

## Evidence Based Guideline

### Respiratory Syncytial Virus Prophylaxis

**File Name:** respiratory\_syncytial\_virus\_prophylaxis  
**Guideline Number:** EBG.DRU4170  
**Origination:** 1/1999  
**Last CAP Review:** 2/2010  
**Next CAP Review:** 2/2012  
**Last Review:** 2/2010

#### Description of Procedure or Service

---

Respiratory syncytial virus (RSV) is the most common cause of lower respiratory infections in children. At highest risk include those less than 2 years old with prematurity, chronic lung disease (CLD, [formerly known as bronchopulmonary dysplasia]), congenital heart disease, or multiple congenital anomalies. Immune prophylaxis against RSV is a prevention strategy to reduce the incidence of infection and its associated morbidity, including hospitalization, in high-risk infants.

RSV infections typically occur in the winter months, starting from October to December and ending from March to May. Considerable variation in the timing of community outbreaks is observed year to year. According to the Centers for Disease Control and Prevention (CDC), onset of the RSV season occurs when the median percentage of specimens testing positive for RSV is 10% higher over a 2-week period. In the U.S., RSV is associated with 90,000 pediatric hospitalizations annually and 450 deaths.

The following summarizes the immune prophylaxis therapies for RSV:

Respiratory Syncytial Virus Immune Globulin Intravenous (Human) (RSV-IGIV) (RespiGam®). FDA approved 1993. As of May 2009, RespiGam® is no longer available.

Palivizumab (Synagis®). FDA approved in 1998 the intramuscular injection for the prevention of serious lower respiratory tract infection caused by RSV in pediatric patients at high risk of RSV. Safety and efficacy were established in infants with chronic lung disease (bronchopulmonary dysplasia [BPD]), infants with a history of premature birth (< 35 weeks gestational age) and children with hemodynamically significant congenital heart disease.

This Evidence Based Guideline does not address therapies to treat RSV infection.

**\*\*\*Note: This Evidence Based Guideline is complex and technical. For questions concerning the technical language and/or specific clinical indications for its use, please consult your physician.**

#### Evidence Based Guideline for Respiratory Syncytial Virus Prophylaxis

---

Monthly administration of immune prophylaxis for respiratory syncytial virus during the RSV season with palivizumab may be considered appropriate in the following infants and children in accordance with the current (2009) guidelines from the American Academy of Pediatrics.

1. **Infants with chronic lung disease** (CLD, [formerly known as bronchopulmonary dysplasia]). Infants and children younger than 24 months of age who receive medical therapy (supplemental oxygen, bronchodilator, diuretic or chronic corticosteroid therapy) for chronic lung disease within 6 months before the start of the RSV season.
2. **Infants born before 32 weeks' gestation** (31 weeks, 6 days or less). Infants in this category may benefit from RSV prophylaxis, even if they do not have CLD. For these infants, major risk factors to consider include gestational age and chronologic age at the start of the RSV season. **Infants born at 28**

# Respiratory Syncytial Virus Prophylaxis

---

**weeks** of gestation or earlier (up to and including 28 weeks, 6 days) may benefit from prophylaxis during the RSV season, whenever that occurs during the first 12 months of life. **Infants born at 29 to 32 weeks** of gestation may benefit most from prophylaxis if younger than 6 months of age at the start of the RSV season. In this setting, 32 weeks' gestation refers to an infant born before the 32<sup>nd</sup> week of gestation (31 weeks, 6 days or less).

3. **Infants born at 32 to less than 35 weeks' gestation** (defined as 32 weeks, 0 days through 34 weeks, 6 days). Infants younger than 3 months of age at the start of or born during RSV season, or who are likely to have an increased risk of exposure to RSV when at least one of the following risk factors is present:
  - Infant attends child care, defined as a home or facility where care is provided for any number of infants or young toddlers in the child care facility; or
  - Infant has a sibling younger than 5 years of age.

