



## NANN's 2011 Conference: A Must-Attend Event

NANN's 27th Annual Educational Conference is fast approaching and is one you *should not miss!* As in the past, this conference offers attendees innovations in neonatal care, management, and research. At the heart of the content are best practices and evidence-based recommendations—all of which will guide and improve the care you provide in your unit. Special efforts are being taken to ensure that the material being presented meets your needs by being relevant and sufficiently advanced to match the growing demands of the profession.

Seven preconference workshops will be held. Four cover these topics in neonatal care: the Golden Hour (a strategy for optimizing care for the very-low-birth-weight infant in the first hours of life), the healthy brain, pharmacological pain management, and implementation of evidence-based practice; another provides hands-on procedural skills training using an animal model. The "Advocacy 101" workshop is modeled on the highly praised Nurse in Washington Internship program, and a full-day workshop prepares you for the Registered Nurse, Certified (RNC) certification examination.



The three general sessions will stimulate your thinking about the future of nursing, help prepare you for the revised Neonatal Resuscitation Program, and encourage you to think about ways to care more compassionately for other nurses. All promise to be thoughtful and engaging.

Dozens of concurrent and in-depth sessions will extend your understanding of clinical practice topics like the use of heliox in the NICU, screening for postpartum depression, and continuous positive airway pressure for respiratory distress syndrome. Other sessions will cover healthcare reform, research writing, and disruptive behaviors in the workplace. There's even a budget boot camp for managers. In short, the conference offers you plenty of educational opportunities to choose from, peers and experts to network with, a full exhibit hall, and volumes of information to take back to your unit and coworkers. The Conference Planning Committee looks forward to seeing you in Orlando, FL, September 14–17. Visit [www.NANNconference.org](http://www.NANNconference.org) for more information, and register by August 15 to save \$100!

### from NANN's President



## Nurses Trusted to Care

Susan Reinarz, MSN RN NNP-BC

As I write this column, it is early May, and the celebration of National Nurses' Week begins. Celebrated from May 6 through May 12, Florence Nightingale's birthday, National Nurses' Week recognizes the commitment, intelligence, and caring that nurses express through their practice. Nurses and legislators worked for many years to gain this formal recognition, but it was not until March 25, 1982, that then-President Ronald Reagan signed a proclamation establishing May 6 as National Recognition Day for Nurses.

This year the celebration focuses on the idea that the American public has placed nurses at the top of the annual Gallup poll on honesty and ethics for the 11th year in a row (Jones, 2010). Eighty-one percent of the poll respondents feel that nurses have high or very high ethical standards, above all other healthcare professionals and above such other professionals as military officers, firefighters, police officers, and clergy. In a subsequent poll regarding healthcare providers, 88% of the respondents rated nurses as providing care that was excellent or good (Mendez, 2010). Even as we celebrate that well-earned assessment, we must not forget the responsibility that comes with such a level of trust.

Last fall, the Institute of Medicine (IOM) released its report *The Future of Nursing: Leading Change, Advancing Health* (IOM, 2010; see the Campaign for Action website at <http://thefutureofnursing.org>). NANN has provided you with information about that groundbreaking report over the last several months. Threaded through all the evidence-based recommendations is the concept of trust. Nurses are the healthcare professionals who spend the most time with the patient and family. The trust that our patients and families place in us and in the care we provide means that we must continue to invest in our professional growth.

We face a tumult of change in all healthcare settings. Although the future of healthcare payment reform is unclear, it is clear that nurses, as the most trusted of healthcare professionals, must actively work to ensure that the needs of their patient population are not forgotten in all of the rhetoric and political posturing inherent in the debate. The care that neonatal nurses provide has an impact on that infant and family for a lifetime. We gladly carry that weighty responsibility, for we are committed, passionate, and intelligent

professionals, no matter what role we perform. Our responsibility does not end when we walk out the door at the end of the work day.

