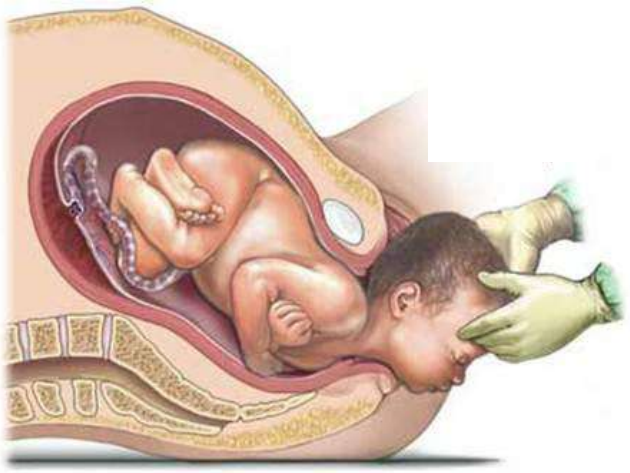
BỆNH VIỆN ĐẠI HỌC Y DƯỢC TPHCM®

CẬP NHẬT
HỒI SỨC SƠ SINH Ở PHÒNG SINH
NRP 2020

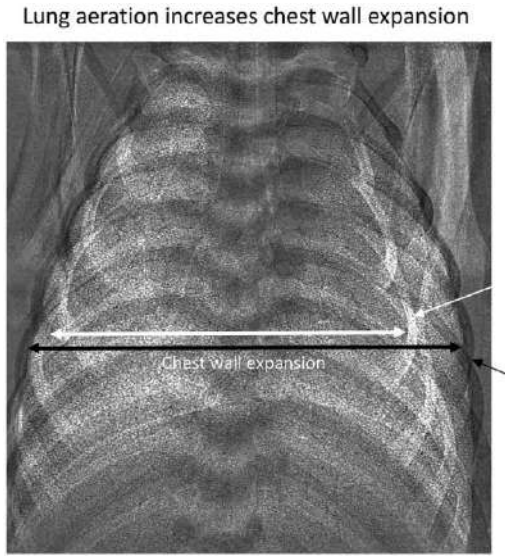
BSCKII. GIANG TRẦN PHƯƠNG LINH
TRƯỞNG KHOA SƠ SINH – BV ĐH Y DƯỢC TP.HCM
06.5.2022

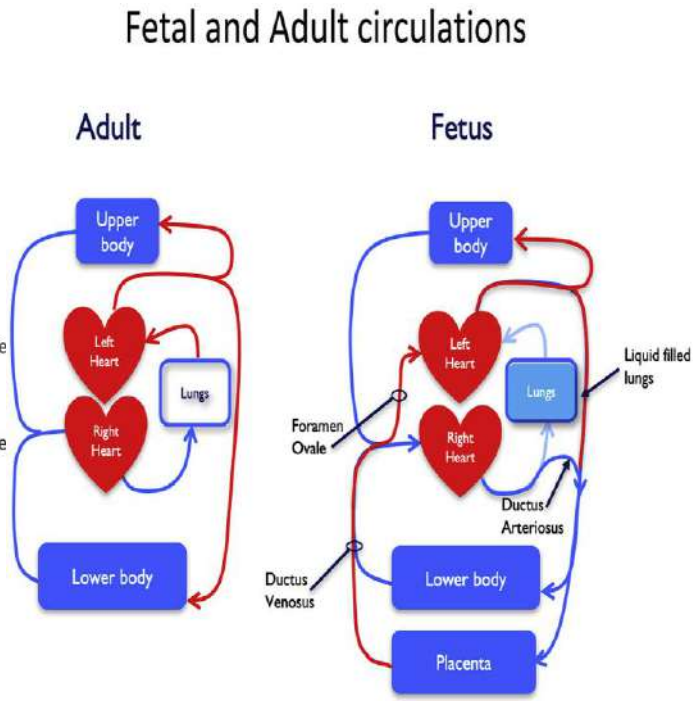
SỰ CHUYỂN TIẾP BÀO THAI - NGOÀI TỬ CUNG

- Vài phút trước và sau khi sinh
  - → Thay đổi sinh lý quan trọng
  - → Hậu quả ảnh hưởng suốt đời



