Profile of Courses Offered

The Perinatal Education Program plans and delivers educational programming addressing obstetrical and neonatal care. The Perinatal Education Program, University of Saskatchewan and the Perinatal Outreach Education Program, Regina Qu’Appelle Health Region work on a number of programs, projects and initiatives to promote distributive learning pertaining to perinatal care on a provincial basis. This includes rural and remote locations in Saskatchewan. Our goal is to promote optimal perinatal outcomes based on evidence-based care and to identify, facilitate and evaluate continuing education and professional development for physicians, nurses, midwives and other health care professionals who provide care to mothers and their families.

Some of our featured courses include:

- Best Practices in Intrapartum Care  2-day workshop
- Neonatal Resuscitation Program (NRP)  Pre study and on-line exam with a 1-day course
- STABLE (Assessment & Stabilization Care of Sick Newborns )  2-day workshop
- Fetal Health Surveillance Course (FHS)  Self study and on-line manual  1-day workshop
- Managing the Emergency Delivery  1/2 day workshop
- Essentials of Obstetrical Care  1 day workshop

Please visit our program websites for a more comprehensive description of these courses

http://www.usask.ca/cme  or  http://www.rqhealth.ca/programs/womenshealth.shtml
CPS CLINICAL PRACTICE
GUIDELINES UPDATE

Maternal Infectious Disease and Breastfeeding ~ There is limited evidence regarding the need to discontinue breastfeeding during a maternal illness or immunization. Common maternal bacterial, fungal, or viral infections in which the maternal health is compromised does not generally constitute a need for discontinuing breastfeeding. The only instances in which breastfeeding should be stopped is with maternal Brucellosis and HIV. There are a few instances in which antimicrobials would necessitate a mother to adjust breastfeeding. This CPS article provides additional information regarding specific conditions which require cessation. In these situations, maternal guidance and support is necessary especially if the woman wanted to breastfeed and to assist her to maintain her milk supply during this period.
(Infectious Diseases and Immunization Committee, July 2014)

Prevention of Neonatal Herpes Simplex Virus (HSV) ~ Every newborn should be considered at risk for HSV infection. Screening for and discussing this with clients is important as studies show 75-90% of individuals who are seropositive are unaware of their infection. Hand washing is the best method for prevention of HSV with particular focus on known cases of genital and oral HSV. Factors that impact the transmission of HSV to the neonate include the nature of maternal infection, mode of delivery, duration of ruptured membranes, and use of intrapartum instrumentation. Although acquisition of infection can occur in utero and postnatally, the most critical period of transmission is during labour and birth. Women with known HSV in pregnancy require treatment with Acyclovir. Categories of neonatal HSV are: disseminated, localized CNS, and skin/eye/mucous membrane (SEM) infection. The treatment of choice for the neonate with HSV is Acyclovir with structured follow-up. The CPS document provides professionals with information to assist in decision making.
(Infectious Diseases and Immunization Committee, April 2014)

Going Home: Facilitating discharge of the preterm infant ~ A well planned comprehensive discharge care plan can assist the families of a preterm infant (<34 weeks) to successfully transition out of hospital. Ideally, discharge planning begins at the time of birth and admission to the NICU. Discharge readiness is determined by functional readiness. Four important physiological “competencies” include: thermoregulation, control of breathing, stability of respirations, and the ability to feed and gain weight. Another important consideration is whether the parents are ready and feel supported to go home. The Guidelines include recommendations and criteria for discharge, as well as family support and follow-up.
(Fetus and Newborn Committee, January 2014)

Weaning from the Breast Position Statement ~ Exclusive breastfeeding (with vitamin D supplementation) is the ideal nutrition a healthy term infant requires until six months of age, then a gradual introduction of foods to complement the diet can start. Variations may be required with special circumstances such as prematurity, failure to thrive, or chronic illness. After six months of age, the infant or mother can lead the weaning process introducing meat, eggs, and nuts to increase protein intake and iron-fortified nutrition. The CPS has additional resources to assist with breastfeeding and nutrition of children.
(Community Paediatrics Committee, April 2013)

Counseling and management for anticipated extremely preterm birth ~ Extreme prematurity is defined as delivery prior to 25 6/7 weeks gestation. Parents and caregivers may be faced with making difficult decisions regarding the infant during this time. It is imperative that shared decision making between health care professionals and the family occurs. Information regarding the extreme premature infant allows for the family to make decisions which is in the best interest for themselves, their infant and their families. The guideline provides information on this complex issue.
(Fetus and Newborn Committee, October 2013)

The Perinatal Education Program has a newly revised Newborn Transport Record to assist in the effective transfer of the sick newborn requiring transport to a regional or tertiary centre.