Buried within the IOM report are practical take-home messages for nurses. No matter what job we do, we can be part of the change, leading nursing into more active participation in the transformation of health care. One practical point made in the report is that your professional association is your partner in your career journey. How do you keep up-to-date on standards of care and care practices? How do you stay abreast of legislative and regulatory changes affecting your patient population and practice? How do you find out what national initiatives guide your continuing education? Being an active participant in your professional association allows you a connection that supports and guides you along your career path. As we move toward September and the time for NANN's annual educational conference, many of you will recognize the value of your NANN membership and the incredible experience of attending the national conference. Updates on clinical care issues are of prime importance, but conference attendance has much more to offer. Not only can you discuss issues with clinical experts, but you can interact with colleagues, see the best and newest products our exhibitors have to offer, receive updates on the latest regulatory changes affecting your work, and be inspired by presentations on professional issues.

We willingly carry the trust placed on our shoulders. Let's make sure that nurses continue to be the most trusted healthcare professionals. Spread the message. Lead the way. I hope to see you at the conference, and when I do, I will be certain to thank you for being not only a talented and caring professional but also an active NANN member.

### References

- Institute of Medicine. (2010). *The future of nursing: Leading change, advancing health*. Washington, DC: National Academies Press.
- Jones, J. M. (2010, December 3). Nurses top honesty and ethics list for 11th year. Retrieved May 9, 2011, from [www.gallup.com/poll/145043/Nurses-Top-Honesty-Ethics-List-11-Year.aspx](http://www.gallup.com/poll/145043/Nurses-Top-Honesty-Ethics-List-11-Year.aspx).
- Mendez, E. (2010, December 13). In U.S., more than 8 in 10 rate nurses, doctors highly. Retrieved May 9, 2011, from [www.gallup.com/poll/145214/Rate-Nurses-Doctors-Highly.aspx](http://www.gallup.com/poll/145214/Rate-Nurses-Doctors-Highly.aspx).

### Product Spotlight

## Policies, Procedures, and Competencies for Neonatal Nursing Care

For a limited time, you can preorder NANN's newest resource: *Policies, Procedures, and Competencies for Neonatal Nursing Care*. The book

- includes policies, procedures, and competencies based on the best evidence available in the practice of neonatal nursing
- brings together the most up-to-date evidence and best practice protocols in one location
- serves as an invaluable resource for developing or revising a unit's policies, procedures, and competencies
- covers a wide range of topics from admission to discharge of the neonatal patient.

Price: members, \$795; nonmembers, \$950.

Visit [www.NANNstore.org](http://www.NANNstore.org) to preorder a copy by September 5 (Labor Day) and receive a 10% discount (the discount will be applied when you add the product to your shopping cart).

***"Policies, procedures, and competencies are the foundation of patient care and drive our nursing practice. All the policies, procedures, and competencies in this book are based on the best available evidence in the practice of neonatal nursing. They will serve and help advance your organization's commitment to evidence-based nursing."***

—Coeditors Linda MacKenna Ikuta, MN RN CCNS PHN, and Sandy Sundquist Beauman, MSN RNC-NIC



### Stay Connected

Post this issue of *NANN Central* in your NICU or pass it along to a colleague.

## NANNP Active as Advocate for NNPs on Many Fronts

Debra A. Sansoucie, EdD APRN NNP-BC, NANNP Council Chair




NANNP has had a very busy spring representing the interests of neonatal nurse practitioners (NNPs) at numerous national venues concerning our practice. In March Suzanne Staebler represented us at a meeting of the Alliance for APRN Credentialing, which is composed of representatives from all major nurse practitioner (NP) organizations in the United States. You can read her report in the May 2011 issue of *NANN E-News* (archived at [www.nann.org/pubs/content/nannnews.html](http://www.nann.org/pubs/content/nannnews.html)) and respond to questions regarding how NANNP should respond to initiatives proposed in the 2010 Institute of Medicine (IOM) report *The Future of Nursing: Leading Change, Advancing Health*.

