductive hearing loss. Medical treatment can improve the conductive difficulty, but the nerve damage cannot be repaired. Hearing is worse when a conductive hearing loss exists

on top of a sensori-neural loss e.g. having an ear infection on top of a permanent hearing loss.

### **HIGH RISK BABIES IN NICU**

Evidence suggests that the prevalence of significant, permanent bilateral hearing impairment is in the range 1 to 3% for NICU graduates. All infants who meet the following risk criteria are considered at high risk for permanent hearing loss. These infants should be screened prior to discharge from the birth hospital admission, and then monitored through the community clinics for progressive or late onset hearing impairment.

### **NICU RISK CRITERIA**

- a. Birth weight less than 1200 grams
- b. Five-minute Apgar score less than or equal to 3
- c. Congenital Diaphragmatic Hernia (CDH)
- d. Persistent Pulmonary Hypertension of Newborn (PPHN)
- e. Hypoxia-Ischemic Encephalopathy (HIE), Sarnat II or III
- f. Intra-ventricular Haemorrhage (IVH), Grade III or IV
- g. Peri-ventricular Leukomalacia (PVL)
- h. Extra-Corporeal Membrane Oxygenation (ECMO) or inhaled Nitrous Oxide (iNO) or High-Frequency Oscillatory (HFO) or Jet (HFJ) ventilation
- i. Hyperbilirubinemia  $\geq 400$   $\mu\text{M/L}$  OR those requiring exchange transfusion
- j. Serologically proven and symptomatic Cytomegalovirus (CMV) infection
- k. Other proven perinatal TORCHES infection (toxoplasmosis, rubella, herpes, syphilis)
- l. Serologically proven meningitis, irrespective of the pathogen
- m. Other high risk indicator specified by baby's treating physician

For very low birth weight infants (VLBW), the incidence of hearing loss varies from 3 to 25% depending on different testing methods. The higher incidence of hearing loss in this population likely results from an increase in the above mentioned conditions, many of which are associated with prematurity, e.g. CLD/ BPD and low Apgar score. A recent study showed that the incidence of conductive hearing loss in VLBW infants is higher than sensory-neural hearing loss, 2.7% and 0.3% respectively.

Newborn babies that suffered perinatal asphyxia with inadequate blood inner-ear barrier function may have hearing loss and equilibration disorders secondary to damage to the inner ear. The incidence of the hearing loss in this group of patients is about 10%. Damage to the inner ear includes the degeneration and disappearance of outer hair cells and edematous changes in the stria vascularis. Degeneration of spiral ganglion and vestibular ganglion have been observed in some cases.

Patients with CDH have been thought to be at high risk of sensory-neural hearing loss. It may be due to the prolonged ECMO, high frequency ventilation, periods of hypoxia, the use of aminoglycoside antibiotics or pharmacologic paralysis with pancuronium. A recent study reported that hearing loss requiring amplification was diagnosed in 44% of CDH patients. And the same as other neonatal respiratory failure patients, progressive sensory-neural hearing loss is 53% in the respiratory failure patients. Cumulative doses and duration of use of diuretics; neuromuscular blockers; use of Vancomycin; and overlap use of diuretics with neuromuscular blocker, aminoglycoside, and Vancomycin individually linked to sensory-neural hearing loss. The underline diagnosis of these respiratory failure patients could be Congenital Diaphragmatic Hernia (CDH), Persistent Pulmonary Hypertension of Newborn (PPHN), pneumonia/sepsis, Meconium aspiration syndrome (MAS), Respiratory distress syndrome (NRDS), Pulmonary hypoplasia. Group studies of children with PPHN report 0 to 50% of survivors have hearing loss. A study in 1996 showed 8 of 10 children with hearing loss associated with PPHN or ECMO had late onset hearing loss.