Infants in this gestational age category should receive prophylaxis only until they reach 3 months of age, maximum of 3 monthly doses.

4. **Infants with congenital abnormalities of the airway or neuromuscular disease.** Infants born before 35 weeks of gestation who have either congenital abnormalities of the airway or a neuromuscular condition that compromises handling of respiratory secretions.
5. **Infants and children with congenital heart disease.** Children who are 24 months of age or younger with hemodynamically significant cyanotic or acyanotic congenital heart disease may benefit from palivizumab prophylaxis. Decisions regarding prophylaxis with palivizumab in children with congenital heart disease should be made on the basis of the degree of physiologic cardiovascular compromise. Children younger than 24 months of age with congenital heart disease who are most likely to benefit from immunoprophylaxis include:
  - Infants who are receiving medication to control congestive heart failure;
  - Infants with moderate to severe pulmonary hypertension;
  - Infants with cyanotic heart disease

After surgical procedures that use cardiopulmonary bypass, for children who still require prophylaxis, a postoperative dose of palivizumab may be considered appropriate as soon as the patient is medically stable.

## Evidence Based Guideline for Respiratory Syncytial Virus Prophylaxis indicates it is not recommended in the following situations:

---

Immunoprophylaxis for respiratory syncytial virus is not recommended for any indication not specified above, including but not limited to immunocompromised children; patients with cystic fibrosis; or for use in controlling outbreaks of health care-associated disease.

Immunoprophylaxis for respiratory syncytial virus is also not recommended for:

- Infants and children with hemodynamically insignificant heart disease (e.g., secundum atria septal defect, small ventricular septal defect, pulmonic stenosis, uncomplicated aortic stenosis, mild coarctation of the aorta, and patent ductus arteriosus);
- Infants with lesions adequately corrected by surgery, unless they continue to require medication for congestive heart failure;
- Infants with mild cardiomyopathy who are not receiving medical therapy for the condition.

## Rationale

---

The AAP has updated its guidelines regarding the use of immune prophylaxis for respiratory syncytial virus (RSV). The updated guidelines were published in the new AAP Red Book 2009 in the chapter on RSV. The following is a summary, provided by the AAP, of the major changes to the guidelines:

# Respiratory Syncytial Virus Prophylaxis

---

1. Recommendations for initiation and termination of prophylaxis are modified to reflect current CDC descriptions of RSV seasonality in different geographic locations within the United States.
2. The recommendations remain unchanged for infants with congenital heart disease, chronic lung disease of prematurity and birth before 32 weeks' gestation.
3. Regardless of the month when the first dose is administered, the recommendation for a maximum number of 5 doses for all geographic areas is emphasized for infants with hemodynamically significant congenital heart disease, chronic lung disease of prematurity or birth before 32 weeks' gestation and for a maximum number of 3 doses for infants with a gestational age of 32 to 35 weeks without hemodynamically significant congenital heart disease or chronic lung disease.
4. Risk factors for severe RSV lower respiratory tract disease among infants born between 32 to 35 weeks' gestation have been modified to include only:
  - Infant attends child care
  - Siblings living in the household are less than 5 years of age
5. Infants 32 to 35 weeks' gestation age who are born within the 3 months before the onset of RSV season and throughout the RSV season will qualify for prophylaxis if they have at least one [of the modified] risk factors. Earlier recommendations required 2 of 5 [different] risk factors.
6. Infants who qualify for prophylaxis in the 32 to 35 weeks' gestation age group should receive prophylaxis only until they reach 90 days of age or a maximum of 3 doses (whichever comes first). This is a change from the previous recommendation for 5 months of prophylaxis.
7. The AAP's definition of gestational age is used throughout this document. For example, 32 to 35 weeks' gestation is defined as 32 weeks, 0 days through 34 weeks, 6 days.”

In August 2009, the AAP released a policy statement (including references and evidence grading) that supported their revised indications for the use of palivizumab for the prevention of respiratory syncytial virus infections.