- Vài giây: Sự thay đổi hô hấp, tuần hoàn





Stuart B. Hooper, et al., “Issues in cardiopulmonary transition at birth”, *Seminars in Fetal and Neonatal Medicine*, 2019

SỰ CHUYỂN TIẾP BÀO THAI - NGOÀI TỬ CUNG

85% tự khởi phát nhịp thở 10 – 30 giây

10% kich thích da và lau khô

5% thông khí áp lực dương

2% Đặt nội khí quản

0,1% ấn ngực

0,05% ấn ngực + epinephrine

QUÁ TRÌNH CẬP NHẬT

International Liaison Committee on Resuscitation (ILCOR)
American Academy Pediatrics (AAP)
American Heart Association (AHA)
(10.2020)

↓

Neonatal Life Support

2020 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science With Treatment Recommendations

↓

Part 5: Neonatal Resuscitation

2020 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care

↓

Textbook of Neontal Resuscitation
8th Edition (6.2021)

← 7 systematic reviews, 3 scoping reviews và 12 evidence updates
22 câu hỏi được cập nhật từ 2010– 2019

← 50 chuyên gia của 17 nước
Phát triển guideline của mỗi nước
Hệ thống chăm sóc North American

← NRP Steering Committee

DỰ ĐOÁN VỀ NHU CẦU HỒI SỨC

Recommendations for Anticipating Resuscitation Need		
COR	**LOE**	**Recommendations**
1	B-NR	1. Every birth should be attended by at least 1 person who can perform the initial steps of newborn resuscitation and initiate PPV, and whose only responsibility is the care of the newborn.[1–4]
1	B-NR	2. Before every birth, a standardized risk factors assessment tool should be used to assess perinatal risk and assemble a qualified team on the basis of that risk.[5–7]
1	C-LD	3. Before every birth, a standardized equipment checklist should be used to ensure the presence and function of supplies and equipment necessary for a complete resuscitation.[5,9]
1	C-LD	4. When anticipating a high-risk birth, a preresuscitation team briefing should be completed to identify potential interventions and assign roles and responsibilities.[8,10–12]

- **2020 (mới)** Mỗi cuộc sinh phải có mặt ít nhất 1 người có thể thực hiện các bước ban đầu của quy trình hồi sức và PPV, người đó chỉ có trách nhiệm chăm sóc trẻ sơ sinh

KẸP CUỐNG RỐN

Recommendations for Umbilical Cord Management		
COR	**LOE**	**Recommendations**
2a	B-R	1. For preterm infants who do not require resuscitation at birth, it is reasonable to delay cord clamping for longer than 30 s.[1–8]
2b	C-LD	2. For term infants who do not require resuscitation at birth, it may be reasonable to delay cord clamping for longer than 30 s.[9–21]
2b	C-EO	3. For term and preterm infants who require resuscitation at birth, there is insufficient evidence to recommend early cord clamping versus delayed cord clamping.[22]
3: No Benefit	B-R	4. For infants born at less than 28 wk of gestation, cord milking is not recommended.[23]

- Trẻ không cần hồi sức

→ Kẹp rốn muộn > 30s

- Trẻ non < 28 tuần: không khuyến cáo vuốt máu rốn

PHÒNG NGỪA HẠ THÂN NHIỆT

Additional Recommendations for Interventions to Maintain or Normalize Temperature		
COR	**LOE**	**Recommendations**
2a	B-R	1. Placing healthy newborn infants who do not require resuscitation skin-to-skin after birth can be effective in improving breast-feeding, temperature control and blood glucose stability.[8]
2a	C-LD	2. It is reasonable to perform all resuscitation procedures, including endotracheal intubation, chest compressions, and insertion of intravenous lines with temperature-controlling interventions in place.[9]
2a	B-R	3. The use of radiant warmers, plastic bags and wraps (with a cap), increased room temperature, and warmed humidified inspired gases can be effective in preventing hypothermia in preterm babies in the delivery room.[10,11]
2b	B-R	4. Exothermic mattresses may be effective in preventing hypothermia in preterm babies.[11]
2b	B-NR	5. Various combinations of warming strategies (or "bundles") may be reasonable to prevent hypothermia in very preterm babies.[12]
2b	C-LD	6. In resource-limited settings, it may be reasonable to place newly born babies in a clean food-grade plastic bag up to the level of the neck and swaddle them in order to prevent hypothermia.[13]

