

POINTS TO REMEMBER FOR CLINICAL PRACTICE

Respiratory
pathologies

Lower Respiratory Tract Infections (LRTIs)

- Respiratory infections, particularly pneumonia, are a major comorbidity in individuals with Trisomy 21 throughout their lives, and they are approximately four times more common than in the general population.
- The prevalence in children is about 30%, with peak prevalence before the age of 5. Recurrent infections are also common.
- The prevalence in adults is variable, between 7.5% and 30% depending on the studies, with peak prevalence after 40-45 years old, and a five-fold increase in cases after the age of 50.
- The risk factors are numerous and variable with age, in particular swallowing disorders before the age of 5 and neurological comorbidities in adults.
- The morbidity associated with LRT infections in children with Trisomy 21 is significant and requires, on average, four times more consultations and eight to ten times more hospitalizations than in the general population. Respiratory infections are the second leading cause of hospitalization in children with Trisomy 21. Most hospitalizations occur at a very young age, 1 in 3 before the age of 3, and 8 in 10 before the age of 2. There is also a second peak in hospitalization between 10 and 20 years of age. Infections are also more severe than in the general population, with a hospital length of stay that is twice as long and twice as costly, and a more severe clinical course leading to a high rate of admission to intensive care units.

- In adults with Trisomy 21, lower respiratory tract infections are a common cause of morbidity. LRTIs are the leading cause (30%) of unplanned health care visits for adults with Trisomy 21 over 55 years of age. LRTIs are also the leading cause of hospitalization (30%) in adults with Trisomy 21, with peak hospitalization after age 45. The infections are also more severe than in the general population, with a hospital length of stay that is twice as long and a high rate of admission to pediatric intensive care units.
- LRTIs are, in most studies, the first or second cause of mortality in children with Trisomy 21 and a cause of mortality 3 to 4 times more frequent than in the general population. In adults with Trisomy 21, pneumonia and aspiration pneumonia represent the leading cause of death, and mortality, which increases with age, particularly after 40 years, is about 12 times more frequent than in the general population.
- Furthermore, the greater vulnerability and severity of viral infections in individuals with Trisomy 21 is well demonstrated by the high prevalence and severity of respiratory syncytial virus bronchiolitis in young children under 2 or 3 years of age, and the more severe clinical course of viral infection in individuals with Trisomy 21 during the 2 most recent pandemics, H1N1 Influenza type A in 1999 and Sars-Cov-2 Coronavirus in 2019.
- Apart from the recommendation for the prevention of severe forms of RSV with Palivizumab, there are no formal evidence-based guidelines for screening and/or preventing lower respiratory tract infections in individuals with Trisomy 21.