In March I had the opportunity to represent NANNP on the National Task Force (NTF) for Quality Nurse Practitioner Education in Washington, DC. Since its release in 2008, *Criteria for Evaluation of Nurse Practitioner Programs* (NTF, 2008) has continued to provide invaluable guidance to NP educational programs and their review. The collective efforts of the NTF have resulted in widespread dissemination, recognition, and implementation of the evaluation criteria delineated in the document. To meet the previous recommendations of the NTF for periodic review of the document, as well as to provide an opportunity for consideration of the implications of the *Consensus Model for APRN Regulation* (APRN Consensus Work Group & National Council of State Boards of Nursing APRN Advisory Committee, 2008) and other pivotal documents released recently, the National Organization of Nurse Practitioner Faculties (NONPF) and the American Association of Colleges of Nursing (AACN) have agreed to again cofacilitate the NTF in conducting the next review of the document. Together, NONPF and AACN invited NANNP's participation in the

NTF. The purposes for reconvening the NTF are to (1) determine whether the evaluation criteria meet current needs, (2) assess where clarification is necessary to define the intent of the criteria, (3) identify any areas that are not adequately addressed, and (4) maintain a cycle for periodic review of the criteria. The NTF plans to have its work completed by fall 2011.

In April NONPF released the newly revised *Nurse Practitioner Core Competencies* (NONPF, 2011) at its national meeting in Albuquerque, NM. These competencies differ from those in the previous version in that they integrate and build upon existing master of nursing and doctor of nursing practice (DNP) core competencies. The NP core competencies are guidelines for educational programs preparing the NP to implement the *full scope of practice as a licensed independent practitioner* as charged by the *Consensus Model for APRN Regulation* and in congruence with the IOM's 2010 report on the future of nursing. As a consequence of these revisions, organizations representing each population focus were invited to participate on the Population-Focused Competencies Task Force, which was convened by NONPF at the national meeting. NONPF had previously published specialty competencies for every population focus except neonates and now intends to include competencies for NNPs as they review and revise the others. Robin Bissinger (NANN and NANNP member, former chair of the NANNP Council, and current president of the National Credentialing Corporation) and I are representing the neonatal population focus on this task force and are basing the NONPF population-focused competencies on the competencies that NANNP has already developed in its *Education Standards and Curriculum Guidelines for Neonatal Nurse Practitioner Programs* (NANN, 2009) and *Competencies and Orientation Tool Kit for Neonatal Nurse Practitioners* (NANN, 2010).

These initiatives, along with implementation of the *Consensus Model for APRN Regulation* (the licensure, accreditation, certification, and education [LACE] model), are all part of the larger national movement to move NPs toward mutually recognized independent professional practice. NANNP will continue to keep you informed of our efforts to ensure that the neonatal population focus is represented at all national venues that pertain to our practice and our population. 

### References

- APRN Consensus Work Group & National Council of State Boards of Nursing APRN Advisory Committee. (2008). *APRN Joint Dialogue Group report. Consensus model for APRN regulation: Licensure, accreditation, certification, and education*. Chicago, IL: National Council of State Boards of Nursing. Retrieved May 9, 2011, from [https://www.ncsbn.org/7\\_23\\_08\\_Consensus\\_APRN\\_Final.pdf](https://www.ncsbn.org/7_23_08_Consensus_APRN_Final.pdf).
- Institute of Medicine. (2010). *The future of nursing: Leading change, advancing health*. Washington, DC: National Academies Press.
- National Association of Neonatal Nurses. (2009). *Education standards and curriculum guidelines for neonatal nurse practitioner programs*. Glenview, IL: Author.
- National Association of Neonatal Nurses. (2010). *Competencies and orientation tool kit for neonatal nurse practitioners*. Glenview, IL: Author.
- National Organization of Nurse Practitioner Faculties. (2011). *Nurse practitioner core competencies*. Washington, DC: Author. Retrieved May 9, 2011, from <http://nonpf.com/associations/10789/files/IntegratedNPCoreCompsFINALApril2011.pdf>.
- National Task Force on Quality Nurse Practitioner Education. (2008). *Criteria for evaluation of nurse practitioner programs*. Washington, DC: National Organization of Nurse Practitioner Faculties. Retrieved May 9, 2011, from <http://nonpf.org/displaycommon.cfm?an=1&subarticlenbr=15>.

Debra Sansoucie is clinical associate professor and director of the NNP program at Stony Brook University School of Nursing, Stony Brook, NY.