- **2020 (mới)** Trẻ khoẻ mạnh

→ da kề da với mẹ

NƯỚC ỐI CÓ PHÂN SU

Recommendations for Clearing the Airway in Newly Born Infants Delivered Through MSAF		
COR	**LOE**	**Recommendations**
2a	C-EO	1. For nonvigorous newborns delivered through MSAF who have evidence of airway obstruction during PPV, intubation and tracheal suction can be beneficial.
3: No Benefit	C-LD	2. For nonvigorous newborns (presenting with apnea or ineffective breathing effort) delivered through MSAF, routine laryngoscopy with or without tracheal suctioning is not recommended.[7]

- **2015**: Khi nước ối có phân su, không nên đặt ống nội khí quản thường quy để hút khí quản trong trường hợp này vì không có đủ chứng cứ
- **2020 (cập nhật):** Đối với trẻ không khỏe (có biểu hiện ngừng thở hoặc nỗ lực thở không hiệu quả) không khuyến cáo soi thanh quản thường quy kèm có hoặc không hút khí quản.
- **2020 (cập nhật):** Đối với trẻ không khỏe được sinh ra với MSAF, đặt ống nội khí quản và hút khí quản có thể có lợi khi có dấu hiệu tắc nghẽn đường thở trong quá trình PPV

ĐẶT ĐƯỜNG TRUYỀN

Recommendations for Vascular Access		
COR	**LOE**	**Recommendations**
1	C-EO	1. For babies requiring vascular access at the time of delivery, the umbilical vein is the recommended route.[1]
2b	C-EO	2. If intravenous access is not feasible, it may be reasonable to use the intraosseous route.[1]

- **2020 (mới):** Khuyến cáo dùng đường tĩnh mạch rốn trước

THỜI ĐIỂM NGƯNG HỒI SỨC

Recommendations for Withholding and Discontinuing Resuscitation		
COR	**LOE**	**Recommendations**
1	C-EO	1. Noninitiation of resuscitation and discontinuation of life-sustaining treatment during or after resuscitation should be considered ethically equivalent.[1,2]
1	C-LD	2. In newly born babies receiving resuscitation, if there is no heart rate and all the steps of resuscitation have been performed, cessation of resuscitation efforts should be discussed with the team and the family. A reasonable time frame for this change in goals of care is around 20 min after birth.[3]
2a	C-EO	3. If a birth is at the lower limit of viability or involves a condition likely to result in early death or severe morbidity, noninitiation or limitation of neonatal resuscitation is reasonable after expert consultation and parental involvement in decision-making.[1,2,4,5]

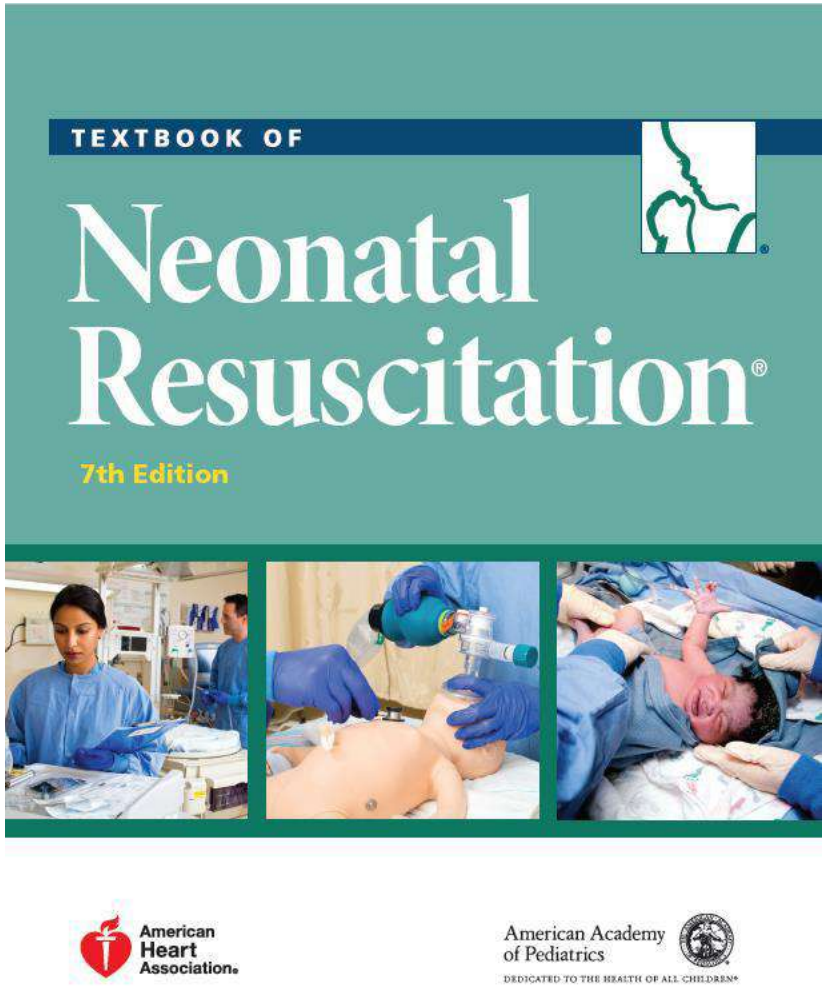
- **2010 (Cũ):** Cân nhắc ngừng hồi sức nếu không có nhịp tim trong **10 phút** là phù hợp.
- **2020 (cập nhật):** nếu không có nhịp tim khi đã thực hiện tất cả các bước hồi sức, cần thảo luận với đội hồi sức và gia đình về việc ngừng hồi sức. Khung thời gian hợp lý cho việc thay đổi mục tiêu chăm sóc này là khoảng **20 phút** sau khi sinh.

