

Respiratory Syncytial Virus (RSV):

Understanding RSV in Infants and Beyond: Prevention, Symptoms, and Treatment

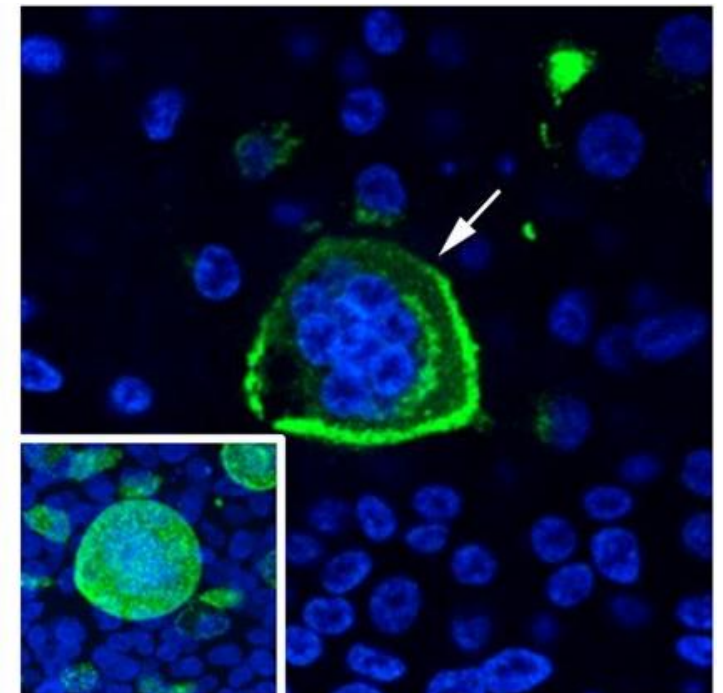
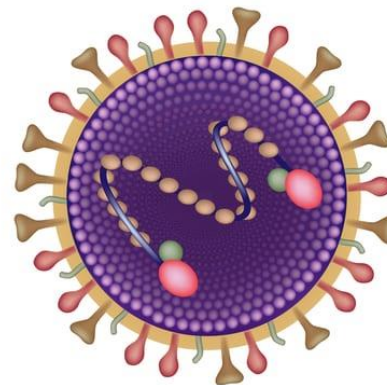
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RSV: A seasonal respiratory virus

- RSV causes 33.1 million infections worldwide every year
- 3.2 million hospitalizations; 45% of which are in infants less than 6 months of age
- Approximately 160,000 deaths

