Unanticipated Birth Outside the Birthing Unit

Guidelines for Labour Assessment, Imminent Delivery, and Transfer

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Introduction

Most births in Nova Scotia occur in a hospital with an active obstetrical service. Occasionally, patients arrive in active labour in the Emergency or Outpatient area of a facility where an obstetrical service is unavailable. Health care professionals must be able to accurately assess these situations to determine the safest and most effective way to care for labouring persons. In some cases the assessment may indicate that there is enough time for transfer to the nearest facility with an active obstetrical service. When it is likely that birth will occur, transfer may not be appropriate. Local clinicians must have the basic knowledge and skills required to support labour and birth in order to optimize healthy outcomes for both the parent and infant. **Transfer should not be attempted if it is suspected that birth may occur en route.**

This document has been developed to support health care professionals who do not deliver babies as part of their usual practice. It is intended to provide guidance and support to safely and effectively assess and care for labouring/birthing persons. Included are guidelines for:

- Obstetrical and fetal assessment
- Indications for transfer and the transfer process, including a provincial directory of all facilities offering an obstetrical service and details regarding EHS LifeFlight
- Care and documentation during labour and birth when transfer is not possible
- Basic neonatal resuscitation skills (NRP)
- Postpartum/postnatal assessment and care
- Equipment
- Medications to keep in stock for obstetrical emergencies and routine birth
- Laboratory tests
**Roles of the Emergency Team**

The value of multidisciplinary assessment and care by the emergency department team should never be underestimated. It is, however, the physician’s responsibility to make a final decision regarding the laboring patient's care. Where time and circumstances permit, it is always advisable to **seek support and advice from a referral centre or from the transport team/EHS LifeFlight Medical Control Physician (MCP)**.

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**Emergency Health Services (NS) – EHS LifeFlight – 1-800-743-1334**

Physicians transferring patients via regular EHS ground transport (i.e. not LifeFlight ambulances) retain and assume clinical responsibility until they reach a facility with an active obstetrical service. Patients who are clinically unstable and not suitable for transport without the support and expertise of the obstetrical or neonatal LifeFlight team, should remain onsite until the LifeFlight team is available and able to assume care.

Clinicians in ambulatory care or outpatient/emergency settings should be able to recognize labour and perform basic assessments of maternal, fetal, and newborn well-being. To complete a comprehensive assessment and provide reassurance to the patient, and their partners and family, **the following skills are required**:

- Assessing frequency, strength and duration of contractions
- Helping those in early labour with decision-making; to consider the potential need for travel or transfer to the most appropriate facility for labour and birth
- Auscultating the fetal heart tones with a Doppler or stethoscope
- Recognizing a normal (or abnormal) fetal heart rate
- Providing initial stabilization in consultation with referral centre colleagues until care is transferred
- Recognizing signs of rapidly progressing labour and birth
- Assisting and supporting patients during labour and birth
- Providing appropriate postpartum and newborn assessment and care, including:
  - First steps of newborn resuscitation (providing warmth and establishing effective ventilation if necessary), and
  - Supporting the initiation of breastfeeding
Assessment of Well-Being

The patient is the best source of information about their obstetrical and medical history and presenting concerns. Many pregnant patients, particularly after 36 weeks’ gestation, will carry a copy of their Nova Scotia Prenatal Record (PNR) with them; this will provide valuable information about the pregnancy. In addition to the information gained from the PNR, a discussion and description of personal health history can be obtained with key questions.

When birth is imminent and there is little time to do a comprehensive assessment, it is most important to assess:

- the gestational age of the baby (determines the urgency of the transfer process, and the most appropriate referral centre for transfer)
- the presentation of the baby (i.e. is the baby coming out head first or breech – buttocks or feet. Cesarean birth is recommended for some breech presentations.)
- whether or not the amniotic membranes have ruptured. It is best not to artificially rupture the membranes unless 1) instructed to do so by an obstetrician at the referral centre; or 2) the baby delivers.

Key Questions to Assess Well-Being

<table>
<thead>
<tr>
<th>Questions regarding current status</th>
<th>Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Are you pregnant?</td>
<td>Confirm pregnancy and that viability has been achieved (&gt; 20 weeks)</td>
</tr>
<tr>
<td>✓ When is your due date?</td>
<td>&lt; 37 weeks = preterm</td>
</tr>
<tr>
<td>✓ How many weeks pregnant are you?</td>
<td>Neonatal transport should be arranged as soon as possible if birth is imminent and transport is not an option.</td>
</tr>
<tr>
<td>✓ When is your baby due?</td>
<td></td>
</tr>
<tr>
<td>✓ Is this your first baby?</td>
<td>If NO, have they experienced vaginal birth before, or cesarean birth?</td>
</tr>
<tr>
<td></td>
<td>Previous vaginal birth: expect a faster labour and delivery than experienced before.</td>
</tr>
<tr>
<td></td>
<td>Previous cesarean birth: discuss with LifeFlight MD (MCP).</td>
</tr>
<tr>
<td>✓ Do you have any health concerns?</td>
<td>Some pre-existing health conditions (e.g. diabetes, hypertension, obesity) may increase risk for adverse perinatal outcomes.</td>
</tr>
<tr>
<td>✓ Do you have any medical conditions?</td>
<td></td>
</tr>
</tbody>
</table>


### Questions regarding baby’s status

| ✓ Have there been any concerns with the baby’s health during this pregnancy? | The LifeFlight MCP will collaborate with the referring physician regarding decisions about transfer. |
| ✓ Has your baby been more or less active today? **AND** | Further assessment is indicated to confirm fetal health (i.e. confirmation of a fetal heart beat via auscultation or POC ultrasound) |
| ✓ When did you last feel your baby move? | **If a compromised baby is anticipated** and birth is imminent, arrange neonatal transport immediately. If birth is not imminent, arrange transport. |

### Questions about labour

| ✓ Describe what you are feeling now. ✓ When did this start? | Consider how the symptoms have changed over time and what made them decide to come to hospital |
| ✓ Can you describe the pain? | - Frequency = time from beginning of one contraction to beginning of next  
- Duration = how long does the contraction last from beginning to end?  
- How firm is the uterus with contractions?  
- How does pain rate on a scale of 1 to 10? |
| ✓ Do you have any pelvic or vaginal pressure? | Pelvic or vaginal pressure may indicate imminent birth or less urgent conditions. Further assessment is required (e.g. urge to push vs urinary frequency) |
| ✓ Has your water broken? | May be felt as a gush, trickle, or wetness  
Inspect leaking fluid for presence of blood or meconium (baby’s first stool – green or yellow-green) |
| ✓ Is there any vaginal bleeding? ✓ When did this start? | Note: amount, colour (bright vs dark), consistency |
Auscultation of Fetal Heart Tones

The fetal heart tones are most easily heard through the baby’s back, with the patient in a semi-recumbent or lateral lying position. When unsure of the baby’s position, you may consider asking the pregnant person on which side they most frequently feel the baby’s kicks. Assuming this to be the location of the baby’s limbs, you would auscultate on the opposite side of the abdomen, midway between the umbilicus and symphysis pubis. The fetal heart tones will be heard lower in the abdomen as the baby moves down into the pelvis as labour progresses.

Listen to the fetal heart tones for a full minute, following a contraction. The rhythm should be regular, and the normal range is between 110 – 160 bpm. It is common to hear a deceleration that quickly recovers, so reposition the pregnant patient (e.g. to opposite side-lying) and listen again following the next contraction.