## Advocacy: Universal Newborn Screening for Congenital Heart Disease

Laura Stokowski, MS RN, cochair of NANN's Health Policy and Advocacy Committee



### The Issue

Even a pediatric cardiologist can miss congenital heart disease (CHD) in a newborn (Hoffman, 2011). Do the rest of us even stand a chance? Every day in the United States, newborns with critical CHD are discharged from hospitals as healthy newborns, only to return via the

emergency room when they become symptomatic at home with poor feeding, cyanosis, apnea, shock, and heart failure. Some of these babies die before they reach the hospital.

We already have a simple, noninvasive way to rule out CHD in the newborn, and it is something we use every day: pulse oximetry. So why isn't it being used to screen for CHD? The usual reasons given are that it's not reliable, that physical or fetal ultrasound examinations can detect CHD, that it will result in too many unnecessary cardiac evaluations, that it will upset the parents, or that it will cost too much. Pulse oximetry, however, is more reliable than physical examination alone, and it produces fewer false positives (identifying as positive newborns who don't really have CHD). Fetal ultrasound and physical examinations will each miss about half of the infants with CHD. And most people believe that the benefits of identifying and managing CHD before neurological damage or death occurs far outweigh the costs.

Not all CHD is critical. Many defects are mild and may not even require treatment. But others—known as

ductal-dependent lesions—can result in death when the newborn's ductus arteriosus closes, unless these defects are identified and treated. Roughly 30% of newborns with critical CHD leave the hospital with undiagnosed defects, including (among others) coarctation of the aorta, interrupted aortic arch, aortic stenosis, transposition of the great arteries, and hypoplastic left heart syndrome.

### The Method

Elizabeth Bradshaw, MSN RN CPN, is the coordinator for the Congenital Heart Disease Screening Program at Children's National Medical Center in Washington, DC. According to Bradshaw, the most sensitive and specific method for screening newborns for CHD with pulse oximetry is the method tested by de Wahl Granelli and colleagues (2009). This involves measuring preductal (right hand) and postductal (foot) pulse oxygen saturation (SpO<sub>2</sub>) levels in quiet newborns after 24 hours of age. If both pre- and postductal SpO<sub>2</sub> values are <95%, or if the difference between the two values is >3%, the infant is considered positive for CHD. A repeat measurement and, if warranted, a cardiac evaluation are then performed. When tested in almost 40,000 newborns in Sweden, a positive SpO<sub>2</sub> screening result by this method gave a relative risk of 719.8 (95% confidence interval 350.3 to 1,479;  $p < 0.0001$ ) of having duct-dependent heart disease, and 92% of infants with critical CHD were detected prior to discharge from the hospital. The false positive rate was very low: 0.17%.

### The Recommendation

The Secretary's Advisory Committee on Heritable Disorders in Newborns and Children (ACHDNC), part of the Department of Health and Human Services, is the group that makes recommendations on newborn screening in the United States. In October 2010, ACHDNC recommended that pulse oximetry screening for critical CHD be added to the uniform screening panel. ACHDNC also recommended further study on the technology, screening protocols, follow-up, infrastructure, and education related to universal CHD screening.

This recommendation is not a law, so it is up to the individual states to consider mandating screening for CHD. Thus far, only one state (New Jersey) has passed legislation requiring CHD screening. Several other states (Indiana, Maryland, Minnesota, Missouri, and Tennessee) have introduced legislation to add CHD to their newborn screening panels.

### The Opportunity

Nurses who support the screening of all newborn infants for CHD have an advocacy opportunity. If you live in one of the states that has already introduced legislation, contact your state's elected officials and ask them to vote for this legislation. If your state has not yet taken this step, write to your state's elected officials, tell them of your concern about the problem of newborn infants being

*continued on page 3*

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# 2011 Brighter Tomorrows Story Contest Winner

## Isabella's Story

Sarah Myers, RNC-NIC BSN

Isabella was born at 31 weeks' gestation in May 2006. She was transferred to a NICU near her hometown for observation. After 2 days of life, her weight went from 4 lbs 2 oz to 2 lbs. Her blood pressure was dangerously high. She was showing signs of renal failure and the beginnings of multiorgan failure. The decision was made to transfer Isabella to my hospital for higher-level care. I knew when I received a report from the transferring facility that this baby girl was in very critical condition.

