



Neonatal Resuscitation Program Revisions 2006: A Brief Summary for Busy Canadians



“A Brief Summary for Busy Canadians” was adapted by the Canadian NRP Steering Committee from the “Brief Summary for Busy People.” It is an explanatory amendment to the NRP Instructor Manual. “Busy Canadians” clarifies the recommended changes in the Neonatal Resuscitation Textbook (5th Edition) that arose during interpretation of the International Liaison Committee on Resuscitation (ILCOR) consensus statement, viewed in the context of the Canadian healthcare system. Practice changes have been inserted in **bold font** where Canadian recommendations differ from the original text. Further clarification of the Canadian changes may be found in the NRP section of the www.cps.ca website.

The recommendations in this document do not indicate an exclusive course of treatment or procedure to be followed. Variations, taking into account individual circumstances, may be appropriate

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<p>Lessons in the Program</p> <ul style="list-style-type: none"> • Lesson 1: Overview and Principles of Resuscitation • Lesson 2: Initial Steps in Resuscitation* • Lesson 3: Use of a Resuscitation Bag and Mask* • Lesson 4: Chest compressions* • Lesson 5: Endotracheal Intubation* • Lesson 6: Medications* • Lesson 7: Special Considerations <p>*Lesson includes a Performance Checklist in addition to the written evaluation.</p>	<p>Lessons in the Program</p> <ul style="list-style-type: none"> • Lesson 1: Overview and Principles of Resuscitation • Lesson 2: Initial Steps in Resuscitation • Lesson 3: Use of Resuscitation Devices for Positive-Pressure Ventilation* • Lesson 4: Chest compressions* • Lesson 5: Endotracheal Intubation* • Lesson 6: Medications* • Lesson 7: Special Considerations • Lesson 8: Resuscitation of Babies Born Preterm • Lesson 9: Ethics and Care at the End of Life <p>*Lesson includes a Performance Checklist in addition to the written evaluation.</p>
<p>Required Learning</p> <p>Participants are eligible to receive a Course Completion Card upon successful completion of</p> <ul style="list-style-type: none"> • Lessons 1 through 4 <p>Those participants learning Lesson 1 through 5 or 6 should also learn Lesson 7.</p> <p>For those participants taking Lessons 1 through 4, Lesson 7 may be offered at the instructor’s discretion.</p>	<p>Required Learning</p> <p>Participants are eligible to receive a Course Completion Card upon successful completion of</p> <ul style="list-style-type: none"> • Lessons 1 through 4 and Lesson 9 <p>Courses in Canada must incorporate the following documents:</p> <ul style="list-style-type: none"> • Recommendations for specific treatment modification in the Canadian context (Addendum to the 2006 NRP Provider Textbook) • NRP 2006 Flow Diagram – Canadian Adaptation • Performance Checklists – Canadian Adaptation • Basic and Advanced Megacodes – Canadian Adaptation • Written Evaluation – Canadian Adaptation

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	<p>Each individual hospital must determine what lessons of the course are required for the staff at their institution; however, all learners can participate in any lesson and may be encouraged to expand their knowledge.</p> <p>Team members who provide direct care to newborns during resuscitation may benefit from learning Lesson 5 (Endotracheal Intubation) and Lesson 6 (Medications).</p> <p>Lesson 7 (Special Considerations) offers guidelines for resuscitations that become complex despite adequate resuscitation efforts.</p> <p>If your hospital electively delivers preterm newborns, Lesson 8 (Resuscitation of Babies Born Preterm) is probably essential information.</p>
Factors Associated with Need for Resuscitation	Factors Associated with Need for Resuscitation
	<p>Deleted from the list:</p> <ul style="list-style-type: none"> • Antepartum lithium use <p>Added to the list:</p> <ul style="list-style-type: none"> • Fetal hydrops • Macrosomia • Significant intrapartum bleeding
Post-resuscitation Care Encompasses 3 Levels	Post-resuscitation Care Encompasses 3 Levels
<ul style="list-style-type: none"> • Routine care (standard observation) • Supportive care (frequent evaluation) • Ongoing care (continuing evaluation and monitoring in a nursery environment) 	<ul style="list-style-type: none"> • Routine care (standard observation) • Observational care (frequent evaluation) • Post-resuscitation care (continuing evaluation and monitoring in a nursery environment)
Apgar Scores	Apgar Scores
<p>Assign Apgar scores at 1 minute and 5 minutes of age. If the 5-minute score is less than 7, assign additional scores every 5 minutes for up to 20 minutes.</p>	<p>No change in frequency of scoring; however, revised and expanded Apgar Score form is depicted which includes recording interventions being administered at the specific times each Apgar score is determined.</p>
The Resuscitation Algorithm “The NRP Flow Diagram”	The Resuscitation Algorithm “The NRP 2006 Flow Diagram – Canadian Adaptation” (see accompanying flow diagram on page 14)
<p>Answer 5 questions to determine the need for resuscitation, then, if appropriate, proceed with</p> <ul style="list-style-type: none"> • Initial steps Position, clear airway (including tracheal suctioning if necessary), dry, remove linen, re-position, give oxygen as necessary. After initial steps, simultaneously evaluate 	<p>Answer 4 questions to determine the need for initial steps.</p> <ul style="list-style-type: none"> • Is the newborn term? • Is the amniotic fluid clear? • Is the newborn breathing or crying? • Does the newborn have good muscle tone?