Signs and Symptoms of Labour

- Regular contractions and/or back pain not relieved with rest or other comfort measures
- Pelvic or vaginal pressure
- Increased vaginal discharge, including but not limited to bloody show
- Ruptured membranes with or without contractions (this may be indicated by slow leaking of fluid, wetness, ‘popping’ sound or sensation accompanied by fluid, or a larger gush of fluid)
- Cervical change (someone who is skilled at cervical assessment may perform a vaginal exam only after careful assessment, consideration, and consultation regarding gestational age and membrane status; or if birth is imminent)
Do not perform a vaginal exam if the pregnancy is less than 36 weeks' gestation or if you are unaware of placental location, unless birth appears imminent or you have consulted with a physician from a regional or tertiary hospital.

**Signs and Symptoms of Imminent Birth**

- Patient exclaims, "The baby's coming!" or "The baby’s moving down!"
- Uncontrollable urge to push (they may express a need to defecate)
- Bulging perineum and rectum
- Uncontrollable passage of stool
- Difficulty maintaining calm, or expression of panic
- Sudden nausea and vomiting
- Crowning of the fetal presenting part (typically the head, occasionally e.g. buttocks)

**Planning for Care**

The presence or absence of labour, other concerns for the patient or fetus, or other safety factors such as time, distance and travel conditions will influence your decision to:

- Discharge home
- Transfer to a referral centre or facility with an active obstetrical service
- Provide care in your facility

*If in labour, transfer if possible.*
**Guidelines for discharge home:**

If the patient is not considered to be in labour, their symptoms are not concerning, or if they are in the early/latent stage of labour, reassure and offer these options:

- return home, OR
- travel to the hospital where birth was intended, considering distance and travel conditions. You may seek the recommendations of the birth hospital (e.g. if there is suspected or confirmed rupture of membranes).

Discuss the signs of labour (page 5) as well as supportive care/comfort measures. Encourage them to return if they can’t get to a facility with an active obstetrical service.

**Guidelines for transfer to a referral centre:**

- Consult with physician on call at the appropriate referral centre, or call LifeFlight to consult with the Medical Control Physician (MCP).
- Maintain continuous support and assessment.
- Consider safety of conditions for transfer (adequate time before delivery, weather).
- Ensure appropriate care providers are available to attend during transfer. If patient is to be transferred unattended, the transferring physician maintains responsibility until the patient arrives at the intended destination and is taken into care.
- Reassess labour progress prior to transfer.
- If birth is imminent and the baby is preterm (< 37 weeks) or if the baby is anticipated to be compromised in any way, contact LifeFlight to mobilize the Neonatal Team.

**Guidelines for providing care in your facility:**

- If unable to safely transfer due to imminent delivery or poor travel conditions, support the birth in your department.
- Call for additional help as needed.
- All Emergency Department staff must be familiar with the location and use of equipment required to care for a labouring or birthing patient.
- Provide a safe, comfortable, private environment with continuous support.
Labour/Birth Assessment: A Quick Reference

Key Question:
“IS THE BABY COMING NOW?”

“Maybe”
= TRANSFER

Consult EHS LifeFlight Medical Control Physician (MCP)
(1-800-743-1334)
OR
Consult nearest referral centre

Maintain continuous support and assessment
(may alternatively discharge home or recommend self-transfer based on assessment or advice of MCP)

Make every effort to avoid delivery en route;
Always transfer when possible

“YES!”
= IMMINENT BIRTH

Provide a safe, comfortable, private environment with continuous support

STAT call for help
Prepare equipment

Consult referral centre
OR
EHS LifeFlight MCP
(1-800-743-1334)
&
Initiate neonatal transport
PRN

“No”
= CONSIDER DISCHARGE HOME

Options:
- Assess and/or treat presenting symptoms
- Consult further with MCP
- Provide information re: signs & symptoms of labour, or other indications to seek medical care

Signs and Symptoms of Imminent Birth:
- “The baby’s coming!”
- Uncontrollable urge to push
- Bulging perineum and rectum
- Uncontrollable passage of stool
- Patient may panic/not settle
- Sudden nausea and vomiting
- Crowning of the fetal head
When Birth is Imminent

Birth is a natural process and the vast majority of the time is uncomplicated, particularly when the pregnancy is at term (> 37 weeks). It is quite possible that most who give birth in an emergency room will have had previous vaginal deliveries, hence the precipitous nature of the labour and inability to get to a facility with an active obstetrical service. A successful vaginal birth history gives a very good indication that this delivery will go smoothly.

It is important to remain calm and provide both emotional and physical support to the labouring person, their partner and/or family. The goals of care are to prevent or minimize trauma by supporting the normal processes and movements of birth, and to create a positive lasting memory of the birth for the patient, partner and family. **Healthcare professionals should:**

- remain with the labouring person at all times
- ensure help is available to prepare for delivery
- provide support and care to the patient, partner and family
- provide care for the newborn baby

Ideally, a separate room should be available for the birth. All equipment should be kept in an area known to all staff and readily available for an imminent delivery.

It is **very important** to keep the baby’s body temperature in the normal range (normothermia: between 36.5°C and 37.5°C), and to avoid both hypothermia (<36.5°C) and hyperthermia (>38°C). The environment should be warm to minimize potential heat loss for the baby (CPS 2016). Additional ways to maintain normothermia include:

- immediate skin-to-skin contact of either parent with the baby
- using warmed towels or blankets when drying or covering baby
- closing windows and keeping the baby away from windows, outside walls, or any other potential sources of cold or drafts (e.g. vents).
- If the baby is placed in a warmer or incubator, it must be servo-controlled with a temperature sensor to ensure baby’s temperature is maintained in the normal range.

**Keep the baby’s body temperature between 36.5°C and 37.5°C**

**Standard provincial forms for labour and birth will help prompt your care; samples of these are in Appendix A and can be photocopied or requested from the RCP office.**
## Delivery Step by Step…

<table>
<thead>
<tr>
<th><strong>Call for Assistance</strong></th>
<th>There are at least two patients present at each delivery – the birthing person, and the baby. Each will require a care provider.</th>
</tr>
</thead>
</table>
| **Sound Confident and Reassuring** | ✓ Close up eye contact  
✓ Make a physical connection e.g. touch their shoulder or arm  
✓ Speak in a quiet confident voice  
✓ Call them by name and use gender-inclusive language as requested  
✓ Minimize the distraction and noise in the room, provide privacy |
| **Position to Promote Delivery and Prevent Tissue Trauma** | Side-lying or tilted with the support of a pillow under their side is the best position to promote circulation, optimally oxygenate the baby and minimize trauma to the perineum  
✓ If preferred, the patient can lean back against a person, wall, or bed  
✓ Encourage bearing down/pushing according to the patient’s own preference (spontaneous with natural urges, or directed with Valsalva Manoeuvre (i.e. holding breath and counting)  
✓ Flex knees or encourage the birthing person to pull back on their knees while pushing during contractions  
✓ Wash hands and wear gloves  
✓ Get equipment ready |
### Delivery of the Head

- If the amniotic membranes have not yet ruptured and are bulging through the vagina, break them with your fingers or use an instrument (e.g. Allis clamp) to break the water. Note the color, quantity and odor of the fluid.
- Hold a towel or sponge between the vagina and the anus and apply gentle pressure to support the perineum and to encourage continued flexion of the fetal head.
- Maintain flexion with light pressure on the back of the baby’s head.
- Encourage light panting and gentle pushes as the head emerges to prevent the forceful expulsion of the head and perineal trauma. **Do not pull** on the baby’s head.