In commenting on their 2009 recommendations, the AAP position paper indicates, "they [the 2009 AAP recommendations] specifically target infants in this [32 to less than 35 weeks' gestational age] with consistently identified risk factors for RSV hospitalization during the period of greatest risk, which is the first 3 months of life.”

## Benefits Application

---

Please refer to certificate for availability of benefit. This guideline relates only to the services or supplies described herein. Benefits may vary according to benefit design; therefore certificate language should be reviewed before applying the terms of the guideline.

## Billing/Coding/Physician Documentation Information

---

This guideline may apply to the following codes. Inclusion of a code in this section does not guarantee that it will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at [www.bcbsnc.com](http://www.bcbsnc.com). They are listed in the Category Search on the Medical Policy search page.

*Applicable codes: J1565, 90378*

## Scientific Background and Reference Sources

---

Article: “Prevention of Respiratory Syncytial Virus Infections: Indications for the Use of Palivizumab and Update on the Use of RSV-IVIG”, American Academy of Pediatrics, 1998; Committee on Infectious Diseases, 1998-1999.

BCBSNC Pharmacy Consultant - 1998.

# Respiratory Syncytial Virus Prophylaxis

Pediatrics in Review; Volume 19, No. 2, February 1998, pages 55-60.

USPDI - 1998 - RSV-IVIG (Respigam):page 3145; Palivizumab (Synagis):

Clearinghouse Update - Technologica - BCBS Association - BCBS Association - September 1998, page 5.

American Academy of Pediatrics (AAP) Member Alert: 10/6/98.

October 1998 update, page 1705-1706.

Vice President - Healthcare Management - 1/99.

Medical Policy Advisory Group - 3/99

Medical Policy Advisory Group - 8/12/99

Center for Disease Control -9/99

Specialty Matched Consultant Advisory Panel - 5/2001

BCBSA Medical Policy Reference Manual, 2/15/2002; 5.01.10

Specialty Matched Consultant Advisory Panel - 5/2003

BCBSA Medical Policy Reference Manual [Electronic Version]. 5.01.10, 10/09/03.

American Academy of Pediatrics. (2003, December). Revised indications for the use of palivizumab and RSV IVIG for the prevention of respiratory syncytial virus infections. Retrieved on 12/23/2003 from <http://www.aap.org/policy/t020305.html>.

Article: "Brief Report: Respiratory Syncytial Virus Activity-United States, 2005-2006" (January 24, 2007). *JAMA*, 297:356-357

BCBSA Medical Policy Reference Manual [Electronic Version]. 5.01.10, 12/13/07

BCBSA Medical Policy Reference Manual [Electronic Version]. 5.01.10, 10/06/09

American Academy of Pediatrics. Respiratory Syncytial Virus. Red Book: 2009 Report of the Committee on Infectious Diseases. Available at: <http://aapredbook.aappublications.org/cgi/content/full/2009/1/3.110?ck=nck>

American Academy of Pediatrics. Committee on Infectious Diseases. Policy statement- modified recommendations for use of palivizumab for prevention of respiratory syncytial virus infections. Pediatrics 2009 Sept 7 [Epub ahead of print]. Accessible at: <http://pediatrics.aappublications.org/cgi/reprint/peds.2009-2345v1?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=palivizumab&andorexactfulltext=and&searchid=1&FIRSTINDEX=0&sortspec=relevance&resourcetype=HWCIT>

## Policy Implementation/Update Information

---

- |      |  |
|------|--|
| 1/99 | Original policy issued.  |
| 5/99 | Reviewed, "Description of Procedure and Service" changed. Reformatted, Medical Term Definitions added.   |
| 8/99 | Reviewed, Reformatted, Description of Procedure or Service changed, Medical Term Definitions added.  |
| 8/99 | Medical Policy Advisory Group 8/12/99.   |
| 9/99 | Statement added to the policy - RSV Vaccine is considered investigational.   |
| 4/01 | System change.   |
| 5/01 | Specialty Matched Consultant Advisory Panel review (5/2001). Changed statements regarding the RSV season to indicate that they season may be extended due to the prevalence of RSV in the community.                     |
| 5/02 | Revised criteria under when it is not covered to include the statement that other indications for immune prophylaxis for respiratory syncytial virus are considered <b>investigational</b> including, but not limited to |