Neonatal hyperbilirubinemia is another important cause of childhood deafness. Its incidence has been reduced with the use of phototherapy and blood transfusions. A retrospective review reported 6.5% of pediatric patients with hearing loss had a history of severe hyperbilirubinemia in the neonatal period. After severe neonatal jaundice, the auditory neural pathways, cochlea, or both may be affected. Some studies suggest dual screening of hearing by ABR and OAEs should be done in newborns

following severe hyperbilirubinemia. Cytomegalovirus (CMV) infection is the most common congenital infection resulting in hearing loss. Sensory-neural hearing loss (SNHL) was detected in 25% of infants with asymptomatic CMV and 50% of infants with symptomatic CMV infection during the first 6 months of life. Some infants who passed the newborn hearing screening had a delayed-onset SNHL in follow-up examinations up to 4 years of age. Congenital HSV infection may present as disseminated infection, encephalitis or localized infection. Neurologic impairment including hearing loss is found in most children with disseminated infection, 40% of the children with encephalitis, and 25% of the children with the infection localized to the skin, mouth, or eyes. Congenital rubella, syphilis, toxoplasmosis, and varicella syndrome also can cause infant hearing loss, but the incidence of these diseases is not very high. Although congenital rubella is rare, hearing loss may be present in 68 to 93% of these children. The prevalence of congenital syphilis has increased since the 90's. In 3% of children with congenital syphilis, sensorineural hearing loss develops in association with vertigo. The hearing loss begins in the high frequencies and progresses in severity and scope. Significant hearing loss has been reported in 10% to 15% of infants with congenital toxoplasmosis. Six cases of children with hearing loss whose mother suffered severe varicella and severe herpes zoster have been reported.

The incidence of meningitis has decreased since the introduction of HIB and Prevnar vaccinations, but it is still a reason for early hearing loss. A study of brainstem auditory evoked potentials (BAEP) in meningitis patients found hearing loss associated with bacterial meningitis in 30.8% and aseptic meningitis in 13.9%. Children with post-meningitis hearing loss may be identified as potential candidates for cochlear implants. Studies report ototoxic medications including aminoglycosides and furosemide as contributing to the increasing incidence of hearing loss in preterm and ill infants. Hearing loss has also been described with prenatal exposure to alcohol, trimethadione, methyl mercury and in iodine deficiency. Cranial trauma, recurrent otitis media and hypothyroidism may be causes of hearing loss in newborns and children.

Although many causes of neonatal hearing loss have been confirmed by studies, some still remain controversial. The ongoing identification of specific risk factors and etiologies will be helpful to design appropriate treatment and management plans for these high risk patients. For now, our goal is to identify the high risk infant with hearing loss before 6 months of age and provide timely and effective therapy.

## REFERENCES

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## FOR YOUR INFORMATION . . .

**NEONATAL RESUSCITATION:  
RESPIRATORY EQUIPMENT**

In follow-up to an article posted in the previous edition of the *Partner* newsletter, entitled "Neonatal Resuscitation Guidelines 2006: Respiratory Equipment – What's New to Know?", we have recently been informed of some changes regarding equipment distribution. The Fisher & Paykel Healthcare company that provides the T-piece Resuscitator known as the "Neopuff Infant Resuscitator" and the "Cozy Cot Infant Warmer", now offers direct sales and distribution for these two products in Canada. For further information please contact:

Elisa Bisanti  
Clinical Product Specialist, Neonatal  
Fisher & Paykel Healthcare, Inc.  
[Elisa.bisanti@fphcare.com](mailto:Elisa.bisanti@fphcare.com)  
[www.fphcare.com](http://www.fphcare.com)  
Office: (514) 624-1516  
Voicemail: 1-800-792-3912 Ext. 2355  
Fax: (514) 626-8892

**FAREWELL**

The Perinatal Outreach Program extends a fond farewell to Dr. Jill Boulton, who has accepted a position as the Regional Division Head of Neonatology at Calgary Health Region, Foothills Medical Centre, as of September 2007. Dr. Boulton is the former Senior Medical Director, Women & Children's Clinical Business Unit for the London Hospitals, and Neonatal Co-Director of the Perinatal Outreach Program of Southwestern Ontario. Dr. Kevin Coughlin has been named to replace Dr. Boulton as Neonatal Co-Director of the Perinatal Outreach Program of Southwestern Ontario.

**SURVEY OF ROUTINE MATERNITY CARE  
PRACTICES IN CANADIAN HOSPITALS**

In May 2007 the Perinatal System of the Public Health Agency of Canada in collaboration with the Canadian Institute of Child Health initiated a survey of routine maternity care practices in Canadian hospitals. This survey has been conducted three times in the past 30 years, most recently in 1993. The objectives of this survey are to:

- document current policies and practices in hospital services in Canada
- monitor trends in maternity policies and practices when compared with data from the previous surveys; and
- provide comprehensive and current information on maternity care in Canada, complementing data collected from the Canadian Maternity Experiences Survey – a survey of women giving birth in Canada. (For more information regarding this survey go to [http://www.phac-aspc.gc.ca/rhs-ssg/survey\\_e.html](http://www.phac-aspc.gc.ca/rhs-ssg/survey_e.html))