Communication between referring hospitals to the Neonatal Intensive Care Unit is critical, particularly when it involves a neonate whose condition can change quickly and dramatically. Parents may often not be able to be with the infant during the transfer to provide information. The information you provide is crucial to the care planning process through out the continuum.

The form is posted in PDF format and can be downloaded from the University of Saskatchewan Continuing Medical Education website at www.usask.ca/cme/

Found under Programs, the Perinatal Education Program section also includes a tab for Perinatal Practice Guidelines & Resources. Please contact roxanne.laforge@usask.ca if you need to add additional information such as forms number.

Work is now underway to revise the accompanying Neonatal Post-Resuscitation Stabilization and Preparation for Transport Guidelines to replace the 2006 document currently posted, online. Watch for it in the coming months!
NEW GUIDELINES AND UPDATES

SOCIETY OF OBSTETRICIANS AND GYNAECOLOGISTS OF CANADA

Guidelines for the Care of the Patient Living with HIV ~ (August, 2014)
Initial discussion and counseling regarding prenatal testing for HIV should be offered to each pregnant woman. Those at higher risk should have subsequent testing each trimester of pregnancy. With the use of consistent antiretroviral medications the transmission of HIV is < 1%, and each woman diagnosed with HIV regardless of viral load should be treated with medications. An individualized combination of antiretroviral medications should be used throughout pregnancy. This comprehensive guideline provides 24 recommendations for providing optimal care to women both pre-pregnancy and during pregnancy in order to achieve optimal outcomes.

Perinatal Invasive Procedures in Woman with Hepatitis B, Hepatitis C, and/or HIV ~ (July, 2014)
This guideline provides a series of recommendations to reduce the risks of viral infection associated with perinatal testing. Risks and benefits of screening tests in the perinatal period should be considered for each individual, with the use of non-invasive tests (such as serum screening combined with nuchal translucency) being recommended for women with these viral infections. If necessary, the use of non-invasive molecular pre-natal testing should be utilized with woman where the vertical transmission of infection is high, such as HIV + women not on antiretroviral medications. The use of amniocentesis in women with Hepatitis B, Hepatitis C and HIV has associated risks, and each individual should be counseled according to the most recent data.

Venous Thromboembolism and Antithrombotic Therapy in Pregnancy ~ (June, 2014)
If suspecting a DVT, the use of ultrasound for diagnosis is recommended and may be repeated every 7 days if the initial US scan is negative. The diagnosis of pulmonary embolism can be confirmed with a ventilation-perfusion scan which is the preferred test for antenatal women. Following initial diagnosis, she should be observed in hospital for two weeks or followed closely on an outpatient basis. The preferred drug of therapy is low molecular weight heparin. Seeking the consultation of a hematologist may be advised.

Diagnosis, Evaluation and Management of Hypertensive Disorders of Pregnancy ~ (May, 2014)
The research and evidence is detailed in this executive summary to diagnose, evaluate and manage hypertensive disorders in pregnancy. This disease remains the leading cause of maternal morbidity and mortality. Some of the key changes in this extensive report include: the classification of various hypertensive disorders in pregnancy, including the role of the systolic blood pressure in the definition, elaboration on the adverse conditions and severe complications of preeclampsia, new information regarding prevention, antenatal and Intrapartum management, medications, postpartum evaluation and follow-up. There is also information regarding HEELP syndrome and useful resources for women and health care professionals.

The Prevention of Early-Onset Neonatal Group B Streptococcal Disease ~ (October, 2013)
Screening of GBS should be completed with every woman between 35 to 37 weeks gestation of pregnancy. There is an association between the colonization of GBS and early onset neonatal disease. IV antibiotic prophylaxis should be offered to women with a positive GBS screen, any woman with a previously infected newborn, or any woman with GBS bacteruria during the pregnancy. The guideline also recommends women with a fever in labour receive a broad spectrum antibiotic which targets both GBS and other organisms commonly seen in chorioamnionitis regardless of previous screening results. There is also good evidence to initiate induction of labour in a woman at term who is colonized with GBS and has pre-labour rupture of membranes at term to decrease the incidence of neonatal infection.

