

## NRP 5th Edition Textbook: Your Guide to the New Science and Changes

In May, the long-awaited, revised *Textbook of Neonatal Resuscitation, 5th Edition* will be available and will feature numerous changes and enhancements that are more than five years in the making.

“Although much of the material in the revised textbook will be similar to the 4th edition, there will be a substantial amount of new material and most of both the new and existing material will have been reviewed for scientific evidence,” explained John Kattwinkel, MD, FAAP, editor of the revised *Textbook of Neonatal Resuscitation, 5th Edition*, and Professor of Pediatrics at the University of Virginia in Charlottesville.

Members of the International Liaison Committee on Resuscitation Neonatal Delegation (ILCOR Neonatal Delegation), which includes the members of the American Academy of Pediatrics/American Heart Association NRP Steering Committee, spent countless hours poring over hundreds of documents to review scientific data related to neonatal resuscitation. The group developed worksheets on neonatal resuscitation-related science and made treatment recommendations based on those guidelines, which are reflected in the content in the revised textbook.

Most notably, the 5th edition of the textbook includes two new chapters – a separate lesson on the challenges and strategies of resuscitating preterm infants and a lesson on ethics and end-of-life care. “These [topics] were mentioned in the 4th edition of the textbook, but were buried throughout the book,” Dr Kattwinkel said. “We thought it made sense to divide them into two separate sections and to cover each topic in more detail.”

The following is an overview, lesson by lesson, of some of the revisions in the 5th edition textbook:

### Lesson 1: Overview and Principles of Resuscitation

This lesson, for the most part, will remain the same. It will feature information on changes in physiology that occur when a baby is born; the algorithm showing all the steps to follow during resuscitation; risk factors that can help predict which babies will require resuscitation; and equipment and personnel needed to resuscitate a newborn.

### THE 5TH EDITION OF THE TEXTBOOK INCLUDES TWO NEW CHAPTERS – A SEPARATE LESSON ON THE CHALLENGES AND STRATEGIES OF RESUSCITATING PRETERM INFANTS AND A LESSON ON ETHICS AND END-OF-LIFE CARE.

However, in Lesson 1, the designations of two of the three levels of post-resuscitation care will be slightly different than in the previous edition of the textbook. The baby who does not require resuscitation receives “Routine Care” and need not be separated from his/her mother after birth. The baby who requires initial steps, has depressed breathing or activity, and/or is cyanotic needs close assessment and frequent evaluation during “Observational Care.” And, the baby who requires positive-pressure ventilation or more extensive resuscitation is managed where ongoing evaluation and monitoring are available during “Post-resuscitation Care.”

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

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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.

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# New Course Materials Offer Innovative Teaching Options

For months, the *NRP Instructor Update* has reported on the changes to come in the new 5th edition NRP materials. Now that the changes have been unveiled, it's time to share and celebrate the development of the new optional multimedia teaching and learning components that emphasize the latest science-based data and research.

"I think people will react to the new materials in a positive way because it's been done in an evidence-based fashion. This is now the standard," said George A. Little, MD, FAAP, member of the NRP Steering Committee. "It's important to emphasize that there are two aspects here, the content and technical aspects [of the new NRP]. This is cutting edge material and a major step forward for the program. The NRP Steering Committee has not only looked closely at the science of the medical aspects of the program, but also at the science of the educational aspects of the program." Dr Little is a neonatologist and Professor of Pediatrics at Children's Hospital, Dartmouth-Hitchcock Medical Center in Lebanon, NH.

These innovative teaching tools, available now to NRP Instructors, were designed to enhance the educational experience in the classroom. The following is a sneak peak of these new and enhanced teaching components:

• **Interactive NRP Multimedia DVD-ROM.**

This DVD-ROM accompanies each copy of the *Textbook of Neonatal Resuscitation, 5th Edition*. It features several teaching elements, including animated 3-D demonstrations, video of actual resuscitations, and laryngoscopic camera footage set in an interactive-delivery room environment.

• **New Textbook Lessons.** The 5th edition textbook has 7 extensively revised lessons and 2 completely new lessons, for a total of 9 lessons. New Lesson 8 highlights issues that may be encountered during resuscitation in pre-term babies. Ethical issues in neonatal resuscitation is explored in detail in new Lesson 9 and includes valuable information on effectively communicating with parents and involving them in the decision-making process.

• **New Video on DVD.** *Cases in Neonatal Resuscitation: Translating Knowledge and Skill Into Performance*, includes dramatized scenarios based on cases featured in the textbook. The video on DVD is available in English, Spanish, and French and includes sample Megacode performance scenarios, live-action video clips demonstrating how to place an umbilical venous catheter and laryngeal mask airway, and how to evacuate a pneumothorax with a needle thoracentesis setup.

• **Redesigned Slides on CD-ROM.** The *NRP Slide Presentation Kit* includes slides that reinforce the key points in the textbook and features new integrated links with pop-up video clips highlighting key procedures and techniques. The kit contains approximately 200 slides and is only available on CD-ROM.

• **New Online Written Evaluation.** Providers can now take the NRP written evaluation online at [www.aap.org/nrp](http://www.aap.org/nrp). This optional tool (in lieu of using the hard-copy test) is very convenient. Learners may take the online written evaluation anytime, 24 hours per day, 7 days-a-week, freeing up valuable time in the classroom. Note: Learners must identify an instructor willing to provide performance evaluation prior to completing the online cognitive evaluation. There is a fee for online testing.

• **Updated NRP Reference Charts.** The Wall Chart is twice as large and easier to read; the Code Cart Card comes with self-adhesive strips for quick, secure on-cart mounting; and the NRP Pocket Card serves as a convenient, quick reference guide for neonatal health practitioners.

• **New Ethics Module on DVD.** *Ethics and Care at the End of Life: Involving Parents in Ethical Decision Making* serves as a useful supplement to the new Lesson 9 in the 5th edition textbook. It can be used to facilitate discussion and illustrate a team/best outcomes approach to ethical issues, and includes a list of open-ended questions to stimulate discussion in the classroom. Note: This is a Limited Edition DVD only available until June 30th.

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# Online Testing Option Now Available

As part of its effort to increase course flexibility and maximize time in the classroom for hands-on practice, the NRP Steering Committee is pleased to provide learners with the option of taking the NRP written evaluation online. The hard-copy evaluation is still available; however, the online written evaluation may be most beneficial to learners who are due for NRP Provider Renewal, but find it difficult to schedule ample time with an NRP Instructor to complete a standard course.

