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Neonatal Resuscitation Guidelines 2006: Respiratory Equipment – What’s New to Know?

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INTRODUCTION

The launch of the new American Academy of Pediatrics (AAP) Neonatal Resuscitation Guidelines in the fall of 2006 introduced several practice changes for effective resuscitation of the newborn. Many of the changes are focused around airway management and ventilation. Having reviewed the AAP guidelines extensively, the Canadian NRP Steering Committee has made several additional changes to the neonatal resuscitation guidelines. Their own recommendations are available through the Canadian Pediatric Society website (www.cps.ca) and through workshops across the country. With practice changes have also come recommendations for the use of new equipment. This article is intended to specifically consider some of the equipment used for ventilation during newborn resuscitation with particular emphasis on advantages, disadvantages, points of caution and purchase information.

The Canadian expert committee for NRP has recommended the following for use of oxygen during resuscitation:

1. Positive-pressure ventilation should be initiated with 21% oxygen (room air)

2. Supplemental oxygen should be used if the baby remains cyanotic or the heart rate is less than 100 bpm at 90 seconds of age.
3. Blended gases should be available in the delivery room and during transport to the NICU.
4. To avoid hyperoxemia pulse oximetry should be available in rooms designated for delivery of babies less than approximately 32 weeks gestation. Even though there is no clear definition of hyperoxia for the preterm infant, it seems reasonable to avoid saturations above 95% when supplemental oxygen is used.¹

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SELF INFLATING BAGS

One popular means of providing initial ventilation is by means of a self-inflating bag and mask system. Most self inflating bags are equipped with a pressure release valve (pop-off valve). These release mechanisms are designed to release pressure at 30 – 40 cm H₂O. Some variations of these valves provide the option to “lock” the pop-off valve in place, effectively disabling the release mechanism and allowing the operator to deliver pressures in excess of 30 – 40 cm H₂O. These locking devices should be used only in exceptional circumstances and providers must be taught how to release the lock. They should also be familiar with how to test the self inflating bag prior to use to determine whether the pop-off valve is in the “unlock” or “locked” position. In the normal situation, the pop-off valve should always be in the **unlock** position to avoid delivering excessively high pressures and thereby potentially causing a pneumothorax. To determine whether this feature is a characteristic of the self-inflating resuscitation bags to be used, check the pop-off valve for wording on the valve; e.g. “lock”; to indicate that this feature is a function of the bag.

Care must be taken however, to ensure that the self-inflating bag is always delivering adequate pressure to ventilate the lungs. If the bag has a port for a manometer to measure the inflation pressure, it is important that either the manometer be connected or the port be adequately capped to prevent air leakage.

POSITIVE END EXPIRATORY PRESSURE (PEEP) & CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP)

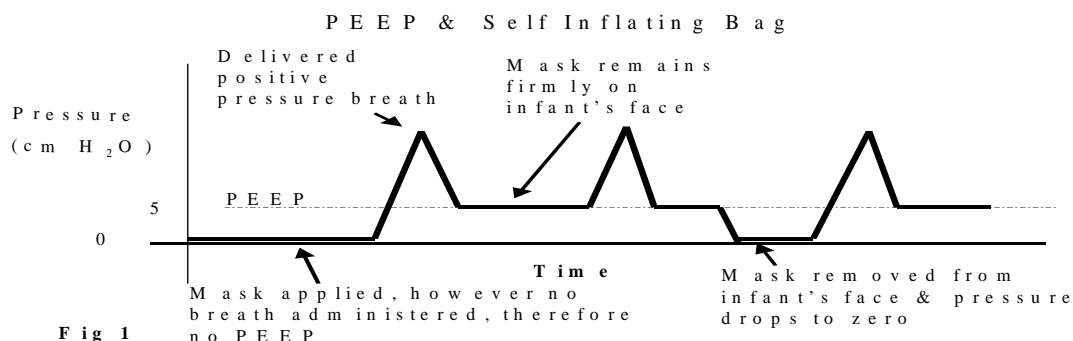
PEEP refers to the ongoing pressure maintained within the lungs between positive pressure breaths. CPAP refers to continuous pressure applied while the baby breathes spontaneously. Both PEEP and CPAP apply positive pressure to the lungs to prevent alveoli from collapsing during the expiratory phase.