### Check for the Cord

- Once the head is born, encourage the patient to stop pushing for a moment while you check for the umbilical cord around baby’s neck.
- You will have time before the next contraction to sweep your fingers around both sides of baby’s neck, feeling for the cord.
- If you feel cord, try to gently loosen it and bring it out over the baby’s head. Sweep again in case it is looped twice; **OR**
- If you cannot loosen the cord, you may have to clamp it with two clamps, cut between the clamps, and unwind the cord.
- If you have had to clamp and cut the cord, you will have to quickly deliver the baby.

### Restitution

- Allow the baby’s head to spontaneously turn to face left or right.
- Let the uterus do the work of turning the baby through the pelvis once the head is born.
- As the baby restitutes (i.e. turns to one side or the other), the shoulders are lining up to move through the pelvic bones.
- With a helper on each side, support both of the patient’s legs to flex the hips while they bear down with the next contraction.
### Support the Head and Guide the Body

- Place a hand on either side of the baby’s head for support.
- The ‘pushing power’ comes from the birthing person and their uterus, **not** from the birth attendant pulling.
- Move hands downward with the baby’s head as you guide the upper (i.e. anterior) shoulder under the pubic arch.
- Use a gentle downward motion; **never pull**.
- Once the upper shoulder is delivered, **gently guide the baby’s body without pulling in an upward direction over, not through, the perineum**.
- Feel the contraction pushing the baby out with the help of a steady easy push from the patient (you can encourage them to gently ‘help the baby along’ with panting or easy grunting). This will help to prevent forceful expulsion and injury to the vagina and perineum.

### Baby’s Born!

- Lift the baby onto their parent’s abdomen or chest where they can see and hold the baby.
- Keep the baby warm by placing them ‘skin-to-skin’ with the birthing parent (unless baby requires resuscitation – see page 19).
- As you gently dry the baby with warm towels, they should begin to cry vigorously.
- Do not suction a vigorous baby.
- Secretions are often present in a newborn’s mouth and nose, and the baby can usually clear these independently (e.g. ‘spitting up’ or sneezing) or these may be wiped away with a soft cloth. Excessive secretions may be cleared using a bulb suction or a large-bore (10-12 F) catheter in the mouth, then nose, as required.
- Cover both with warm, dry blankets.
- Give oxytocin 10 units IM to the birthing parent.
- **Remember to record the time of birth!**

### Congratulations!

- Congratulate all and praise the birthing parent’s efforts!
**Cord Bloods**

Delayed umbilical cord clamping for at least 60 seconds is recommended for any infant who does not require resuscitation (all gestations).

- **Cord Blood**: Place two clamps on the cord and cut in between. If available, a plastic cord clamp may replace the clamp used on the baby’s cord stump. From the cord that is still attached to the placenta, draw cord blood into a clotted blood specimen tube and label accordingly.

- **If possible, obtain Cord Blood Gases**: (Note: the larger vessel in the cord is the umbilical vein, the two smaller vessels are the umbilical arteries). Double clamp the cord and draw up 1) an arterial and 2) a venous specimen into labeled pre-heparinized syringes; cord blood samples are most accurate and stable at room temperature for 60 minutes. If not analyzed within 60 minutes, store the samples at 4-8 °C and document the time of analysis. A clamped blood-filled 20 cm segment of cord may alternatively be collected for delayed analysis.

**Waiting for the Placenta**

- Ideally, a member of the care team is observing and caring for the baby during skin-to-skin time, while another assesses bleeding while awaiting placental delivery. The placenta should come within a few minutes.

- It is normal to see a small trickle of bright blood from the vagina after the baby is born but before the placenta is delivered.

- You may see small tears in the skin or vaginal tissue; not all will need repair.

- Signs of placental separation include:
  - Lengthening cord
  - Gush of blood
  - Rising of the uterus in the abdomen

- Do not massage the fundus (top of the uterus) or apply pressure in an attempt to ‘assist’ the delivery of the placenta.

- **Very gentle** traction can be applied to the cord with the other hand supporting the uterus just above the pubic bone.

- You may apply gentle traction with ring forceps to the amniotic membranes if they are somewhat adherent to the uterine wall.

- **Massage** the fundus as soon as the placenta is delivered; it should be firm and palpable around the level of the umbilicus.

- **Examine the placenta** to note that it is intact, with no apparent sections missing. Retained placental parts lead to postpartum haemorrhage.
Assessment and Care Following Birth

Checks may be more frequent if indicated. At minimum, check postpartum patient’s vital signs, bleeding, fundal height and tone, bladder fullness, and perineum:
- every 15-20 minutes for the first hour after birth,
- every hour for the next four hours, and then (if not transferred)
- once a day until discharge.

Bleeding
- Lochia will be red (rubra) and moderate to heavy within the first hour after delivery. Bleeding should not exceed the saturation of a pad within the first hour. You may have to check for pooling under the patient’s buttocks/back and weigh sanitary pads to fully appreciate the degree of blood loss.

- If the mother has any known risk factors for postpartum hemorrhage (e.g. previous history, precipitous birth, etc.) consider initiating a large-bore IV as soon as possible, ideally prior to the birth.
- If the bleeding is excessive, massage the uterine fundus. Start an oxytocin infusion; add 20-40 units of oxytocin to 1 litre of 0.9% NaCl and run at a rate of 100-125 mL/hour. This rate can be increased if necessary.
- If a continuous infusion or bolus of oxytocin IV and fundal massage does not control the bleeding, start a second IV line of NaCl and consider giving an alternate uterotonic such as:
  - Ergonovine maleate
  - Carboprost tromethamine (Hemabate) or
  - Misoprostol (Cytotec)

See Table (page 25) for recommended dosages and routes.

Consult with a physician at your referral centre for advice if management of excessive bleeding is required
Vital Signs
- BP
- Pulse
- Respirations
- Temperature
- Pain

Fundal Height and Tone
- The fundus should be firm and palpated at the level of the umbilicus and in the midline of the abdomen.
- The flat of the hand should be used to palpate the fundus, while supporting the lower portion of the uterus with the other hand.

Postpartum Uterine Massage

Bladder
- The bladder should not be palpable.
- If the fundus is above the umbilicus or off from the midline this may indicate that the bladder is full. A distended bladder can interfere with uterine contractility leading to uterine atony and increased postpartum bleeding.
- If the bladder is distended encourage the patient to void. If they are unable to void on their own, it is appropriate to catheterize to prevent or control postpartum bleeding.

Perineum
- Perineal lacerations causing excessive bleeding should be repaired; small, minimal tears generally heal well.
- An ice pack is recommended to provide comfort and prevent or reduce swelling.
Neonatal Assessment and Care

First Impressions

- If the baby is vigorous at birth (crying, good tone, and HR >100 bpm) place the baby directly on the birthing parent’s abdomen or chest.
- Gentle massage while drying the infant with warm blankets or towels is usually all that is required to stimulate regular respirations.
- Healthy newborns seldom require more than a clear airway and adequate warmth.
- **Routine suctioning is not recommended.** If the baby has excessive secretions, it may be necessary to remove them by wiping the mouth and nose with a towel or by suctioning with a bulb syringe (*remember to depress the bulb before placing it in the mouth). Alternatively, you may consider using a large-bore (10-12 F) catheter to suction secretions from the mouth, then nose, if required. Suction pressure should be set at a maximum of 80-100 mmHg. Be careful not to suction vigorously or deeply as this can produce a vagal response. Brief, gentle suctioning with a bulb syringe is usually adequate to remove secretions.