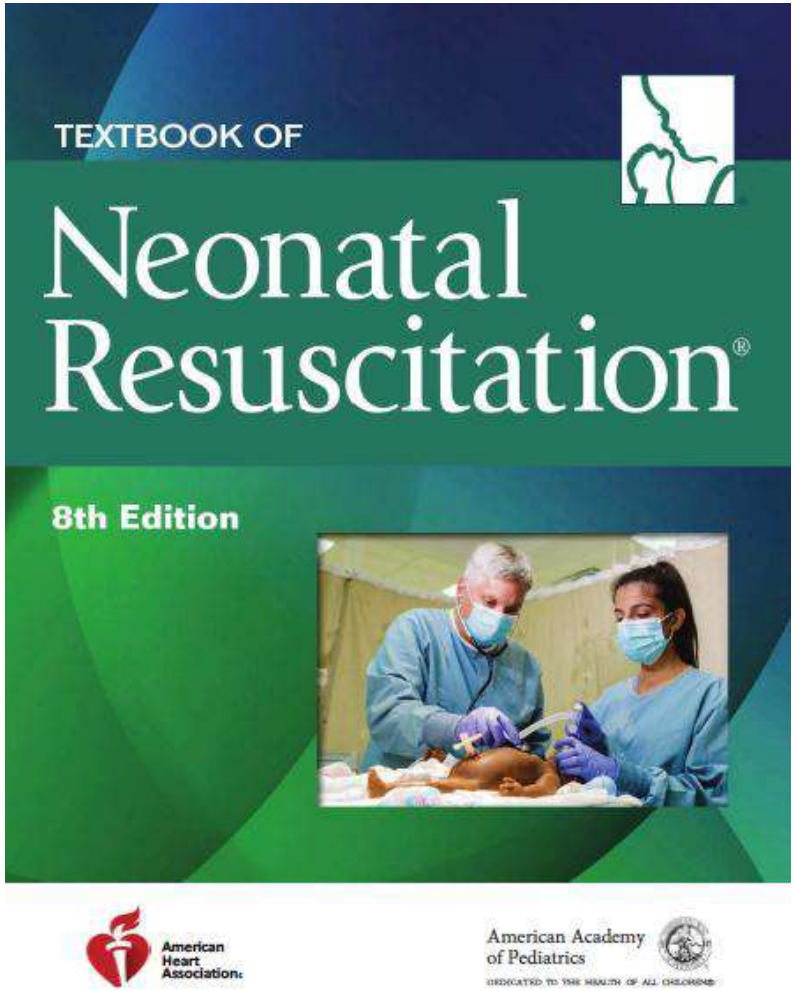
HỆ THỐNG Y TẾ VÀ CON NGƯỜI

Recommendation for Training Frequency		
COR	**LOE**	**Recommendation**
1	C-LD	1. For participants who have been trained in neonatal resuscitation, individual or team booster training should occur more frequently than every 2 yr at afrequency that supports retention of knowledge, skills, and behaviors.[1–5]

- **2020 (cập nhật):** Đối với những người đã được đào tạo về hồi sức cho trẻ sơ sinh, đào tạo tăng cường cho cá nhân hoặc đội ngũ nên diễn ra thường xuyên hơn chứ không chỉ 2 năm một lần, để hỗ trợ việc ghi nhớ kiến thức, kỹ năng và hành vi.