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<p>respirations, heart rate and colour. Many evaluation/treatment steps are simultaneous. Because you have already answered questions about the presence of meconium, respiratory effort, muscle tone, and colour, then you know if the baby is breathing or apneic, limp or active, and pink or in need of oxygen. If you determine that the baby requires initial steps of resuscitation at the radiant warmer, continue to assess the baby's respiratory effort and colour as the baby is being positioned, suctioned if necessary, dried, and repositioned on warm, dry linen.</p> <p>Free-flow oxygen is necessary while you are performing initial steps</p> <ul style="list-style-type: none"> • If a baby is breathing and cyanotic • If an apneic baby begins to breathe during the initial steps, before drying and positioning are accomplished <p>Free-flow oxygen is not necessary</p> <ul style="list-style-type: none"> • If an apneic baby remains apneic throughout the initial steps. In this case, the need for positive-pressure ventilation is obvious because the baby remains apneic even after the airway is cleared and the baby is dried and properly positioned. <p>Respirations and colour are naturally assessed during the initial steps because the caregiver is handling the baby and assessing progress through the first moments of transition. After initial steps, simultaneous evaluation of respirations, heart rate, and colour guide further interventions throughout the resuscitation.</p>	<p>The question, "Is the newborn pink?" is no longer part of the Assessment Block, recognizing that healthy babies may take several minutes to achieve saturation levels of 90%. "Assess colour" is listed in the Routine Care and Breathing Block (refer to the NRP 2006 Flow Diagram – Canadian Adaptation" on page 12).</p> <p>Initial steps no longer include, "Give oxygen as necessary" recognizing that giving oxygen is an intervention that has specific indications.</p> <ul style="list-style-type: none"> • Provide warmth • Position the head to open the airway; clear the airway as necessary • Dry the skin*, stimulate the baby to breathe, and reposition the head to open the airway <p><i>*Drying the skin does not apply for babies < 28wks who are placed wet into a food-grade polyethylene bag below the neck.</i></p> <p>Simultaneously evaluate respirations, heart rate, and colour and move to next intervention based on this assessment. By now, the newborn is about 30 seconds old.</p> <p>In keeping with the Canadian recommendations, administer supplemental oxygen</p> <ul style="list-style-type: none"> • If the newborn is breathing, heart rate is greater than 100 bpm, and is cyanotic at greater than 90 seconds of age • With positive pressure ventilation if greater than 90 seconds of age <p>Give positive-pressure ventilation</p> <ul style="list-style-type: none"> • If the newborn is apneic or gasping • If the newborn has a heart rate < 100 bpm • If the newborn is breathing with heart rate > 100 bpm but is persistently cyanotic despite 30 seconds of oxygen administration <p>After 30 seconds of effective ventilation, evaluate again.</p> <p>Provide chest compressions with 100% oxygen</p> <ul style="list-style-type: none"> • If the heart rate is < 60 bpm after 30 seconds of effective ventilation. <p>After 30 seconds of effective positive-pressure ventilation and chest compressions in 100% oxygen, evaluate heart rate again.</p> <p>Continue positive-pressure ventilation and chest compressions and administer epinephrine</p> <ul style="list-style-type: none"> • If the heart rate is still below 60 bpm

