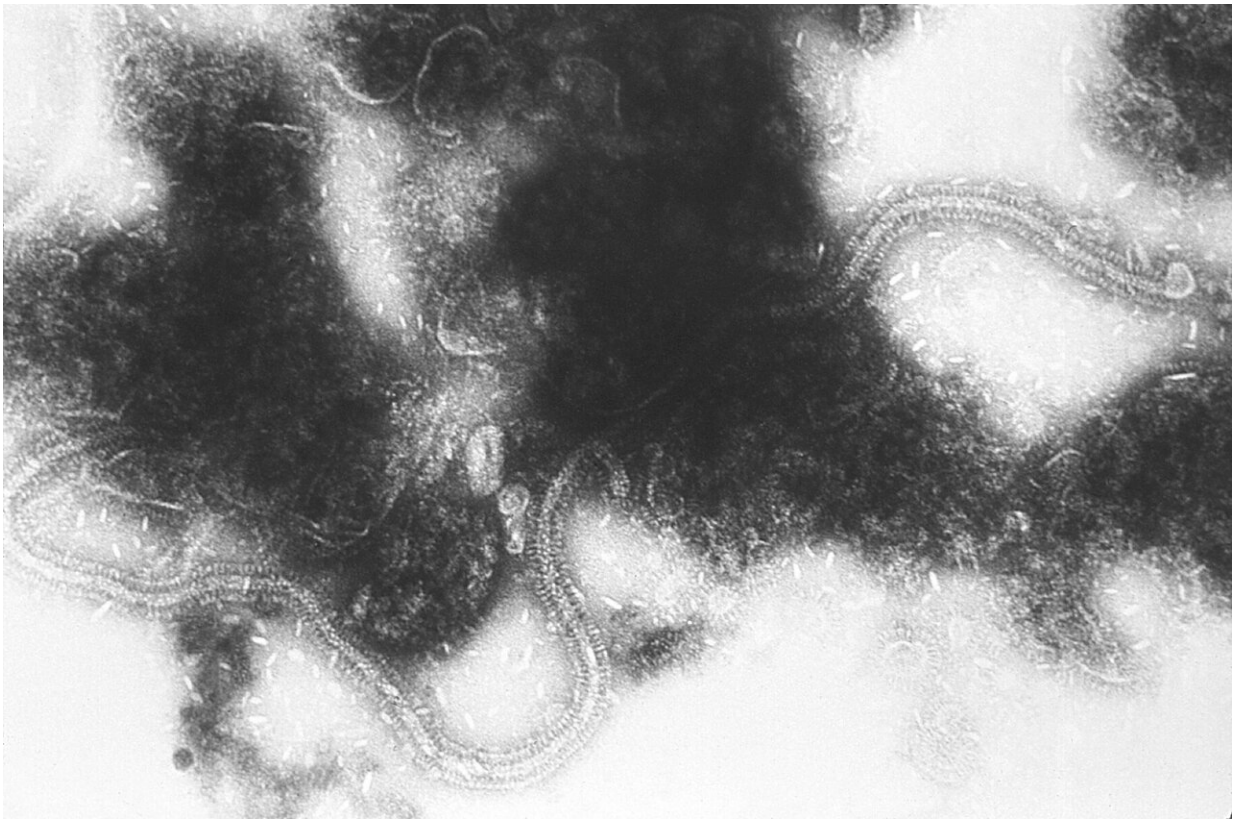


RSV cases surging earlier than in previous years

December 1 2022, by Tim Schnettler



Transmission electron micrograph of RSV. Credit: CDC/ Dr. Erskine Palmer / Public Domain

Cases of respiratory syncytial virus (RSV) are usually at their worst during the winter months. This year, however, has seen a marked

increase of cases in the summer, leading to overcrowding in hospitals throughout the United States.

Medical experts have provided several explanations for the increase, including prevention methods that were taken during the COVID-19 pandemic that began in 2020 which led to less exposure to infectious respiratory diseases that help builds immunity.

Researchers have also found other possible factors that could be contributing to the surge of RSV cases among individuals, particularly those age 4 and under.

A recent [study](#) led by Natalie Johnson, Ph.D., associate professor in the Department of Environmental and Occupational Health at the Texas A&M University School of Public Health and vice chair of the Interdisciplinary Program in Toxicology, has shown that [air pollution exposure](#), particularly during pregnancy, alters the fetal lung development in a way that predisposes the infant to more severe infection.

"If moms are exposed to pollutants during periods of development in pregnancy, then infants may be more susceptible to severe infection," Johnson said. "Our research team is one of a handful of groups investigating how prenatal exposure to [air pollution](#) alters fetal pulmonary immune development predisposing babies to RSV."

RSV is a lower respiratory tract infection, and it enters the body through the eyes, nose or mouth. It spreads easily through the air on infected respiratory droplets. Individuals can be infected if someone with RSV coughs or sneezes near them and it can also be passed to others through direct contact such as shaking hands.

According to the Centers for Disease Control and Prevention, RSV is a

common respiratory virus that usually causes mild, cold-like symptoms. Most people recover in a week or two, but RSV can be serious, especially for infants and older adults. RSV is the most common cause of bronchiolitis (inflammation of the small airways in the lung) and pneumonia (infection of the lungs) in children younger than 1 year of age in the United States.

Maternal exposure to particulate matter air pollution is a major cause of infant morbidity and mortality due to complications related to [preterm birth](#), infant low birth weight and [lower respiratory tract infections](#) in children.

According to Johnson and the research team, since RSV infection is a significant cause of infant morbidity and mortality, policies and interventions to reduce early life air pollution exposure and impact on acute respiratory disease are likely to have a large public health impact and are highly warranted.

"The effect can be huge on public health because there are few preventive interventions, no current vaccine, and hospitals are currently overwhelmed," Johnson said. "If we can reduce air pollution exposure, we may be able prevent some of the more severe infections seen in infancy."

More information: Carmen Lau et al, In Utero Ultrafine Particulate Exposure Yields Sex- and Dose-Specific Responses to Neonatal Respiratory Syncytial Virus Infection, *Environmental Science & Technology* (2022). [DOI: 10.1021/acs.est.2c02786](https://doi.org/10.1021/acs.est.2c02786)

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