TEXTBOOK OF NEONATAL RESUSCITATION





7TH EDITION & 8TH EDITION: NHẤN MẠNH

- CHUẨN BỊ

- THÔNG KHÍ HIỆU QUẢ

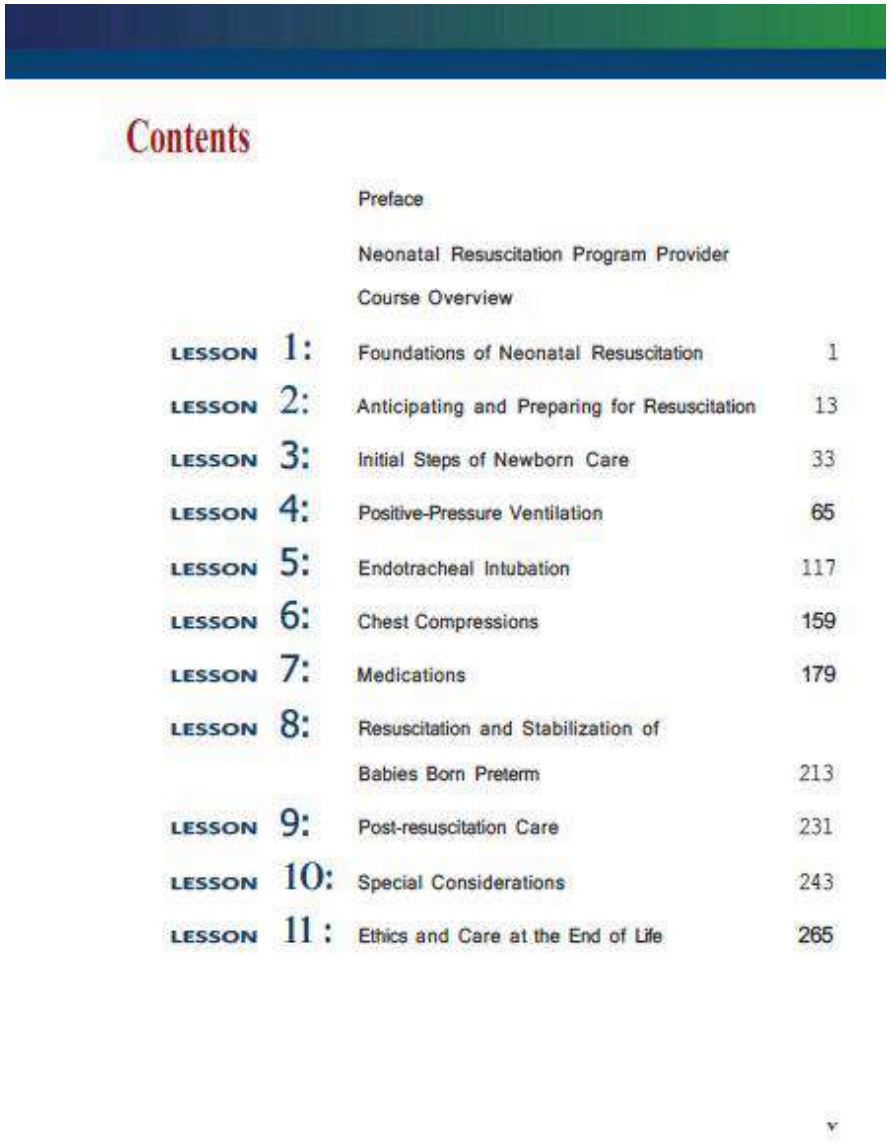
- ĐỘI HỒI SỨC

7TH EDITION - 8TH EDITION

NRP 7TH EDITION TEXTBOOK

1. Foundations of Neonatal Resuscitation
2. **Preparing for Resuscitation**
3. Initial Steps of Newborn Care
4. Positive-pressure Ventilation
5. **Alternative Airways**
6. **Chest Compressions**
7. Medications
8. **Post-resuscitation Care**
9. Resuscitation and Stabilization of Babies Born Preterm
10. Special Considerations
11. Ethics and Care at the End of Life