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<p>Oxygen Concentration</p>	<p>Oxygen Concentration</p>
<p>Babies who require positive-pressure ventilation at birth should be ventilated initially with a high concentration of oxygen (90%-100%).</p>	<p>Current evidence is insufficient to resolve all questions regarding supplemental oxygen use for positive-pressure ventilation during neonatal resuscitation.</p> <p>For babies born at term:</p> <ul style="list-style-type: none"> • The NRP text recommends use of 100% supplemental oxygen when a baby is cyanotic or when positive-pressure ventilation is required during neonatal resuscitation. • However, research suggests that resuscitation with something less than 100% may be just as successful. • If resuscitation is started with less than 100% oxygen, supplemental oxygen should be administered if there is no appreciable improvement within 90 seconds following birth. • If supplemental oxygen is unavailable, use room air to deliver positive-pressure ventilation. <p>In keeping with the Canadian recommendations for the therapeutic use of oxygen during and after resuscitation:</p> <ol style="list-style-type: none"> 1. Positive-pressure ventilation should be initiated with air (21% oxygen) if the baby is < 90 seconds of age. 2. Supplemental oxygen should be used if the baby remains cyanotic at 90 seconds of age. 3. 100% oxygen should be used if the baby is receiving chest compressions. 4. Blended gases should be available in the delivery room and during transport to the NICU. 5. To avoid hyperoxemia, pulse oximetry should be available in rooms designated for delivery of babies < 33 weeks gestation. Even though, there is no clear definition of what is hyperoxia for the preterm infant, it seems reasonable to avoid saturations above 95% when supplemental oxygen is used. <p>To reduce excessive tissue oxygenation if a baby less than 33 weeks gestation is being electively delivered at your facility:</p> <ul style="list-style-type: none"> • Use blended oxygen and air, and a pulse oximeter during resuscitation. • Begin positive-pressure ventilation with 21% oxygen if < 90 seconds of age. No studies justify starting at any particular concentration. • Adjust oxygen concentration up to achieve a pulse oximeter reading that gradually increases toward 90%. Decrease the oxygen concentration as saturations rise over 95%. • If the heart rate does not respond by increasing rapidly to > 100 bpm, correct any ventilation problem and use supplemental oxygen.

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<p>List of Supplies and Equipment</p> <p>Items added to the list</p> <ul style="list-style-type: none"> • 12F suction catheter • Normal saline for flushes, which could include <ul style="list-style-type: none"> – 3-mL normal saline “fish” or “bullets” – 10-mL ampule of normal saline – 100-mL bag of normal saline for parenteral use • Tape or securing device for endotracheal tube • CO₂ detector (optional) • Laryngeal mask airway (optional) • Itemized list for umbilical vessel catheter placement • Gloves and appropriate personal protection • Firm, padded resuscitation surface • Clock (timer optional) • Warmed linens • Pulse oximeter (optional for delivery room) 	<p>List of Supplies and Equipment</p> <p>Items added</p> <ul style="list-style-type: none"> • Exhaled CO₂ detector or capnograph (now recommended; not optional) • Food-grade polyethylene bags • 14F suction catheters are not recommended • Servo-control temperature probe • Pulse oximeter if electively delivering babies <33 weeks <p>Items deleted</p> <ul style="list-style-type: none"> • 3-mL normal saline “fish” or “bullets” • “Neonatal resuscitation bag” is listed as “Device for delivering positive-pressure ventilation” (accommodates new information about T-piece resuscitators) <p>“Povidone-iodine solution” has been changed to “antiseptic prep solution”.</p>
<p>Lesson 3: Use of Resuscitation Bag and Mask</p>	<p>Lesson 3: Use of Resuscitation Devices for Positive-Pressure Ventilation</p> <p>Lesson 3 now includes information about T-piece resuscitators, in addition to flow-inflating bags and self-inflating bags.</p> <p>In keeping with the Canadian Addendum recommendations:</p> <ol style="list-style-type: none"> 1. The T-piece resuscitator is an acceptable method to initiate and continue ventilation in the newborn infant, particularly the preterm infant. 2. There is a possible delay when modifying pressure during initial resuscitation with a T-piece resuscitator, consequently an alternate manual ventilation device should be available.
<p>Performance Checklist: Bag-and-Mask Ventilation</p> <p>Give initial 2 or 3 ventilations at appropriate pressure and observe for chest movement. The criteria for effective positive-pressure ventilation are “rise” or “no rise” of chest with ventilations.</p>	<p>Performance Checklist: Positive-Pressure Ventilation</p> <ul style="list-style-type: none"> • Call for assistance when beginning positive-pressure ventilation • After beginning ventilation at appropriate rate and pressure, ask the assistant to report heart rate and breath sounds as indicators of effective ventilation. Heart rate is assessed first, and if not improving, assess chest movement and ask about breath sounds.
<p>Terminology</p>	<p>Terminology</p>
<p>Chest rise</p>	<p>Chest movement</p>