Apgar scores are assigned at 1, 5, and 10 minutes:

<table>
<thead>
<tr>
<th>APGAR</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>1 min</th>
<th>5 min</th>
<th>10 min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Rate</td>
<td>Absent</td>
<td>Below 100</td>
<td>Above 100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resp. effort</td>
<td>Absent</td>
<td>Slow irregular</td>
<td>Good crying</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muscle tone</td>
<td>Limp</td>
<td>Some flexion</td>
<td>Active motion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reflex Irritab.</td>
<td>None</td>
<td>Grimace</td>
<td>Cough sneeze</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colour</td>
<td>Blue Pale</td>
<td>Body Pink with Blue extremities</td>
<td>All Pink</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Baby Assessment for Apgar Scoring:**

**Appearance (color):** blue to pink

- Should turn centrally pink (lips, tongue, and central trunk) very quickly, hands and feet may stay pale to bluish for up to 24 hours. You may need to distinguish cyanosis from bruising.
- If the baby is breathing but appears blue, administration of supplemental oxygen is required. Attach a pulse oximetry probe on the baby’s right hand or wrist. If the levels...
are low and not increasing, you may need to provide just enough supplemental oxygen to help them achieve the targeted value for their age. This can be done by cupping your hand as a mask over the baby’s nose and mouth while holding the oxygen tubing between your fingers (i.e. ‘free-flow’ oxygen). Try to avoid oxygenation that is either too high or too low – either can be harmful.

<table>
<thead>
<tr>
<th>Targeted Preductal SpO2 After Birth</th>
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<tbody>
<tr>
<td>1 min</td>
</tr>
<tr>
<td>2 min</td>
</tr>
<tr>
<td>3 min</td>
</tr>
<tr>
<td>4 min</td>
</tr>
<tr>
<td>5 min</td>
</tr>
<tr>
<td>10 min</td>
</tr>
</tbody>
</table>

**Pulse (heart rate):** <100bpm or >100bpm
- Auscultate HR or feel pulse at base of cord
- ECG may be helpful to identify HR, especially if it is low or difficult to palpate
- Provide positive pressure ventilation (e.g. bag and mask) if HR <100bpm
- Chest compressions if HR <60bpm after 30 seconds of effective positive pressure ventilation.

**Grimace (reflexes):** no response → facial grimace → coughing or sneezing

**Activity (tone):** limp → flexion of arms and legs

**Respirations:** none → irregular → vigorous crying
- Stimulate if respirations are absent or gasping.
- If baby is still not breathing effectively, initiate positive pressure ventilation (PPV) at 40-60 breaths/min.

**Resuscitation**
See page 19 for an overview of Neonatal Resuscitation, or Appendix B for the complete NRP Flow diagram and equipment list.

**Medications**
Universal screening for gonorrhea and chlamydia is recommended in pregnancy. In an emergency it’s unlikely the birthing parent’s screening results will be known, and so
erythromycin eye ointment is indicated. (CPS position statement 2015) See medication details page 24.

**Vitamin K** 1mg IM (thigh) is administered to all babies within the first 6 hours after birth. A dose of 0.5mg is appropriate for infants weighing less than 1500 g. (CPS position statement reaffirmed 2016). Skin-to-skin contact or breastfeeding during administration is known to reduce the infant’s pain experience.

### Keeping Baby Warm

Maintaining the baby’s body temperature may become a major challenge because you are unlikely to have a radiant warmer readily available (CPS 2016). It is essential for caregivers to provide warmth to newborn infants, as hypothermia and cold stress place a baby at increased risk for morbidity and mortality. Overheating a baby is also harmful, but is less likely to happen. Aim to maintain a newborn (axillary) body temperature of 36.5° – 37.5° Celsius.

**Means to promote newborn normothermia (all babies):**
- **Direct skin to skin** cuddling with a parent
- Change wet blankets/towels and replace with dry blankets/towels that have been (ideally) warmed.
- Check baby’s temperature (per axilla) every 30 minutes for the first two hours.
- Keep baby away from sources of drafts (e.g. vents).
- Do not place baby on, in or near cold equipment, or near walls or windows.
- If a hat is not available, a cap fashioned out of stockinette may be used.
- Clean food-grade plastic wrap or a bag **may** be used to prevent heat loss through evaporation.

**Smaller or preterm infants** have more difficulty maintaining a normal body temperature, and it may be necessary to employ these supports **in addition to the above:**
- Clean food-grade plastic wrap or a bag
- Portable gel warming mattress

Some facilities in NS still have radiant warmers that were used when there was an active obstetrical service on site. We recommend that these not be used. The risks of infant injury from improper use or poorly functioning equipment outweigh the benefits. Gel warming mattresses may be used with caution (wrapped in a blanket or towel) to provide heat to prevent or treat cold stress in at-risk infants waiting for or during transport. Blankets or IV bags should never be warmed in a microwave to provide heat to an infant.
Neonatal Resuscitation – An overview

Initial Assessment

✓ Term gestation?
✓ Breathing or crying? If 'yes' to all, baby stays with mother.
✓ Good tone?

If ‘no’ to any of these, newborns require a different approach to resuscitation than adults. When a newborn requires resuscitation it is usually caused by a problem with respiration leading to inadequate gas exchange. The focus of neonatal resuscitation is effective ventilation of the baby’s lungs:

A – Airway (30 seconds)
- Provide warmth
- Position the head to open the airway
- Clear secretions if needed (e.g. suction mouth, then nose)
- Dry and stimulate, reposition head to maintain an open airway

B – Breathing (30 seconds)
- Evaluate respirations and heart rate
- If apneic, gasping, or HR<100 bpm, provide PPV with room air at rate of 40-60/min. Effective ventilation = chest wall movement, HR increasing to >100 bpm, and improving tone and colour (“pinking up”).
- If HR< 60 bpm and ventilation is effective, start chest compressions and provide 100% oxygen with PPV

C – Circulation
- Coordinate effective chest compressions and PPV (3:1)
- Use pre-ductal pulse oximeter (if available) and titrate oxygen to achieve target SpO₂ levels (page 18)
- Discontinue chest compressions when HR > 60 bpm; discontinue PPV and transition to free-flow oxygen when HR > 100 bpm and baby is breathing spontaneously
**Transfer**

When possible, it is ideal to transfer the labouring patient to a facility with an active obstetrical service. Furthermore, it is beneficial to transfer a baby in utero, especially when the need for special care is anticipated. **Transfer should not be attempted if it is suspected that birth may occur en route.**

Consult with an obstetrician at your regional centre or directly through LifeFlight regarding management and/or transfer. If the fetus is expected to need special care and prenatal transfer is not an option, the neonatal transport team (through contact with LifeFlight) should be notified to facilitate their presence at the birth or as soon as possible thereafter to care for the infant.

If it is necessary to transfer the baby after birth, parents will need information about parent rooms or courtesy rooms in the referral hospital. Staff should check with the receiving centre to ensure the availability of a room, as space is sometimes limited. If a parent room is not available, staff in referring hospitals can provide information about alternate accommodations for parents.

Some healthy parents and babies may not necessarily need to be transferred to a referral centre after birth depending on the distance to the referral centre, parental preference, the need for skilled assessment of the newly delivered patient and baby, and the availability of postpartum support for infant feeding.