Responses to the survey were received until Sept. 2007. A phenomenal response rate of 91% has been achieved Canada wide. The data is now being analyzed and will be reported by province, hospital size and hospitals teaching affiliation. The CICH is to present its final report to the Public Health Agency of Canada at the end of March 2008. Hospitals will be sent the report in the summer. ***We hope to also have a presentation on this report provided for our annual Perinatal Outreach Conference in Sept.*** We look forward to using this report to learn what we do well in maternity care and where we need to focus our efforts toward improvement.

## FOR YOUR INFORMATION:

### Fetal Health Surveillance in Labour – Instructor Update

With the release of the SOGC fetal surveillance guidelines in Fall 2007, the educational curriculum for teaching fetal surveillance in Canada needs revisions. In June of 2007 at the Canadian Perinatal Partnership Coalition (CPPC) meeting, directors of perinatal programs across the country agreed to support the work required to update the educational programs. This involves updating the self-learning manual and revising the educational program. There have been a couple of conference calls of the CPPC group since that time to plan the work and discuss funding and developing of a work plan.

We wanted to update you on the progress of each of these components:

#### The Fetal Health Surveillance in Labour Self-Learning Manual:

- You will recall that this manual is used to prepare participants with the fundamental knowledge about intermittent auscultation (IA) and electronic fetal monitoring (EFM).
- Work has begun on updating the chapters to reflect the new SOGC terminology and guidelines. Nine authors from the disciplines of nursing, medicine and midwifery have completed revisions of the chapters. We are now in the process of editing these revisions, and getting them ready to go out for external review. After this is complete, the book will be readied for the printer and production. The British Columbia Perinatal Health Program (BCPHP) is coordinating this project.
- The anticipated production date for this is now Fall of 2008.
- The BCPHP would appreciate knowing how many of the current edition of the books you **may** be ordering from them to get you through to the Fall. They do not want to have a large stockpile and only want to print what is needed. You can email your anticipated numbers to Lily Lee, perinatal consultant at BCPHP ([llee-02@phsa.ca](mailto:llee-02@phsa.ca)) or to whomever coordinates FHSL programming in your area **if** you purchase books from that group directly.
- The CPPC group is investigating the feasibility of funding to further develop a web-based application for this book.

#### The Fetal Health Surveillance in Labour – Fundamentals Course

- This course (or a modification of it) is available in many locations in the country. It can easily be adapted for novices or those with more experience who may

have a role in mentoring novice care providers.

- At the June CPPC meeting, the group agreed that they would like a re-design of the present program and develop it into a modular format. The advantage of the modular format is that it will allow more flexibility in course delivery and timing. Instructors can opt to offer one or two modules at a time or all the modules in a day-long format.
- There are seven proposed modules. Each will be designed in a case-based format with standardized content and formatting.
- There has only been preliminary work done on the modules. The CPPC group is investigating partnership with various other perinatal organizations to enhance the applicability of the modules to all care providers and to reduce the workload for any one group. Currently, there is no funding for this project, so it is being carried by the various perinatal programs across the country. We are looking for potential funding sources. Consequently, we don't have a firm time-line for this aspect of the project, but the CPPC group would like to have this complete in 2008.
- We are also investigating the feasibility of developing a web-based application for this modular FHSL program.

#### Formalization of a Fetal Health Surveillance Committee

- Members of the CPPC group are actively working towards developing a more formal fetal surveillance committee in Canada. We envision having a "go-to" place for regular content and resource updates, as well as a secretariat for tracking participants and instructors.

#### What to Do Until the New Resources are Ready

- The CPPC is recommending that you continue to use the resources you have, but incorporate the new terminology into the teaching. For example, when discussing IA cases, NSTs or EFM tracings, discuss how it would currently be classified and how it will be classified with the new terminology. You can print copies of the classification tables from the new SOGC guideline for participants and include it with the book, or bring to class.

## FOR YOUR INFORMATION:

### NEW RESOURCES

The Best Start Resource Centre has recently released several new resources all of which can be downloaded from the Best Start Website: ([http://www.beststart.org/resources/rep\\_health/index.html](http://www.beststart.org/resources/rep_health/index.html)).