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<p>Inflation Pressures During Positive-Pressure Ventilation</p> <ul style="list-style-type: none"> Initial breath after birth: > 30 cm H₂O Normal lungs (later breaths): 15 to 20 cm H₂O Diseased or immature lungs: 20 to 40 cm H₂O 	<p>Inflation Pressures During Positive-Pressure Ventilation</p> <p>Note: the ventilation pressure of > 30 cm H₂O for the initial breath after birth is no longer recommended for routine use.</p> <p>In keeping with AHA guidelines, an initial inflation pressure of 20 cm H₂O may be adequate for both term and preterm (Textbook of Neonatal Resuscitation, Appendix E4).</p> <p>Squeeze the resuscitation bag just enough to improve heart rate, colour and muscle tone. Increasing the positive pressure to 30 cm H₂O or greater is occasionally necessary if no improvement in these parameters occurs.</p> <p>In keeping with Canadian Addendum recommendations on the use of PEEP during and after resuscitation in ventilated infants:</p> <ol style="list-style-type: none"> If ongoing positive pressure ventilation is required, PEEP of 3 to 6 cm of water should be used. 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. <p>Rapid rise in heart rate and subsequent improvement in colour and muscle tone are the best indicators that inflation pressures are adequate.</p>
<p>A noticeable rise and fall of the chest is by far the best indication that the mask is sealed and the lungs are being inflated. The newborn should appear to be taking a normal or “easy” breath.</p>	<p>Signs of effective positive-pressure ventilation</p> <ul style="list-style-type: none"> Rapid rise in heart rate Improvement in colour and tone Audible breath sounds Chest movement
<p>Improvement during positive-pressure ventilation is indicated by:</p> <ul style="list-style-type: none"> Increasing heart rate Improving colour Spontaneous breathing 	<p>Improvement during positive-pressure ventilation is indicated by</p> <ul style="list-style-type: none"> Increasing heart rate Improving colour Spontaneous breathing Improving muscle tone <p>Check these signs of improvement after 30 seconds of positive-pressure ventilation. This requires the assistance of another person.</p>
<p>How to Measure the Amount of Orogastric Tube to Insert</p>	<p>How to Measure the Amount of Orogastric Tube to Insert</p>
<p>The length of the inserted tube should be equal to the distance from the bridge of the nose to the earlobe and <i>from the earlobe to the xyphoid process</i> (the lower tip of the sternum).</p>	<p>The length of the inserted tube should be equal to the distance from the bridge of the nose to the earlobe and <i>from the earlobe to a point halfway between the xyphoid process and the umbilicus</i>.</p>
<p>Laryngeal Mask Airway</p>	<p>Laryngeal Mask Airway</p>
<p>There are limited data about the use of laryngeal mask airways for neonatal</p>	<p>The laryngeal mask airway has been shown to be an effective alternative for assisting ventilation</p>

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<p>resuscitation. The details of laryngeal mask airway insertion will not be covered in this program.</p>	<p>when positive-pressure ventilation by bag and mask or mask and T-piece resuscitator is ineffective and attempts at intubation are not feasible or are unsuccessful. Details of laryngeal mask airway insertion are included in the Lesson 5 Appendix.</p> <p>The Canadian Addendum recommends:</p> <ul style="list-style-type: none"> • Canadian NRP Instructors should be taught how to use LMA.
<p>Use of CO₂ Detector</p>	<p>Use of Exhaled CO₂ Detector</p>
<p>Consider use of a CO₂ detector as confirmatory evidence of correct placement.</p>	<p>An increasing heart rate and exhaled CO₂ detection are the primary methods for confirming endotracheal tube placement.</p> <p>In keeping with the Canadian Addendum:</p> <ol style="list-style-type: none"> 1. Every baby that is intubated (other than for suction of meconium) should have tracheal tube placement confirmed by an exhaled CO₂ detector. 2. An exhaled CO₂ detector should be used as the primary method for confirming endotracheal tube placement.
<p>Confirming Endotracheal Tube Placement</p>	<p>Confirming Endotracheal Tube Placement</p>
<p>If the tube is positioned correctly, you should observe:</p> <ul style="list-style-type: none"> • A rise in the chest with each breath • Breath sounds over both lung fields but decreased or absent over the stomach • No gastric distention during ventilation • Vapor condensing on the inside of the tube during exhalation 	<p>An increasing heart rate and CO₂ detection are the primary methods for confirming endotracheal tube placement.</p> <p>Listening for bilateral breath sounds and observing symmetrical chest movement with positive-pressure ventilation provides secondary confirmation of endotracheal tube placement.</p> <p>If the tube is positioned correctly, you should observe:</p> <ul style="list-style-type: none"> • Changes in colour in exhaled CO₂ detection device with breath cycles • Improvement in heart rate and colour • Breath sounds audible over both lung fields but decreased or absent over the stomach • No gastric distention with ventilation • Vapor condensing on the inside of the tube during exhalation • Symmetrical movement of the chest with each breath
<p>Epinephrine route of Administration</p>	<p>Epinephrine route of Administration</p>
<p>Recommended route: endotracheal tube or intravenously.</p> <p>Detailed instructions are outlined for how to administer epinephrine per endotracheal tube and for medication and volume administration per emergency umbilical venous catheter.</p>	<p>In keeping with the Canadian Addendum recommendations for the administration of epinephrine (adrenaline):</p> <ol style="list-style-type: none"> 1. Endotracheal tube: The first dose of epinephrine should be given via the endotracheal tube while preparing for insertion of an umbilical venous catheter (UVC). Prepare a 3 mL syringe of 1:10,000 epinephrine (dose of 1 mL/kg to a maximum dose of 3 mL). 2. Intravenous (Umbilical Venous Catheter): Prepare a 1 mL syringe of 1:10,000 epinephrine (dose of 0.1 mL/kg). Flush with up to 5 mL of 0.9% NaCl.