Although neither the International Liaison Committee on Resuscitation (ILCOR), nor the AAP has made specific recommendations regarding the use of PEEP or CPAP during resuscitation, the Canadian scientific committee has suggested that *not* providing PEEP could be harmful. Therefore, in the Canadian guidelines the following recommendations have been made:

1. If ongoing positive pressure ventilation is required, PEEP of 3 – 6 cm of water should be used.
2. PEEP may be given with a flow-inflating bag or a T-piece resuscitator. A self-inflating bag with a PEEP valve is also an acceptable alternative.²

Although various self-inflating bags for newborn resuscitation are available, most manufacturers will also have PEEP valves that can be added to their particular system.

The self-inflating bag can generate PEEP following the delivery of a positive pressure breath. Simply applying the mask tightly to the infant’s face with a self-inflating bag plus PEEP valve will not generate PEEP until a “bag” breath is delivered and the mask remains sealed to the infant’s face (see figure 1)³. For this reason a self-inflating bag cannot effectively deliver CPAP.



T-PIECE RESUSCITATOR

The 2006 Guidelines for Neonatal Resuscitation have added the T-Piece Resuscitator as another option for neonatal ventilation. This is a flow controlled, pressure limited device that requires a compressed gas source. The device connects to a mask which is applied to the infant's face or to the endotracheal tube. Puffs of oxygen are delivered to the baby by alternately occluding and releasing an opening on the device just behind the mask. The peak inspiratory pressure (PIP) and the positive-end-expiratory pressure (PEEP) are set manually.⁴

Like the conventional bag/mask systems, the T-Piece resuscitator requires a tight face mask to adequately deliver ventilation pressure to the baby. It can reliably provide 21 – 100% oxygen but does require some preparation time to assemble. One advantage of the T-piece resuscitator over the conventional bag/mask systems is the fact that more consistent air pressure can be delivered since the pressures are mechanically set and not dependent on squeezing the bag. When manual ventilation needs to occur over longer periods of time, this method of ventilation is less tiring for the operator.⁵ It does not, however, allow the compliance of the lung to be "felt". Care should be taken to give only quick short ventilating breaths with the T-piece resuscitator. Depressing the opening for longer breaths can over-inflate the lungs and increase the risk of pneumothorax. Unlike the self-inflating bag, the T-piece resuscitator does allow administration of free flow oxygen, in which case the mask should be applied loosely onto the face allowing the escape of gas around the edges.⁶

One example of the T- Piece Resuscitator is the Fisher & Paykel "Neopuff Infant Resuscitator" which can be purchased for approximately \$1400.00 (product number RD 900). A single use resuscitation kit which includes the T piece and the tubing, will also be required with this item .One box of 10 kits is approximately \$100 (product number 900 RD 010). Fisher & Paykel can be contacted directly at 1-800-446-3908. For further information contact Chris Hutchinson, Product manager at ext. 311.⁷ Orders can also be placed through Cardinal Health, Mississauga, Ontario. Contact Anisah Mohamed (905) 502-

3797.⁸

Neopuff Infant Resuscitator
(Fisher-Paykel)⁹

Prior to the introduction of this device, complete training and in-service education on its use should be provided to all staff.

