

# PEDIATRIC REVIEW

CHILDREN'S HOSPITAL • NEW ORLEANS

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## Management of Bronchiolitis and the Use of Palivizumab/Synagis for RSV Prevention



By **Keith Perrin, MD**, pediatrician at Children's Hospital. This issue of *Pediatric Review* is intended for pediatricians, family physicians and all other interested medical professionals. For CME purposes, the author has no relevant financial relationships to disclose.

### OBJECTIVES

At the end of this activity, the participant should be able to:

1. Identify the populations most at risk for bronchiolitis
2. Describe the current evidence based treatment of bronchiolitis
3. Identify the populations who will benefit most from palivizumab
4. Discuss why patients outside of this population get little benefit from palivizumab prophylaxis at a very high cost

### BRONCHIOLITIS OVERVIEW

Bronchiolitis is the main cause of hospitalizations due to lower respiratory tract infections in the United States and particularly affects children <1 year of age. Even though the incidence of bronchiolitis has been on the increase, the mortality has remained stable. The main agent causing bronchiolitis is respiratory syncytial virus (RSV), which accounts for 50% to 90% of the cases. Groups of children that have been identified as more frequently and more severely affected by RSV include those of a young age (especially <1 year) or low gestational age (GA; especially <32 weeks) or those who have chronic lung disease (CLD), hemodynamically significant congenital heart disease (HSCHD), or severe immunodeficiency. Specialists have inferred that patients with cystic fibrosis, severe problems with handling secretions and infantile paralysis have more severe problems with bronchiolitis and may benefit from RSV prophylaxis, but to date there is no evidence base confirming this assertion.

In 2006 a study titled Diagnosis and Management of

Bronchiolitis, developed evidence-based clinical practice guidelines; these guidelines are incorporated into this review article. Where guidelines have had significant changes due to more recent research, the more recent information is noted. These guidelines with updates are a great foundation for the treatment of bronchiolitis and the prevention of RSV-related disease.

### DIAGNOSIS AND ASSESSMENT OF RISK INTRODUCTION

The diagnoses of bronchiolitis and assessment of disease severity should be based on history and the physical examination. Clinicians should not routinely order laboratory and radiologic studies for diagnosis. It is important to assess risk factors. Factors that are more likely to have severe disease are: age less than 12 weeks, a history of prematurity, history of chronic lung disease (CLD), hemodynamically significant congenital heart disease (HSCHD), or significant immunodeficiency when making decisions about evaluation and management.

### TREATMENT

Bronchodilators should not be used routinely in the management of bronchiolitis. They can be used when considering other concomitant diagnosis, however, the inhaled bronchodilators should be continued only if there is a documented positive clinical response using an objective means of evaluation. Recently inhalation therapy using hypertonic (3%) saline solution has shown indications that it may be useful. Frequent suctioning of secretions is warranted. Corticosteroid medications should not be used routinely in the management of bronchiolitis. The use of Ribavirin is no longer relevant and is contraindicated. Antibacterial medications should be used only in children with bronchiolitis who have specific indications of the coexistence of a bacterial infection.

Assessment of hydration and appropriate therapy is important. Chest physiotherapy should not be used routinely. Supplemental oxygen is indicated if oxyhemoglobin saturation (SpO<sub>2</sub>) falls persistently below 90% in previously healthy infants. If the SpO<sub>2</sub> does persistently fall below 90%, adequate supplemental oxygen should be used to maintain SpO<sub>2</sub> at or above 90%. Oxygen may be discontinued if SpO<sub>2</sub> is at or

**Figure 1: Evidence Quality Scale for Diagnosis and Management of Bronchiolitis**

Evidence quality	Preponderance of benefit or harm	Balance of benefit and harm
A. Well-designed RCTs or diagnostic studies on relevant populations	Strong recommendation	Option
B. RCTs or diagnostic studies with minor limitations; overwhelmingly consistent evidence from observational studies	Recommendation	
C. Observational studies (case-control and cohort design)	Recommendation	
D. Expert opinion, case reports, reasoning from first principles	Option	No recommendation
X. Exceptional situations in which validating studies cannot be performed and there is a clear preponderance of benefit or harm	Strong recommendation	

above 90% and the infant is feeding well and has minimal respiratory distress. As the child's clinical course improves, continuous measurement of SpO<sub>2</sub> is not routinely needed. Infants with a known history of hemodynamically significant heart or lung disease and premature infants require close monitoring as the oxygen is being weaned.