#### Prenatal Education in Ontario – Better Practices

This manual is intended to provide childbirth educators with a review of current research and an outline of various types of group prenatal education. It provides a literature review, an outline of topics and key messages, effective practices and resources. It is available in both print and PDF format.

#### Update Report on Teen Pregnancy Prevention

This manual was developed in collaboration with the Sex Information and Education Council of Canada (SIECCAN). It presents the latest research on effective programming strategies and is meant to encourage a broad view of the issues that relate to teen pregnancy. It includes a summary of international, national and Ontario statistics, context and effective strategies for the prevention of teen pregnancy and examples of effective or promising initiatives. It is available in both print and PDF format.

#### Work and Pregnancy Do Mix ...

This booklet is intended for working women who are or may become pregnant. It provides information on workplace risks, ways to reduce risks, and courses of additional information.. It is available in both print and PDF format.

#### Reflecting on the Trend: Pregnancy After Age 35

This manual provides a guide to Advanced Maternal Age for Ontario health care providers, including a summary of statistical trends, influencing factors, health opportunities health risks and recommendations for care. It is available in both print and PDF format.

#### Fetal Heart Rate Auscultation

Nancy Feinstein, RNC, MSN, PhD, Ann Sprague, RNC, BN, MEd, PhD, and Marie-Josée Trepanier, RN, BSCN, Med

This practice monograph describes how to perform fetal heart rate auscultation and discusses the benefits and limitations of intermittent auscultation (IA). Fetal heart rate auscultation has been a method of fetal assessment for centuries but the practice declined with the introduction of electronic fetal monitoring. This monograph discusses the knowledge to date about IA as a primary method of fetal surveillance during labor.

Recommendations of various obstetric organizations regarding the use of fetal heart rate auscultation for low-risk pregnancies are covered.

*One set of 2.4 contact hours included in purchase price. Available in the AWHONN Store:* [www.awhonn.org](http://www.awhonn.org)

## YOU ASKED US: . . .

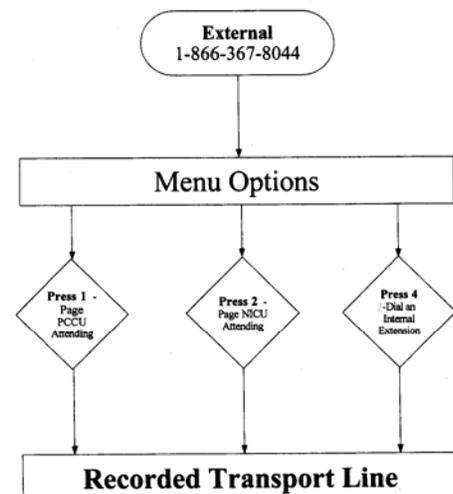
**Q:** In the event that a neonatal or pediatric transfer is required in southwestern Ontario who should be called?

**A:** To initiate all pediatric/neonatal transfers in the region the following phone algorithm is recommended. For transfer of a neonate (< 28 days of age), selecting Menu Option 2 will contact the Neonatologist on call at St. Joseph's Health Care London, who in turn can recommend neonatal management and initiate dispatch of the transport team. If London is closed to the region, the transport team will still be dispatched and the neonatologist will assist with locating an appropriate bed elsewhere in the province.

*Dr. Henry Roukema, Director of Nurseries, London Hospitals*



Recorded Transport Line Flow Diagram



Important  
DATE!**UPCOMING EVENTS:****MARK YOUR CALENDARS . . .****MATERNAL NEWBORN NURSING COURSE****London:****Spring 2008****Mondays: Mar. 31 – May 12, 2008****Fall 2009****Mondays: Sept. 15 – Nov. 3, 2008**

St. Joseph's Health Care, London  
 Offered in collaboration with Fanshawe College.  
 Continuing Education: NRS-6027  
 Videoconferencing available

**Contact:**

Gwen Peterek  
 Perinatal Outreach Program  
 Phone: (519) 646-6100 ext 65901  
 Fax: (519) 646-6172  
[Gwen.peterek@sjhc.london.on.ca](mailto:Gwen.peterek@sjhc.london.on.ca)

**check out our webpage to download a form:**  
[www.sjhc.london.on.ca/sjh/profess/periout/periout.htm](http://www.sjhc.london.on.ca/sjh/profess/periout/periout.htm)