# Respiratory Syncytial Virus Prophylaxis

adults and children with congenital heart disease or immunodeficiencies, or cystic fibrosis, not otherwise addressed by the above criteria. Format changes. Typos corrected. Codes 90780 - 90782 added to Billing and Coding section.

- 5/03 Specialty Matched Consultant Advisory Panel review. Revised under "when it is not covered" section to remove indications for children with congenital heart disease. Term "cyanotic" removed from Medical Term Definitions. Codes IJ013, IJ014, IJ025, IV825, and IV900 deleted from Billing/Coding section. Typos corrected. Format changes.
- 8/12/04 Code S9562 added to Billing/Coding section.
- 12/23/04 Policy Description, When Covered, and Policy Guidelines sections revised. What is covered section updated to add that infants born between 32 weeks and 35 weeks of gestation and are younger than 6 months at the start of the RSV season should have at least 2 or more risk factors. Risk factors are listed as well. Policy number added to Key Words section. Title changed from "RSV-IVIG Palivizumab" to "Respiratory Syncytial Virus Prophylaxis". Benefits Application and Billing/ Coding sections reformatted for consistent policy language. References added. Notification 12/23/ 2004. Effective 03/03/2005.
- 3/03/05 Statement, "For pre-exposure prophylaxis...." statement removed from Benefits Application section.
- 5/05/05 Specialty Matched Consultant Advisory Panel review on April 22, 2005. No changes made to the policy coverage criteria. Definition of gestation changed to say, "the length of time from the first day of the last menstrual period until birth." Definition of premature birth changed to say, "infants born before the thirty-seventh week." Fourth paragraph phrase [less than or equal to 35 weeks gestational age] removed.
- 10/08/05 Updated section "Description of Procedure or Service" to clarify statement regarding applicable age limit. Sixth paragraph phrase indicating administration should continue beyond 6 or 12 months of age changed to read, "administration should continue throughout the season and not stop at the point a child reaches the applicable age limit in the policy below."
- 1/05/06 Deleted CPT codes 90780, 90781, 90782 from Billing/Coding section.
- 10/16/06 Medical Policy reformatted and changed to Evidence Based Guideline. HCPCS Code S9562 removed from Billing/Coding section and statement added to Benefits Application section to indicate that services rendered in the home require prior plan approval.
- 4/23/07 Routine biennial review. Specialty Matched Consultant Advisory Panel review March 15, 2007. No changes to guidelines. (adn)
- 4/27/09 Routine biennial review. Description section revised. Medical criteria sections reformatted into outline format. Indications added to the "Not Recommended" section. RSV prophylaxis is not recommended for patients undergoing stem-cell transplantation and for children over the age of 2 years. Also, use of RespiGam (RSV-IVIg) is contraindicated in infants and children with cyanotic congenital heart disease. Specialty Matched Consultant Advisory Panel review meeting 3/26/09.
- 3/16/10 Revised description section. Note: RespiGam® is no longer available. Guidelines updated to include the current (2009) guidelines from the American Academy of Pediatrics. Rationale section added. References updated. Specialty Matched Consultant Advisory Panel review meeting 2/11/10. (adn)

---

Medical policy is not an authorization, certification, explanation of benefits or a contract. Benefits and eligibility are determined before medical guidelines and payment guidelines are applied. Benefits are determined by the group contract and subscriber certificate that is in effect at the time services are rendered. This document is solely provided for informational purposes only and is based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. Medical practices and knowledge are constantly changing and BCBSNC reserves the right to review and revise its medical policies periodically.