“This is an entirely new option for the NRP, but is not mandatory. We put a lot of work into this online evaluation and believe we have a good product,” said Thomas E. Wiswell, MD, FAAP, attending neonatologist at Florida Hospital in Orlando and member of the NRP Steering Committee. Dr Wiswell helped develop the online written evaluation along with Jerry Short, PhD, Associate Dean, Medical Education Support, School of Medicine, University of Virginia in Charlottesville, the Education Design Editor for the NRP.

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A major advantage to taking the online written evaluation versus the hard-copy test in the classroom is the ability to save time. This is a great option for physicians and other neonatal health practitioners who are already familiar with the material and may not need to devote classroom time to reviewing the textbook information. It can be done at the learner’s convenience anytime, 24 hours per day, 7-days-a-week.

“This is a very convenient format and doesn’t have to take up part of the class period,” Dr Short said. “It’s very efficient for students, physicians, and instructors.” Another advantage to taking the online test outside the classroom is that it provides students with more time to practice hands-on skills in a team environment. “The most important thing is the concept of teamwork during resuscitation,” Dr Wiswell said. “The hands-on skills and teamwork, from my point of

view having resuscitated many babies over the years, is an invaluable part of the classroom experience. Some people may be able to remember the facts well, but when you put them in a real life situation, it may be a different story.”

The new online evaluation is accessible through the NRP Web site at [www.aap.org/nrp](http://www.aap.org/nrp). Before registering for online testing, learners **must** identify an NRP Instructor who is willing to provide Performance Evaluation (Performance Checklists and/or Megacode) after the student has successfully completed the online evaluation. After online testing is complete, students receive a printout indicating which lessons have been successfully completed and the date of completion. Then, students present the printout to the instructor, who will verify successful completion. If the learner fails one or more lessons on the online test, that lesson(s) may be retaken one time within 14 days. If a learner fails any section 2 or more times no printout is prepared and the learner must repay to retake the entire exam.

A \$29 fee will be assessed to learners who choose to utilize the online testing option instead of the hard-copy test. This fee is being assessed to help offset the technical costs associated with developing the online system, not to raise additional revenue for the NRP. Institutions will be able to reduce the fee by purchasing multiple passwords for their users.

“With anything new, there may be some little bumps in the road that we have to smooth out along the way. We hope our students understand that this is new and will have a little bit of patience,” Dr Wiswell said.



# Updated DVD Includes Megacode Performance Scenarios

The new NRP video on DVD, *Cases in Neonatal Resuscitation: Translating Knowledge and Skills Into Performance*, brings program course content to life via delivery room scenarios based on cases featured in the *Textbook of Neonatal Resuscitation, 5th Edition*. The newly expanded video on DVD, which replaces the VHS format, includes sample Megacode performance scenarios, in addition to new live-action video clips demonstrating three advanced resuscitation skills.

Filmed at the Center for Advanced Pediatric Education (CAPE) in Palo Alto, CA under the guidance of Lou Halamek, MD, FAAP, Associate Professor, Division of Neonatal and Developmental Medicine, Stanford University, and member of the NRP Steering Committee, the video is divided into several realistic simulated scenarios that greatly enhance the hands-on learning experience.

However, due to the duration of the video, instructors are strongly encouraged to select specific lessons to create “tailor-made” exercises based on learner needs rather than attempting to utilize the entire video during a course.

The “tailor-made” approach to learning is made possible through the following video scenarios:

- Lesson 1 – Normal Birth
- Lesson 2 – Initial Steps/Meconium
- Lesson 3 – Positive-Pressure Ventilation
- Lesson 4 – Chest Compressions
- Lesson 5 – Intubation and Laryngeal Mask Airway
- Lesson 6 – Medications/UVC Placement
- Lesson 7 – Special Considerations/Pneumothorax
- Lesson 8 – Premature Baby
- Lesson 9 – Ethics and Care at the End of Life
- Megacode Evaluation
- Incorrect Megacode

“The video features live footage of actual resuscitations imbedded into the simulation and shows chest compressions being performed on a live baby,” explained Jeanette Zaichkin, RNC, MN, editor of the new *Instructor’s Manual for Neonatal Resuscitation*, who spent countless hours working with a team behind the scenes on various facets of the video.

LIVE FOOTAGE ADDS INTEREST TO THE VISUAL ASPECTS OF THE VIDEO AND MAY PROVIDE AN OPPORTUNITY FOR LEARNERS WHO WORK IN SETTINGS WHERE COMPLEX RESUSCITATIONS ARE RARE TO SEE HOW A REALLY COMPROMISED NEWBORN LOOKS WHEN THE BABY ARRIVES AT THE RADIANT WARMER.

“Live footage adds interest to the visual aspects of the video and may provide an opportunity for learners who work in settings where complex resuscitations are rare to see how a really compromised newborn looks when the baby arrives at the radiant warmer,” continued Zaichkin, an NRP Instructor in Olympia, WA. “It’s very good for learners to see what a sick baby looks like on the video before they actually see a sick baby in real life.”

The video includes a “poorly performed Megacode” sequence in which the learner and instructor make serious mistakes and exhibit behaviors that increase the likelihood that this Megacode won’t go as well as they may have planned.

“Even though this is meant to be amusing, a lot of instructors will recognize that some of these things do happen in real life,” Zaichkin said. “People will be able to relate to this scenario. We completed this [scene] in one take, no rehearsal. We’ve all seen it happen before, and it’s meant to help instructors strategize and problem solve when they encounter difficult situations.”

In addition to the Megacode performance scenarios, the DVD also features 3 advanced resuscitation skills: a demonstration on how to place an umbilical venous catheter, how to evacuate a pneumothorax with a needle thoracentesis setup, and how to place a laryngeal mask airway. These advanced skill demonstrations provide opportunities to discuss these challenging skills.

Speaking of practice, groups of instructors can come together and practice giving the new Megacodes to each other. “This way, instructors can learn how to create a scenario that includes the skills they want to evaluate and practice, while using the score sheet at the same time they are evaluating the learner,” Zaichkin said (see “Megacode Validation Study Brings Change to NRP Performance Testing,” Vol 14, No 2, Fall/Winter 2005 *NRP Instructor Update*).

“Learners will spot things on the video that aren’t textbook perfect, but that’s OK, because resuscitation isn’t perfect,” added Zaichkin. These are teachable moments that may prompt valuable discussion.

To order the new DVD contact the AAP Customer Service Center at [www.aap.org/bookstore](http://www.aap.org/bookstore) or 888/227-1770.



# Enhanced Web Site Offers New Resources



SO, WHAT ARE YOU WAITING FOR? CHECK OUT THE NEW NRP WEB SITE AND TELL US WHAT YOU THINK! SEND FEEDBACK TO THE AAP LIFE SUPPORT STAFF AT [LIFESUPPORT@AAP.ORG](mailto:lifesupport@aap.org).