LARYNGEAL MASK AIRWAY (LMA)

The Laryngeal Mask Airway is another device recommended for the delivery of positive airway pressure. The use of the LMA has been added to the current neonatal resuscitation guidelines as another option to ventilating the infant when bag/mask ventilation or endotracheal intubation are either not feasible or have been unsuccessful. The LMA is a soft elliptical mask with an inflatable rim attached to a flexible airway tube (see illustration). It can be easily inserted without the need of instruments by guiding it through the baby's mouth along the hard palate with one's index finger until it can pass no further (the rim reaches the esophagus). The rim is then inflated so that the mask covers the laryngeal opening and the rim occludes the esophagus. A size 1 mask is used for neonatal resuscitation for infants as small as 2500 gms¹⁰. The LMA is available in both reusable and disposable versions.¹¹

Although the LMA is a useful adjunct to the equipment required for neonatal resuscitation, it is limited in that it cannot be used for suctioning meconium from the airway or for the delivery of intratracheal medication. Furthermore, air leakage around the LMA can occur when high ventilation pressures are used resulting in insufficient air delivery to the lungs and the potential for gastric distention.¹²

Disposable LMA's can be purchased from Vitaid (LMA Unique™) under product code

LMU1 for neonates/infants up to 5 kg, or product code LMU1.5 for infants 5-10 kg. They are sold as a box of 10 at \$150.00/box. For more information, call 1-800-267-9301, or visit their website at www.vitaid.com/canada/lma/classic.htm¹³. For hospitals ordering through HMMS, LMU1 is HMMS item # 77727 and LMU1.5 is HMMS Item # 77729.



Laryngeal Mask Airway¹⁴

CO₂ DETECTION DEVICES

Carbon dioxide detection devices should be used to confirm intratracheal placement of endotracheal tubes whenever a baby is intubated except when intubated solely for the suctioning of meconium. The device is inserted between the outer end of the endotracheal tube and either a ventilation bag or a T – piece resuscitator. Carbon dioxide detectors have a filter paper impregnated with a pH-sensitive, nontoxic chemical indicator, which reversibly changes colour on exposure to CO₂. The colour change is breath to breath; e.g., during inhalation the colour changes to purple, while during exhalation the colour changes to yellow. The device is packaged in an air-tight foil bag because the indicator will permanently change colour if exposed to low concentrations of CO₂ or other acids in the air. Contaminants such as gastric contents, mucus, and edema, or intratracheal epinephrine, may impact the filter material and result in permanent colour changes. Misinterpretation of results may occur if there is poor or absent pulmonary blood flow and or cardiac output, insufficient breaths delivered, insufficient tidal volume or a significant air leak.¹⁵

One example of a commonly used pediatric colormetric end tidal CO₂ detector is the Tyco

Healthcare (Nellcor) Pedicap[®]. It is a single use device and is suitable for infants weighing 1 – 15 kg. For additional information call Nellcor Customer Service at 1-800-NELLCOR (1-800-635-5267) or visit their website at www.nellcor.com¹⁶ For hospitals ordering through HMMS, one case of 6 Pedicaps can be ordered under HMMS Item # 71887.



Tyco Healthcare (Nellcor) Pedicap[®]¹⁷

HUMIDIFICATION

Finally, it is important to remember that whenever oxygen needs to be delivered to an infant for a prolonged period of time it should be heated and humidified to prevent convective heat loss and drying of the respiratory mucosa. A simple way of providing in-line humidity while ventilating the infant is by using a filter-like device called a Humid-Vent Mini. This small device is placed in-line between the bag and the endotracheal tube. As exhalation occurs, the exhaled moisture from the infant is trapped in the filter and delivered back to the baby with the subsequent ventilated breath.

This product is available through Trudell Medical Marketing, London, Ontario – contact number (519) 685-8800. The vendor catalogue number is H01G10011. These are small devices that come in a box of thirty. It is a non-stocked item that hospitals having an account with HMMS can order under inventory #71060.