### PROPHYLAXIS

In 1998, the Impact-RSV study revealed that monthly intramuscular injections of Palivizumab (a monoclonal antibody that binds to the RSV fusion protein and inhibits its entry into the cell) administered to children with CLD or prematurity resulted in a 55% reduction in RSV hospitalization compared with placebo. A similar effect was shown for children with HSCHD. Neither study showed a difference in mortality.

CDC surveillance data has clearly determined that for our region the start of the season is November 1 and the end of the season is usually March 31. It is also clear that giving Palivizumab prophylaxis outside of the indication does not decrease mortality and data indicates it cost much more than the benefit it delivers.

In 1998, modified in 2003 and 2009, the American Academy of Pediatrics (AAP) recommended Palivizumab for use in children (1) aged <24 months (all chronological ages are measured November 1 of the treatment year) and requiring CLD therapy within six months of RSV season, (2) aged <24 months with HSCHD, (3) <29 weeks GA and age <12 months, (4) chil-

dren 29 to <32 weeks GA and age <6 months, and (5) children 32 to <35 weeks GA with additional risk factors, either one or more siblings <5 year of age or attendance at a day care center.

The number of doses recommended for children fitting the criteria in the previous paragraph are: (A) children <32 weeks gestation, with HSCHD or CLD should receive up to five doses monthly of 15 mg/kg per dose administered intramuscularly with the last dose no later than March 31, (B) children gestational age 32 to <35 weeks should receive prophylaxis only until they reach three months of age and should receive a maximum of three monthly doses of 15 mg/kg; many will receive only one or two doses before they reach three months of age. Once an infant 32 to <35 weeks gestational age has passed 90 days of chronologic age, the risk of hospitalization attributable to RSV lower respiratory tract disease is reduced and administration of Palivizumab is not recommended. Again the last dose is to be given no later than March 31.

Although specific recommendations for immunocompromised children cannot be made, infants and young children with severe immunodeficiency (e.g., severe combined immunodeficiency or advanced AIDS) may benefit from prophylaxis. Limited studies suggest that some patients with cystic fibrosis may be at increased risk of RSV infection, however, there is insufficient data to determine the effectiveness of Palivizumab for this patient population.

Hand decontamination remains the most important prophylaxis for RSV. Hands should be decontaminated before and after

direct contact with patients, after contact with inanimate objects in the direct vicinity of the patient, and after removing gloves. Alcohol-based rubs are preferred for hand decontamination with an alternative of hand washing with antimicrobial soap.

Other prophylactic measures that should be considered are: infants should not be exposed to passive smoking, breastfeeding and consideration of complimentary and other alternative medicine.

### PALIVIZUMAB DISCUSSION

Palivizumab administration to well-defined high-risk groups results in reductions of hospital days, but the intervention is costly. Palivizumab, even within indications, does not decrease the mortality rate of bronchiolitis due to RSV. The AAP has recommended which groups should be administered Palivizumab for the best clinical and cost-effective outcomes. Changes in bronchiolitis recommendations are often made in response to new data and should take into account restricting an expensive intervention to those who could benefit the most. The extensive information can cause confusion and complicate appropriate use of the medication.

It is clearly more beneficial to your patients to focus on giving the patients within the AAP guidelines their appropriate doses at the appropriate times. In a recent study physician education was shown to improve the inappropriate use of Palivizumab. However, it is clear that many children receive

inappropriate numbers of doses at inappropriate times. It is also clear that following the AAP guidelines will do no harm to your patients and allow you more time to devote to assuring that the appropriate patients are identified and that they receive dosing appropriately in a timely fashion.