Position Statements and Practice Points published by the CPS can be viewed and downloaded from their website at: http://www.cps.ca/en/documents

All Clinical Practice Guidelines by the SOGC can be viewed and downloaded from their website at: http://sogc.org/clinical-practice-guidelines/
Family Centered Maternity and Newborn Care
Leah Thorp, RN, PNC (C)

In the past there have been numerous publications and research regarding family centered care (FCC) and how it affects outcomes. Health Canada’s National Guidelines (2000) continue to impact the attitudes and beliefs of health care professionals regarding families. The continued and renewed interest in FCC demonstrates that health care providers, families, and organizations are committed to partnerships and the engagement of each key player. The implementation of FCC practices and philosophies of care demonstrates that patients and families experience increased satisfaction with health care, improved outcomes regarding health and wellbeing, improved safety and increased engagement leading to a greater contribution of each individual (Jimenez, Klein, Hivon, & Mason, 2010). The incorporation of FCC allows for greater organizational transparency and accountability (Institute of Family Centered Care, 2011). “When engaging patients and families into discussion and decision making, it must be meaningful and include a diversity of individuals” (Ministry of Health British Columbia, 2011). This in turn leads to increased satisfaction and improved outcomes related to maternity and newborn care.

So how are we doing at implementing Family-Centered Care? A quantitative research study by Gramling, Hickman, and Bennett (2004) found that even though health care professionals believe in the family centered care philosophy, the general practices of organizations do not institute practices sensitive to each family’s needs. Other research studies have found that despite improvement in family centered care in Canada, continued collaborative efforts by health care professionals to involve families in decision making is needed (Jimenez, Klein, Hivon, & Mason, 2010; Petersen, Cohen, & Parsons, 2004). Health care providers can assist with the shift of thinking by ensuring that the FCC philosophy stems from the first obstetrical appointment to the home visits following delivery.

Partnerships between families and health care providers can assist to ensure that FCC is continually present.

Some innovative ways that organizations have implemented FCC is through bedside reporting which puts the woman and her family at the center of care (Larson, 2012). Another strategy for FCC is to listen to the voices of women when they discuss their birth story while in hospital; this acknowledgement and communication is essential to guide clinical practice and design a plan of care for the individual (Callister, 2004). Addition al strategies are to ensure visiting policies within health care are sensitive to the family’s needs and requests, additional teaching and supporting of nurses’ communication skills, and relationship building with self, peers, and families (Griffin, 2006). Feedback from patients and families is recognized as one of the many inputs regarding organizational decision making (Ministry of Health British Columbia, 2011). An innovative development within the Regina Qu’Appelle Health Region was the development of the Perinatal Client and Family Advisory Council (2014). This council meets monthly to identify concerns of families recently receiving maternity and newborn care services. The collaboration between the organization and the council assists to identify specific concerns within the district and determine mutual recommendations to improve care. Additional FCC practices in maternity and newborn care in other communities include Fort Qu’Appelle’s midwifery services at the All Nation’s Healing Hospital and the use of Labour/Delivery/Recovery/Postpartum rooms.

FCC is a growing philosophy, belief, and practice that can assist in the improvement of the health of families. “It is not a singular intervention but an approach to care that recognizes the strengths and needs of patients and families and the essential roles that family members play in the promotion of health and the management of illness. Family centered maternity care, in its truest sense, is designed to meet the informational, social, emotional and physical needs of pregnant women and families during pregnancy, childbirth, and the post partum period” (Roudybush, Kaufman, Johnson, Abraham, & Clayton, 2006, p. 208). Each practitioner can assist with FCC in numerous innovative ways, remembering the people we care for is at the heart of what we do.

With increased availability of ultrasounds to women and families who are expecting, SOGC and CAR developed a position statement regarding the use of ultrasound. There is no definitive evidence that ultrasound causes abnormalities or harmful effects but there is a theoretical risk to utilizing ultrasound on the developing fetus with this targeted energy source. Harm that could become present occurs with the mismanagement in the level of exposure to the fetus, misinterpreted results leading to false positives or false reassurance that everything is normal. Health Canada and the FDA (USA) recommends that ultrasound be used by qualified health professionals when medically indicated and the energy exposure be limited to the amount required for medical indication. The statement further states that ultrasound should not be used for the sole purpose of determining gender in the absence of medical indications.