The NRP Web site has had an extreme makeover, featuring an updated look that mirrors the new design of the *NRP Instructor Update* and new tools and links to help make the NRP Web site experience more efficient.

Instructors will notice many changes to the NRP homepage, which now includes simplified headings/tabs for easier navigation, as well as the following new and updated features:

- **“What’s New” Link.** This new area will highlight the latest program news. Currently the 2005 American Academy of Pediatrics/American Heart Association (AAP/AHA) Guidelines for Neonatal Resuscitation can be easily accessed via convenient links from the What’s New section of the homepage. Just click and go – it’s that easy!
- **New Online Evaluation Link.** This link is easy to find and easy to use. Simply click on the icon, and this will lead to the online evaluation -- a tool that can be used at the learner’s convenience, saving NRP Instructors valuable time in the classroom that can be better spent practicing hands-on resuscitation techniques.
- **New Rotating NRP Video Clips.** These clips, extracted from the new NRP Video on DVD, feature live-action video and animations. Video clips rotate every time the NRP homepage is opened or refreshed.
- **New NRP Instructor Update Link.** When instructors click on this link, it leads to the current edition of the *NRP Instructor Update*, providing easy and quick access to the latest information published in the newsletter. Previous editions of the newsletter will continue to be archived on the NRP Web site.
- **New Rollover Navigation.** Roll the mouse over each heading/tab on the homepage to reveal a drop-down box with a list of topics. This saves time and provides NRP Instructors with a quick “at-a-glance” list of topics versus clicking on endless links to find specific subject matter.
- **Updated Instructors-Only Login Tab.** This exclusive section, prominently featured on the homepage, has been streamlined so instructors don’t have to click multiple times to access the site, allowing instructors to enter course rosters and update their information quickly and easily.
- **Updated International Tab.** Looking for an international article that appeared in the *NRP Instructor Update*? This section provides a link to all international articles with just a click of the mouse. It will also include information on current AAP international initiatives.
- **Provider Resources.** No more digging for the information you need – a new section on the home page is devoted solely to provider resources. This section of the site includes all of the information that you are familiar with, but has been reorganized and simplified to make it more efficient to use. It will include a link to the new online evaluation, making this assessment tool easy to access.
- **Science.** This section of the Web site has been revised to make finding the information you need even easier. There will be a link to the Consensus on Science and Treatment Recommendations (CoSTR) document as well as to the International Liaison Committee on Resuscitation (ILCOR) evidence evaluation worksheets. As in the past, the Science section will include links to the NRP Research Grant and Young Investigator Award programs, as well as other information you have come to rely upon.

Additional NRP Web site enhancements include access to the latest mortality and morbidity data by gestational age, and access to new *Instructor’s Manual for Neonatal Resuscitation* E-sources and updated course forms.

So, what are you waiting for? Check out the new NRP Web site and tell us what you think! Send feedback to the AAP Life Support Staff at [lifesupport@aap.org](mailto:lifesupport@aap.org).

# Apgar Score Changes Impact Neonatal Resuscitation Assessment

TODAY, THE APGAR SCORE IS MOST COMMONLY ASSIGNED AT ONE AND FIVE MINUTES AFTER BIRTH AND CONTINUES TO PROVIDE A CONVENIENT SHORTHAND FOR REPORTING THE STATUS OF THE NEWBORN INFANT AND THE RESPONSE TO RESUSCITATION.



The Apgar score, an objective method of assessing a newborn's condition and a useful way to convey information about a newborn's overall status and response to resuscitation, has undergone some changes that will impact the way in which neonatal resuscitations are assessed in the delivery room. These changes have been developed into a new American Academy of Pediatrics Policy Statement and will appear in the revised *Textbook of Neonatal Resuscitation, 5th Edition*, scheduled for release in late Spring 2006.

"The most significant change is the fact that there's a new term called the assisted Apgar score," explained Gilbert Martin, MD, FAAP, a member of the Academy's Committee on Fetus and Newborn (COFN), who, in collaboration with the American College of Obstetricians and Gynecologists (ACOG), developed the new Apgar score guidelines over a two-year period. "This means an Apgar score that's given when there is assistance [eg positive-pressure ventilation, oxygen] can be artificially elevated. This can be worrisome if this 'assisted score' is utilized for neurological prognosis."

The group also developed a new, expanded Apgar scoring form. The basic criteria did not change, and the Apgar score components and definitions remained the same (color, heart rate, reflex irritability, muscle tone and respiration.) With this expanded scoring form, each component is assessed at 1 minute, 5 minutes, 10 minutes, 15 minutes, and 20 minutes after delivery, if necessary.

In addition, aligned with the boxes where the Apgar numbers are recorded, are columns where resuscitative measures are noted. The new form also provides space to record an infant's gestational age and maternal medications if appropriate. Use of this expanded reporting system will allow for better data collection and a better understanding of prognosis.

"Now, it's inappropriate to use the Apgar score alone to establish a diagnosis of asphyxia, and the score shouldn't even be used as an adjunct for neurological outcome unless the score is less than three after 10, 15, or 20 minutes of resuscitation," said Dr. Martin, Director of the Neonatal Intensive Care Unit at Citrus Valley Medical Center in West Covina, CA and Clinical Professor of Pediatrics at the University of California at Irvine.

The Apgar score was initially developed by Virginia Apgar, MD, in 1952 and was considered a rapid method of assessing the clinical status of a newborn infant at one minute of age and the need for prompt intervention to establish breathing. "Dr. Apgar wanted an advocate to evaluate the infant, and using time intervals seemed the most appropriate method," said Dr. Martin.

Today, the Apgar score is most commonly assigned at one and five minutes after birth and continues to provide a convenient shorthand for reporting the status of the newborn infant and the response to resuscitation.

The new Apgar Policy Statement was published in *Pediatrics* 117(4):1444-1447.

# Corporate and Foundation Support Assists in Development of NRP 5th Edition Materials

Once again, the Neonatal Resuscitation Program has been very fortunate to receive financial support from commercial and foundation sources for development of the 5th edition of the educational materials. An educational grant from Mead Johnson Nutritionals supported the development of the interactive multimedia DVD-ROM that is included in the NRP textbook. Their generous support allowed us to include innovations that help to make the textbook come alive on the DVD-ROM. In addition, Mead Johnson representatives participated in a Web cast and received extensive training on how to effectively use the enhanced features of the new DVD-ROM.

We would also like to thank the Asmund S. Laerdal Foundation for their continued support of the development of the newly expanded NRP video on DVD, *Cases in Neonatal Resuscitation: Translating Knowledge and Skill Into Performance*.