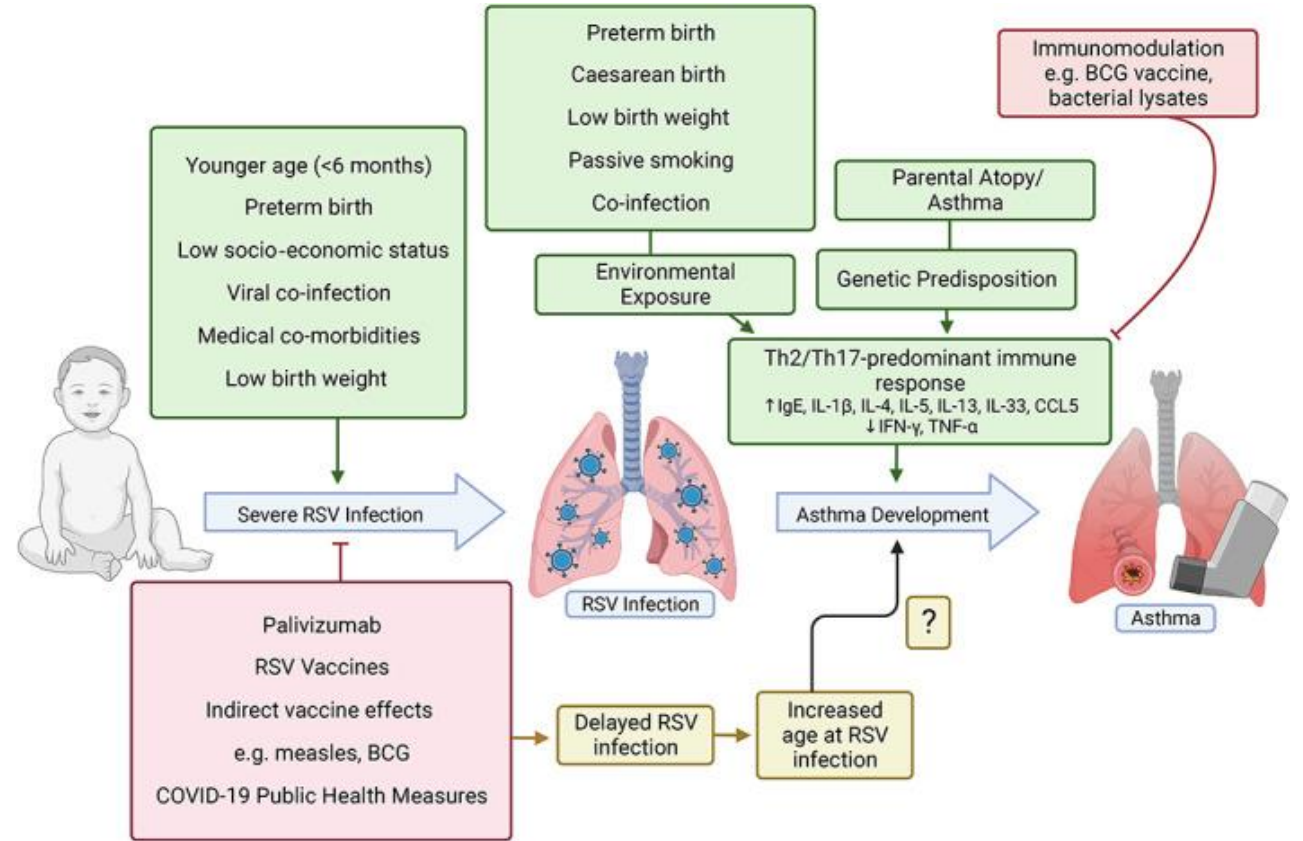
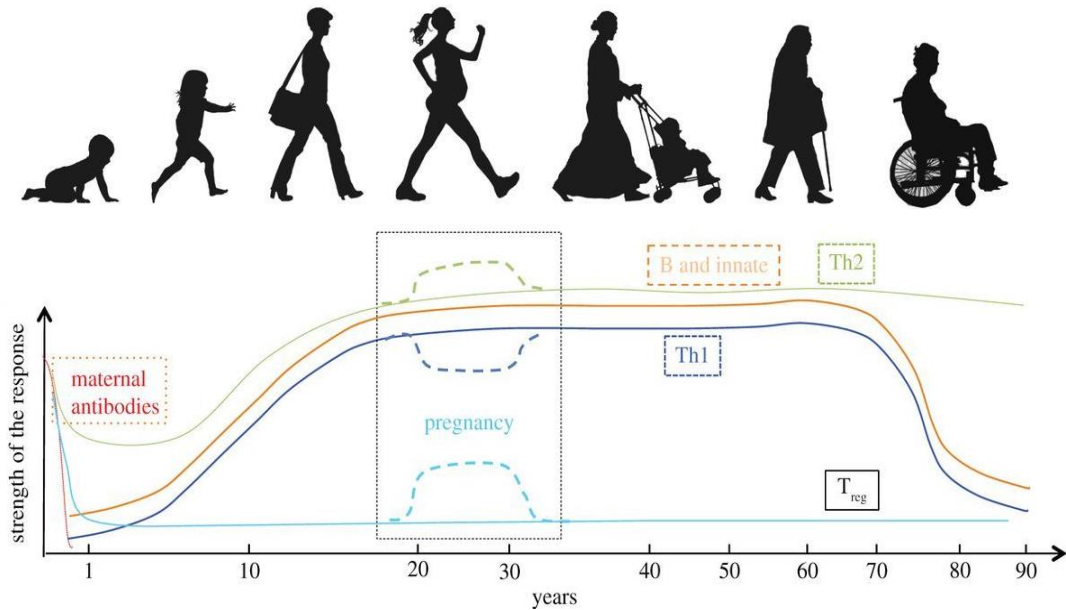


Respiratory Syncytial Virus



RSV: Disease risk throughout life

RSV is the most common cause of lower respiratory tract infection in children under 1



Binns E, Tuckerman J, Licciardi PV, Wurzel D. Respiratory syncytial virus, recurrent wheeze and asthma: A narrative review of pathophysiology, prevention and future directions. *J Paediatr Child Health*. 2022 Oct;58(10):1741-1746. doi: 10.1111/jpc.16197. Epub 2022 Sep 8. PMID: 36073299; PMCID: PMC9826513.

Current prevention and treatment options

- **Prevention**

- Vaccines: Rollout of vaccines licensed for older adults and pregnant women
- All licensed vaccines are based on the 2013 discovery of the Pre-F protein (J McLellan et al.)
- Palivizumab
- Nirsevimab

- **Treatment**

- Primarily supportive care

Jab could cut RSV hospital admissions in babies by 80%, study finds

International research indicates giving infants nirsevimab would cause sharp drop in rates of respiratory syncytial virus infection