### RESOURCE FOR EDUCATING YOUR FAMILIES

The AAP Bookstore sells a pamphlet: *Bronchiolitis and Your Young Child*

### REFERENCES

- 1) American Academy of Pediatrics Subcommittee on Diagnosis and Management of Bronchiolitis. *Diagnosis and Management of Bronchiolitis*. Pediatrics. 2006;118(4):1774–1793pmid:17015575
- 2) Committee on Infectious Diseases. From the American Academy of Pediatrics: Policy statements—modified recommendations for use of palivizumab for prevention of respiratory syncytial virus infections. Pediatrics. 2009;124(6):1694–1701pmid:19736258
- 3) Keith M Perrin, Rodolfo E Bégúé. Use of Palivizumab in Primary Practice Pediatrics 2012; 129:55; originally published online December 19, 2011; DOI: 10.1542/peds.2010-2991
- 4) CDC Morbidity and Mortality Weekly; September 9, 2011/60(35);1203-1206



# DOCTORS' NOTES

## Promoting Children's Hospital's medical advancements & achievements

**Michael Hagmann, MD**, otolaryngologist at Children's Hospital and assistant professor of otolaryngology at LSU Health Sciences Center, and **Larry Simon, MD**, pediatric otolaryngologist, have been elected president and vice president, respectively, of the Greater New Orleans ENT Society.

**Evelyn Kluka, MD**, director of pediatric otolaryngology at Children's Hospital and vice-chair and professor of otolaryngology at LSU Health Sciences Center, had an article, *Emerging Dilemmas with Methicillin-Resistant Staphylococcus Aureus Infections in Children*, published in the December 2011 issue of Current Opinion in Otolaryngology and Head and Neck Surgery.

**Michael Moses, MD**, director of the Cleft Lip and Palate/Craniofacial Team at Children's Hospital, has co-authored three articles in the November 2011 issue of The Cleft Palate-Craniofacial Journal – *Flood, Disaster, and Turmoil: Social Issues in Cleft and Craniofacial Care and Crisis Relief, Incidence of Cleft Pathology in Greater New Orleans Before and After Hurricane Katrina* (co-authored with **Ernest S. Chiu, MD**, plastic surgeon at Children's Hospital, **Mary Ellen Alexander, RN**, and **Hugo St. Hilaire, MD, DDS**, plastic surgeon at Children's Hospital and assistant professor of clinical surgery at LSU Health Sciences Center), and *Natural Disaster and Crisis: Lessons learned About Cleft and Craniofacial Care From Hurricane Katrina and the West Bank* (co-authored with Alexander).

**Richard A. Spector, MD, JD**, had an article, *Off-Label Prescribing: The Physician's Desk Reference and the Court*, in the Journal of the Louisiana Medical Society (163: 275-80, 2011). Dr. Spector's CME Monograph, *Obstructive Sleep Apnea for All Specialties: Reducing Perioperative Risk* is posted at <http://www.medicalinteractive.com/2011>.



CHILDREN'S  
HOSPITAL

*New Orleans*

THE  
HEART  
CENTER

Cardiac Surgery: (504) 896-3928

Cardiology: (504) 896-9751

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## The Heart Center at Children's Hospital

The Heart Center at Children's Hospital is nationally recognized as a leader in the diagnosis and treatment of patients, from fetus to adult, with congenital cardiovascular disorders. Our accomplished and dedicated team of specialists includes physicians and surgeons, nurses and support staff who are trained to care for the unique needs of children whose levels of care range from basic to highly critical.

Each year, nearly 2,000 children and adults from throughout the world visit Children's Hospital for cardiology services, while our cardiothoracic surgeons perform more than 450 surgical procedures a year. Approximately half of these are performed on children younger than age 1. Additional patients are diagnosed and monitored through the center's telemedicine program, a service available to physicians practicing at outlying hospitals. The new adult congenital cardiology program provides follow-up and necessary treatment, including therapeutic and interventional options, for adults with congenital heart defects.

Our staff is focused on ensuring the most sophisticated quality of care in a compassionate, comfortable and convenient environment. Our goal is to enhance the quality of life for every child. A full range of congenital heart disease surgeries using the most advanced surgical techniques is performed at Children's Hospital.

The Heart Center's partnership with Louisiana State University Health Sciences Center enables residents and medical

students from LSU Medical School, as well as nursing students from several local teaching institutions, to receive training in pediatric cardiology and cardiothoracic surgery. Formal lectures and clinical rotations in cardiology and intensive care help ensure that future cardiology specialists and nurses become experts in the field.

