C.S. MOTT CHILDREN'S HOSPITAL
MICHIGAN MEDICINE

GUIDELINES FOR ADMINISTRATION OF PALIVIZUMAB TO INFANTS

(Adapted from the American Academy of Pediatrics Guidelines, August 2014)

I. INDICATIONS FOR PALIVIZUMAB ADMINISTRATION

A. FIRST YEAR OF LIFE

1. Preterm Infants WITHOUT Chronic Lung Disease (CLD) OR Congenital Heart Disease

- Palivizumab prophylaxis may be administered to infants born before 29 weeks, 0 days' gestation that are younger than 12 months at the start of the RSV season. For infants born during the RSV season, fewer than 5 monthly doses are needed**.**
- Infants born at 29 weeks, 0 days' gestation or later are not universally recommended to receive palivizumab prophylaxis.

2. Infants WITH Chronic Lung Disease (CLD) of Prematurity

- Palivizumab prophylaxis is recommended for infants born before 32 weeks, 0 days' gestation with CLD of prematurity defined as need for >21% FiO2 at least 28 days after birth.

3. Children with Hemodynamically Significant Congenital Heart Disease (CHD)

- Children 12 months or younger with hemodynamically significant **acyanotic** CHD who are receiving medications to control congestive heart failure and requiring cardiac surgical procedures and infants with severe pulmonary hypertension may benefit from palivizumab.
- Decisions regarding palivizumab prophylaxis for infants with **cyanotic** CHD in the first year of life may be made in consultation with a pediatric cardiologist. These recommendations apply to qualifying infants in the first year of life who are born within 12 months of onset of the RSV season.
- Due to a 58% mean decrease in palivizumab serum concentration observed after surgical procedures that involve **cardiopulmonary bypass**, children receiving prophylaxis and who continue to require prophylaxis after a surgical procedure, a postoperative dose of palivizumab (15 mg/kg) should be considered after cardiac bypass or at the conclusion of extracorporeal membrane oxygenation for infants and children younger than 24 months.
- *The following groups of infants are not at increased risk from RSV and generally should **not** receive immunoprophylaxis:*
  - Infants and children with **hemodynamically insignificant** heart disease (e.g., secundum atrial 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 not receiving medical therapy;
  - Infants in second year of life (unless otherwise stated).

4. Children with Anatomic Abnormalities or Neuromuscular Disorders

- Infants with neuromuscular disease or congenital anomaly that impairs the ability to clear secretions from the upper airway because of ineffective cough are known to be at risk for a prolonged hospitalization related to lower respiratory tract infection and, therefore, may be considered for **prophylaxis during the first year of life.**

B. SECOND YEAR OF LIFE

1. Hospitalization rates attributable to RSV decrease during the second RSV season for all children.

- A second season of palivizumab prophylaxis is recommended only for preterm infants born at <32 weeks', 0 days' gestation who required at least 28 days of oxygen after birth and who continue to require medical therapy for CLD of prematurity and continue to require medical support (chronic corticosteroid therapy, diuretic therapy or supplemental oxygen) during the 6-month period before the start of the second RSV season.

- For infants with CLD who do not continue to require medical support in the second year of life, prophylaxis is not recommended.
- Individual patients may benefit from decisions made in consultation with neonatologists, pediatric intensivists, pulmonologists, or infectious disease specialists.

C. **MISCELLANEOUS INDICATIONS**

1. Immunocompromised Children

- Children younger than 2 years who undergo cardiac transplantation during the RSV season may be considered for palivizumab prophylaxis.
- Prophylaxis may be considered for children younger than 24 months of age who are profoundly immunocompromised during the RSV season (such as those post solid organ or hematopoietic stem cell transplantation and those with primary immune deficiency such as severe combined immunodeficiency [SCID]).

2. Down Syndrome and Cystic Fibrosis

- Routine use of prophylaxis in children with Down syndrome is not recommended unless qualifying heart disease, CLD, airway clearance issues, or prematurity (<29 weeks, 0 days' gestation) is present.
- Routine use of palivizumab prophylaxis in patients with cystic fibrosis, including neonates diagnosed with cystic fibrosis by newborn screening, is not recommended unless other indications are present.

3. Health Care-Associated RSV

- Palivizumab prophylaxis is not recommended for prevention of health care-associated RSV disease.