The Pedi-Flite team brought her in—a tiny, pale girl with flailing arms and a feisty spirit. She was a fighter, screaming and swinging her arms as I admitted her and performed the necessary rapid assessment. Her blood pressure remained critical through the night and into the next few days and weeks. Over the next 6 months during her stay in my NICU, she developed a pericardial effusion, requiring an emergency procedure to pull the fluid off her heart so she could survive. She also developed necrotizing enterocolitis that required surgery, severe reflux requiring a gastrostomy tube, and bleeding in her brain that developed into periventricular leukomalacia. She required several central lines, endless transfusions, laboratory tests, echocardiograms, and other tests. Yet she never lost her determination to live. I became one of her primary nurses, and I began to love her as if she were my own child. She became an inspiration to me.



Eventually, she did lose a kidney, but she never lost her fighting spirit. Although she went through periods of deterioration, scaring the nurses, she always bounced back, determined to live life to the fullest. Just before Thanksgiving 2006, Isabella went home. She took with her monitors, pumps, and a central line that her mother learned to care for. I remember coming in on my day off for this long-awaited moment. I watched, tears in my eyes, as Isabella was dressed in her little pink onesie, wrapped in the blanket I'd knitted for her, and placed in her car seat. Our sweet Isabella was going home.

Over the next 3 years, I kept in touch with Isabella and her mother, visiting them several times a year. I watched her grow into a toddler, walking, talking, running, all the while feisty and strong-spirited, yet so sweet and fragile.



When I became engaged in 2009, the only little girl I wanted to be my flower girl was Isabella.

In November 2009 Isabella put on her white "princess dress" and little ballet shoes and walked down the aisle as my flower girl. It was a sweet celebration, and tears of joy were again shed by staff from the NICU as they were reunited with this little girl that had made such a large impact on their lives. She danced around, twirling her dress, singing a song, and smiling. This little girl, born so small and delicate but with such a determined spirit, overcame the impossible and continues to inspire strength in everyone she meets.

*Sarah Myers is a staff nurse in the NICU at LeBonheur Children's Hospital, Memphis, TN. She submitted this story to NANN's 2011 Brighter Tomorrows Story Contest. Read all the story submissions at [NANNconference.org](http://NANNconference.org).*

## NANN's New Research Institute in Planning Stage

Steve Biddle, MEd, NANN Director of Education

One of the most exciting among our latest educational initiatives is the development of NANN's Research Institute. And NANN members are invited to participate!

One of NANN's strategic goals is to focus on research. The new Research Institute will build upon NANN's mission and develop new research opportunities for members, increasing your ability to read, understand, and conduct research and in turn practice evidence-based care.

The Institute is charged with

- creating a research agenda aimed at improving the understanding and application of research
- mentoring new or interested researchers
- funding research studies
- translating this research into improved clinical care through educational programming.

Start-up funding has been generously provided by Philips Mother and Child Care, and a steering council is being formed. Our goal is to have a small grants program in place by January 2012. We hope that you will be one of the first grant recipients!

Watch *NANN Central* and *NANN E-News* for more on this initiative in the fall, and check for updates on the Research page at [www.nann.org/education/content/research.html](http://www.nann.org/education/content/research.html).

## Welcome, DANN!

NANN is pleased to welcome its newest chapter, the **Delaware Association of Neonatal Nurses (DANN)**, to the chapter network. DANN's president is Monica M. Boyle, BSN RNC-NIC, and the secretary-treasurer is Bonnie L. Chavez, RNC-NIC.

## Advocacy: Universal Newborn Screening for Congenital Heart Disease *continued from page 2*

discharged with undiagnosed CHD, and ask them to create legislation to mandate screening for CHD in your state. Tell them of newborn infants you have cared for who were readmitted to the hospital after becoming critically ill at home.