In addition, Fisher-Paykel Healthcare has demonstrated its commitment to the NRP through a generous educational grant for the *Instructor's Manual for Neonatal Resuscitation* and the NRP Reference Charts.

Again, many thanks to our generous corporate and foundation partners for their support of the NRP mission.





# 2006 NRP Current Issues Seminar

Mark your calendars for Friday, October 6, 2006 and plan to participate in the **NRP Current Issues Seminar** to be held in conjunction with the 2006 American Academy of Pediatrics (AAP) National Conference and Exhibition (NCE) in Atlanta, GA. This seminar will be appropriate for any NRP Instructors or health care professionals interested in neonatal resuscitation. **(Please note: This is not an NRP course.)**

Topics to be presented in this seminar include:

- Endotracheal Administration of Medications
- Medicolegal Implications of the New Guidelines
- Q&A Session on New NRP Materials
- Ethical Challenges

### Objectives

After participation in this program attendees should be able to:

1. Describe the difference between competency and certification and what it means to have an NRP Provider Card
2. Discuss endotracheal administration of medications
3. Review the medicolegal implications of the new guidelines
4. Develop a plan to handle ethical issues as a team and know how to communicate with parents on critical ethical decisions
5. Identify the NRP multimedia resources available and how to incorporate them into a class

### Seminar Credit

The American Academy of Pediatrics is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. This activity was planned and implemented in accordance with the ACCME Essentials.

The AAP designates this educational activity for a maximum of 6.25 *AMA PRA Category 1 Credits™*. Physicians should only claim credit commensurate with the extent of their participation in the activity.

This activity is acceptable for a maximum of 6.25 AAP credits. These credits can be applied toward the AAP CME/CPD Award available to Fellows and Candidate Fellows of the AAP.

This program is pending approval for credit hours from West Virginia University Hospitals, an approved provider of continuing nursing education by the West Virginia Nurses Association, an accredited approver by The American Nurses Credentialing Center's Commission on Accreditation P005-05-152.

This seminar is pending approval for continuing education hours through the American Association for Respiratory Care (AARC).

This program is approved for 7.5 NAPNAP contact hours of which 0 contain pharmacology (Rx) content.

The American Academy of Physician Assistants accepts category 1 credit toward the AMA Physician's

Recognition Award from organizations accredited by the ACCME.

### Don't Wait! Register NOW!

To participate in the NRP Seminar, you must register for the AAP National Conference and Exhibition. The NRP seminar fee is an additional \$30, which includes a luncheon.

The 2006 National Conference and Exhibition (NCE) of the American Academy of Pediatrics will be held October 7-10, at the Georgia World Congress Center in Atlanta, GA. Consider staying on to participate in the NCE! Registration to the full NCE includes admission to all general sessions, section meetings, and committee events. The Section on Perinatal Pediatrics programs will be held October 7-8, 2006.

### Please note: The NCE exhibit floor does not open until Saturday, October 7th.

Interested individuals can obtain AAP National Conference and Exhibition registration materials in one of three ways:

**AAP Fax:** 847/228-5059  
or 847/228-5088

**AAP Web Site:** [www.aap.org/nce](http://www.aap.org/nce)  
**Phone:** 800/433-9016

Registration Fees			
Category	Advance Registration Fees (by 9/1/06)	On-Site Registration Fee (after 9/1/06)	Additional NRP Seminar Fee
<b>AAP Members</b>			
Fellow	\$470	\$620	\$30
One-day Fellow	\$325	\$325	\$30
<b>Nonmembers</b>			
Nonmember Physician	\$660	\$810	\$30
One-day only	\$375	\$375	\$30
<b>Nurses/Allied Health Professionals</b>			
Nurse	\$260	\$360	\$30
Allied Health Professional	\$260	\$360	\$30
*One-day only	\$175	\$175	\$30



# The New NRP: Difficult Issues and Hot Topics

Friday, October 6, 2006 • Georgia World Congress Center, Atlanta, GA



## The New NRP: Difficult Issues and Hot Topics

8:30-8:40AM	Welcome and Announcements <i>George A. Little, MD, FAAP, Program Chair</i>
8:40-9:10AM	Competency versus Certification <i>Marilyn Escobedo, MD, FAAP</i>
9:10-9:40AM	Endotracheal Administration of Medications <i>Jeffrey Perlman, MB, ChB, FAAP</i>
9:40-10:20AM	<b>NRP Research Grant Summaries</b>  NRP and Neonatal Outcomes in Rural Hospitals <i>Susan Henly, PhD, RN</i> <i>Angela Jukkala, PhD, RNC</i>  Protective Strategies Against Leukomalacia <i>Brian Sims, MD, PhD</i>
10:20-10:40AM	Break

10:40-11:30AM	Medicolegal Implications of the New Guidelines: What You Need to Know <i>Gilbert Martin, MD, FAAP</i>
11:30AM-12:00PM	Q&A with the Morning Speakers <i>Marilyn Escobedo, MD, FAAP</i> <i>Jeffrey Perlman, MB, ChB, FAAP</i> <i>Gilbert Martin, MD, FAAP</i>
12:00-1:00PM	Lunch
1:00-1:45PM	Q&A Session on New NRP Materials <i>Jane E. McGowan, MD, FAAP</i> <i>Jeanette Zaichkin, RNC, MN</i> <i>John Kattwinkel, MD, FAAP</i>
1:45-2:00PM	Break
2:00-3:15PM	<b>Choice of Breakout Session</b>  Ethical Challenges <i>George A. Little, MD, FAAP</i> <i>Jane E. McGowan, MD, FAAP</i> <i>Gary Weiner, MD, FAAP</i>  Assessing the Depressed Neonate: Clues to Etiology and Necessary Interventions <i>Jay P. Goldsmith, MD, FAAP</i>  Old Dogs, New Tricks and the NRP DVD: Mastering this Tool to Juice Up Your Courses <i>Louis P. Halamek, MD, FAAP</i> <i>Kimberly A. Yaeger, RN</i>
3:15-3:30PM	Break
3:30-4:45PM	Breakouts Repeated
4:45-5:00PM	Complete Evaluations



## Preview Fall/Winter NRP Instructor Update

The next issue of the *NRP Instructor Update* will be a resource guide for the 5th edition NRP multimedia tools. These innovative teaching tools were designed to enhance the learning experience in the classroom. In order to make the most of these materials, in depth articles on each new multimedia asset and how to incorporate them into your teaching will be the focus of the Fall/Winter edition.