II. INITIATION and TERMINATION of THERAPY

A. Inpatient Administration

1. Palivizumab should not be routinely (i.e., monthly) administered to admitted patients. However, a single initial dose of palivizumab may be administered if discharge is planned in the next 3 days. Doses will be batched as described below.
2. Palivizumab administration should only occur during periods of active RSV circulation, as defined by local rates of RSV detection on PCR testing. Administration will begin when:
   - RSV rates at Michigan Medicine exceed 3% during the typical state of Michigan RSV season (November – March)
   - RSV rates at Michigan Medicine exceed 3% in 2 consecutive weeks outside of the typical RSV season
3. Administration will cease when:
   - RSV rates at Michigan Medicine fall below 3%

B. Outpatient administration:

1. Teams should arrange outpatient administration in conjunction with the patient's Primary Care Physician and insurance approval.
2. Five monthly doses of palivizumab at 15 mg/kg per dose will provide more than 6 months (>24 weeks) of serum palivizumab concentrations above the desired level for most children, therefore, administration of more than 5 monthly doses is not recommended within the continental United States. Qualifying infants born during the RSV season may require fewer doses. For outpatients, first doses may be given as early as November, with the fifth dose in March.

,

C.S. MOTT CHILDREN'S HOSPITAL
MICHIGAN MEDICINE

III. GENERAL PALIVIZUMAB INFORMATION

A. Stability/Sterility

1. Palivizumab does not contain a preservative; clinicians should arrange for ***drug administration within 6 hours after opening a vial.***

B. Use of Concomitant Vaccines

1. Palivizumab does not interfere with the response to vaccines.

C. Dispensing Information

1. Pharmacy Services will dispense palivizumab on Mondays and Thursdays throughout the RSV season.
2. Palivizumab 15 mg/kg may be rounded to nearest vial size (50 mg, 100 mg) if final dose is within 15% of ordering dose (overfill for IM injection is also included).

IV. DISCONTINUATION OF PALIVIZUMAB PROPHYLAXIS AMONG CHILDREN WHO EXPERIENCE BREAKTHROUGH RSV HOSPITALIZATION

A. If any infant or young child receiving monthly palivizumab prophylaxis experiences a breakthrough RSV hospitalization, monthly prophylaxis should be discontinued due to the extremely low likelihood of a second RSV hospitalization in the same season (<0.5%).

,

References:

1. American Academy of Pediatrics. Interim guidance for use of palivizumab prophylaxis to prevent hospitalization from severe respiratory syncytial virus infection during the current atypical interseasonal RSV spread. Available at: https://www.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/clinical-guidance/interim-guidance-for-use-of-palivizumab-prophylaxis-to-prevent-hospitalization/. Accessed: 9/12/2021.
2. Rose EB, Wheatley A, Langley G, Gerber S, Haynes A. Respiratory syncytial virus seasonality—United States, 2014–2-17. *MMWR Morb Mortal Wkly Rep*. 2018;67(2):71-76. DOI: **https://doi.org/10.15585/mmwr.mm6702a4**
3. Midgley CM, Haynes AK, Baumgardner JL, et al. Determining the seasonality of respiratory syncytial virus in the United States: the impact of increased molecular testing. *J Infect Dis*. 2017;216(3):345-355. DOI: **https://doi.org/10.1093/infdis/jix275**
4. Committee on Infectious Disease and Bronchiolitis Guideline Committee. Updated guidance for palivizumab prophylaxis among infants and young children at increased risk of hospitalization for respiratory syncytial virus infection. *Pediatrics* 2014; 134:415-420.
5. Committee on Infectious Diseases. Modified recommendations for use of palivizumab for prevention of respiratory syncytial virus infections. Pediatrics. 2009 Dec;124(6):1694-701.
6. American Academy of Pediatrics Committee on Infectious Diseases and Committee on Fetus and Newborn. Revised Indications for the Use of Palivizumab and Respiratory Syncytial Virus Immune Globulin Intravenous for the Prevention of Respiratory Syncytial Virus Infections. *Pediatrics* 2003; 112:1442.
7. American Academy of Pediatrics Committee on Infectious Diseases and Committee on Fetus and Newborn. Prevention of Respiratory Syncytial Virus Infections: Indications for the Use of Palivizumab and Update on the Use of RSV-IGIV. *Pediatrics* 1998; 102:1211-6.

Updated by:
Kristin Klein, PharmD
Nicholas Dillman, PharmD
Karen Davidge, PharmD
Elizabeth Lloyd, MD
Alison Tribble, MD

Antimicrobial Subcommittee Approval:	01/21, 09/21, 02/22	Originated:	Unknown
P&T Approval:	11/14, 02/18, 02/21, 10/21, 03/22	Last Revised:	02/22

Revision History:
11/17: Formalized criteria for initiation and cessation of inpatient dispensing.
02/21: Removed date criterion for cessation (now rate-based only) and added out-of-season initiation parameters.
09/21: Modified initiation and cessation criteria to adopt new PCR thresholds.
02/22: Clarified that a single initial dose of palivizumab may be administered prior to discharge.