

# Thirdhand Smoke in Multi-unit Housing



Thirdhand smoke (THS) is tobacco smoke residue that is left behind when someone smokes indoors. The smoke does not simply blow away. Instead it sticks to surfaces such as walls, furniture and floors as well as to a person's hair, skin and clothing. This toxic residue builds up over time and can remain for years.<sup>1</sup>

## Health Risks

THS poses a unique health risk because the residue reacts with air to make additional pollutants and **re-emits from surfaces back into the air.**<sup>1</sup>



THS changes over time and becomes **progressively more toxic.**<sup>1,2</sup>



Long-term exposure to the pollutants in THS has been shown to **damage human cells and DNA**, and may be associated with short- and long-term health problems such as asthma and cancer.<sup>1,3</sup>



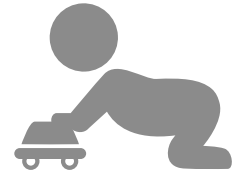
**Common cleaning methods will not remove thirdhand smoke.**<sup>4</sup>

© 2014 CDPH

## Who is most vulnerable?

Anyone who lives in a home where smoking is allowed is **more likely to be exposed** to THS.<sup>2</sup>

Infants and children may be exposed to THS when they crawl or play on the floor.<sup>1</sup>



Babies may ingest the chemicals in THS when they put toys or household objects in their mouth.<sup>1</sup>

Children's growing bodies make them **more vulnerable** to THS than adults.<sup>1</sup>

## Exposure in Multi-Unit Housing

People who live in apartments are at **higher risk** for THS exposure because previous tenants may have smoked indoors.<sup>4</sup>

Children who live in apartments show a **higher level of exposure** to tobacco chemicals.<sup>4</sup>

In places where substantial smoking has occurred, renovations such as **replacing wall boards and furnishings** may be necessary to reduce levels of THS.<sup>5</sup>

## How Smoke-free Housing Policies Can Help

Policies that prevent smoking in units and common areas will **help protect tenants** from THS exposure.

Smoke-free policies will also **reduce the problems of cleaning and repairing units** damaged by THS residue.



## References: Thirdhand Smoke in Multi-Unit Housing

1. Jacob, P., et al., *Thirdhand Smoke: New Evidence, Challenges, and Future Directions*. Chemical Research in Toxicology, 2016.
2. Martins-Green, M., et al., *Cigarette smoke toxins deposited on surfaces: implications for human health*. PLoS One, 2014. 9(1): p. e86391.
3. Hang, B., et al., *Thirdhand smoke causes DNA damage in human cells*. Mutagenesis, 2013. 28(4): p. 381-91.
4. Matt, G., et al., *Thirdhand tobacco smoke: emerging evidence and arguments for a multi-disciplinary research agenda*. Environmental Health Perspectives, 2011: p. 119(9): 1218-26.
5. Bahl, V., et al., *Thirdhand cigarette smoke: factors affecting exposure and remediation*. PLoS One, 2014. 9(10): p. e108258.