Additionally, some hospitals have found that the Fisher & Paykel Respiratory Humidifier 850 (product number MR 850) has worked very well, not only to provide humidity, but also to warm the air being delivered to babies requiring mechanical ventilation. It consists of a humidifier base which heats the circuit, and a single use humidification chamber which heats and humidifies inspiratory gas. In

addition, a heated wire delivery circuit minimizes gas cooling as it travels to the resuscitation device. Both the humidification base and the chamber are distributed through Source Medical. (www.sourcemedical.com) phone: 1-888-368-3021.¹⁸ Hospitals that have an account with Hospitals Materials Management Services London can purchase the humidification chambers either in a case of 12 or individually through HMMS. It is also available through Cardinal Health, Mississauga, Ontario – contact Anisah Mohamed at 905-502-3797.¹⁹

CONCLUSION

Understanding the unique characteristics of the devices to be used in your practice will assist in the effective resuscitation of newborn infants. This article has outlined details of various pieces of respiratory equipment recommended for neonatal resuscitation. While caution is always paramount when becoming familiar with new equipment, it is hoped that this article has provided a better understanding of when and how the equipment should be used. It is crucial to ensure that the right equipment and personnel skilled in its use are available for newborn resuscitation whenever and wherever it may be required.

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Did you know . . .

St. Clair College in Chatham and Fanshawe College in London have both introduced breastfeeding courses through their respective Continuing Education Programs.

Chatham Campus, St. Clair College

Breastfeeding Promotion & Practice for Professionals HCE 60N

Web:

http://www.stclaircollege.ca/programs/coned/chatham_healthsciences_coned.html

Contact: Caro Sannes csannes@stclaircollege.ca

London Campus, Fanshawe College

Newborn Nutrition NUTR-1008

Web: www.fanshawec.ca/CE

Email: ce@fanshawec.ca

Body Art and the Pregnant Woman

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Body art is not an uncommon finding among pregnant women. Many maternity care providers will find themselves gazing at a variety of belly button jewelry during abdominal palpation. One study looking at the incidence of body art among undergraduate populations found that 51% had piercings other than the earlobe type and 23% had tattoos. This incidence is increased in the female population (Mayers et al, 2002). It is estimated that between 7 million and 20 million people in the US has some type of body art. Even healthcare workers are participating in the trend with one study finding 19% of emergency care workers had one or more form of body art. This article will look at the most common types of body art among women, the implications for pregnancy and childbirth, counseling and consultation issues.

GENERAL HEALTH ISSUES WITH BODY ART

The initial physical and history during antenatal care should consider the possibility of body art. If the site is not well healed and less than one year old, it should be inspected for signs of infection. Not all body art parlors will conform to proper sterilization technique and some tattoos and piercings are done by non-professionals in the home setting. Body piercing and tattoo art may cause or be associated with transmission of blood borne disease such as tetanus, hepatitis B and C (Brook, 2003 Bryant, 2005, Stirn, 2003). Although body art as evidenced by its increasing numbers has become fairly mainstream, there may be an associated increased risk toward other high-risk behaviour (Blazys, 2003). Additionally localized infection may occur, particularly among navel piercing which can take up to nine months to heal, impeded by a moist environment that promotes the growth of bacteria (Chivers, 2002). There may be restrictions about donating stem cells particularly with a newer piercing. Women

should be advised against obtaining a new tattoo or piecing during pregnancy.

TYPES OF BODY ART

Body art is made up of tattoo art and body piercing. For purposes of this article, piercings are those other than ones involving the earlobe. Tattoo art can be found in any general area of the body, such as arms, legs, torso, etc. Tattoos of the lower back and lumbar region are common among the female population and are discussed more in detail with respect to regional anesthetic.

NAVEL (BELLY BUTTON) PIERCING

The piercing is positioned anywhere around the navel. As the piercing hole is stretched during pregnancy, discomfort and altered fit are common. Removal or placement of a flexible plastic space holder is recommended in late pregnancy. Should navel jewellery remain intact during labour, removal or taping during labour in case of cesarean section is recommended.

NIPPLE

The usual placement is at the base of the nipple. Milk ducts should remain intact with piercing and breastfeeding is not affected (Ferguson, 1999). There is debate about whether removal in late pregnancy is indicated. Ideally the site is at least one year old and fully healed prior to breastfeeding. Women should be counseled to remove jewellery prior to feeding in order to avoid infant choking.