References
Providing warmth to the newborn has always been one of the first steps to effectively caring for the neonate (Karlson, 2006; McCall, Alderdice, Halliday, Johnston, & Vohra, 2014). Clinical situations can arise, however, when the use of hypothermia may be beneficial and effective in preventing long-term ischemic injury to the newborn’s brain. Randomized Clinical Trials (RCTs) began in the 2000’s regarding hypothermia and the risks and benefits associated with its use during neonatal hypoxic events. Research efforts continue to define and explain how hypothermia can assist with prominent neuroprotection of the neonate. Many questions arise from health care providers pertaining to why, when and how to begin the process of cooling.

Hypoxic ischemic encephalopathy (HIE) is an injury associated with reduced blood flow to the brain during a hypoxic-ischemic event. (Caderholm & Cotten, 2014). The rate of HIE in developed countries is 0.5 – 1 per 1000 live births and HIE is often unanticipated and occurs suddenly (Canadian Paediatric Society, 2012). The use of Therapeutic Hypothermia (TH) prior to or during the second phase of injury assists with improving the outcomes related to the damage that can occur within the neonate’s brain. This “therapeutic window of opportunity” exists during the six hours after birth following a (Jacobs, Hunt, Tarnow-Mordi, Inder, & Davis, 2008).

The use of TH in the neonate with an anticipated hypoxic injury assists in reducing the damage to the brain by decreasing the energy used by the brain, thereby decreasing the production of damaging free radicals, the release of extracellular neurotransmitters, and assists in normalizing protein synthesis (Caderholm & Cotten, 2014). The Cochrane Collaboration (2008) identified that the benefits of utilizing a hypothermia protocol with infants experiencing HIE leads to a reduction in mortality without an increase in major neurodevelopmental disability among survivors.

In 2012, the Canadian Paediatric Society outlined clinical practice guidelines to assist with questions health care professionals may have.

**Who should be cooled?** The appropriate instances where cooling the infant may be necessary requires diligent identification. There are certain parameters defining which infants may benefit the greatest. Research has identified general guidelines and eligibility criteria as to which infants may benefit from TH:

- gestation greater than 36 weeks
- no major congenital malformations
- no major congenital malformations
- therapeutic window of time is within 6 hours of birth
- weight greater than 1800 grams
- APGAR < 5 at 10 minutes of age
- continued need for resuscitation following 10 minutes of age
- diagnosis of moderate to severe HIE with a combination of lab results (pH ≤7.0 or base deficit >16mEq at ≤1 hour of age), clinical findings (such as a perinatal event,) and identification of neurological deficits

**How to cool?** There are two to three different methods the CPS (6456) outlines for cooling the infant. They are:

- passive cooling where the infant is not actively warmed to maintain normothermia
- active cooling where the infant is placed on a cooling blanket (total body cooling)
- active cooling where the newborns head is placed in specialized cooling caps (selective head cooling)

Any of the methods of TH require very detailed and strict monitoring of the infant’s temperature. A temperature of 34 + 0.5 degrees Celsius is the optimal temperature for TH (Canadian Paediatric Society, 2012). Accurately obtaining the infant’s temperature, vital signs, response to cooling, and lab values ensures that the infant is not too cold. The infant requires monitoring to ensure that none of the risks of cooling occur. The risks of TH are subcutaneous fat necrosis, cold panniculitis, pain and discomfort, and decreased perfusion to limbs resulting in necrosis (Caderholm & Cotten, 2014). Continued page 6

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**References**


Regina Qu'Appelle Health Region. (2013). Active cooling body guideline (where cooling bed unavailable). Regina Qu'Appelle Health Region, Regina SK.

Regina Qu'Appelle Health Region. (2013). Before initiation of therapeutic hypothermia. Body cooling, neurological assess...
Temperature in the Newborn Continued...

What next? Following a usual time frame of cooling (16 hours) the infant is rewarmed gradually and monitored carefully, both for worsening of encephalopathy and return of seizures and for signs of cardiovascular / respiratory instability associated with vasodilation such as hypotension, tachycardia, arrhythmia and respiratory distress (Karlsen, 2013). Ongoing assessment is needed to ensure that the neonate then maintains normothermia (temperature 36.5 – 37.4) to ensure no further problems ensue (Laptook, et al., 2013).

Always remember to consult with your regional referral center. In many cases, infants with HIE or at risk for HIE will require specialized assessment and care in an NICU. They can advise as to the best approach to treating the infant while awaiting transport, and in many cases, will advise initiation of passive cooling until such time as the infant can be transported and active cooling can begin.