Hospitals can take advantage of an educational tool kit developed by the Congenital Heart Disease Screening Program of the Children's National Medical Center ([www.childrensnational.org/PulseOx/](http://www.childrensnational.org/PulseOx/)) for distribution to organizations interested in implementing pulse oximetry screening as standard of care in their nurseries by e-mailing [PulseOx@childrensnational.org](mailto:PulseOx@childrensnational.org).

### References

- Advisory Committee on Heritable Disorders in Newborns and Children. (2010, October 15). Letter to the Secretary of the U.S. Department of Health and Human Services. Retrieved April 25, 2011, from [www.hrsa.gov/heritabledisorderscommittee/correspondence/October15th2010letter.htm](http://www.hrsa.gov/heritabledisorderscommittee/correspondence/October15th2010letter.htm).
- de Wahl Granelli, A., Wennergren, M., Sandberg, K., Mellander, M., Bejlum, C., Inganäs, L., et al. (2009). Impact of pulse oximetry screening on the detection of duct dependent congenital heart disease: A Swedish prospective screening study in 39,821 newborns. *British Medical Journal*, 338, a3037; PMID:19131383; doi:10.1136/bmj.a3037.
- Hoffman, J. I. E. (2011). It's time for routine neonatal screening by pulse oximetry. *Neonatology*, 99,1-9.

*Laura Stokowski is a staff nurse at Inova Fairfax Hospital in Falls Church, VA.*



## 2011 March of Dimes Walk for Babies

The NANN National Office staff, with colleagues and family members, raised \$2,250 for the March of Dimes Walk for Babies on April 17. Of that amount, \$2,000 was matched by the owners of NANN's management company (Association Management Center), bringing the total amount raised to \$4,250, which will be used to fund research and improve the health of babies by preventing birth defects, premature birth, and infant mortality. Our sincere thanks go to these walkers and all those across the country who walked and supported this worthy cause!

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## Focus on Special Interest Groups

# Research with Bevacizumab Offers Hope in Treatment of Retinopathy of Prematurity

Cindy Bryant, BSN RN CCRP CCRN-Neo, NANN Research Special Interest Group Facilitator

Retinopathy of prematurity (ROP) was first discovered in the 1940s and was for 2 decades the leading cause of blindness in children. ROP is a pathologic process that occurs only in immature retinal tissue and can progress to a tractional retinal detachment, which can result in functional or complete blindness (American Academy of Pediatrics, 2006). About 3,000–4,000 cases of retinopathy of prematurity occur in the United States each year, and the numbers are increasing as more premature babies survive.

Recent research with bevacizumab (Avastin) has revealed a new treatment for ROP that is giving promising results. Bevacizumab was approved by the U.S. Food and Drug Administration in 2004 for the treatment of metastatic colorectal cancer. The drug works by reducing the size and number of new vessels feeding the metastasis. Off-label use of the bevacizumab therapy for ophthalmologic neovascular disorders began shortly thereafter. Bevacizumab is readily available and inexpensive (Mintz-Hittner, Kennedy, & Chuang, 2011).

The first study of bevacizumab used for treatment of ROP involved 18 eyes of 13 patients from Mexico City. Hugo Quiroz-Mercado, MD, reported the efficacy of Avastin used to treat infants with varying degrees of ROP: 17 of 18 eyes improved without further sequelae, and 1 patient required vitrectomy. Susan Texeira, MD, of Lisbon, Portugal, reported on a series of 6 eyes injected as salvage therapy. All injected eyes improved, with none requiring additional treatment. No local or systemic adverse events were noted in either study (Kovach, 2009).


A more recent multicenter clinical trial led by researchers at the University of Texas Health Science Center in Houston from March 2008 through August 2010 showed a significant benefit in treating the eyes of premature infants with intravitreal bevacizumab (Mintz-Hittner, Kennedy, & Chuang, 2011). Approximately 150 premature babies were enrolled in the study. Half were randomly selected to receive bevacizumab, and the other half to receive laser treatment. Seven babies died of causes unrelated to the eye treatments. The remaining 143 babies were followed for several weeks after their initial treatments to see if the retinopathy returned.