**To receive an Email notification as to when the next *NRP Instructor Update* is available online, visit [www.aap.org/nrp](http://www.aap.org/nrp) and click on "Instructor Tools". Scroll down to "Broadcast Email Registration" and sign up.**

# NRP Database Tips – Password Reset

The newest feature to the NRP Instructor Only Database is the instructor's ability to change his or her own password. This can be done by clicking on the heading labeled "change security features" or when logging in for the first time.

If it is your first time logging in or your password has been reset, you will first use your instructor ID number and last name to log in. You will then be taken to one of two screens. Some instructors are getting a screen that only asks them to enter a new password, and some are going directly to the Security Question page. If you get the screen with only the new password, enter your ID number in both spaces. This will not be your final password, as you will have to re-enter a new password on the Security Question page, which will be the next screen you see.

On the Security Question page, the first field is the security question. This is useful should you ever forget your password. To use this feature, select one question from the drop-down

box, and then type in the answer in the field beneath it. With this feature you will be able to reset your own password if you forget it in the future.

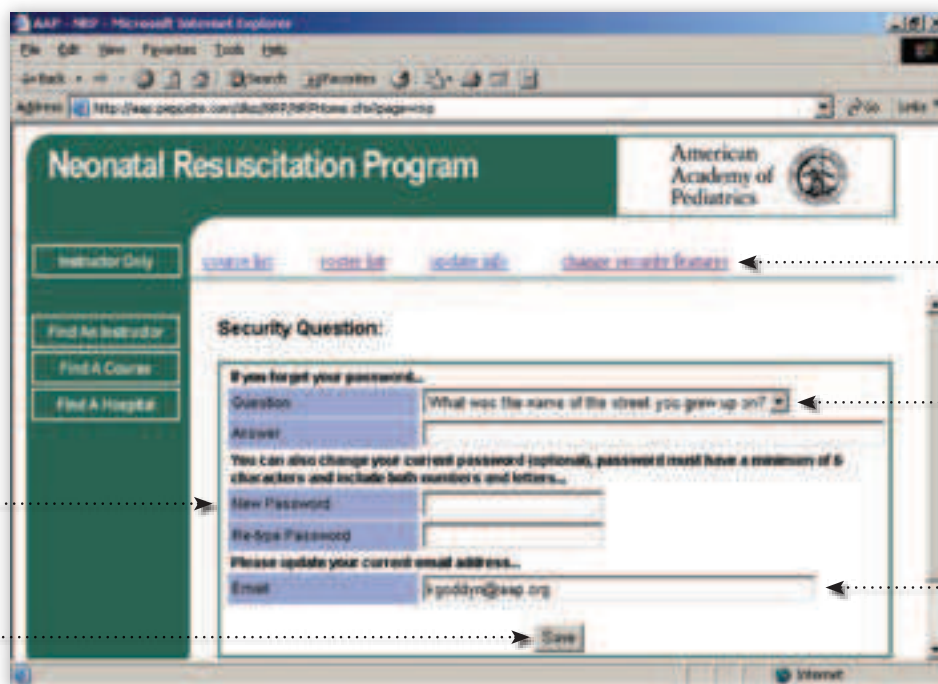
The second field of the Security Question page is the area to enter a new password. You can use any password you want as long as it is at least 6 characters long and contains both letters and numbers. You will need to retype the password in the second box to ensure there were no typing errors. You will need to enter a new password if this is your first time logging in or if your password has been reset, but it is optional if you are already in the database.

The last field on this page is for your e-mail address. E-mail addresses are now required for all instructors, so you will need to enter one in this field in order to continue. If you do not have an e-mail address, there are many free e-mail services available on the internet, or your hospital may be able to assign you one. You may also change your e-mail address on the "update info" page once you are logged into the database.

Once you have completed all the fields on the Security Question page, click on "Save" to continue to the Instructor Only Database. You can go back to this page at any time to make changes by clicking on "change security features" at the top of the page.

In the future, if you have forgotten your password when you log in, just click on the "forgot password" link on the instructor login page and you will be asked to enter your ID number. Enter your number and click "submit" and you will be asked your security question. If you type in the correct answer you will be able to enter a new password and continue to the instructor only database. You will have three chances to answer the question correctly, and if you do not you will be locked out of the database and need to contact Life Support staff.

If you have any suggestions for a database feature you would like to see explained in a future article, please contact Life Support staff at [lifesupport@aap.org](mailto:lifesupport@aap.org).



Click here to change security features

Choose a question and answer it here

Make sure e-mail address is correct

Type in password twice here

Click here to save changes and enter database

continued from page 2

## New Course Materials Offer...

"I think the new interactive DVD is the best simulation we've had to help prepare people for real-life situations," said Barbara Nightengale, a neonatal nurse practitioner in Morgantown, WV, who also serves as the NRP Steering Committee liaison for the National Association of Neonatal Nurses (NANN). "The NRP educational tools and textbook have progressed over the years, and as technology has progressed, so has the NRP."

Nightengale and Dr Little plan to put these teaching tools to great use later this year during NRP training sessions they're planning at their respective institutions and in their local communities.

Dr Little is planning special courses and training for physicians and other neonatal health practitioners at his medical center in New Hampshire, at community hospitals, and through regional perinatal outreach education programs. "This is very important in rural areas where relatively few numbers of pediatricians exist," said Dr Little. He's already ahead of the game, having made announcements about the new NRP during grand rounds and at area conferences.

"We will have an NRP training [session] with Regional Trainers in the late spring or early summer and will invite local providers, pediatric interns, pediatric residents, and other staff from area hospitals. We do this every time new materials are released," said Nightengale, who became one of the first Regional Trainers when the NRP began in 1987. "This gives us an opportunity to interact, not only about resuscitation, but about other care issues as well." She also has plans to review the new NRP materials with physicians and other providers at her institution in West Virginia.

"This represents a change, but a change for the best," Nightengale said. "It certainly should be exciting!"

## Welcome Dr. McGowan



Many exciting changes abound with the Neonatal Resuscitation Program (NRP) these days, including a fresh look for the *NRP Instructor Update* and the selection of a new editor to oversee the newsletter's editorial content.

Jane E. McGowan, MD, FAAP took over as editor in November 2005 after Jay P. Goldsmith, MD, FAAP began a two-year term as Cochair of the NRP Steering Committee in July 2005. Dr Goldsmith served as newsletter editor from 2001-2005.

"Writing and editing has always been one of my main activities in various settings," said Dr McGowan, Associate Professor of Pediatrics, Division of Neonatology, Johns Hopkins University School of Medicine in Baltimore. "When I worked in a lab in Philadelphia, my

colleagues used to call me the 'English major.'" Dr McGowan is also a member of the NRP Steering Committee and has served since July 2003.