As in any situation in which a newborn requires specialized care, the family requires consistent information and details regarding their infant’s status. The care of these babies, with all the special requirements of TH during the beginning of their lives is an important and significant task to accomplish. Ensuring a team approach to deliver the best possible evidence based care for the newborn is priority for all the care providers involved.

Preterm Birth and Magnesium Sulphate for Neuroprotection    Roxanne Laforge, RN

Preterm birth is defined as the birth of an infant prior to 37 completed weeks of pregnancy. From 2001 to 2010, the rate of preterm birth in Canada ranged from 7.5 to 8.2% of all live births, with the most recent rate cited at 7.7% in 2010. In 2006-2010, the Saskatchewan rate was below the national average at 7.4% of livebirths (Perinatal Health Indicators for Canada, Public Health Agency of Canada, 2013).

Depending on the gestational age at birth, preterm infants are at risk for a number of adverse outcomes, including neurological impairment that can arise from brain hemorrhage and injury. These neurological problems can take the form of cerebral palsy, cognitive impairment and learning disabilities, blindness, deafness, developmental delay and motor impairment.

In May, 2011, the Society of Obstetricians and Gynaecologists of Canada released a Clinical Practice Guideline outlining the research basis and recommendations for the use of magnesium sulphate as an antenatal intervention to reduce the risk of neurological impairment. Magnesium sulphate has been widely used in obstetrics for many years to reduce central nervous system irritability and the risk of seizures in women with pre-eclampsia and had also been utilized for a number of years to reduce contractions in women with preterm labour. When studies showed that magnesium sulfate was not particularly efficacious in reducing preterm labour contractions, its' use for that indication was abandoned. Magnesium sulphate is now back in the spotlight as a treatment to ‘neuroprotect’ the fragile preterm brain. In a Committee Opinion published in 2010 (reaffirmed in 2013) by the American College of Obstetricians and Gynecologists, a meta-analysis of the research cited that magnesium sulfate given before anticipated early preterm birth reduced the risk of cerebral palsy in surviving infants.

The Clinical Practice Guidelines published by the Society of Obstetricians and Gynaecologists of Canada provide direction on the use of magnesium sulphate, including timing and dosage. It is used for women with imminent preterm birth at ≤34+6 weeks, with imminent being described as active labour dilation of ≥4 cm with or without ruptured membranes. Magnesium sulphate may also be administered to women (of the above stated gestational age) in which a early delivery is planned for fetal or maternal indications, ideally administered within 4 hours of the delivery. The care of the mother on magnesium sulphate would include existing protocols for the monitoring of women receiving magnesium sulphate for use with pre-eclampsia. The Guideline also includes a succinct algorithm to guide care providers. For more information, the full guideline can be viewed or downloaded from the SOGC website at http://sogc.org/guidelines/magnesium-sulphate-for-fetal-neuroprotection/

References:
American College of Obstetricians and Gynaecologists Magnesium Sulfate Before Anticipated Preterm Birth for Neuroprotection, Committee on Obstetric Practice Committee Opinion, No. 455, March 2010 (Reaffirmed 2013)
**Question:** We use narcotic analgesics to help our mom's cope through labour. What can you tell me about using naloxone if a baby is born with depressed respirations?

**Answer:** Naloxone (Narcan) is a narcotic antagonist used to transiently reverse the effect of maternal narcotics on the baby. Here are a few helpful hints about giving naloxone to the newborn.

- Many babies born to women given narcotics will have an uneventful transition at birth. Each baby needs to be assessed at the time of delivery and managed accordingly.
- If a baby does not respond to initial drying and stimulation (flicking the feet, rubbing the back) in the first 30 seconds of life, the baby is most likely in secondary apnea and further stimulation efforts will not be effective. Giving IM injections, such as naloxone or Vitamin K to stimulate breathing is likely to be no more effective than other efforts to stimulate the baby and wastes valuable time.
- **The first priority for an infant with respiratory depression that does not respond to stimulation is to provide effective positive pressure ventilation.**
- Consider giving naloxone to the infant that continues to have depressed respiratory drive and where there is a history of maternal narcotic administration within the 4 hours preceding birth.
- Since the effect of the narcotic can last longer than naloxone, the baby should be watched carefully for reoccurrence of respiratory depression. Be prepared to provide respiratory support.
- Always consider other reasons for why there is respiratory depression in the infant (such as acidosis, brain injury or congenital problems) especially if it has been more than 4 hours since narcotics were given. Other drugs can also cause depressed respirations. Naloxone will only reverse the effects of narcotics.
- **Last, and most importantly,** know the mother's history before giving naloxone to the depressed infant. Naloxone given to infants of mothers suspected of narcotic use or on a methadone maintenance program can cause the infant to have immediate withdrawal symptoms, including seizures. These babies should never be given naloxone and should receive respiratory support until they are able to maintain effective respirations on their own.