Overall, retinopathy recurred in 4 infants treated with bevacizumab compared with recurrence in 19 infants who received the laser treatment, which translates into a 20% reduction in the risk of recurrence. The results were even more significant for babies with a harder-to-treat form of the disease called zone 1, in which abnormal blood vessels form at the very back of the eye. Among infants with this form of the disease, the recurrence rate was 6% with intravitreal bevacizumab, compared with 42% for laser therapy (Mintz-Hittner, Kennedy, & Chuang, 2011). The results of the study were so significant that the 15 hospitals participating in the research have stopped using lasers in favor of the drug (Raine, 2011).

Helen Mintz-Hittner, MD, lead researcher of the Houston-based study and professor of ophthalmology and visual science at the University of Texas Medical School, notes the advantages of this type of drug therapy. "With laser treatment, you still had to intubate, which could cause major setbacks for the baby, and field loss and myopia still occurred. With [Avastin] therapy, we use a few drops of anesthetic to numb the eye. We take a syringe with a tiny needle and administer a small amount of drug directly into the eye. The whole process takes two to three minutes and you begin to see the results within 24 hours. The abnormal vessels virtually disappear and then normal

vessels begin to grow out again" ("Avastin: Better than Laser," 2011).

According to Mintz-Hittner, the oldest children in the Avastin study are now nearly 3 years old and appear to be developing normally. She notes that so far she has not seen any significant side effects from the drug (Dooren, 2011). Bevacizumab has the advantage of being a large molecule that cannot penetrate the intact retina or escape the eye except in very small amounts (Mintz-Hittner, Kennedy, & Chuang, 2011). Mintz-Hittner cautions that doctors need to be careful not to administer the drug too early, before the abnormal blood vessels fully develop, or too late, after the blood-vessel growth that could cause the retina to detach (Raine, 2011).

As caretakers, we remain optimistic yet cautious as this new treatment option for ROP is studied and implemented. New research is needed, with additional randomized control trials to assess statistically the optimal timing, frequency, and dose of the drug. Careful attention should be given to the potential for systemic complications and long-term effects of intravitreal bevacizumab in infants (Kovach, 2009). 

## References

- American Academy of Pediatrics. (2006). Policy statement: Screening examination of premature infants for retinopathy of prematurity, *Pediatrics*, 117(2), 572–576.
- Avastin: Better than laser for severe ROP. (2011). *Review of Optometry*, 148, 10–12.
- Dooren, J. C. (2011, February 17). Drug shows promise for newborn blindness: Treating babies with Avastin surpassed a usual therapy. *Wall Street Journal*. Retrieved May 16, 2011, from <http://online.wsj.com>.
- Kovach, J. (2009). A systemic analysis of the off-label use of bevacizumab for severe retinopathy of prematurity. *American Journal of Ophthalmology*, 148(4), 536–543.
- Mintz-Hittner, H. A., Kennedy, K. A., & Chuang, A. Z. (2011). Efficacy of intravitreal bevacizumab for stage 3+ retinopathy of prematurity. *New England Journal of Medicine*, 364(7), 603–615.
- Raine, M. (2011). In treating a leading cause of childhood blindness, drug therapy shows significant improvement. *Medical News Today* (University of Texas Health Science Center).
- U.S. Food and Drug Administration. (2004, February 26). FDA approves first angiogenesis inhibitor to treat colorectal cancer [News release]. Retrieved May 16, 2011, from [www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/2004/ucm108252.htm](http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/2004/ucm108252.htm).

Cindy Bryant is a research nurse at Texas Children's Hospital, Houston, TX. Neither she nor her institution received material support from the drug manufacturer.

## Calendar

### NANN 7th Annual Research Summit

Online abstract submission deadline September 9, 2011

### NANN 27th Annual Educational Conference

Orlando, FL September 14–17, 2011

### National Neonatal Nurses Day

September 15, 2011

### Central California Association of Neonatal Nurses Educational Conference

Madera, CA September 24, 2011

### NANN 28th Annual Educational Conference

Online abstract submission deadline October 17, 2011

### NANN 7th Annual Research Summit

Supported by Mead Johnson Nutrition

Scottsdale, AZ March 27–29, 2012

Look for chapter meeting dates at [www.nann.org](http://www.nann.org).

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