During her tenure as editor, Dr McGowan would like NRP Instructors and others who read the newsletter to continue submitting questions, comments and feedback. "The point is to have an open line of communication between the NRP Steering Committee and instructors," Dr McGowan said. "This is a particularly critical time with the new NRP textbook and materials. Instructors are on the front line teaching the NRP, and the best way to know what's going on is through their feedback."

"As editor, you gain a full perspective of the NRP and feel a tremendous commitment from the people involved with the program and its mission," added Dr Goldsmith. "Dr McGowan is a good editor and I wish her well."

### Dr McGowan, congratulations and welcome aboard!

All comments and questions are welcome and should be directed to: Jane E. McGowan, MD, FAAP Editor, *NRP Instructor Update* 141 Northwest Point Blvd., PO Box 927 Elk Grove Village, IL 60009-0927 Web site: [www.aap.org/nrp](http://www.aap.org/nrp) E-mail: [lifesupport@aap.org](mailto:lifesupport@aap.org)

"THE POINT IS TO HAVE AN OPEN LINE OF COMMUNICATION BETWEEN THE NRP STEERING COMMITTEE AND INSTRUCTORS," DR MCGOWAN SAID.



### Lesson 2: Initial Steps in Resuscitation

In determining whether a baby requires the initial steps of resuscitation, the following key questions are asked in the first moments following birth:

- Is the baby term?
- Is the amniotic fluid clear?
- Is the baby breathing?
- Does the baby have good muscle tone?

“We used to also ask the question, “Is the baby pink?” We removed this question from this list because many babies are not pink in the first moments after birth, but do get pink fairly quickly when other signs of successful transition are normal,” explained Jeanette Zaichkin, RNC, MN, editor of the revised *Instructor’s Manual for Neonatal Resuscitation*.

“This baby, who does not require the initial steps of resuscitation, should receive routine care, which entails ongoing observation of breathing, activity, and color.”

### Lesson 3: Use of Resuscitation Devices for Positive-Pressure Ventilation

This lesson was significantly reorganized and includes new information. In addition to featuring descriptions of flow-inflating and self-inflating bags, information about the T-piece resuscitator has been incorporated into this lesson. This is a mechanical device used to deliver positive-pressure ventilation.

“A number of hospitals are now using this as another way to deliver positive-pressure ventilation,” Dr Kattwinkel said.

“We described each one of these devices briefly at the beginning of this lesson and moved the mechanical details to the appendix. This, we think, will help simplify things a bit,” Dr Kattwinkel added.

The revised textbook addresses the controversy of how much oxygen should be used during neonatal resuscitation. The NRP continues to recommend the use of 100% oxygen when positive-pressure ventilation is required for resuscitation of term babies; however, some research suggests that less than 100% oxygen may be just as successful. If resuscitation is started with less than 100% oxygen, supplemental oxygen should be available for use if there is no appreciable improvement within 90 seconds of birth.

Another revision to Lesson 3 includes the signs to determine whether positive-pressure ventilation is adequate. In the past, the NRP recommended looking for chest rise as the primary indicator that inflation pressure was sufficient. However, the NRP now recognizes that the primary sign of improvement during positive-pressure ventilation is a rising heart rate. Therefore, the assistance of another person to assess heart rate is required during positive-pressure ventilation.

### Lesson 4: Chest Compressions

This lesson will not feature any significant changes. It will include the following sections:

- When to begin chest compressions during a resuscitation.
- How to administer chest compressions.
- How to coordinate chest compressions with positive-pressure ventilation.
- When to stop chest compressions.

PREVIOUSLY, THE RECOMMENDATION WAS TO ADMINISTER EPINEPHRINE THROUGH AN ENDOTRACHEAL TUBE. NOW, BASED ON STUDIES THAT SHOWED THAT INEFFECTIVE SERUM LEVELS ARE ACHIEVED BY THIS ROUTE, THE NEW RECOMMENDATION IS TO ADMINISTER EPINEPHRINE INTRAVENOUSLY AS THE PREFERRED ROUTE. THIS WILL MAKE EPINEPHRINE A LITTLE MORE DIFFICULT TO ADMINISTER AND WILL REQUIRE PRACTICE.

### Lesson 5: Endotracheal Intubation

The most significant change in this lesson is the recommended use of a carbon dioxide (CO<sub>2</sub>) monitor or detector as one primary method for confirming endotracheal tube placement. “This tool was optional in the 4th edition of the textbook but now it’s a recommendation,” Zaichkin said. “The CO<sub>2</sub> detector doesn’t replace clinical skills; however, it is a nice tool to help confirm proper placement of the endotracheal tube.”

A section about the laryngeal mask airway is also a new addition to the textbook in Lesson 5. This device has been shown to be an effective alternative for assisting ventilation of some newborns when bag-and-mask ventilation or endotracheal intubation has failed.





An interactive telephone seminar... answers at your fingertips!

**Tuesday, June 20, 2006**

**Thursday, August 10, 2006**

**Wednesday, August 23, 2006**

Times will be the same for all seminars.

1:00-3:00PM Eastern

12:00-2:00PM Central

11:00AM-1:00PM Mountain

10:00AM-12:00PM Pacific

Share in the excitement of the release of the new NRP materials! Join other NRP instructors from around the country as the editors of the 2005 AAP/AHA Emergency Cardiovascular Care Guidelines for Neonatal Resuscitation and the new NRP materials lead an educational and motivational dialogue. Get your questions answered by the editors themselves!

The NRP Steering Committee is presenting this unique seminar to instructors via telephone conference call. A speakerphone is recommended so that a number of participants may listen at the same time. **An unlimited number of participants can listen at each site with only one registration fee.** (Note: Continuing Education Credit for more than five attendees requires an additional fee.)

This unique and informative program is being offered on three different dates to give as many instructors as possible the opportunity to participate in this exciting and timely program.

You will be able to ask questions of the faculty during the question-and-answer sessions and participate in audience polling with immediate results.

#### **Program Objectives:**

- Summarize the major changes to the 2005 AAP/AHA Emergency Cardiovascular Care Guidelines for Neonatal Resuscitation
- Explain the evidence evaluation process and provide the rationale for the changes

- Highlight the major content changes in the 5th edition NRP textbook
- Discuss ethics and care at the end of life issues
- Review new Megacode and Online Evaluation
- Highlight how to incorporate new multimedia tools into your courses

#### **Faculty:**

Jay P. Goldsmith, MD, FAAP

John Kattwinkel, MD, FAAP

Jeffrey Perlman, MB, ChB, FAAP

Gary Weiner, MD, FAAP

Jeanette Zaichkin, RNC, MN

#### **Seminar Credit:**

The American Academy of Pediatrics is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. This activity was planned and implemented in accordance with the ACCME Essentials.