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	The endotracheal route is often faster and more accessible than placing an umbilical catheter, but this route results in lower and unpredictable blood levels that may not be effective.
<p>Two methods are offered for injecting epinephrine directly into the endotracheal tube.</p> <ul style="list-style-type: none"> Inject the drug into a 5F feeding tube that has been inserted down the endotracheal tube and flush with normal saline. Inject the drug directly into the endotracheal tube and flush with normal saline. 	<p>One method is offered for injecting epinephrine directly into the endotracheal tube.</p> <ul style="list-style-type: none"> Inject the drug directly into the endotracheal tube. No saline flush is necessary before resuming positive-pressure ventilation.
Epinephrine: Recommended Dose	Epinephrine: Recommended Dose
ET or IV: 0.1 to 0.2 mL/kg of 1:10,000 solution	<p>In keeping with the Canadian Addendum recommendations: ET: 1 mL/kg of 1:10,000 solution to a maximum dose of 3 mL (Draw up in 3 mL syringe and label)</p> <p>IV: 0.1 mL/kg of 1:10,000 solution (Draw up in 1 mL syringe and label)</p>
Signs of Hypovolemic Shock	Signs of Hypovolemic Shock
<ul style="list-style-type: none"> Pallor Weak pulses Persistently high or low heart rate Circulatory status often will not improve in response to effective ventilation, chest compressions and epinephrine. 	<ul style="list-style-type: none"> Pallor Delayed capillary refill Weak pulses Persistently low heart rate Circulatory status often does not improve in response to effective ventilation, chest compressions and epinephrine.
Indications for Naloxone Hydrochloride	Indications for Naloxone Hydrochloride
<ul style="list-style-type: none"> Severe respiratory depression after positive-pressure ventilation has restored normal heart rate and colour and A history of maternal narcotic administration within the past 4 hours 	<p>Naloxone is a post-resuscitation drug. Its indications are:</p> <ul style="list-style-type: none"> Continued respiratory depression after positive-pressure ventilation has restored normal heart rate and colour and A history of maternal narcotic administration within the past 4 hours
Naloxone: Recommended Route	Naloxone: Recommended Route
<ol style="list-style-type: none"> Endotracheal or intravenous preferred Intramuscular or subcutaneous acceptable, but delayed onset of action 	<ul style="list-style-type: none"> Intravenous preferred Intramuscular acceptable, but delayed onset of action There are no studies reporting the efficacy of endotracheal naloxone