Regardless of where postpartum/postnatal care is provided, when they are both stable the baby should always remain with the birthing parent.
**Active Obstetrical Service Directory**

**Emergency Health Services – EHS LifeFlight – 1-800-743-1334**
(For Prenatal/Postpartum and Newborn Transfer)

**Tertiary Centres:**

**Halifax:** *IWK Health Centre*
Birth Unit 902-470-6670

**Sydney:** *Cape Breton Regional Health Care Complex*
Labour and Delivery Unit 902-567-7834

**Regional Centres:**

**Amherst:** *Cumberland Regional Health Care Centre*
Switchboard Ext.6144 902-667-5400

**Antigonish:** *St. Martha’s Regional Hospital*
Children’s and Women’s Health Unit 902-867-4200

**Bridgewater:** *South Shore Regional Hospital*
Maternal/Child Unit 902-543-5214

**Kentville:** *Valley Regional Hospital*
Switchboard Ext. 3050 902-678-7381

**New Glasgow:** *Aberdeen Hospital*
Switchboard Ext. 2530 902-752-7600

**Truro:** *Colchester East Hants Health Centre*
Maternal/Child Unit 902-893-5545

**Yarmouth:** *Yarmouth Regional Hospital*
Switchboard Ext. 130 902-742-3541
Ideally, a warm separate area or private room should be available for labour and birth

- Keep all equipment in a designated area, where it is readily available for an imminent delivery.
- A copy of standard provincial documentation for labour and delivery will help prompt your assessments.

### Sterile emergency delivery tray contents:

| ✓   | 4 clamps (it is useful to have at least one pair of kochers or an Allis clamp to rupture membranes if needed) |
| ✓   | 1 pair curved scissors |
| ✓   | 1 pair suture scissors |
| ✓   | Blood collection tube and stopper to indicate clotted specimen |
| ✓   | 1 umbilical cord clamp |
| ✓   | 1 small bowl |
| ✓   | 1 towel |
| ✓   | bulb suction |
| ✓   | 1 drape |
| ✓   | 1 large pad suitable to place under the birthing patient’s buttocks |
| ✓   | Sponges |
| ✓   | Gloves |

*Disposable emergency delivery trays are available. These are often more practical in a community hospital that does not provide obstetric services.*

### You will also need:

1. Several *warm* flannel blankets/towels to dry the infant. The infant should be placed skin-to-skin with the birthing parent (abdomen or chest) and both covered with clean, dry, warm linens. The infant should always be dried immediately; this can be done while skin-to-skin. Alternatively, the infant can be held skin-to-skin with the partner or other support people. You may also bundle the infant in 2 or 3 warm blankets/towels.

2. Warm, sterile water (to wash the perineum following birth)

3. Suction catheters (#6,8,10)

4. Sanitary pads

5. Ice pack for perineum (provides comfort and prevents swelling; can be made and stored
ahead by soaking a sanitary pad in water and placing it in the freezer. They must be wrapped in a light cloth to protect the perineum from the direct contact with ice).

6. 2 heparinized syringes for cord gases
7. Plastic bag for placenta
8. Identification bracelets: 1 for birthing parent, 1 for baby
9. Folder with RCP chart form package & necessary hospital laboratory requisitions
10. Newborn resuscitation equipment (Appendix B)
# Medications for Obstetrical Emergencies and Routine Birth: Recommended for Stock in Emergency Rooms