GENITAL

Genital piercing may be found through the labia majora, labia minora, clitoris, or clitoral hood. There is a theoretical but undocumented risk of severe lacerations during vaginal delivery. It is possible that pierced orifices may become obstructed, preventing insertion of a urethral catheter (Anderson,

2003). Edematous tissue may compromise the piercing. Consideration of removal prior to birth depends on placement, for example clitoral hood vs. labial area which stretches during delivery. Removal in labour will ensure jewellery is not overlooked in case of emergency caesarean section.

ORAL

Oral piercing involves piercing of the lip and tongue. These types of piercings may compromise insertion of oral airway during intubation. In emergency situations, tongue or mouth jewellery may be swallowed, aspirated or torn out causing bleeding. Bleeding of the tongue may occur even with intact piercing, obscuring view of the larynx (Mandabach M, 1998). Many patients are reluctant to remove tongue piercing as re-insertion can be difficult.

REMOVAL OF PIERCINGS

The decision to remove piercings is controversial. For most women who experience vaginal birth, there is probably no reason to remove jewellery. The concern arises in the event that a cesarean section is required. In that case there is the possibility that electrocautery burns may occur, although this is most likely only with direct contact between the cautery tip, the cord and the jewellery. Jewellery may become snagged on bedding or other items, causing damage to tissue or to the jewellery itself. Oral jewellery can impede airway management and there seems to be a consensus that these should be removed before surgery. If piercings are not removed prior to labour, ensure that either the woman or her partner can remove them easily if needed.

There are three main types of jewellery, bar bell, labret stud and captive ring. Barbells are a post with a fixture at both ends. Usually one or both ends will unscrew or will pull apart from one end. Captive bead rings are almost complete rings that use a dimpled bead secured with spring tension to close the rings. To remove captive bead rings, grab the jewelry between your thumb and forefinger. Use your dominant hand to dislodge the bead. Twist the ends in opposite directions, rather than apart to allow more room to clear the tissue for removal. Labrets are flat on the inside of the mouth and have spikes, balls, or

other items protruding through to the face. The procedure for removing labrets is similar to the procedure for removing barbells, because one or both ends of the jewelry unscrew.

TATTOOS AND EPIDURAL ANAESTHESIA

There is a wide held belief among the public that a tattoo in the lumbar area prohibits the use of epidural anaesthesia during labour. Some anaesthetists may be reluctant to provide an epidural to a woman with a lumbar tattoo, especially if the tattoo is solid and covers the entire area. The concern seems to be based on the theoretical risk of "coring". Coring can occur when small particles of skin are pushed through into the epidural space. Although there are no documented cases of this occurring with tattoos and epidural, coring from other procedures has been linked to health risks including future tumour development (Douglas & Swenerton, 2002). Experts dismiss this risk as an 'urban myth'. They argue that inks used in the tattoo process are biologically inert and well fixed within the dermis once healed. Further, styletted needles are used rather than hollow and not removed until after the needle has passed through the superficial layers of skin (Bryant et al, 2005, Camann, 2006). Even as there is debate in the literature and the profession, there may be debate among individual anaesthetists in a hospital. Ideally, a protocol should be developed using the literature as guidance. Consultation with an anaesthetist should be considered in settings where the practice is dictated by the individual and where the tattoo entirely covers the area where epidural catheter insertion is required.

SUMMARY

Consideration of the presence of body art should be a part of the initial history and booking during antenatal care. In cases where body art is newly acquired, inspect for signs of infection. Ask and look. Counsel women with regard to removal timing as necessary. Advise against new piercings or tattoos during pregnancy. Develop hospital based protocols about epidural anaesthesia with lower back tattoos using the literature as a guide. Consider consultation with anesthesiology for

solid lower back tattoos and when an individual refuses to remove oral jewellery.

