

NRP Instructor UPDATE



P2 NRP Current Issues Seminar Recap

P3 2022 NRP Grant Awardees

P4 RQI[®] for NRP[®] Updates

P5 Supraglottic Airway Devices

NRP[®] 35th Anniversary

2022 marks the 35th anniversary of NRP and we have been celebrating all year!

Thank you to all our NRP providers and instructors for ensuring the success of NRP for 35 years.

Below are key highlights of our 35th anniversary celebration:

- In Episode 129 of the AAP Pediatrics on Call podcast: *Elections and Child Health, Neonatal Resuscitation Program Milestone*, hosts David Hill, MD, FAAP, and Joanna Parga-Belinkie, MD, FAAP, talk to Louis P. Halamek, MD, FAAP, about 35 years of the Neonatal Resuscitation Program[®]: <https://www.aap.org/en/pages/podcast/elections-and-child-health-neonatal-resuscitation-program-milestone/>
- A digital timeline highlighting many of the significant milestones of NRP over the past 35 years was created: bcove.video/3UkMSWK
- A 35th anniversary reception was held on October 7, 2022 following the NRP Current Issues Seminar in Anaheim, California. Thank you to those who joined us in celebrating 35 years!
- An inaugural NRP Provider Course was held at AAP Headquarters in Itasca, IL on Tuesday, December 13, 2022. This course was led by NRP textbook editor, Dr. Gary Weiner, and NRP Consultant/Editor, Dr. Chris Cooper.



NRP Giants Errol Alden, MD, FAAP, Jeanette Zaichkin, MN, RN, NNP-BC, Gary Weiner, MD, FAAP, and William Keenan, MD, FAAP, celebrating at the NRP 35th anniversary reception following the NRP Current Issues Seminar in Anaheim, California.

We look forward to continuing the vital work of improving the quality of neonatal resuscitation!

NRP Current Issues Seminar Recap

The 2022 NRP Current Issues Seminar was held on Friday, October 7, 2022 from 8am – 4:30pm PT as part of the AAP National Conference & Exhibition in Anaheim, California. This day-long event featured presentations by NRP Steering Committee members on various topics, including:

- Emerging science in neonatal resuscitation
- Use of laryngeal mask
- Respiratory function monitoring (RFM) in the delivery room
- NRP vs PALS
- RQI® for NRP®

Seminar attendees also attended breakout sessions on simulation and debriefing, ethical issues in neonatal resuscitation, airway management, and QI in the delivery room.

Thank you to this year's attendees for your participation. We are already looking forward to planning for 2023!



NRP Steering Committee at NCE 2022

2022 NRP® Grant Awardees

Research Grant

Edgardo Szyld, MD, MSc, Prophylactic CPAP to Optimize Outcomes in Spontaneously Breathing Late Preterm Infant Born by C-Section (PLaNT)

Young Investigator Award

Hamza Abbasi, MBBS, The Role of Calcium Chloride During Resuscitation in Asphyxiated Neonates

Arun Prasath, MBBS, Evaluating the role of blood glucose levels and its association with neonatal resuscitation model using ovine model of complete cardiac arrest.