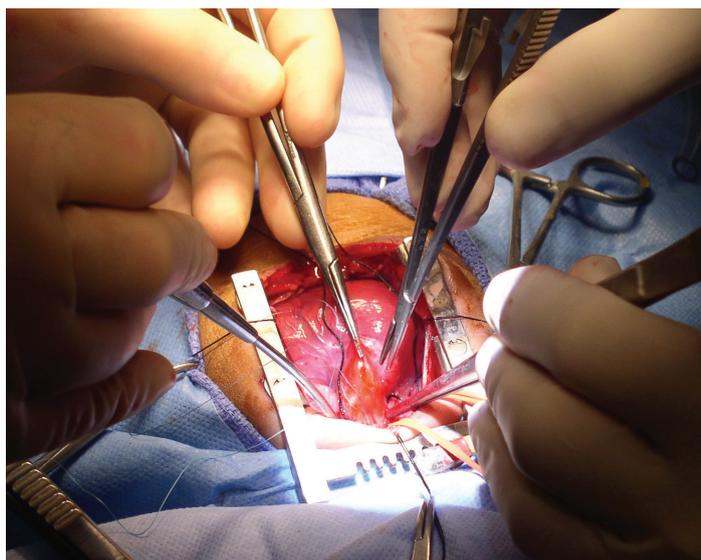
### **Cardiac Catheterization**

Advanced, invasive diagnostic and interventional procedures are performed in the state-of-the-art, all-digital Solon B. Turman Cardiovascular Biplane Catheterization Laboratory. Our cardiologists specialize in a wide range of diagnostic and interventional procedures. Advanced equipment, such as biplane X-ray, and expert staff ensure the safety of our patients and accuracy of their treatment.

### **Non-Invasive Imaging**

More than 4,000 echocardiograms are performed each year at Children's Hospital's state-of-the-art, digital echocardiography lab, complete with the latest 3-D echocardiography technology. Other widely used non-invasive diagnostic services include cardiac MRI 3-D imaging technology and reconstruction, electrocardiograms (EKGs), chest X-rays, stress tests, tilt table tests, Holter and event monitoring.

[www.chnola.org/heartcenter](http://www.chnola.org/heartcenter)



qualified physicians and surgeons work closely together to treat these patients, as their needs change throughout life.

### Cardiothoracic Surgery at Children's Hospital

One of the most successful cardiac surgical programs in the country is located at Children's Hospital, where cardiac surgeons perform more than 450 surgical procedures a year to complete repair of complex congenital heart defects. Approximately half of these are performed on children younger than age one.

Our strength stems from the expertise of our surgeons, who in addition to their skilled surgical approach, closely monitor patients long after they leave the operating room. The specially trained team of pediatric anesthesiologists and perfusionists customize aspects of peri-operative care and cardiac bypass to meet the needs of each patient. Cardiac nurses and technicians provide around-the-clock care until patients are able to return home.

### Maternal-Fetal Cardiology

One highlight of our program is the burgeoning Fetal Cardiology Clinic, a program designed to provide the specialized medical care required to treat pregnant women with congenital heart disease and/or women carrying a child with heart disorder. A multi-disciplinary team is composed of perinatologists, cardiologists, neonatologists, congenital heart surgeons and specialized nurses highly skilled in the management and treatment of women and/or their babies with heart conditions. State-of-the-art ultrasound equipment is used to identify fetal cardiac abnormalities as early as 14 weeks gestation. The overall goal of the program is to offer the best possible service to a mother and/or fetus with cardiac abnormality, during pregnancy, labor and following delivery.

### Adults with Congenital Heart Disease

This program provides diagnosis with diagnosis and follow-up care, including therapeutic and interventional options, for older patients with congenital heart disorders. Teens and adults with heart disease, both before and following surgery, have unique problems, including residual hemodynamic abnormalities, cardiac rhythm disturbances, and risks for sudden death. A team of highly

### ECMO

ECMO (Extra Corporeal Membrane Oxygenation) is a life-sustaining option used to support patients with severe respiratory distress from meconium aspiration, persistent pulmonary hypertension, sepsis or congenital diaphragmatic hernia that have not responded to conventional therapies. ECMO can also be used to support children after cardiac surgery who need more time for cardiopulmonary recovery. Under management by our cardiothoracic surgeons, ECMO is initiated and maintained by our perfusion staff and specially trained respiratory therapists. Children's Hospital's ECMO program is the largest and most successful in the region.