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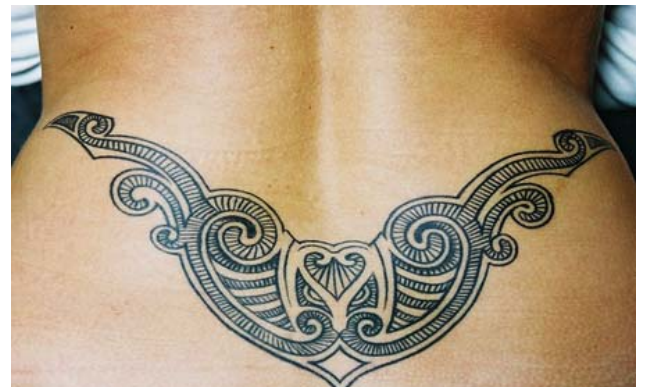
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Did you know . . .

that revisions to the Perinatal Manual are now completed. You can access and download individual chapters from our website www.sjhc.london.on.ca/sjh/profess/periout/periout.htm
Go to the tab marked "Publications", and click on the subcategory "Manual Chapters".

Smart Start for Babies: A Community Collaboration Working Towards Perinatal Health

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Clinical Nurse Specialist, Family Birthing Centre/Mother Baby Care
St. Joseph's Health Care London

WHAT IS SMART START FOR BABIES?

Smart Start For Babies (SSB) is a prenatal nutrition and support program for women who may face challenging situations such as poverty, recent arrival in Canada, family violence, smoking, teen pregnancy, poor nutrition, or lack of support. SSB celebrated its 10th anniversary in London in October 2005. The program is a Canada Prenatal Nutrition Program (CPNP) funded by the Public Health Agency of Canada and sponsored by the Middlesex- London Health Unit.

THE GUIDING PRINCIPLES OF CPNP (SMART START FOR BABIES):

- Mothers and Babies First
- Strengthening and supporting families
- Equity and accessibility
- Partnerships
- Community Based
- Flexibility

AS A CPNP, SMART START FOR BABIES' OBJECTIVES ARE:

1. To improve mother and infant health
2. Reduce the incidence of unhealthy birth weights
3. Promote and support breastfeeding
4. Build partnerships
5. Strengthen community supports for pregnant women

ADVISORY COMMITTEE

Several supporting agencies form the Smart Start for Babies Advisory Council and also offer "in kind" assistance as well as input. The membership includes St. Joseph's Health Care London, London Health Sciences Centre, Merrymount Children's Centre, Ontario Early Years Centre, University of Western Ontario, London Middlesex Health Unit and other community agencies.

PROGRAM DELIVERY

SSB offers seven different programs at four sites in London/ Middlesex. A woman must join the program before 21 weeks of pregnancy and can remain in the program until the baby is six months of age.

In April, 2006, a teen-only prenatal program was instituted as a result of focus groups in which it was learned that teens would prefer to come to programs that were only for teens. Between January 1 and December 31, 2006, 158 women participated in Smart Start for Babies. Sixty-four of these were teens, aged 19 years and under.

Interactive learning sessions, facilitated by a Public Health Nurse and a Registered Dietitian, are held on a biweekly basis. A Nutrition Assistant prepares a healthy snack at each program and teaches how to make it. Women have fun in a relaxed and safe environment as they learn about prenatal and postnatal self-care, care of an infant and receive help with transportation, vitamin supplements, and food gift certificates.

Participants have an opportunity for a private discussion with the nurse and dietitian at each session. Women develop friendships over the course of the program and augment their social support system. Information about community resources is provided and participants are encouraged to attend their programs. When the baby reaches six months of age, there is a graduation ceremony for his/her mother.

For further information contact:

Elaine Pellerin, Coordinator, Elaine.Pellerin@mlhu.on.ca	Angela Armstrong, Asst. Coordinator, Angela.Armstrong@mlhu.on.ca
Smart Start for Babies Middlesex London Health Unit, 50 King St, N6A 5L7 Telephone: 519 - 646-2961	

FOR YOUR INFORMATION . . .

Welcome

We are extremely pleased to introduce Dr. Jordan Schmidt, who will be assisting with visits to our community hospitals in his capacity as obstetrical consultant with the Perinatal Outreach Program.



