

Summary of presentation by M. Neuberger on Dec. 9th, 2016 at College of Physicians in Vienna

**THS is estimated to take weeks to months to degrade in controlled environments**

Neonatal intensive care unit: infants protected from SHS, but exposure to THS from visiting household smokers (all < 10 cig./day)

Index finger nicotine (ng)	NC	44	1160	4960	90	818
Crib/incubator ( $\mu\text{g}/\text{m}^2$ )	<LOD	0.3	0.2	NC	0.2	0.2
Furniture ( $\mu\text{g}/\text{m}^2$ )	0.3	2.5	5.5	34.2	1.2	3.4
Infant urine data					rooming in	
Cotinine (ng/mL) (LOQ=0.05)	NC	0.17	0.36	NC	0.37	5.01
3HC (ng/mL) (LOQ=0.1)	NC	0.63	0.46	NC	<LOQ	31.58
NNAL (pg/mL) (LOQ=0.25)	NC	0.47	1.64	NC	1.58	12.38

Northrup et al. 2015

4-(methylnitrosamino)-1-(3-pyridyl)-1-butanol  
metabolite of NNK: THS off-gassing or remnant from prenatal exposure (half-life 10-16 days)

trans-3'-hydroxycotinine & cotinine

metabolites of nicotine: THS re-emission (cotinine half-life 16-22 h)

**THS-related harm:** 5–60% of SHS<sup>1</sup>, cardiovascular & lung disease (inflammatory cytokines in asthma),<sup>2</sup> hinders respiratory development in animals.<sup>3</sup> In-vitro DNA damage<sup>4</sup> and impaired wound healing.<sup>5</sup>

1. Sleiman et al. Environ Sci Technol 2014;48:13093–101.

2. Martins-Green et al. PLoS ONE 2014;9:e86391.

3. Rehan et al. Am J Physiol Lung Cell Mol Physiol 2011;301:L1–8.

4. Hang B, Sarker AH, Havel C, et al. Mutagenesis 2013;28:381–91.

5. Prins & Wang. J Proteome Res 2013;12:1282–8