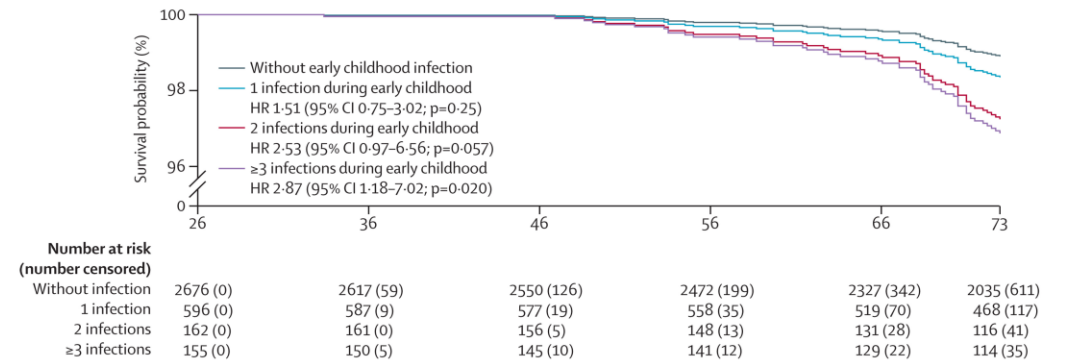
Almost 31,000 under fives end up in hospital in England every year with conditions linked to respiratory syncytial virus, such as bronchiolitis and pneumonia. Photograph: John James/Alamy

Interesting article: RSV vaccines are finally here after a decade of false starts:
<https://www.scientificamerican.com/article/rsv-vaccines-are-finally-here-after-decades-of-false-starts/>

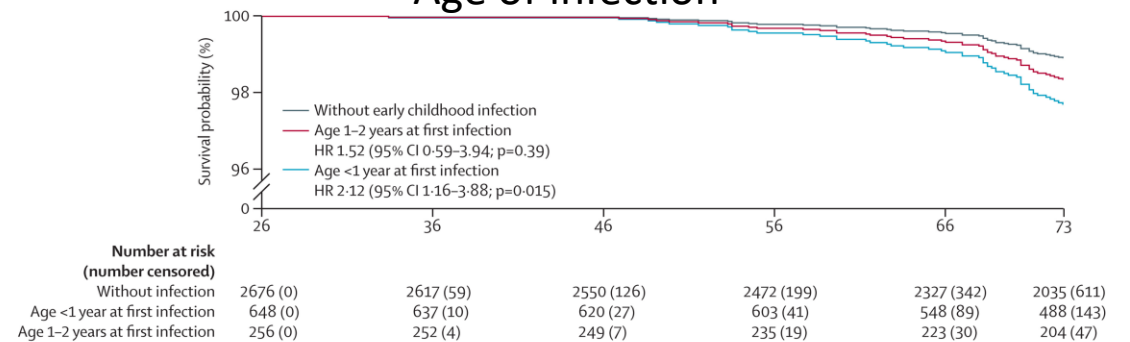
RSV and lifelong lung health

- The number of respiratory infections in early life influence our lung health as we age
- The number of infections, the age of infections, the severity of infection influence lung health and lung disease
- RSV hospitalisation correlates with a 3x greater risk of asthma
- RSV plays a role in the development or worsening of chronic lung diseases such as COPD

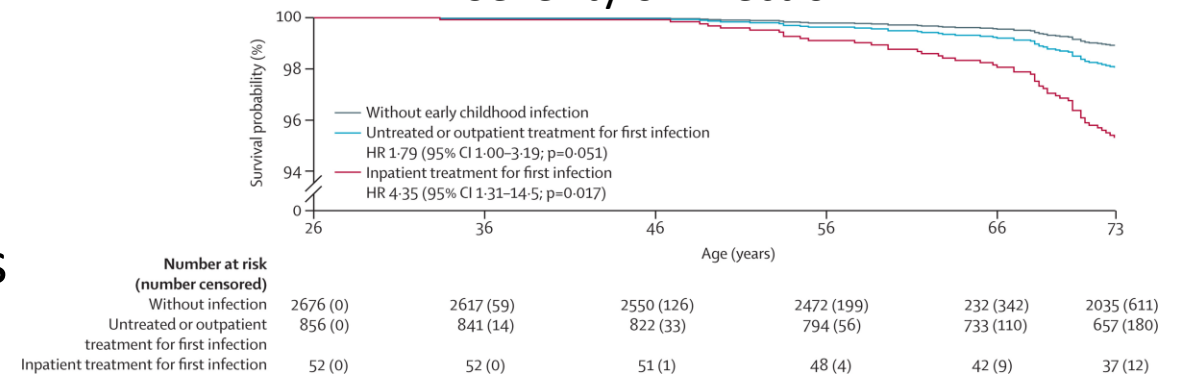
Number of infections



Age of infection



Severity of infection



RSV: Ongoing and Future Research

- Continued research in vaccines, other preventions and treatments
- Why do some children get severely ill and others do not?
- Many children do not develop asthma after severe RSV infection- why? Can we learn from these children to prevent asthma development?
- What is the role of RSV in chronic lung disease?
- More research (and awareness!) is needed into the impact of early life events on our health