## For Routine Birth

<table>
<thead>
<tr>
<th>Drug Name / Level of Care</th>
<th>Use</th>
<th>Indications</th>
<th>Contraindications</th>
<th>Dosage</th>
<th>Storage</th>
<th>Potential Adverse Effects</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Erythromycin Eye Ointment</strong>&lt;br&gt;(All hospitals)</td>
<td>Topical Antibiotic</td>
<td>prophylaxis for neonatal ophthalmia due to <em>N gonorrhoeae</em> or <em>Chlamydia trachomatis</em> if parental status positive or unknown</td>
<td>None known</td>
<td>each eyelid should first be wiped gently with a sterile cotton ball to remove foreign matter and permit adequate eversion of the lower lid. A line of ointment 1 to 2 cm long is placed in each lower conjunctival sac, if possible covering the whole lower conjunctival area. After 1 min, any excess ointment should be wiped gently from the eyelids and surrounding skin with a sterile cotton ball.</td>
<td>Room temperature</td>
<td>Mild to Moderate symptoms of irritation.</td>
<td>Canadian Paediatric Society: Position Statement ID02-03 (March 2015)</td>
</tr>
<tr>
<td><strong>Oxytocin</strong>&lt;br&gt;(All hospitals)</td>
<td>Uterotonic; acts on the smooth muscle of the uterus to stimulate contractions</td>
<td>- Active Third Stage management&lt;br&gt;- After placental delivery to control postpartum bleeding and prevent haemorrhage</td>
<td>Hypersensitivity to Oxytocin</td>
<td>- Active Third Stage management: 10 IU IM or 5 IU IV with the delivery of the anterior shoulder or immediately after the infant is delivered&lt;br&gt;- To control postpartum bleeding: Add 20-40 IU to 1000 ml 0.9% NaCl and infuse at 100-150 mL/hr.</td>
<td>Room temperature</td>
<td>Hypotension, tachycardia, water intoxication, and ECG changes have been observed following the administration of concentrated solutions.</td>
<td>Advances in Labour and Risk Management (ALARM) course manual, SOGC (2017-2018)</td>
</tr>
<tr>
<td><strong>Vitamin K</strong>&lt;br&gt;(All hospitals)</td>
<td>necessary for synthesis in the liver of factor II (prothrombin), factor VII (proconvertin), factor IX (thromboplastin), and factor X.</td>
<td>prevention of haemorrhagic disease of the newborn</td>
<td>none known</td>
<td>Within 6 hours of birth: Single IM dose of 0.5mg (birthweight 1500 g or less) or 1.0 mg (birthweight greater than 1500 g)</td>
<td>Room temperature</td>
<td>None known other than pain associated with injection (skin-to-skin contact or breastfeeding during injection decreases infants’ pain experience)</td>
<td>Canadian Paediatric Society: Position Statement FN97-01 (reaffirmed 2016)</td>
</tr>
<tr>
<td>Drug Name / Level of Care</td>
<td>Use</td>
<td>Indications</td>
<td>Contraindications</td>
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<tr>
<td>Benzodiazepine (All hospitals)</td>
<td>Anticonvulant - Anxiolytic - Hypnotic - Sedative</td>
<td>to control or prevent seizure activity</td>
<td>known hypersensitivity to benzodiazepines; myasthenia gravis; breastfeeding</td>
<td>Room temperature</td>
<td>Maternal: dose-dependent CNS side effects: dizziness, drowsiness. Fetal: hypotonia, lethargy, sucking difficulties</td>
<td>Compendium of Pharmaceuticals and Specialities, online version (e-CPS) 2017</td>
<td></td>
</tr>
<tr>
<td>Betamethasone (Celestone) (Regional and tertiary)</td>
<td>Corticosteroid; used to promote maturation of preterm infants. It is clinically proven to reduce perinatal mortality and the incidence of IVH and RDS in infants born prematurely.</td>
<td>When preterm birth between 24 and 34 weeks’ gestation is expected within 7 days, betamethasone is given to the mother to affect fetal maturation.</td>
<td>Allergies to corticosteroids; systemic fungal infections</td>
<td>Betamethasone 12 mg IM q 24h x 2 doses. Should only be administered in consultation with an obstetrician or neonatologist</td>
<td>Room temperature</td>
<td>Maternal: Fluid retention and increased blood pressure; potential for increased serum blood glucose. Fetal: transient reduction in fetal heart rate variability and fetal movement. Because of insufficient scientific data from randomized clinical trials regarding efficacy and safety, repeat courses of corticosteroids should not be used routinely.</td>
<td>Advances in Labour and Risk Management (ALARM) course manual, SOGC (2017-2018)</td>
</tr>
<tr>
<td>Carboprost (Hemabate) (Regional and tertiary)</td>
<td>prostaglandin F2α; Uterotonic</td>
<td>For the treatment of postpartum haemorrhage due to uterine atony which has not responded to conventional methods of management</td>
<td>Cardiovascular, pulmonary, renal, or hepatic disease; known hypersensitivity to the preparation</td>
<td>0.25 mg deep IM or intramyometrial; may repeat every 15 minutes for a total dose of 2.0 mg (8 doses)</td>
<td>Refrigerate at 2 to 8°C</td>
<td>Nausea, vomiting, diarrhea, elevated B/P, pyrexia, headache, flushing, diaphoresis, restlessness</td>
<td>Advances in Labour and Risk Management (ALARM) course manual, SOGC (2017-2018)</td>
</tr>
<tr>
<td>Ergonovine maleate (Ergometrine) (All hospitals)</td>
<td>Uterotonic</td>
<td>For the treatment of postpartum haemorrhage due to uterine atony which has not responded to conventional methods of management</td>
<td>hypertension, preeclampsia, hypersensitivity to drug</td>
<td>0.2 – 0.25 mg IM/IV; may repeat every 2 hours. Onset of action: &lt;1 minute (IV) 2-5 minutes (IM) Duration: 3 hours (IM) 45 minutes (IV)</td>
<td>Refrigerate at 2 to 8°C; Stable 60 days without refrigeration</td>
<td>peripheral vasospasm, hypertension, nausea, vomiting</td>
<td>Advances in Labour and Risk Management (ALARM) course manual, SOGC (2017-2018)</td>
</tr>
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<tr>
<td><strong>Hydralazine (Apresoline)</strong> <em>(All hospitals)</em></td>
<td>vasodilator - antihypertensive</td>
<td>treatment of severe pre-eclampsia or eclampsia</td>
<td>drug allergy; systemic lupus; severe tachycardia; myocardial insufficiency due to mechanical obstruction; cardiac failure; aortic aneurysm</td>
<td>Initial dose 5 mg via slow IV injection; may repeat IV dose 5-10 mg q15-30 minutes for total dose of 20 mg IV. Dosage must be individualized and titrated according to patient's blood pressure and fetal response; close monitoring of B/P and FHR is essential.</td>
<td>Room temperature</td>
<td>hypotension, tachycardia, palpation, anginal symptoms, flushing, headache, gastrointestinal disturbances, proteinuria, abnormal liver function tests</td>
<td>Advances in Labour and Risk Management (ALARM) course manual, SOGC (2017-2018)</td>
</tr>
<tr>
<td><strong>Indomethacin (Indocid PDA)</strong> <em>(All hospitals)</em></td>
<td>non-steroidal anti-inflammatory; tocolytic</td>
<td>For women with preterm labour in preparation for transfer to Level III facility.</td>
<td>allergy to ibuprofen or other NSAIDs, history of liver or kidney disease, blood or urine abnormalities</td>
<td>100 mg pr x 1 dose Protocol provided for reference; please confirm with LifeFlight MCP</td>
<td>Room temperature</td>
<td>Maternal: SOB, wheezing, tightness in chest; dependent edema, malaise, fever, loss of appetite, visual disturbances, confusion, depression, dizziness, lightheadedness, hearing problems; skin rash or hives, yellow discoloration of the skin or eyes; bloody or black tarry stools, rectal bleeding or discomfort when passing stools, vomiting or persistent indigestion, nausea, stomach pain, constipation or diarrhea; oliguria, dysuria, or change in urine colour. Fetal/neonatal: constriction of ductus arteriosus</td>
<td>Advances in Labour and Risk Management (ALARM) course manual, SOGC (2017-2018)</td>
</tr>
<tr>
<td><strong>Labetalol (Trandate)</strong> <em>(All hospitals)</em></td>
<td>antihypertensive-α- and β-blocker</td>
<td>treatment of pre-eclampsia or eclampsia</td>
<td>drug allergy; uncontrolled congestive heart failure; asthma; history of obstructive airway disease; &gt; 1&lt;sup&gt;st&lt;/sup&gt; AV block; cardiogenic shock and states of hypoperfusion; sinus bradycardia</td>
<td>Start with 20 mg IV; repeat 20–80 mg IV q30min, or 1–2 mg/min, max 300 mg in 24 hours (then switch to oral). For severe hypertension, BP should be lowered to &lt;160 mmHg systolic and &lt;110 mmHg diastolic.</td>
<td>Room temperature</td>
<td>Maternal: hypotension, headache, fatigue, dizziness Fetal/neonatal: neonatal bradycardia</td>
<td>Advances in Labour and Risk Management (ALARM) course manual, SOGC (2017-2018)</td>
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<td>Drug Name / Level of Care</td>
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<tr>
<td>Magnesium Sulphate (MgSO₄) (All hospitals)</td>
<td>CNS depressant, Fetal neuroprotection</td>
<td>eclampsia prevention or treatment. Preterm labour (&lt;32 weeks)</td>
<td>antepartum haemorrhage, chorioamnionitis, hypocalcaemia, renal failure, myasthenia gravis</td>
<td>Should be administered only under the continuous supervision of a health care professional familiar with the proper dosage, monitoring parameters, and the use of the antidote, Calcium Gluconate.</td>
<td>Room temperature</td>
<td>hyporeflexia, respiratory depression/arrest, maternal hypotension, maternal/fetal hypocalcemia, pulmonary edema, cardiac arrest, generalized CNS depression of mother/fetus</td>
<td>Advances in Labour and Risk Management (ALARM) course manual, SOGC (2017-2018)</td>
</tr>
<tr>
<td>Misoprostol (Cytotec) (All hospitals)</td>
<td>Prostaglandin E₁ analog; Uterotonic</td>
<td>For the treatment of postpartum haemorrhage due to uterine atony which has not responded to conventional methods of management</td>
<td>use caution with history of cardiovascular disease</td>
<td>600-1000 mcg per rectum, PO, or sublingual Dosage and route may vary depending on experience of prescriber</td>
<td>Room temperature</td>
<td>Nausea; vomiting; diarrhea; pyrexia; shivering</td>
<td>Advances in Labour and Risk Management (ALARM) course manual, SOGC (2017-2018)</td>
</tr>
<tr>
<td>Nifedipine (Adalat) (All hospitals)</td>
<td>anti hypertensive - calcium channel blocker</td>
<td>treatment of severe pre-eclampsia or eclampsia</td>
<td>allergy to nifedipine, extreme bradycardia, severe congestive heart failure and/or severe left ventricular dysfunction; concomitant use of drugs known to affect cardiac conduction, 2º or 3º heart block</td>
<td>10 mg capsule to be swallowed (not chewed) Repeat 10 -20mg every 45 minutes; Maximum 50mg</td>
<td>Room temperature</td>
<td>vasodilatory effects; angina, congestive heart failure, pulmonary edema, tachycardia, bradycardia, excessive hypotension, skin rashes; arthritis and transient blindness</td>
<td>Advances in Labour and Risk Management (ALARM) course manual, SOGC (2017-2018)</td>
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</table>
| Penicillin G Sodium      | antibiotic; Group B streptococcal (GBS) disease prophylaxis or treatment | Treatment at time of labour or rupture of membranes: all women positive by GBS screening done at 35-37 weeks; women with infant previously infected with GBS; documented GBS bacteriuria; < 37 weeks gestation unless there is evidence of negative GBS screening in past 5 weeks; maternal fever. | allergy to penicillin | 5 million IU IV, then 2.5 million IU IV q4h.  
*Women who are allergic and not at risk for anaphylaxis:* substitute Cefazolin 2 g IV then 1 g IV q8h.  
*Women who are allergic and at risk for anaphylaxis:* substitute clindamycin 900 mg IV q8h or erythromycin 500 mg IV q6h.  
*Protocol provided for reference: please confirm with LifeFlight MCP* | | | signs of sensitivity include: rash, urticaria, chills, fever, edema, arthralgia, anaphylaxis. | SOGC Clinical Practice Guideline #149 (2004); SOGC Clinical Practice Guideline #276 (2012) |
| WinRho                   | Rho (D) immune globulin | prevention of rhesus (Rh) alloImmunization | maternal Rh-positive status; maternal weak D (D<sup>-</sup>) status; paternal Rh-negative status when paternity is certain | Postpartum nonsensitized Rh-negative woman delivering an Rh-positive infant: 300 µg IV or IM within 72 hours of delivery.  
*Following miscarriage, threatened abortion, ectopic or partial molar pregnancy <12 weeks:* 120 µg IV or IM.  
*Following miscarriage, threatened abortion, ectopic or partial molar pregnancy >12 weeks:* 300 µg IV or IM. | Store in refrigerator; may need to obtain from blood bank | Blood product reactions | SOGC Clinical Practice Guideline #133 (2003) |
Laboratory Tests

