

MEETING ABSTRACT

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# The prevention of respiratory syncytial virus infection

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Respiratory syncytial virus (RSV) is the most significant cause of acute respiratory tract infections in infants and young children worldwide. RSV accounts for approximately 70% of hospitalizations for bronchiolitis and 40% of pneumonia among infants <1 year of life.

RSV infection seems to be associated with recurrent wheezing during the first decade of life and impaired respiratory health-related quality of life in adults [1].

Universal prevention of RSV infection is based on environmental prophylaxis aimed at minimizing the spread of the virus good hand hygiene in the home, and limiting direct contact of high-risk children with other children and adults with respiratory tract infections. Exposure to tobacco smoke should be avoid in family with infants, breastfeeding should be encouraged. Pharmacological prophylaxis is based on the administration of palivizumab (Synagis<sup>®</sup>, MedImmune) during the epidemic period to the children at risk [2].

Palivizumab is a humanized monoclonal antibody directed to an epitope in the A antigenic site of F protein of RSV. It is designed to provide passive immunity against RSV and thereby prevent or reduce the severity of RSV infection [2].

The aim of this work is to provide Italian neonatologists shared recommendations regarding palivizumab use in premature and other at-risk infants in the light of new emerging evidence.

The peak incidence of severe RSV disease occurs between 2 and 3 months of age. The risk of serious RSV illness is highest among preterm neonates, children with chronic lung disease, congenital heart disease [3,4].

The children with the above mentioned clinical conditions, particularly in cases of hospitalization, are more likely to require admission to an intensive care unit and need mechanical ventilation. In addition they have high

rates of re-hospitalization for lower respiratory tract infections [5,6].

Therefore, all these categories of infants are likely to benefit from prophylaxis, and have been included in the recommendations. Specific recommendations are provided according to gestational age at birth

RSV infections occur most frequently during the period between October-March.

According to this observation, prophylaxis with Palivizumab is indicated in this 5-6 months long seasonal window of RSV infection.

The duration of prophylaxis (up to one year or up to two years of life during the seasonal period) depends on the underlying condition.

Palivizumab is clinically effective; however, the cost is very high. In our opinion strict criteria for patient selection and reduced drug costs would improve the cost-effectiveness of the prophylaxis [7].

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## References

1. Backman K, Piippo-Savolainen E, Ollikainen H, Koskela H, Korppi M: Increased asthma risk and impaired quality of life after bronchiolitis or pneumonia in infancy. *Pediatr Pulmonol* 2014, **49**:318-25.
2. The IMpact-RSV Study Group: Palivizumab, a humanized respiratory syncytial virus monoclonal antibody, reduces hospitalization from respiratory syncytial virus infection in high-risk infants. *Pediatrics* 1998, **102**(3 Pt 1):531-7.
3. Committee on Infectious Diseases from the Academy of Pediatrics: policy statement: Modified Recommendations for use of Palivizumab for prevention of respiratory syncytial virus infections. In *Pediatrics. Volume 124*. American Academy of Pediatrics; 2009:(6):1694-1701.
4. Feltes TF, Cabalka AK, Meissner HC, Piazza FM, Carlin DA, Top FH Jr, Cardiac Study Group, et al: Palivizumab prophylaxis reduces hospitalization due to respiratory syncytial virus in congenital heart disease. *J Pediatr* 2003, **143**:532-40.
5. Hall CB, Geoffrey A Weinberg, Aaron K Blumkin, et al: Respiratory syncytial virus associated hospitalization among children less than 24 months of age. *Pediatrics* 2013, **132**:341-348.

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6. Committee on Infectious Diseases and Bronchiolitis Guidelines 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.
7. Anabaka T, Nickerson JW, Rojas-Reyes MX, Rueda JD, Bacic Vrca V, Barsic B: Monoclonal antibody for reducing the risk of respiratory syncytial virus infection in children. *Cochrane Database Syst Rev* 2013, **4**:CD006602.

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