### Transport/Critical Care

Critical care services at Children's Hospital offer the highest level of both cardiac and non-cardiac care in the 20-bed cardiac ICU for patients recovering from heart-related illnesses. Transport teams are available 24 hours a day for land or air emergency transports. Approximately 250 to 300 children a year are referred to Children's Hospital by ground or air for specialty care by pediatric intensivists and staff.

## The Heart Team

### Cardiology

**Appointments** (504) 896-9751

**Office Hours** 8 a.m. – 4:30 p.m.

#### Physicians

**Robert Ascuitto**, PhD, MD, Director of Cardiology

**Nancy Ross-Ascuitto**, MD,

Director of Pediatric Cardiology Training Program

**Kelly Gajewski**, MD

**Christian Lilje**, MD

**Steffan Sernich**, MD

**Ernest Siwik**, MD

**Aluizio Stopa**, MD

### Cardiothoracic Surgery

**Appointments** (504) 896-3928

**Office Hours** 8 a.m. – 4:30 p.m.

#### Physicians

**Joseph Caspi**, MD, Director of Pediatric Cardiothoracic Surgery

**Timothy Pettitt**, MD, Director of ECMO Services

**Jaime Dorotan**, MD

**Dominick Lago**, MD

# Children's Hospital Specialty Clinics & Therapies

CLINICS IN NEW ORLEANS, METAIRIE, BATON ROUGE AND LAFAYETTE

## Allergy/Immunology

Dimitriades, Victoria<sup>[M, BR]</sup> ..... (504) 896-9589  
 Ochoa, Augusto<sup>[M, L]</sup> ..... (504) 896-9589  
 Paris, Ken<sup>[M, L]</sup> ..... (504) 896-9589  
 Sorensen, Ricardo<sup>[M]</sup> ..... (504) 896-9589

## Amputee Clinic

Gonzales, Tony ..... (504) 896-9569

## Cardiology

Ascuitto, Robert<sup>[BR]</sup> ..... (504) 896-9751  
 Gajewski, Kelly ..... (504) 896-9751  
 Lilje, Christian ..... (504) 896-9751  
 Ross-Ascuitto, Nancy<sup>[BR]</sup> ..... (504) 896-9751  
 Sernich, Steffan ..... (504) 896-9751  
 Siwik, Ernest ..... (504) 896-9571  
 Stopa, Aluizio ..... (504) 896-9571

## Cardiothoracic Surgery

Caspi, Joseph ..... (504) 896-3928  
 Dorotan, Jaime ..... (504) 896-3928  
 Pettitt, Timothy ..... (504) 896-3928

## Children at Risk Evaluation (CARE) Center

Jackson, Jamie ..... (504) 896-9237  
 Wetsman, Ellie<sup>[BR]</sup> ..... (504) 896-9237

## Cleft/Craniofacial

McBride, Lori ..... (504) 896-9568  
 Moses, Michael ..... (504) 896-9857  
 St. Hilaire, Hugo ..... (504) 896-9857

## Clinical Trials

## Cochlear Implants

Arriaga, Moises ..... (504) 896-2141  
 Marks, Herbert ..... (504) 896-2141

## Craniofacial/Genetics

Lacassie, Yves<sup>[M]</sup> ..... (504) 896-9857  
 Marble, Michael ..... (504) 896-9857  
 Zambrano, Regina ..... (504) 896-9857

## Cystic Fibrosis

Levine, Stephen ..... (504) 896-9436  
 Pepiak, Derek ..... (504) 896-9436

## Dental

Mobile Dental Program ..... 34-BRUSH  
 Ritwik, Priyanshi ..... (504) 896-9580

## Dermatology

Poole, Jeffrey ..... (504) 896-9532

## Developmental/High Risk

Wong, Joaquin ..... (504) 896-9458

## Diabetes

Chalew, Stuart ..... (504) 896-9441  
 Gomez, Ricardo ..... (504) 896-9441  
 Stender, Sara ..... (504) 896-9441  
 Vargas, Alfonso ..... (504) 896-9441