**22<sup>ND</sup> ANNUAL PERINATAL OUTREACH CONFERENCE****"INTENSIVE CARING: AN APPROACH TO HIGH RISK PREGNANCIES AND BABIES"****Date: September 2008****Location:** Best Western Lamplighter Inn, London**Contact:** Perinatal Outreach Office  
(519) 646-6100, ext. 65859

**watch our webpage for details:**  
[www.sjhc.london.on.ca/sjh/profess/periout/periout.htm](http://www.sjhc.london.on.ca/sjh/profess/periout/periout.htm)

**LUNCH & LEARN VIDEOCONFERENCE SERIES****"BABY TALK – LESSONS FROM THE NICU"****FEB. 19, 2008** Cultural Diversity in Perinatal Care**APR. 15, 2008** Neonatal Stabilization**MAY 20, 2008** Ethical Issues in Perinatology**JUN. 17, 2008** Neonatal Nutrition in the

Special  
 Care Nursery

**Watch our webpage for further details:**  
[www.sjhc.london.on.ca/sjh/profess/periout/periout.htm](http://www.sjhc.london.on.ca/sjh/profess/periout/periout.htm)  
**Or visit the Ontario Telehealth Network webpage:**  
[HTTP://TEST1.VIDEOCARE.CA/OTN/EVENTS\\_CALENDAR.PHP?MODE=VIEW](http://TEST1.VIDEOCARE.CA/OTN/EVENTS_CALENDAR.PHP?MODE=VIEW)

**ALARM COURSES - 2008****April 20-21, 2008 & December 7-8, 2008**  
Toronto ON

**Contact:** SOGC  
 Tel: 1-800-561-2416  
[www.sogc.org](http://www.sogc.org)

**Acute Care of at-Risk Newborns**  
**"ACoRN" Workshop****April 16-18, 2008****Location:** Lamplighter Inn, London**Contact:** Perinatal Outreach Office  
(519) 646-6100, ext. 65859**Call for a brochure or download one from our webpage:**[www.sjhc.london.on.ca/sjh/profess/periout/periout.htm](http://www.sjhc.london.on.ca/sjh/profess/periout/periout.htm)**19<sup>TH</sup> ANNUAL AWHONN CANADA CONFERENCE****"POWER, PASSION, POLITICS"****October 23-25, 2008****Location:** Westin Hotel

Ottawa, ON

**Contact:** AWHONN website for more details  
<http://www.awhonn.org/awhonn/section.by.state.do?state=Canada>

**REGIONAL PERINATAL NURSE MANAGER'S MEETING****Friday, May 2, 2008****Location:** Roney B auditorium (D1-226)

St. Joseph's Health Care London

**Contact:** Perinatal Outreach Office  
(519) 646-6100, ext. 65901**FETAL HEALTH SURVEILLANCE WORKSHOP****May 22, 2008****Location:** Bluewater Health, Sarnia**Contact:** Kelly Ross

(519) 464-4400 x 8259

[kross@bluewaterhealth.ca](mailto:kross@bluewaterhealth.ca)**Jun 3, 2008****Location:** Strathroy Middlesex General**Contact:** Mary Robertson

(519) 245-1550

[mary.robertson@mha.tvh.ca](mailto:mary.robertson@mha.tvh.ca)**85<sup>th</sup> Canadian Pediatric Society Annual Conference****Jun 24-28, 2008**

Fairmont Empress Hotel, Victoria, BC

<http://www.cps.ca/english/AnnualConference/2008/Highlights.asp>

**Society of Obstetrician & Gynecologist of Canada**  
**64 Annual Clinical Meeting - June 25-29, 2008**

Telus Convention Centre, Calgary, AB

[http://www.sogc.org/cme/events-acm\\_e.asp](http://www.sogc.org/cme/events-acm_e.asp)

This newsletter is a publication of the Perinatal Outreach Program.

Letters, queries and comments may be addressed to:

Gwen Peterek, RN, BScN, PNC(C)  
 Regional Perinatal Outreach Program of Southwestern Ontario  
 St. Joseph's Health Care, 268 Grosvenor St, London, ON, N6A 4V2  
 Tel: (519) 646-6100, ext. 65901

To have your name included on our mailing list, please contact the above, or

E-mail: [gwen.peterek@sjhc.london.on.ca](mailto:gwen.peterek@sjhc.london.on.ca)  
[www.sjhc.london.on.ca/sjh/profess/periout/periout.htm](http://www.sjhc.london.on.ca/sjh/profess/periout/periout.htm)