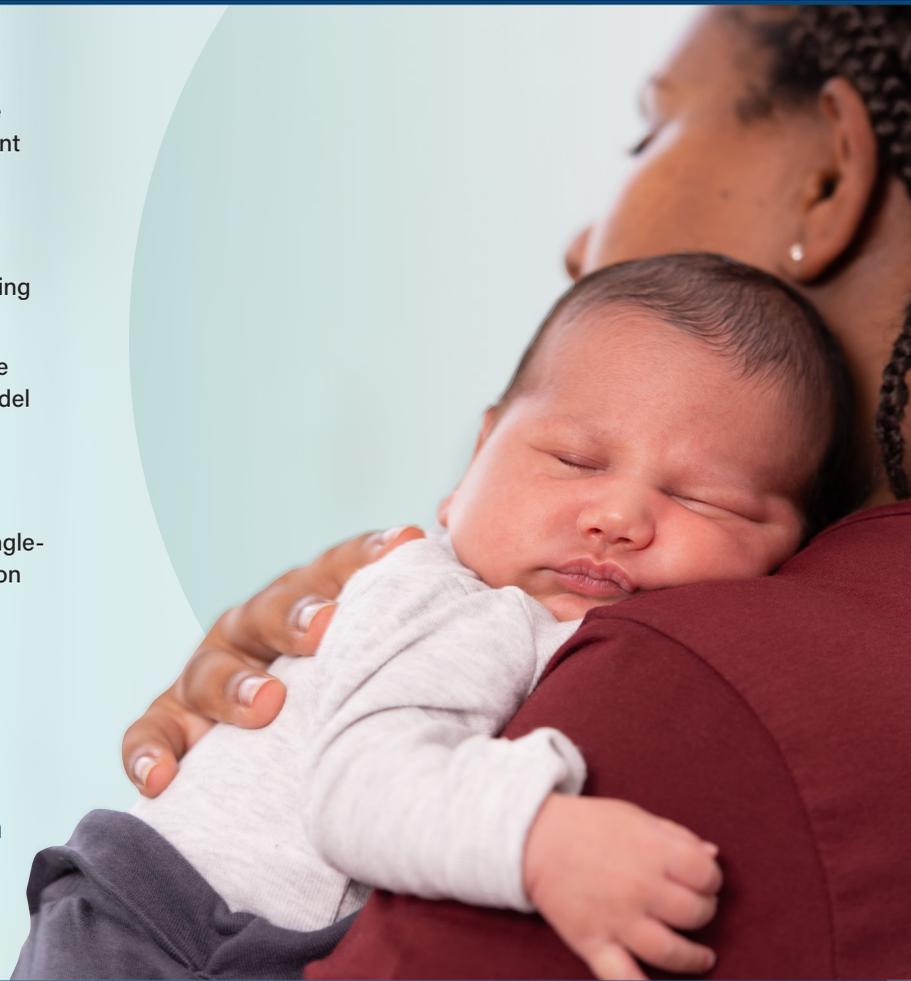
Human Factors/Education

Todd Chang, MD, MAcM, The Effect of multi-player vs single-player Virtual Reality simulation on Neonatal Resuscitation Program skills acquisition and retention

Nathan Sundgren, MD, PhD, Optimal location of the compressor for high quality chest compressions on neonates in the intensive care unit

Jeanette Zaichkin NRP Nursing Grant for Excellence and Innovation in NRP Education

Sura Lee, MSN, Educating, Enhancing Practice, Supporting LMA use in the Nursing Profession



RQI® for NRP® Frequently Asked Questions

Q What happens if you do not complete quarterly learning?

Answer: Learners will be required to complete any missed learning activities from the previous quarter prior to obtaining their current quarter's eCredential and eCard.

Q What is the window of opportunity to complete quarterly learning?

Answer: Learners have 90 days per quarter to complete their RQI for NRP quarterly skills. Any overdue items will still remain as due in the next quarter.

Q If you lose Essentials, what happens to your Advanced?

Answer: RQI for NRP Essentials obtains an eCredential as well as a 2-year Essentials eCard after successfully completing each quarter. Your RQI for NRP Essentials course must be current and complete before you can obtain your Advanced Endorsement eCard every 2 years. With the issuance of the Advanced Endorsement eCard, Advanced credentials are valid until expiration. For example, if a learner exits the RQI for NRP Essentials program (i.e. moves hospitals), their advanced eCard will remain valid until expiration.

RQI[®] for NRP[®]

8th edition NRP[®] is available in two different delivery methods: traditional Instructor-Led and RQI for NRP. RQI for NRP learners perform skills at the RQI for NRP simulation station. Quarterly cognitive and skills sessions provide a low-dose, high-frequency model to assess the learner's recall, application, and practice of the NRP algorithm, and requires verification of positive pressure ventilation skills, and MR. SOPA. Cognitive activities feature True Adaptive™ learning, which adjusts to each learners' knowledge and confidence in real-time.

There are over 170 organizations and over 30,000 NRP Providers utilizing RQI for NRP. This number is expected to increase greatly in the coming months. Based on preliminary data obtained through RQI for NRP, most learners report preferring to use the T-piece resuscitator during simulated resuscitations. While we recognize that RQI for NRP is self-directed NRP practice for a single learner, a Teamwork quarterly learning activity is under development that will highlight the importance of key behavioral skills through teamwork during a simulated neonatal resuscitation. This Teamwork Activity is expected to be released in the spring of 2023.