The AAP designates this educational activity for a maximum of 2.0 *AMA PRA Category 1 Credits™*. Physicians should only claim credit commensurate with the extent of their participation in the activity.

This activity is acceptable for a maximum of 2.0 AAP credits. These credits can be applied toward the AAP CME/CPD Award available to Fellows and Candidate Fellows of the AAP.

West Virginia Hospitals will provide 2.4 contact hours to those who attend and complete all activities.

West Virginia University Hospitals is an approved provider of continuing nursing education by the West Virginia Nurses Association, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation. #P005-08-0115.

This program has been approved for 2.0 contact hours Continuing Respiratory Care Education (CRCE) credit by the American Association

for Respiratory Care, 9425 N. MacArthur Blvd., Suite 100, Irving, TX 75063. Course #260940000.

This program is approved for 2.40 NAPNAP contact hours of which .24 contain pharmacology (Rx) content

The American Academy of Physician Assistants accepts category 1 credit toward the AMA Physician's Recognition Award from organizations accredited by the ACCME.

To receive credit, registrants will be required to complete and return an evaluation form to verify participation.

#### **Convenient and Time Saving:**

Telephone seminars allow you to avoid rush-hour traffic and parking problems; in fact, there is no travel time or expense at all. Participants can call from hospital, office, home, or anywhere there is a telephone. With the site license pricing, registrants can invite other participants to join in, discuss these important issues, and save money. Each session lasts only two hours. If you are not able to attend, you may purchase an audio CD.

#### **Interactive and Fast-Paced:**

The faculty's interaction with you, the listener, will make this program enjoyable to listen to, and you can ask questions wherever you are. This feature is very much like participating in a talk radio program.

#### **What You Will Need:**

A phone is all that is needed, but a speakerphone is required for the audio if several people want to "attend" the program. To view the visual information an Internet connection is required. No special hardware is needed – a dial-up connection will work fine. You will be able to watch the slide presentation while the speakers annotate the slides. Use a large monitor or a projection unit to allow everyone to see the information.

# Telephone Seminars

## What We Will Send You:

Several days before the seminar(s), registrants will receive:

- Instructions on how to attend this seminar, including a toll-free number, course code and PIN numbers to access the program via telephone.
- Either a URL to obtain the handouts via e-mail or a hard copy of the materials via FedEx. Registrants will need to duplicate the materials for others attending the seminar at your location.
- A roster form and evaluations to be completed and returned for credit verification.

## Program:

### Changes in the New Edition of the NRP Textbook

- Overview of Evidence Evaluation Process
- Summary of Major Changes in Content
- What's New and Not New in the Textbook

### Details of New Recommendations and Supporting Evidence

- Oxygen – How Much, How Soon, and for Whom?
- Meconium – Have the Recommendations Really Changed?
- CO<sub>2</sub> Detection – Availability Now Recommended for Everyone
- Epinephrine – Recommended Route and ET Dosing Have Changed
- New Devices (LMA and T-piece Resuscitators)
- Temperature Management

## Ethical Issues

### What Instructors Need to Know

- Megacode and Online Evaluation
- New Multimedia Tools

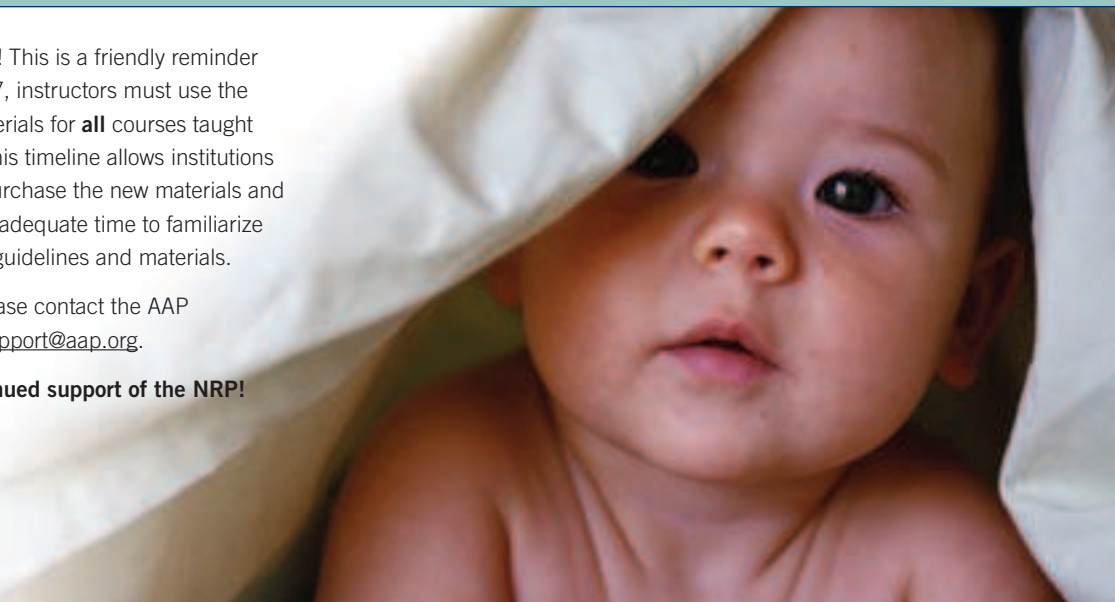


# NRP Implementation Date

Attention NRP Instructors! This is a friendly reminder that as of January 1, 2007, instructors must use the new 5th edition NRP materials for **all** courses taught in 2007 and thereafter. This timeline allows institutions more than 8 months to purchase the new materials and provides NRP Instructors adequate time to familiarize themselves with the new guidelines and materials.

For more information, please contact the AAP Life Support Staff at [lifesupport@aap.org](mailto:lifesupport@aap.org).

**Thank you for your continued support of the NRP!**



## Special Limited-Time Offer! Free NRP Ethics Module on DVD!

As a special benefit to our NRP Instructors, a new NRP Ethics DVD will be included **FREE** with every order placed by June 30, 2006.

*The NRP Ethics and Care at the End of Life: Involving Parents in Ethical Decision Making* DVD supplements the new NRP textbook and can be used to facilitate discussion and illustrate a team/best outcomes approach to ethical issues.