No textbook DVD-ROM



Contents

7TH EDITION - 8TH EDITION

SUPPLEMENTAL LESSON 12

Improving Resuscitation Team Performance

What you will learn

- How attention to ergonomics and human factors improves resuscitation team performance
- The 3 essential elements of a pre-resuscitation team briefing
- How to develop resuscitation schemes by assigning team roles, tasks, and positions
- How to use simulation and debriefing to test and improve your resuscitation schemes

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SUPPLEMENTAL LESSON 13

Resuscitation Outside the Delivery Room

What you will learn

- How to apply Neonatal Resuscitation Program® (NRP®) principles to newborns who require resuscitation outside the hospital setting
- How to apply NRP principles to babies who require resuscitation beyond the immediate newborn period
- How to apply NRP principles to babies who require resuscitation in the neonatal intensive care unit
- When to consider using Pediatric Advanced Life Support guidelines

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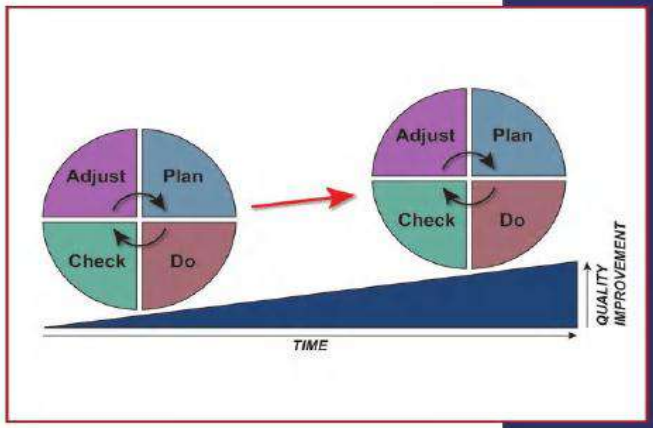
SUPPLEMENTAL LESSON 14

Bringing Quality Improvement to Your Resuscitation Team

What you will learn

- The rationale for introducing quality improvement (QI) methods into the delivery room
- Basic QI principles
- Potential QI projects for neonatal resuscitation teams



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7TH EDITION - 8TH EDITION

- Quality improvement question

Quality Improvement Opportunities

Ask yourself the following questions and begin a discussion with your team if you find a difference between the NRP recommendations and what is currently done in your own hospital setting. Consider using the suggested process and outcome measures to guide your data collection, identify areas for improvement, and monitor if your improvement efforts are working.

Quality improvement questions

- Who is responsible for ensuring that supplies and equipment are ready before every birth?
- Is the table of risk factors accessible in your delivery setting?
- Is a supplies and equipment checklist available at every warmer?
- Do you have a designated paper form or electronic template designed specifically for neonatal resuscitation readily available for use at every birth?
- How is the resuscitation team mobilized when a newborn without risk factors needs resuscitation?

Process and outcome measures

- What percentage of providers involved in the care of newborns have completed the NRP course?
- What percentage of births have a qualified provider present who is only responsible for the newborn?
- What percentage of births have a standardized supplies and equipment checklist completed?
- What percentage of births attended by 1 NRP provider require additional team members for an unanticipated resuscitation?