## Down Syndrome

Lacassie, Yves<sup>[M]</sup> ..... (504) 896-9254  
 Marble, Michael ..... (504) 896-9254  
 Zambrano, Regina ..... (504) 896-9572

## Endocrinology

Chalew, Stuart ..... (504) 896-9441  
 Gomez, Ricardo<sup>[M, BR]</sup> ..... (504) 896-9441  
 Stender, Sara ..... (504) 896-9441  
 Vargas, Alonso<sup>[M, BR]</sup> ..... (504) 896-9441

## Epilepsy Surgery

McGuire, Shannon ..... (504) 896-9458

## Feeding Clinic

Hyman, Paul ..... (504) 896-9534

## Gastroenterology

Brown, Raynorda<sup>[M, BR]</sup> ..... (504) 896-9534  
 Hyman, Paul ..... (504) 896-9534  
 Keith, Brent ..... (504) 896-9534  
 Monagas, Javier<sup>[M]</sup> ..... (504) 896-9534  
 Noel, Adam<sup>[M]</sup> ..... (504) 896-9534  
 Rosenberg, Allan<sup>[M, BR]</sup> ..... (504) 896-9534

## Genetics

Lacassie, Yves<sup>[M, BR]</sup> ..... (504) 896-9254  
 Marble, Michael<sup>[BR, L]</sup> ..... (504) 896-9572  
 Zambrano, Regina<sup>[M, BR]</sup> ..... (504) 896-9572

## Gynecology

Wells, Lindsay ..... (504) 896-2888

## Hematology/Oncology

Gardner, Renee ..... (504) 896-9740  
 Morales, Jaime<sup>[BR, L]</sup> ..... (504) 896-9740  
 Morrison, Cori ..... (504) 896-9740  
 Prasad, Pinki<sup>[L]</sup> ..... (504) 896-9740  
 Velez, Maria<sup>[BR]</sup> ..... (504) 896-9740  
 Yu, Lolie<sup>[L]</sup> ..... (504) 896-9740

## Hemophilia Clinic

HIV Clinic/FACES  
 Wilcox, Ronald ..... (504) 896-9583

## Hospitalists

Referrals ..... (504) 896-3924  
 English, Robin ..... (504) 896-3924  
 Hauser, Andrea ..... (504) 896-3924  
 Hescocock, Jay ..... (504) 896-3924  
 Roy, Melissa ..... (504) 896-3924  
 Sulton-Villavasso, Carmen ..... (504) 896-3924

## Infectious Disease

Bégué, Rodolfo ..... (504) 896-9583  
 Seybolt, Lorna ..... (504) 896-9583  
 Wilcox, Ronald ..... (504) 896-9583

## International Adoption Clinic

Bégué, Rodolfo ..... (504) 896-9583

## Kidney Transplant

Buell, Joseph ..... (504) 896-9238  
 Killackey, Mary ..... (504) 896-9238  
 Paramesh, Anil ..... (504) 896-9238  
 Slakey, Douglas ..... (504) 896-9238

## Kidney Transplant Clinic

Vehaskari, Matti ..... (504) 896-9238

## Metabolic

Marble, Michael ..... (504) 896-9254

## Muscular Dystrophy

Tilton, Ann ..... (504) 896-9283  
 Weimer, Maria ..... (504) 896-9283  
 Wong, Joaquin ..... (504) 896-9283

## Nephrology

Aviles, Diego<sup>[BR, L]</sup> ..... (504) 896-9238  
 Bamgbola, Oluwatoyin<sup>[BR, L]</sup> ..... (504) 896-9238  
 Iorember, Franca ..... (504) 896-9238  
 Straatman, Caroline ..... (504) 896-9238  
 Vehaskari, Matti<sup>[L]</sup> ..... (504) 896-9238

## Neurofibromatosis

Lacassie, Yves ..... (504) 896-9254  
 Marble, Michael ..... (504) 896-9254  
 Zambrano, Regina ..... (504) 896-9572

## Neurology

Conravey, Allison<sup>[M]</sup> ..... (504) 896-9458  
 Deputy, Stephen ..... (504) 896-9458  
 McGuire, Shannon ..... (504) 896-9458  
 Tilton, Ann ..... (504) 896-9283  
 Weimer, Maria ..... (504) 896-9859  
 Wong, Joaquin ..... (504) 896-9458