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**Upcoming Events 2014—2015**

February ~ 5 & 6 POGO Women and Children’s Health Conference, Saskatoon, SK

March ~ 9 & 10 STABLE Assessment & Stabilization Care of the Sick Newborn, Prince Albert, SK

23 & 24 STABLE Assessment & Stabilization of the Sick Newborn, Lloydminster, SK

April ~ (tent.) 9 & 10 NRP Instructor Course, Regina, SK

11 NRP Provider Course, Regina, SK

May ~ Best practices in Intrapartum Care and Fetal Health Surveillance in Saskatoon, SK

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**PRETERM Labour TIP**

**Don’t forget the steroids!**

All pregnant women between 24 and 34 weeks at risk for preterm labour should be considered as candidates for a single course of corticosteroids. Drugs used include Betamethasone 2 doses of 12 mg. q24 hrs. apart OR Dexamethasone 4 doses of 6 mg. IM q 12 hrs. These drugs can reduce neonatal mortality, respiratory distress syndrome and brain hemorrhage in the preterm infant. Giving the first dose of steroids while stabilizing the preterm labour patient for transport to a regional centre is an important first step in providing optimal care to the woman and her yet to be born child.

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**Updated Maternal Transport Form!**

The Maternal Transport Form has been updated and posted to the Perinatal Education Program website. This revision addresses a previous error. Please destroy all copies you may have of the old form (digital and print form) and replace them with the revised form dated January, 2015.
Perinatal Education Programs in Saskatchewan

Roxanne Laforge, RN, BScN, MS, is the Coordinator of the Perinatal Education program, Continuing Medical Education at the College of Medicine and Continuing Education and Development of Nurses, College of Nursing at the University of Saskatchewan. Roxanne has extensive experience in the clinical area of obstetrics including Staff Nurse, Manager of Nursing and teaching with the College of Nursing undergraduate program. She has been in the role of Coordinator focusing on interprofessional education and best practice in perinatal care for 13 years. Roxanne’s office is situated at Royal University Hospital in Saskatoon and when not out on the road teaching, can be found in her office 5 days/week. Roxanne can be contacted at roxanne.laforge@usask.ca Phone: 306-966-7792

Leah Thorp, RN, BScN, PNC © is the Coordinator of Perinatal Outreach Education program, Regina Qu’Appelle Health Region. She works in collaboration with the Perinatal Education Program to provide services to the province. Leah is new to the position bringing extensive experience from a variety of areas. Her expertise and knowledge is related to obstetrics being a staff nurse for many years, critical care from intensive care experience and education teaching with the College of Nursing with undergraduates at the University of Saskatchewan. Leah’s office is situated at the Regina General Hospital and can be reached four days a week in the office. Leah can be contacted at leah.thorp@rqhealth.ca Phone: 306-766-0707

James Montbriand, MA is the Program Assistant for the Perinatal Education program, providing valuable support of program activities. He is often the voice you hear on the phone and the email that pops into your “inbox”, keeping you informed of our activities and events. James has been with the program over 15 years. James is located at the Saskatoon office and can be reached mornings at perinatal.education@usask.ca Phone: 306-966-7792

We welcome your calls and inquires about all aspects of perinatal care, including courses and workshops, best practice guidelines and the latest evidence in obstetrical and neonatal care.

Regina Qu’Appelle Health Region

Roxanne Laforge
Coordinator, Perinatal Education Program
Regina Qu’Appelle Health Region
Regina General Hospital
1440-14th Avenue, Regina, SK S4P 0W5
Phone: 306-766-0707 FAX: 306-766-4149
Email: roxanne.laforge@usask.ca

Saskatoon
Roxanne Laforge
Coordinator, Perinatal Education Program
Continuing Medical Education, College of Medicine
Continuing Education & Development for Nurses, College of Nursing
University of Saskatchewan
Box 60000, Saskatoon, SK S7N 4J8
Phone: 306-966-7792 FAX: 306-966-7673
Email: roxanne.laforge@usask.ca