- QR code

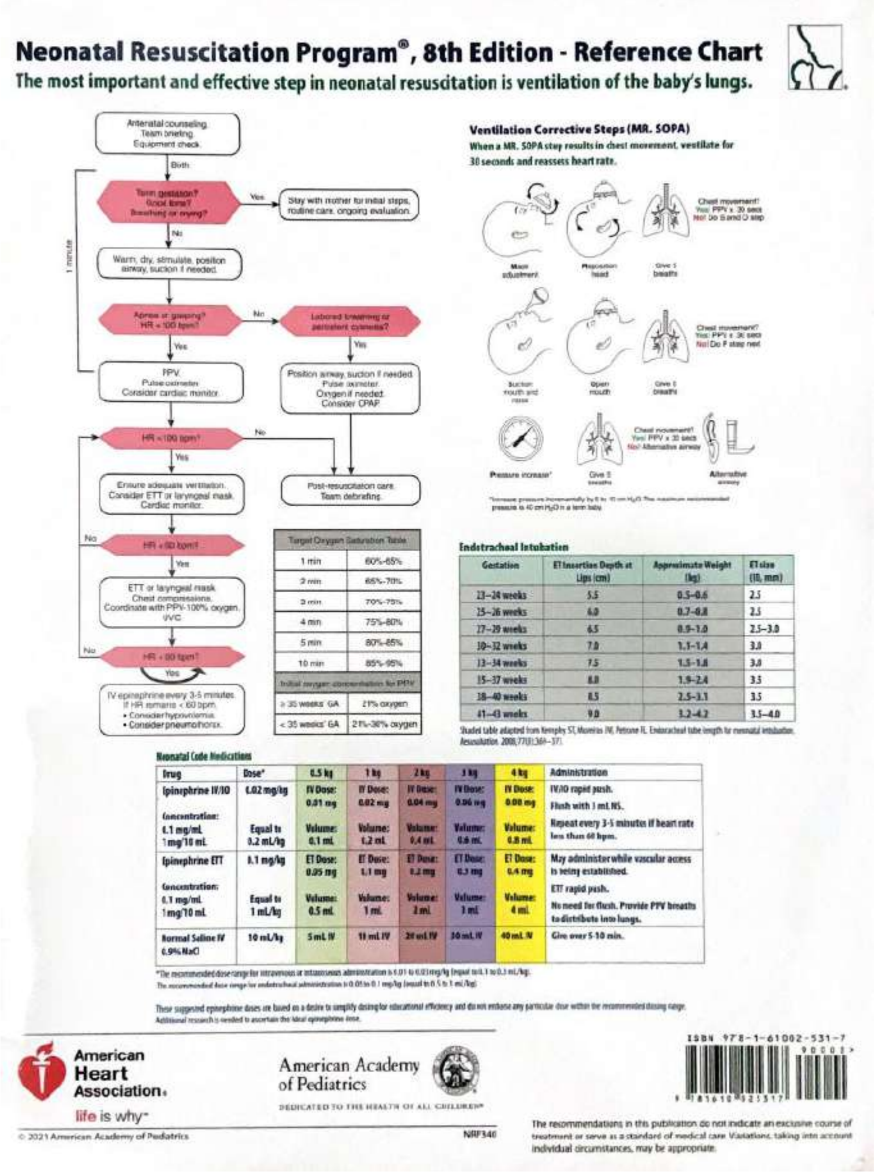
QR 3.1 Scan here to see a 30-second video of the initial steps of newborn care.

- Bài 10:

What special care is required for a newborn with myelomeningocele (spina bifida)?

What special care is required for a newborn with an abdominal wall defect?

10 TAKE-HOME MESSAGES FOR NEONATAL LIFE SUPPORT



TOP 10 TAKE-HOME MESSAGES FOR NEONATAL LIFE SUPPORT

1. Newborn resuscitation requires anticipation and preparation by providers who train individually and as teams.
2. Most newly born infants do not require immediate cord clamping or resuscitation and can be evaluated and monitored during skin-to-skin contact with their mothers after birth.
3. Inflation and ventilation of the lungs are the priority in newly born infants who need support after birth.
4. A rise in heart rate is the most important indicator of effective ventilation and response to resuscitative interventions.
5. Pulse oximetry is used to guide oxygen therapy and meet oxygen saturation goals.
6. Chest compressions are provided if there is a poor heart rate response to ventilation after appropriate ventilation corrective steps, which preferably include endotracheal intubation.
7. The heart rate response to chest compressions and medications should be monitored electrocardiographically.
8. If the response to chest compressions is poor, it may be reasonable to provide epinephrine, preferably via the intravenous route.
9. Failure to respond to epinephrine in a newborn with history or examination consistent with blood loss may require volume expansion.
10. If all these steps of resuscitation are effectively completed and there is no heart rate response by 20 minutes, redirection of care should be discussed with the team and family.


CHÂN THÀNH
CẢM ƠN!