Dr. Jordan Schmidt, MD, FRCS

Dr. Schmidt is originally from North York. He obtained his undergraduate degree in Human Biology (1994) at the University of Guelph and received his Doctor of Medicine from the University of Western Ontario (1998). He also completed his residency in Obstetrics & Gynecology (2003) and later completed his Fellowship in Maternal Fetal Medicine at UWO (2006). He joined the obstetrics staff at St. Joseph's Health Care London in March 2007. Dr. Schmidt is married to Jennifer and has 3 children, 2 dogs and a cat.

Please join us in welcoming Jordan to the Team

Farewell

NANCY DODMAN RETIRES AFTER 25 YEARS WITH THE PERINATAL OUTREACH PROGRAM



Congratulations and best wishes are extended to our colleague and friend, Nancy Dodman, on the occasion of her retirement this past June. After many years with the Perinatal Outreach Program, Nancy came to be well respected for her tireless efforts to promote evidenced-based perinatal care in southwestern Ontario. Her well-honed knowledge and practical wisdom have assisted many care providers throughout the region to offer the best care possible for mothers and babies. Over the years Nancy has made many friends as she travelled endless hours to hospitals throughout the region and beyond, offering educational sessions and consultation.

We thank her for her unfailing dedication.

We wish Nancy a happy and healthy retirement and many opportunities to explore her varied interests and talents. Anyone wishing to keep in touch with Nancy can contact her at ndodman@sympatico.ca.

You ASKED Us:



Q: I work in a Level 1 hospital and was recently involved in a case involving newborn resuscitation of a 30 week infant after which we continued to provide care for about three hours until the neonatal transport team was able to come to take over. The baby required bag/mask ventilation followed by endotracheal intubation with hand bagging at an oxygen concentration of 60%. The baby was kept warm, had good colour and a pulse oximeter was applied to monitor oxygen saturation. When the transport team arrived we were commended on our efforts to stabilize the infant but were told that the oxygen saturation levels of 98% were too high for this infant. Could you comment on the recommended oxygen saturation levels for preterm infants?

A: Pulse oximetry (SpO₂) is an easy and non-invasive way of measuring blood oxygen saturation levels. SpO₂ levels provide a close approximation of the amount of oxygen bound to hemoglobin in arterial blood commonly referred to as the SaO₂.

Given that in utero the fetus normally has an oxyhemoglobin saturation of about 60%, several studies have been conducted to investigate what the optimum oxyhemoglobin saturation should be for babies, especially those born prematurely. While optimal levels are still somewhat controversial, it is well understood that preterm infants are particularly sensitive to excessive tissue oxygenation which can cause tissue damage. Such hyperoxic injury can be caused by the generation of free oxygen radicals which can cause multi-organ damage examples of which include retinopathy of prematurity, decreased brain blood circulation, bronchopulmonary dysplasia and necrotizing enterocolitis.

It has been generally agreed upon that saturations of > 95% may be too high if a baby is receiving supplemental oxygen. Guidelines provided by the ACoRN program (Acute Care of at-Risk Newborns) suggest that levels of 88 –95% are appropriate. For term infants requiring supplemental oxygen, the same oxygen saturation range is

commonly used at St. Joseph's Health Care in London. Efforts to carefully monitor oxyhemoglobin saturation levels are imperative whenever supplemental oxygen is required. This is best accomplished with the pulse oximeter and occasionally assessment of arterial blood gas values but should never be guided simply by assessing skin colour.

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Canadian Paediatric Society, Addendum to the 2006 NRP Provider Textbook. Recommendations for specific treatment modifications in the Canadian context. 2006. <http://www.cps.ca/English/ProEdu/NRP/addendum.pdf>

Q: The new NRP recommendations are suggesting that babies born at < 28 weeks should be placed in a "food grade" polyethylene bag that will cover them up to their neck to maintain thermoregulation during the resuscitation procedure. Our hospital purchasing department would like to know where such bags can be purchased.

