

# Household smoke increases severity of bronchiolitis in babies

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A study by the University of Liverpool has found that babies admitted to hospital with bronchiolitis from a household where a parent smokes are twice as likely to need oxygen therapy and five times as likely to need mechanical ventilation as babies whose parents do not smoke.

The study assessed infants from Liverpool who were admitted to Alder Hey Children's hospital with a diagnosis of [bronchiolitis](#). The city has many areas of high deprivation and high rates of cigarette smoking. The study found that infants admitted to hospital from smoking households were more seriously affected by bronchiolitis than infants who came from non-smoking households, regardless of their socio-economic status.

Dr Calum Semple, from the Institute of Child Health, said: "[Tobacco smoke exposure](#) is a preventable factor that both causes and increases the severity of disease in infants and their consequent use of health resources. This study provides the first robust evidence that the [adverse health effects](#) of smoking can be distinguished from the health effects of social deprivation."

Bronchiolitis is a severe chest infection that affects infants and is the most common cause of admission to hospital in the first year of life in developed countries. Over winter around 25 in every 1,000 babies are admitted to hospital with bronchiolitis – needing oxygen and help with feeding – and of these, 10% need the support of a ventilator.

Tobacco smoke is the most common and important indoor

environmental pollutant to which young children are exposed. The relationship between household tobacco smoke and risk of developing bronchiolitis in infants is well recognized, as is the relationship between deprivation and smoking. However, to date, it has been difficult to describe the independent contributions of tobacco smoke exposure and deprivation (socioeconomic status) upon severity of bronchiolitis.

The paper is published in *PLoS ONE*.

Provided by University of Liverpool

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