New to RQI for NRP - Continuing Education Data Collection

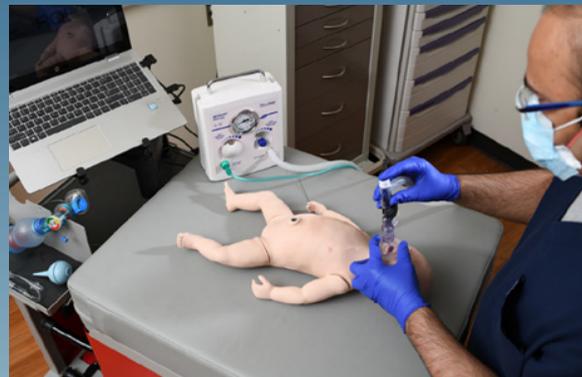
Starting January 2023, learners taking RQI for NRP will be prompted to enter their license information when they log into the 1Stop platform and launch an RQI for NRP activity. This will ensure we have the appropriate learner data related to continuing education credit. This data will only need to be entered once, so it will not be requested when taking future quarterly activities; however, it can be edited as needed.

Coming Soon to NRP[®] - Advanced Online Learning Assessment

The Online Learning Assessment (OLA) for the Advanced portion of the NRP provider curriculum is currently under development. The Advanced OLA will be similar to the current Online Learning Assessment that covers the Essentials portion of the NRP Provider curriculum using True Adaptive™ learning methodology, adapting to a learners knowledge. It will replace the current Advanced Exam for those taking the NRP Advanced Provider curriculum. The NRP Essentials Provider curriculum will not be changed. We expect this to be released in spring of 2023.

RQI RESUSCITATION QUALITY IMPROVEMENT[®]

An American Heart Association[®]
and Laerdal Program



There are over **170 organizations** and over **30,000 NRP Providers** utilizing RQI for NRP. This number is expected to increase greatly in the coming months.



Supraglottic Airway More Than a Rescue Strategy for Management of the Airway During Resuscitation in the Delivery Room

Supraglottic airways (SA) refer to a group of devices that are inserted into the pharynx and can serve as effective stand-alone airway management devices. Since its development in the 1980s, the supraglottic airway has been frequently used in both adults and pediatric populations as an alternative airway. The *2015 American Heart Association Guidelines Update For Cardiopulmonary Resuscitation (CPR) and Emergency Cardiovascular Care (ECC) Science* introduced the use of supraglottic airway for neonatal resuscitation as an alternative to endotracheal intubation in newborns >2000 grams and ≥ 34 weeks of gestation, when face mask ventilation or intubation are unsuccessful or not feasible. The concept of SA only as a rescue strategy for management of the airway is changing, however.



Examples of supraglottic airways

One of the important advantages of the SA device is the ease of training for successful placement. This is one reason why these devices present an attractive alternative to endotracheal intubation, which is the most difficult skill to master in neonatal resuscitation. Several publications including a Cochrane review have demonstrated that laryngeal mask use allowed effective positive-pressure ventilation (PPV) in most treated patients reducing the need for endotracheal intubation.

Ongoing research aims to demonstrate whether SA are not only an alternative to intubation but also a possible alternative to a face mask interface to deliver PPV.

Presently, the primary interface to perform PPV worldwide is a face mask. The limitations of the use of face masks include the high probability of not achieving a good seal, delaying effective ventilation, as well as the maintenance of skills needed to perform PPV effectively. Taking into consideration the importance of effective PPV during neonatal resuscitation, the International Liaison Committee on Resuscitation (ILCOR) Neonatal Life Support (NLS) Task Force evaluated the use of SA as a primary device to deliver PPV for newborns undergoing resuscitation after birth.

Ongoing research aims to demonstrate whether SA are not only an alternative to intubation but also a possible alternative to a face mask interface to deliver PPV.

Nicole Yamada, MD, MS, FAAP, is an NRP Steering Committee member who also serves as a content expert to the ILCOR NLS Task Force. In a recently published systematic review, *Supraglottic Airways Compared With Face Masks for Neonatal Resuscitation: A Systematic Review*, Dr. Yamada and the ILCOR NLS Task Force compared the use of face masks with SA as a primary device when PPV is needed during delivery room neonatal resuscitation. Nine articles, including six randomized control trials, one quasi randomized control trial, and two retrospective cohort studies, with a total of 2,075 enrolled newborn infants, were selected for the review. All of the studies except one required enrolled newborns to be ≥ 34 weeks of gestational age.

The primary outcome was failure to improve with the used device. Data for the primary outcome was available in 1,823 newborn infants. Secondary outcomes included endotracheal intubation during initial resuscitation, time to increase heart rate > 100 beats per minute from the start of PPV, duration of PPV, as well as need for chest compressions or epinephrine.

continued on next page...