**Hurry! Supplies are limited! Place your order by June 30, 2006. See the enclosed NRP brochure for details, or visit and order at the AAP online bookstore at [www.aap.org/bookstore](http://www.aap.org/bookstore).**

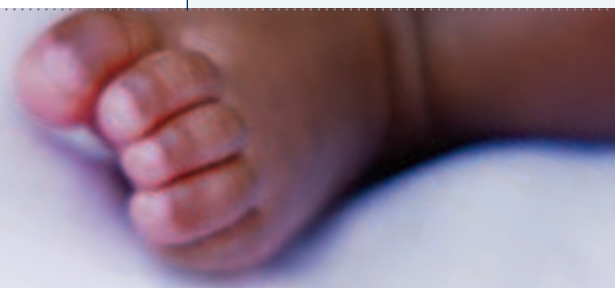


## Latex-Free NRP Materials

Please note that the new NRP textbook and the reference chart, in all three sizes, are latex-free. The wall chart, printed on a new flexible plastic, the code cart card and the NRP pocket card will not be damaged by most common disinfectants used in the delivery room. Since they are latex-free you can feel comfortable having these resources available for reference in the delivery room.

## NRP 5th Edition Telephone Seminars

An interactive telephone seminar... answers at your fingertips!  
Get complete details about this important program on Pages 14-15.



### Lesson 6: Medications

The way in which epinephrine is administered is a significant change and is covered in this lesson. "Previously, the recommendation was to administer epinephrine through an endotracheal tube. Now, based on studies that showed that ineffective serum levels are achieved by this route, the new recommendation is to administer epinephrine intravenously as the preferred route. This will make epinephrine a little more difficult to administer and will require practice," Dr Kattwinkel said.

### Lesson 7: Special Considerations

This lesson will remain the same, with the exception of ethical considerations, which are now covered in detail in new Lesson 9. Lesson 7 will cover strategies to manage babies who fail to respond to adequate ventilation, who are persistently cyanotic or bradycardic, or fail to begin spontaneous breathing. Lesson 7 also covers strategies for managing challenges of resuscitation beyond the immediate newborn period and outside the hospital setting.

### Lesson 8: Resuscitation of Babies Born Preterm

This lesson will highlight risk factors that may complicate resuscitation in preterm babies. Significant details outlined in this lesson include recommendations for additional resources and equipment for facilities that electively deliver preterm babies less than approximately 34 weeks' gestation, including the availability of an oxygen blender, compressed air, and pulse oximeter in the delivery room.

"We're not saying that every hospital delivery room must have compressed air and oximeters, but there are studies and data that suggest, in babies born pre-term, that hospital personnel should have the ability to cut down on the oxygen concentration in a preterm baby," Dr Kattwinkel said. "A preterm baby has unique physiology and should be managed differently, in some ways, than a full-term baby."

### Lesson 9: Ethics and Care at the End of Life

Ethics was briefly covered in Lesson 7 of the 4th edition textbook. In the revised textbook, ethics is explored at length in Lesson 9. This lesson covers the ethical principles that apply to starting and stopping resuscitation, effectively communicating with parents, and involving them in the decision making process. It also covers recommendations for caring for the dying baby and the parents of a baby who dies.

For more information on the 5th edition materials, visit the NRP Web site at [www.aap.org/nrp](http://www.aap.org/nrp).



## Neonatal Resuscitation Program Research Grants Awarded

Congratulations to Satyanarayana Lakshminrusimha, MD and Waldemar Carlo, MD for receiving the 2005 NRP Research Grants. Dr. Lakshminrusimha, Assistant Professor of Pediatrics at the Women and Children's Hospital of Buffalo, will study "Effect of Oxygen Concentration of Resuscitative Gas on Pulmonary Hemodynamics in Term Lambs." Dr. Carlo, Professor of Pediatrics and Director, Division of Neonatology at the University of Alabama at Birmingham, will direct a study entitled, "Newborn Ventilation in the Delivery Room: Could We do it Better with a Mechanical Device?"

## Neonatal Resuscitation Program Young Investigators Awarded

Congratulations to Chad A. Barber, MD and Tara Randis, MD for receiving 2005 NRP Young Investigator Awards. Dr. Barber, a Neonatal-Perinatal Medicine Fellow at the University of Texas Southwestern Medical Center at Dallas, will perform a, "Randomized Controlled Trial of Endotracheal Versus Intravenous Administration of Epinephrine During Neonatal Cardiopulmonary Resuscitation in Asphyxiated Neonatal Piglets." Dr. Randis, a post-doctoral Clinical Fellow in Neonatal-Perinatal Medicine at Columbia University Medical Center, will study "Re-oxygenation of Asphyxiated Neonatal Mice: Does Oxygen Concentration Matter?" Congratulations to these investigators!

The Fall/Winter 2006 issue of the *NRP Instructor Update* will have information about the 2007 NRP Research Grant Program and Young Investigator Award opportunities.







# NRP 5th Edition Telephone Seminars Registration Form

The site fee for this program is \$160 per location. This site fee includes **one** Internet connection, **one** telephone connection at **one** location, **one** master set of handouts (with permission to make additional copies for the participants at your location), an unlimited number of participants from your organization in one listening room and Continuing Education credit for up to five participants. Credit for additional participants is available for an additional fee. Remember there is no limit to the number of listeners at any one site, but there is an additional charge to issue credit for more than five attendees.\* You will be asked to submit names of all participants requesting CE credit to the AAP at the completion of the teleconference.



**\*Continuing Education Credit fee schedule:**

- 6-10 participants . . . . . add \$40
- 11-15 participants . . . . . add \$75
- 16-20 participants . . . . . add \$100
- 21-49 participants . . . . . add \$150
- 50 or more participants . . . add \$300

**Select Program Date:**

- Tuesday, June 20, 2006
- Thursday, August 10, 2006
- Wednesday, August 23, 2006

**Times will be the same for all seminars.**

- 1:00-3:00PM Eastern
- 12:00-2:00PM Central
- 11:00AM-1:00PM Mountain
- 10:00AM-12:00PM Pacific

**Audio CD Purchasing Information**

Audio CD/materials package \$160.

*Special Note: Individuals who register for the phone seminar can purchase the CD for a reduced cost of only \$80. Participants outside the U.S., U.S. Virgin Islands and Puerto Rico may incur additional shipping and phone charges.*

**CE Credit is available only to those who participate in live event.**

Registrant Name: \_\_\_\_\_

Organization Name: \_\_\_\_\_

Street Address (no P.O. Box): \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Business Telephone & Extension: \_\_\_\_\_

Fax Number: \_\_\_\_\_ E-mail Address:\* \_\_\_\_\_

\*We will e-mail you dial-in instructions for the program as well as the URL for accessing your conference materials. You will need the Acrobat Reader, available free at [www.adobe.com](http://www.adobe.com).

Please check here if you are unable to receive your materials via the Web. We will ship a hard copy to you.