## Neuromuscular

Gonzales, Tony ..... (504) 896-9569  
 Levine, Stephen ..... (504) 896-9436  
 Tilton, Ann ..... (504) 896-9319  
 Weimer, Maria ..... (504) 896-9859  
 Wong, Joaquin ..... (504) 896-9283

## Neurosurgery

Greene, Clarence<sup>[L]</sup> ..... (504) 896-9568  
 McBride, Lori ..... (504) 896-9568  
 Nadell, Joseph<sup>[L]</sup> ..... (504) 896-9568

## Occupational Therapy

## Ophthalmology

Ellis, George, Jr.<sup>[M]</sup> ..... (504) 896-9426  
 Eustis, Sprague ..... (504) 896-9426  
 Leon, Alejandro<sup>[M]</sup> ..... (504) 896-9426  
 Vives, Tere<sup>[M]</sup> ..... (504) 896-2134

## Orthopaedics

Accousti, William<sup>[M, L]</sup> ..... (504) 896-9569  
 Chavez, Manuel, PA ..... (504) 896-9569  
 Faust, Donald ..... (504) 896-9532  
 Gonzales, Tony<sup>[BR, L]</sup> ..... (504) 896-9569  
 Heinrich, Stephen ..... (504) 896-9569  
 King, Andrew ..... (504) 896-9569

Lago, Theresa, PA ..... (504) 896-9569  
 Lee, Raven, PA ..... (504) 896-9569  
 Patel, Prerana ..... (504) 896-9569  
 Vu, Hung, PA ..... (504) 896-9569

## Otolaryngology (ENT)

Arriaga, Moises ..... (504) 896-9572  
 Hagmann, Michael<sup>[M]</sup> ..... (504) 896-9532  
 Jeyakumar, Anita ..... (504) 896-9532  
 Kluka, Evelyn<sup>[M]</sup> ..... (504) 896-9532  
 Marks, Herbert ..... (504) 896-9572  
 Simon, Lawrence<sup>[BR]</sup> ..... (504) 896-9832

## Physical Therapy

## Plastic Surgery

Chiu, Ernest ..... (504) 896-2838  
 Moses, Michael ..... (504) 896-9857  
 St. Hilaire, Hugo ..... (504) 896-9857

## Psychology

Courtney, John ..... (504) 896-9484  
 Franz, Diane ..... (504) 896-9484  
 Gentile, Steven ..... (504) 896-9484  
 Henke, Amy ..... (504) 896-9484  
 Heslet, Lynette ..... (504) 896-9484  
 Jackson, David ..... (504) 896-9484  
 Kamps, Jodi ..... (504) 896-9484  
 Webb, Nadia ..... (504) 896-9484

## Pulmonology

Edell, Dean ..... (504) 896-9436  
 Levine, Stephen ..... (504) 896-9438  
 Pepiak, Derek ..... (504) 896-9438

## Rheumatology

Brown, Amanda<sup>[BR, L]</sup> ..... (504) 896-9385  
 Dimitriades, Victoria ..... (504) 896-9385  
 Gedalia, Abraham<sup>[M, BR, L]</sup> ..... (504) 896-9385

## Scoliosis/Pediatric Spine

Accousti, William<sup>[M, L]</sup> ..... (504) 896-9569  
 Gonzales, Tony<sup>[BR, M, L]</sup> ..... (504) 896-9569  
 King, Andrew ..... (504) 896-9569  
 Patel, Prerana ..... (504) 896-9569

## Spasticity

Nadell, Joseph ..... (504) 896-9568  
 Tilton, Ann ..... (504) 896-9283  
 Wong, Joaquin ..... (504) 896-9283

## Speech & Hearing

Surgery ..... (504) 896-9551

## Surgery

Hill, Charles ..... (504) 896-3977  
 Steiner, Rodney ..... (504) 896-9756  
 Valerie, Evans ..... (504) 896-9756

## Travel Clinic

Bégué, Rodolfo ..... (504) 896-9583  
 Seybolt, Lorna ..... (504) 896-9583  
 Wilcox, Ronald ..... (504) 896-9583