Results from the meta-analysis showed that the use of SA, when compared with face mask, decreases the probability of failure to improve with the assigned PPV device (RR 0.24, 95% CI 0.17-0.36; $p < .001$). The probability of endotracheal intubation during initial resuscitation was also decreased when SA device was used to deliver PPV compared with face mask (RR 0.34, 95% CI 0.20-0.56; $p < .001$). Duration of PPV and time to achieve heart rate < 100 bpm were both reduced when a SA was the assigned device. There were no differences in the probability of receiving chest compressions or epinephrine.

This systematic review suggests that the use of SA as a primary interface device seems to be a feasible and safe alternative in newborns ≥ 34 weeks gestational age, with additional practical advantages related to training and ease of insertion. Furthermore, in low resources areas, where training for intubation and face mask ventilation may be limited, the SA could be a valuable tool.

The use of SA seems to be safe and effective in clinical practice after a short training program; however, the format and efficacy of training was not evaluated in this systematic review. Additionally, most research on the use of SA has been performed in newborns ≥ 34 weeks, and there is limited data to validate the use of SA in babies < 34 weeks gestational age or birth weight $< 1,500$ grams. Future research to evaluate the impact of use of SA for PPV in high resource settings as well as in populations of lower gestational age and birth weight is needed before the technique can be widely applied.

Reference

Yamada NK, McKinlay C, Quek BH, Schmölzer GM, Wyckoff MH, Liley HG, Rabi Y, Weiner GM: Supraglottic Airways Compared With Face Masks for Neonatal Resuscitation: A Systematic Review

DOI: [10.1542/peds.2022-056568](https://doi.org/10.1542/peds.2022-056568) PMID: 35948789

ACKNOWLEDGEMENTS

The Neonatal Resuscitation Program (NRP) Steering Committee offers the *NRP Instructor Update* to all AAP/AHA NRP Instructors.

Editor: Teresa del Moral, MD, PhD, FAAP

Associate Editor: Christine M. Cooper, DNP, ARNP, NNP-BC, MBA

Managing Editor: Kaitlin Butterfield, MEd

Graphic Designer: Drew Smith

NRP Steering Committee Members:

Vishal Kapadia, MD, MSc, FAAP (Co-chair); Marya L. Strand, MD, MS, FAAP (Co-chair); Christa Blohowiak, MSN, RN; Bobbi J. Byrne, MD, FAAP; Teresa del Moral, MD, FAAP; Elizabeth Foglia, MD, MSCE; Sarah Hardy, MD, FAAP; Satyan Lakshminrusimha, MD, FAAP; Tina Leone, MD, FAAP; Nicole Yamada, MD, MS, FAAP

NRP Steering Committee Liaisons:

Crystal M. Alfred, MS, RRT-NPS; Marilyn Escobedo, MD, FAAP; Emer Finan, MB, DCH, Med, MRCP; Arun Gupta, MD, FAAP; Jessica Illuzzi, MD, MS, FACOG; Arun Pramanik, MD, DCH, FAAP, FIAP; Michelle D. Rhein, RN, MSN, CNS, RNC-NIC; Amuchou Soraisham, MD, DNB, DM, MSc, FRCPC, FAAP

NRP Steering Committee Consultants:

Christine M. Cooper, DNP, ARNP, NNP-BC, MBA; Louis P. Halamek, MD, FAAP; Jeffrey Perlman, MB, ChB, FAAP; Gary M. Weiner, MD, FAAP; Myra H. Wyckoff, MD, FAAP

NRP Leadership Staff:

Janna Patterson, MD, MPH, FAAP; Beena Kamath-Rayne, MD, MPH, FAAP; Michelle Olech Smith, DNP, RN, CHSE; Kaitlin Butterfield, MEd

NRP Customer Service Team:

Felicie Anderson-Wilson, Julie Callahan, Kristy Crilly, Karen Kostakis, Nancy Kostka

CONTACT INFO

Website: aap.org/NRP

Customer Service: 800-433-9016 or NRP@aap.org

Facebook: facebook.com/TheNRP

Comments and questions are welcome and should be directed to: Editor, Teresa del Moral, MD, PhD, FAAP, and NRP Instructor Update, 345 Park Blvd, Itasca, IL 60143

Statements and opinions expressed in this publication are those of the authors and are not necessarily those of the American Academy of Pediatrics or American Heart Association.

© American Academy of Pediatrics/American Heart Association, 2023