

# Perioral petechiae and pulmonary haemorrhage, thinking outside the vacuum

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## DESCRIPTION

A 3-month-old boy presented to the children's emergency department with respiratory distress, haemoptysis, and perioral petechiae ([figure 1](#)). He was pale and floppy, with tachypnoea, hypoxia (SpO<sub>2</sub> 84%), bilateral crepitations, and wheeze. His white cell count was mildly elevated ( $20.5 \times 10^9/L$ ), and a chest X-ray (CXR) showed ([figure 2](#)) bilateral air-space opacification; a non-specific finding with differentials including oedema, infection, or haemorrhage.

His older brother subsequently admitted to holding a vacuum cleaner nozzle against his mouth, confirming the mechanism of injury and diagnosis of pulmonary haemorrhage. He required a short period of oxygen therapy and overnight admission. A thorough assessment revealed no social concerns and a repeat CXR 2 days later had improved.

A MEDLINE keyword search was completed using the following terms: "(vacuum cleaner\* or hoover\* or household vacuum\*) adj10 (injur\* or h?emoptysis or h?emorrhage\*)". It revealed four relevant articles reporting 13 cases of vacuum cleaner inflicted hand

burns in children and 2 auto-stimulation penile injuries in adolescents.<sup>1-4</sup> There were no acute lung injuries reported.

For most households, a domestic vacuum cleaner is an essential appliance frequently used by both parents and children and actively promoted as a comforter. To date, injuries have been relatively minor. We present the first case of severe and potentially life-threatening acute lung injury from this appliance.

## Learning points

- ▶ Paediatricians, manufacturers, and parents should be aware of the risk of vacuum cleaner inflicted pulmonary haemorrhage in young children.
- ▶ Manufacturers should display a child safety warning on vacuum appliances.
- ▶ Parents should keep vacuum appliances out of reach of children to reduce risk in the home.

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**Contributors** All authors read and approved the final manuscript. GD provided study conceptualisation and design, completion of relevant searches and preparation of manuscript including figures. AG provided study conceptualisation and design, and preparation of manuscript. CL provided study conceptualisation and design, including critical revision. JM provided study conceptualisation and design, including critical revision. ED provided study conceptualisation and design, including critical revision.

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## ORCID iD

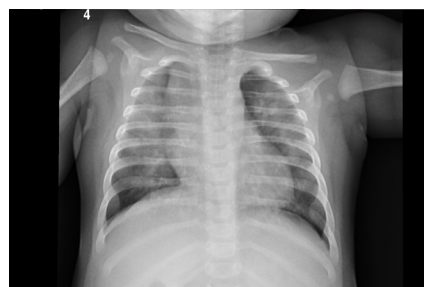
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**Figure 1** A 3-month-old boy with circular petechiae around his mouth, caused by application of a domestic vacuum cleaner.



**Figure 2** CXR of a 3-month-old showing diffuse bilateral air-space opacification, in-keeping pulmonary haemorrhage inflicted by perioral application of a domestic vacuum cleaner.



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