*TIP:* Keep corresponding requisitions with the emergency delivery equipment and chart forms.

**Cord Blood:**
- ABO, Rh and DAT (Direct Antiglobulin Test)
- Following birth, collect at least 1 mL into a 10 mL clotted blood collection tube.
- Carefully label and refrigerate.
- Forward to laboratory with the appropriate requisition as soon as possible.

**Cord Blood Gases:**
- From a separate section of cord and using preheparinized syringes, draw up a specimen from the umbilical artery (smaller blood vessel) and the umbilical vein (larger vessel); label accordingly and send for blood gas analysis. Alternatively these specimens may be refrigerated for later analysis.

**Rh Positive:**
- Healthy birthing parents who are Rh-positive do not require routine laboratory testing unless there are specific indications (i.e. CBC related to blood loss, rubella or varicella titre if immunization status is unknown or unsure).

**Rh Negative patients who have given birth, or those with antibodies (alloimmunized):**
- ABO, Rh type & Antibody screen
- Within twelve hours following delivery, collect and fill two 10 mL clotted blood tubes
- Complete appropriate requisition.

**Rh Negative birthing patients with Rh positive or Rh unknown baby:**
- Kleihauer
- Within twelve hours following delivery, collect sample using one 4 mL EDTA tube.
- Complete appropriate requisition.

**PRN Bloodwork:**
- CBC
- Rubella and/or varicella titre if immune status is unknown

**Newborn Bloodwork:**
Laboratory screening tests routinely done for full term healthy newborns include metabolic and endocrine screening (e.g. PKU screening), and a screen for bilirubin level. Blood
samples are typically collected at 24-48 hours of age.

**Documentation**

Documenting the events of an unexpected delivery in an emergency or outpatient department can be overwhelming. Even for experienced caregivers who routinely attend deliveries it can be challenging to maintain accurate and contemporaneous documentation. Much of the documentation of the birth can be done after the birth has occurred and all are assessed to be healthy and safe in the immediate postpartum/postnatal period. Noting and remembering the time of birth is one important aspect of care and can be documented on the birth record as soon as circumstances permit.

Keeping a small stock of RCP forms for use during unexpected births can help promote the best care possible. These forms can help prompt caregivers to initiate appropriate assessments and treatments such as the timing of routine intrapartum/postpartum and neonatal assessments and the administration of medications routinely used in care. While some of the forms may not be applicable, depending on the duration of stay, the maternal assessment forms, partogram, birth record, and newborn assessment forms will be helpful and necessary to use for any birth even if a transfer is indicated shortly thereafter.

RCP chart forms in order of their chart form number (for ordering purposes) are:

- **RCP/01**: Preadmission Maternity Assessment
- **RCP/02**: Maternal Assessment
- **RCP/03**: Labour Partogram
- **RCP/04**: Birth Record
- **RCP/07**: Maternal & Newborn Progress Notes
- **RCP/08**: Newborn Admission/Discharge
- **RCP/09**: Newborn Nursing Assessment
- **RCP/10**: Newborn TPR

Refer to *Appendix A* to see sample RCP chart forms.
References


Appendix A

Samples of Standard Documentation for Labour and Birth
### Second Stage

<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>Progress Notes</th>
</tr>
</thead>
<tbody>
<tr>
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<table>
<thead>
<tr>
<th>Time</th>
<th>Est. PFM</th>
<th>Est. EFM</th>
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<tbody>
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#### Vaginal Birth

Mother’s position for delivery:  
- _____  
- _____  
- _____  
- _____  
- _____  


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### Fourth Stage: Postpartum Assessments

<table>
<thead>
<tr>
<th>Time</th>
<th>BP</th>
<th>Perineum</th>
<th>Temp</th>
<th>Oral Temperature</th>
<th>Heart Rate</th>
<th>Respirations</th>
<th>Urine Output</th>
</tr>
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</table>

#### Key (For any variance see Progress Notes)

- Maternal Condition:
  - BP: mm Hg
  - Perineum: mm Hg
  - Oral Temperature: °C
  - Heart Rate: beats/min
  - Respirations: breaths/min

- Interventions:
  - BP: mm Hg
  - Perineum: mm Hg
  - Oral Temperature: °C
  - Heart Rate: beats/min
  - Respirations: breaths/min

#### Initial Mother-Infant Contact

<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>Progress Notes</th>
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<thead>
<tr>
<th>BP</th>
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</table>

**PART DERM**
### Birth Record

**Membrane Rupture**
- Date
- Time

**Induction/Process of Labor**
- Spontaneous onset
- Steroids administration
- Reducing forceps

**Induction Method**
- General anesthesia
- Ether

**Placental Delivery**
- Date
- Time

**Cord Clamping**
- Delayed cord clamping

**Lacerations**
- First
- Second

**Apgar Scores**
- 1st Min
- 5th Min

**Amniocentesis**
- Yes
- No

**Comments**

**Maternal & Newborn Progress Notes**

<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>Progress Notes</th>
<th>Status</th>
</tr>
</thead>
</table>

**Signature of Provider responsible for Birth**

**Signature of Provider responsible for AMNAS**

**Signature of Provider responsible for Birth**

---

*RCPA7 - REV 04 2012*
# NEWBORN ADMISSION/DISCHARGE

## Initial Assessment

### General Appearance:

- [ ] Yes
- [ ] No

- [ ] Transient

### Apgar Score:

- [ ] 1 minute
- [ ] 5 minutes

### Weight:

- [ ] Birth Weight

### Gestational Age:

- [ ] < 37 weeks preterm
- [ ] 37 weeks or more

### Delivery Method:

- [ ] Cesarean
- [ ] Vacuum
- [ ] Forceps
- [ ] Obstetrician

### Complications:

- [ ] Rh sensitization
- [ ] High Risk

### Mother's Name:

- [ ] Present
- [ ] Absent

### Family History:

- [ ] None
- [ ] Stenosis

### Comorbidity:

- [ ] Yes
- [ ] No

###爸爸的姓:

- [ ] Chinese
- [ ] Other

### Comprehensive Physical Exam:

#### Birth Facts:

- [ ] Birth Weight
- [ ] Length
- [ ] Head Circ.
- [ ] Length
- [ ] Head Circ.