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	<p>Post Resuscitation Care (Lesson 7)</p> <p>The Canadian Addendum stresses the importance of post-resuscitation care and makes the following comments:</p> <ol style="list-style-type: none"> 1. Communication between referring and referral centres is an important part of regionalized care in Canada. 2. All facilities delivering babies must be capable of resuscitation, post-resuscitation assessment and initial stabilization. 3. Following extensive resuscitation or if an infant remains unwell after resuscitation, early consultation should be obtained. Therapies with potential efficacy to improve outcomes, especially when instituted in the first few hours of life, are becoming available.
<p>Resuscitation of Preterm Newborns</p>	<p>Resuscitation of Preterm Newborns</p>
<p>Information about resuscitation of preterm infants is scattered throughout numerous lessons in the textbook.</p>	<p>Lesson 8 organizes information about resuscitation of preterm newborns into one lesson and includes:</p> <ul style="list-style-type: none"> • Risk factors associated with preterm birth • Additional resources needed to be prepared for preterm birth • Strategies for maintaining body temperature • Considerations for managing oxygen • How to assist ventilation • Ways to decrease the chances of brain injury • Post-resuscitation precautions
<p>No information of this type</p>	<p>Lesson 8: Additional Resources and Equipment</p> <p>The following resources and equipment are recommended for the delivery areas of any facility that electively delivers babies at less than approximately 32 weeks gestation. Such equipment may eventually become recommended for all hospitals that deliver babies.</p> <ul style="list-style-type: none"> • Extra trained personnel to attend the birth, including someone skilled in endotracheal intubation • A food-grade polyethylene bag and portable warming pad for a newborn born at less than 28 weeks gestation • Compressed air source • Blended gases • Pulse oximeter • Servo-control temperature probe

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<p>No information of this type</p>	<p>In keeping with the Canadian recommendations for preterm delivery:</p> <ol style="list-style-type: none"> 1. Maintenance of delivery room temperature around 25° to 26° C will diminish heat loss. 2. In order to minimize heat loss, babies < 28 weeks gestation should immediately be placed wet, up to their neck, in a food-grade polyethylene bag. 3. All babies (term and preterm) who remain under a radiant warmer by 10 minutes of age should have a servo control probe placed to avoid both hypo- and hyperthermia. 4. No studies justify starting at any particular concentration of supplemental oxygen in preterm infants. To reduce excessive tissue oxygenation if a baby born at less than 33 weeks gestation is being electively delivered at your facility: <ul style="list-style-type: none"> • Use blended gases and pulse oximetry during resuscitation. • Begin positive-pressure ventilation with 21% oxygen if less than 90 seconds of age. • Adjust oxygen concentration up to achieve a pulse oximeter reading that gradually increases toward 90%. Decrease the oxygen concentration as saturations rise over 95%. • If the heart rate does not respond by increasing rapidly to > 100 bpm, correct any ventilation problem and use supplemental oxygen.
<p>No Lesson 9 Ethics are covered briefly in Lesson 7.</p>	<p>Lesson 9: Ethics and Care at the End of Life Topics include</p> <ul style="list-style-type: none"> • Ethical principles associated with starting and stopping neonatal resuscitation • How to communicate with parents and involve them in ethical decision making • When it may be appropriate to withhold resuscitation • What to do when the prognosis is uncertain • How long to continue resuscitation attempts when the baby does not respond • What to do when a baby dies • How to help parents through the grieving process • How to help staff through the grieving process
<p>Discontinuation of Resuscitation Efforts Discontinuation of efforts may be appropriate after 15 minutes of absent heart rate in spite of complete and adequate resuscitation efforts.</p>	<p>Discontinuation of Resuscitation Efforts If there is no heart rate after 10 minutes of complete and adequate resuscitation efforts, and there is no evidence of other causes of newborn compromise, discontinuation of efforts may be appropriate.</p> <p>More than 10 minutes may have been required to assess the baby and to optimize the resuscitation efforts.</p>

Administrative Information

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Megacode involves Part A and Part B	Megacode is standardized and scored. Instructions for learners are standardized.
Written evaluation is taken on hard-copy form.	Online testing is available for a fee and optional for learners. Note administrative differences between the 2 formats.
For self-study format, learners should complete the assigned lessons within 3 months after beginning the program.	Participants must complete self-study courses within a 30-day period.
The Performance Checklists or Megacode may be attempted before or after completing the accompanying written evaluations.	<p>Ideally, course participants should take the written evaluation before the Performance Checklist or Megacode.</p> <p>However, the instructor may manage this differently if it is more efficient use of class time and instructor resources to split the class so that half take the performance evaluation and half take the written evaluation at the same time.</p> <p>If the learner chooses the online evaluation format, the online evaluation should occur prior to performance evaluations.</p>
<i>Textbook of Neonatal Resuscitation, 4th Edition</i> , includes the Multimedia CD-ROM	<i>Textbook of Neonatal Resuscitation, 5th Edition</i> , includes the Multimedia DVD-ROM

NRP 2006 Flow Diagram - Canadian Adaptation