## Urology

Eeg, Kurt<sup>[L]</sup> ..... (504) 896-9233  
 Ortenberg, Joseph<sup>[BR, L]</sup> ..... (504) 896-9233  
 Roth, Christopher ..... (504) 896-9233

## Vascular Anomalies

Chiu, Ernest ..... (504) 896-2838  
 Poole, Jeffrey ..... (504) 896-2838  
 Simon, Lawrence ..... (504) 896-2838

## Wound Clinic

Valerie, Evans ..... (504) 896-9756

## TRANSPORT/TRANSFER

1-855-CHNOLA1



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In addition to Children's Hospital Main Campus, some physicians also hold clinics at other centers.

Children's Hospital ..... (504) 899-9511  
 Ambulatory Care Center ..... (504) 896-9532  
 The Metairie Center<sup>[M]</sup> ..... (504) 832-4033  
 Baton Rouge Center<sup>[BR]</sup> ..... (225) 216-3047  
 Lafayette Center<sup>[L]</sup> ..... (337) 289-8289

## ARTICLE EVALUATION

**You must complete the following evaluation in order to receive your CME credit.**

I enhanced my knowledge of the topic:

Very much				Very little
5	4	3	2	1

The author met the stated objectives:

Greatly				Not at all
5	4	3	2	1

The overall evaluation of the article:

Excellent				Poor
5	4	3	2	1

Did you receive any commercial bias in the material presented in this activity?

Yes  No

How long did it take to read the issue and complete the quiz:

30 minutes                      1 hour

## CONTINUING MEDICAL EDUCATION

Children's Hospital is accredited by the Louisiana State Medical Society to provide continuing medical education for physicians. Children's Hospital designates this educational activity for a maximum of **1.0 AMA PRA Category 1 Credit**.™ Physicians should only claim credit commensurate with the extent of their participation in the activity. Please PRINT your personal information.



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## CME Offerings

### Pediatric Grand Rounds

1st, 3rd and 5th Wednesday  
of each month, 8 – 9 a.m.  
Children's Hospital Auditorium

### Child Neurology Case Conference

1st, 2nd and 4th Wednesday  
of each month, 2 – 3 p.m.  
ACC Room 3302

### Tumor Board

Wednesdays, 4 – 5 p.m.  
Children's Hospital Auditorium

### Weekly Pathology Conference

Thursdays, 8 – 9 a.m.  
Research Center, Room 4222

### Neonatology Conference

Thursdays, 12:30 – 1:30 p.m.  
NICU Conference Room

### Cath Conference

Fridays, 8 – 9 a.m.  
ACC Room 3302

Please call the CME office  
at (504) 896-9264  
for more information.

Please record your responses to the questions on the form below. Please circle the best possible answer. CME offer is good through May 2012.

- Which of the following groups of children are significantly at higher risk for bronchiolitis:
  - Children <12 months old
  - Children with HSCHD or CLD
  - Children >24 to <36 months old
  - Children with IgA deficiencies
  - Only a & b
  - All of the above
- The following are evidenced based treatment for bronchiolitis:
  - Corticosteroids in the routine management of bronchiolitis
  - Bronchodilators in the routine management of bronchiolitis
  - Good hydration
  - Both a & b
- Which groups of children are recommended to receive palivizumab prophylaxis by AAP guidelines:
  - Children born gestational age <29 weeks and <12 months of age as of Nov. 1 of the treatment year
  - Children born gestational age <29 weeks with HSCHD or CLD and > 24 months as of Nov. 1 of the treatment year
  - Children born gestational age 32 to <35 weeks and age 1 month as of Nov. 1 of the treatment year without a <5 years of age sibling and cared for by mother at home
  - All of the above
- Effective prophylaxis measured by outcome and cost for RSV disease is/are:
  - Good hand washing or use of alcohol-based hand rub
  - Eliminating as much passive smoking around infants as you can
  - Breast feeding of infants
  - Palivizumab prophylaxis given within AAP guidelines
  - All of the above
- Following AAP guidelines for palivizumab prophylaxis should any child > 24 months of age receive palivizumab prophylaxis:
  - Yes
  - No

**To receive CME credit, participants must score 100%.**

To receive CME credit, mail, e-mail or fax your completed form to:

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