#### Examination:

- [ ] Normal
- [ ] Abnormal

### Description:

- [ ] Normal
- [ ] Abnormal

### Comments:

- [ ] Normal
- [ ] Abnormal

### Discharge:

#### Physical Findings:

- [ ] Normal
- [ ] Abnormal

### Comments:

- [ ] Normal
- [ ] Abnormal

### Handoff:

- [ ] Normal
- [ ] Abnormal

### Discharge Date:

- [ ] Date
- [ ] Time

### Signature:

- [ ] Parent's Name
- [ ] Signature

### Admission Date:

- [ ] Date
- [ ] Time

### Signature:

- [ ] Parent's Name
- [ ] Signature

---

# NEWBORN NURSING ASSESSMENT

## General Appearance

- [ ] Normal
- [ ] Abnormal

## Skin

- [ ] Normal
- [ ] Abnormal

## Head

- [ ] Normal
- [ ] Abnormal

## Eyes

- [ ] Normal
- [ ] Abnormal

## Ears

- [ ] Normal
- [ ] Abnormal

## Nose

- [ ] Normal
- [ ] Abnormal

## Mouth

- [ ] Normal
- [ ] Abnormal

## Genitalia

- [ ] Normal
- [ ] Abnormal

## Circumcision

- [ ] Normal
- [ ] Abnormal

## Temperature

- [ ] Normal
- [ ] Abnormal

## Breath sounds

- [ ] Normal
- [ ] Abnormal

## Heart sounds

- [ ] Normal
- [ ] Abnormal

## Abdominal sounds

- [ ] Normal
- [ ] Abnormal

## Weight

- [ ] Normal
- [ ] Abnormal

## Length

- [ ] Normal
- [ ] Abnormal

## Head circumference

- [ ] Normal
- [ ] Abnormal

## Physical examination

- [ ] Normal
- [ ] Abnormal

## Handoff

- [ ] Normal
- [ ] Abnormal

## Discharge

- [ ] Normal
- [ ] Abnormal

## Signature:

- [ ] Parent's Name
- [ ] Signature

---

# NEWBORN EXAMINATION

---

# NEWBORN NURSING ASSESSMENT

## General Appearance

- [ ] Normal
- [ ] Abnormal

## Skin

- [ ] Normal
- [ ] Abnormal

## Head

- [ ] Normal
- [ ] Abnormal

## Eyes

- [ ] Normal
- [ ] Abnormal

## Ears

- [ ] Normal
- [ ] Abnormal

## Nose

- [ ] Normal
- [ ] Abnormal

## Mouth

- [ ] Normal
- [ ] Abnormal

## Genitalia

- [ ] Normal
- [ ] Abnormal

## Circumcision

- [ ] Normal
- [ ] Abnormal

## Temperature

- [ ] Normal
- [ ] Abnormal

## Breath sounds

- [ ] Normal
- [ ] Abnormal

## Heart sounds

- [ ] Normal
- [ ] Abnormal

## Abdominal sounds

- [ ] Normal
- [ ] Abnormal

## Weight

- [ ] Normal
- [ ] Abnormal

## Length

- [ ] Normal
- [ ] Abnormal

## Head circumference

- [ ] Normal
- [ ] Abnormal

## Physical examination

- [ ] Normal
- [ ] Abnormal

## Handoff

- [ ] Normal
- [ ] Abnormal

## Discharge

- [ ] Normal
- [ ] Abnormal

## Signature:

- [ ] Parent's Name
- [ ] Signature

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# NEWBORN NURSING ASSESSMENT

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- [ ] Abnormal

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- [ ] Abnormal

## Head

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## Head circumference

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## Physical examination

- [ ] Normal
- [ ] Abnormal

## Handoff

- [ ] Normal
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## Discharge

- [ ] Normal
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## Signature:

- [ ] Parent's Name
- [ ] Signature

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# NEWBORN NURSING ASSESSMENT

## General Appearance

- [ ] Normal
- [ ] Abnormal

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## Length

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## Head circumference

- [ ] Normal
- [ ] Abnormal

## Physical examination

- [ ] Normal
- [ ] Abnormal

## Handoff

- [ ] Normal
- [ ] Abnormal

## Discharge

- [ ] Normal
- [ ] Abnormal

## Signature:

- [ ] Parent's Name
- [ ] Signature

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<tr>
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<th>Newborn Day</th>
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Appendix B

Flow Diagram for NRP

Canadian Paediatric Society (www.cps.ca) 2015

Targeted Preductal SpO2 After Birth

<table>
<thead>
<tr>
<th>Time</th>
<th>SpO2 Range</th>
</tr>
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<tbody>
<tr>
<td>1 min</td>
<td>60% - 65%</td>
</tr>
<tr>
<td>2 min</td>
<td>65% - 70%</td>
</tr>
<tr>
<td>3 min</td>
<td>70% - 75%</td>
</tr>
<tr>
<td>4 min</td>
<td>75% - 80%</td>
</tr>
<tr>
<td>5 min</td>
<td>80% - 85%</td>
</tr>
<tr>
<td>10 min</td>
<td>85% - 95%</td>
</tr>
</tbody>
</table>
## Equipment for Neonatal Resuscitation

<table>
<thead>
<tr>
<th>Item</th>
<th>Community Site</th>
<th>Regional Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant warmer</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Means to keep baby warm in lieu of skin-to-skin contact (e.g. gel warming mattress, cap, warm blankets/towels)</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Oxygen supply</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Appropriate size masks for term/preterm babies</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Self-inflating neonatal resuscitation bag and tubing to connect to an oxygen source</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>O₂ blender (or means to blend air with O₂; e.g. Y-connector)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Manometer</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Endotracheal tubes (sizes 2.5 to 4)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Tape and scissors</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Laryngoscope (0 and 1 sized blades) with extra bulbs and batteries (<em>Requires specific training to achieve and maintain competency. Not to be used otherwise</em>)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>T-piece resuscitator (e.g. Neopuff™ Infant Resuscitator)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>CO₂ detector</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Laryngeal Mask Airway (LMA) size 1 (<em>Requires specific training to achieve and maintain competency. Not to be used otherwise.</em>)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Bulb syringe</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Regulated mechanical suction</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Suction catheters (6F, 8F, 10F, 12F)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Suction tubing and canister</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Feeding tube (8F catheter)</td>
<td>✓</td>
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</tr>
<tr>
<td>Syringe, catheter tipped, 20 mL</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Meconium aspirator</td>
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<td>✓</td>
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<tr>
<td>IV catheters (22 g)</td>
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<td>✓</td>
</tr>
<tr>
<td>Item</td>
<td>Community Site</td>
<td>Regional Site</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>----------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Tape and sterile dressing material</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>D10W</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Isotonic saline solution</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Syringes, assorted (1-20 mL)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Epinephrine (0.1 mg/mL)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Umbilical catheters (3.5F, 5F)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Chest tube (10F catheter)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>20 g IV catheter with 3-way stopcock (in lieu of chest tube)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Sterile procedure trays (eg, scalpels, hemostats, forceps)</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>