A: Although there are different polyethylene bags available on the market, St. Joseph's Health Care London is using the plastic bags typically used to cover X-ray plates when taking radiographic images of the newborn. These are clear bags measuring 8 X 4. X 18in. The vendor is:

Bruce Edmeades Sales

P.O. Box 700

235 Ardelt Avenue, Kitchener, ON N2G 4C1

Ph: (519) 745-6888 (Toll Free): 1-800-265-8994

Fax: (519) 745 -.9051

E-mail: info@edmeades.ca Web: www.edmeades.ca

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Hospitals that have an account with Hospital Material Management Services London (HMMS) can order directly by contacting HMMS at (519) 453-7888.

Stock number - **853**.

UPCOMING EVENTS:

**Important
DATE!**

MARK YOUR CALENDARS . . .

MATERNAL NEWBORN NURSING COURSE

London:

Mondays: Sept. 17 – Nov. 5, 2007

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

Registration deadline: Aug. 24, 2007

Contact:

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

check out our webpage to download a form:
www.sjhc.london.on.ca/sjh/profess/periout/periout.htm

21ST ANNUAL PERINATAL OUTREACH CONFERENCE "TRANSITIONS"

September 26, 2007

Location: Lamplighter Inn, London

Contact: Perinatal Outreach Office
(519) 646-6100, ext. 65859

check out our webpage for topics:
www.sjhc.london.on.ca/sjh/profess/periout/periout.htm

LUNCH & LEARN VIDEOCONFERENCE SERIES "BABY TALK – LESSONS FROM THE NICU"

SEPT. 18, 2007	Fluid and Electrolytes
OCT. 16, 2007	NRP Equipment
Nov. 20, 2007	SSRI's During Pregnancy and Lactation: How to Counsel Patients Based on the Literature

Contact: Perinatal Outreach Office
(519) 646-6100, ext. 65859

Watch our webpage for further details:
www.sjhc.london.on.ca/sjh/profess/periout/periout.htm
Or visit the Ontario Telehealth Network webpage:
WWW.VIDEOCARE.CA/SHOW_COMPONENT.PHP?COMPONENT=ACT_CALENDAR_VIEW

Acute Care of at-Risk Newborns "ACoRN" Workshop

Oct. 3 – 5, 2007

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

18TH ANNUAL AWHONN CANADA CONFERENCE

October 18-20, 2007

Location: Westin Nova Scotian Hotel
Halifax, NS

Contact: AWHONN website for more details
<http://www.awhonn.org/awhonn/>
Go to "find your section" top right, click on Canada

REGIONAL NURSE MANAGER'S MEETING

Friday, October 26, 2007

Location: Rm 1 & 2 (E1-126 & E1-128)
St. Joseph's Health Care London

Contact: Perinatal Outreach Office
(519) 646-6100, ext. 65901

BREASTFEEDING POTPOURRI

Oct. 26, 2007

Location: Lamplighter Inn, London

Contact: Janice Magill, PHN, County of Oxford
(519) 539-9300

SOUTHWESTERN ONTARIO PERINATAL PARTNERSHIP (SWOPP) /REGIONAL PAEDIATRIC NETWORK (RPN)- JOINT SEMI-ANNUAL MEETING(S)

Date and location to be announced

Contact: Perinatal Outreach Office
(519) 646-6100, ext. 65859

FETAL HEALTH SURVEILLANCE WORKSHOP

Nov. 21, 2007

Location: Stratford General Hospital

Contact: Linda Yungblut, Clinical Resource Nurse
(519) 272-8232, or
Bonnie Royal, Program Director
bonnie.royal@hpha.ca

Alarm Courses - 2007

Toronto, ON	Dec. 2-3, 2007
Contact:	SOGC Tel: 1-800-561-2416 www.sogc.org

 London Health Sciences Centre

 Western

 ST. JOSEPH'S
HEALTH CARE

This newsletter is a publication of the Perinatal Outreach Program.

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

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www.sjhc.london.on.ca/sjh/profess/periout/periout.htm