



# EFFECTS OF PASSIVE SMOKING

# WHAT IS PASSIVE SMOKING

Definition: Inhalation of secondhand smoke (SHS) from others' tobacco products.

Sidestream Smoke (from burning tip, unfiltered, more toxic).

Mainstream Smoke (exhaled by smoker).

Key Fact: Contains 7,000+ chemicals, 70+ carcinogens (WHO).



# COMPONENTS OF SECONDHAND SMOKE

Toxic Chemicals: Nicotine, CO, formaldehyde, benzene, arsenic.

Comparison: Sidestream vs. Mainstream (higher toxin concentration in sidestream).

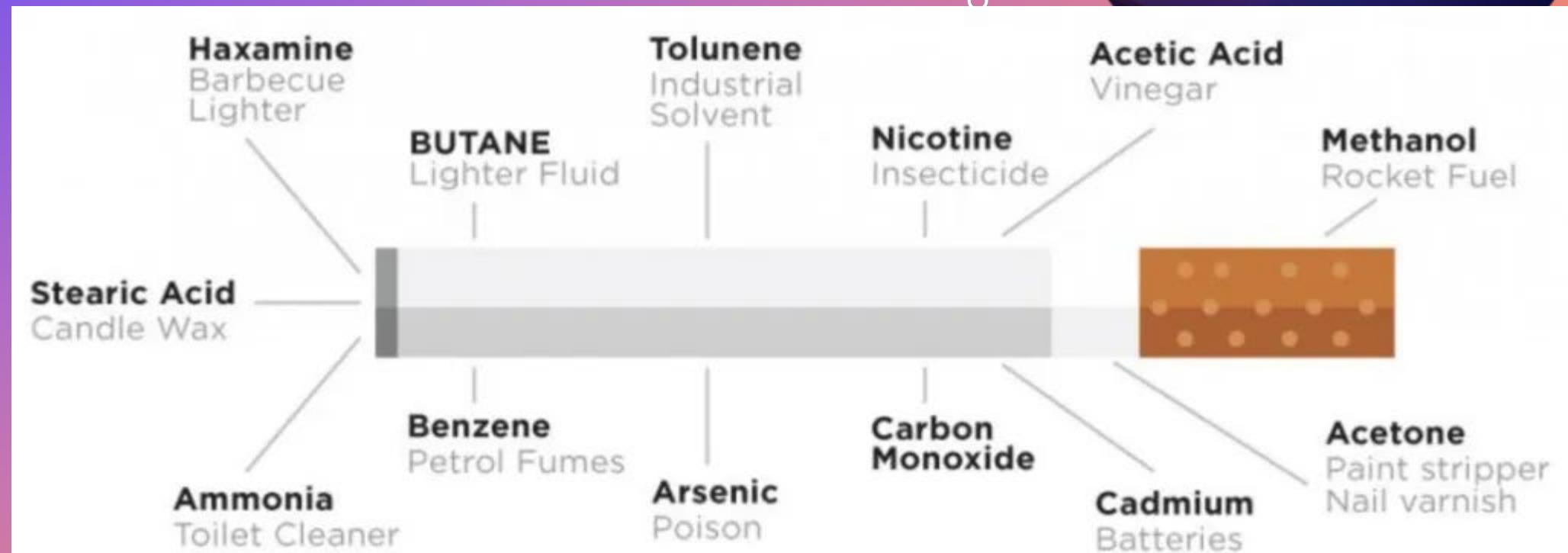


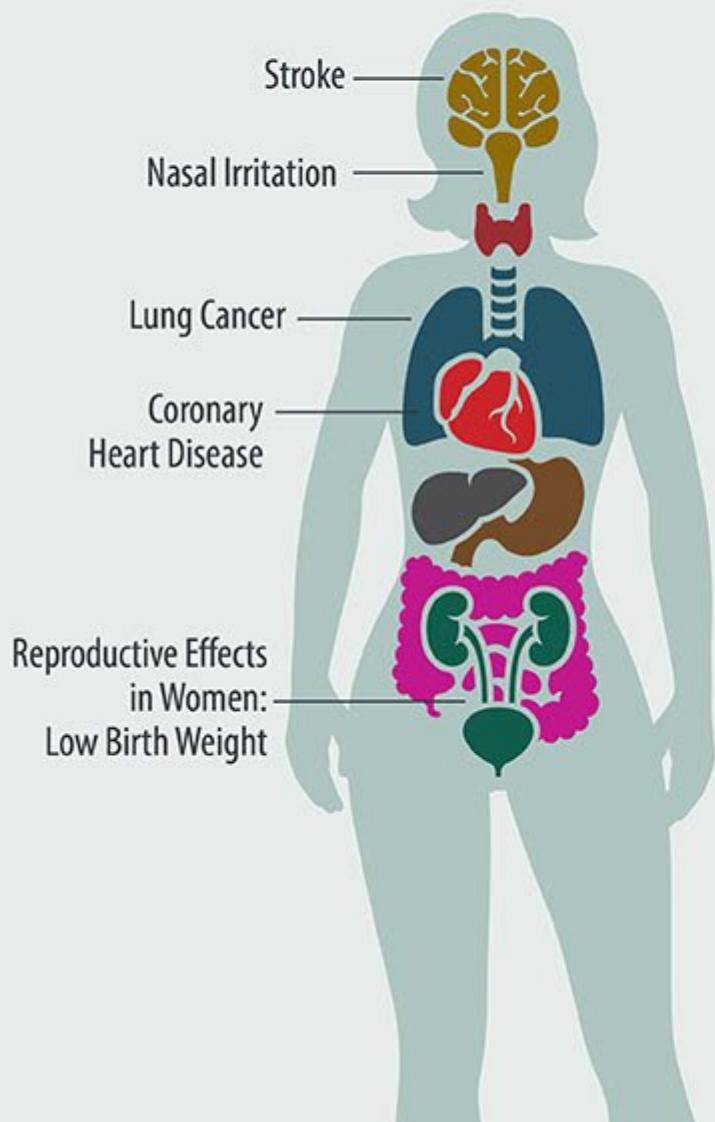
Table 1.1 Concentrations (in  $\mu\text{g}/\text{m}^3$ ) of selected constituents of secondhand tobacco smoke in some experimental and real situations<sup>a</sup>

Constituent	18- $\text{m}^3$ chamber: mean for 50 best- selling US cigarettes ( <a href="#">Martin et al., 1997</a> )	Living quarters ( <a href="#">Löfroth et al., 1993</a> )	Tavern ( <a href="#">Löfroth et al., 1989</a> )	Discothèque ( <a href="#">Eatough et al., 1989</a> )	Home ( <a href="#">Higgins et al., 1990</a> )
Respirable suspended particles	1440	240–480	420	801 <sup>b</sup>	–
Nicotine	90.8	8–87	71	120	51.8
CO (ppm)	5.09	–	4.8	22.1	–
Benzene	30	–	27	–	17.6
Formaldehyde	143	–	104	–	–
1,3-Butadiene	40	–	19	–	–
Acetaldehyde	268	–	204	–	–
Isoprene	657	50–200	150	–	83.3
Styrene	10	–	–	–	7.3
Catechol	1.24	–	–	–	–
3-Ethenyl pyridine	37.1	–	–	18.2	–
Ethylbenzene	8.5	–	–	–	8.0
Pyridine	23.8	–	–	17.6	6.5
Toluene	54.5	–	–	–	51.2
Limonene	29.1	–	–	–	22.0

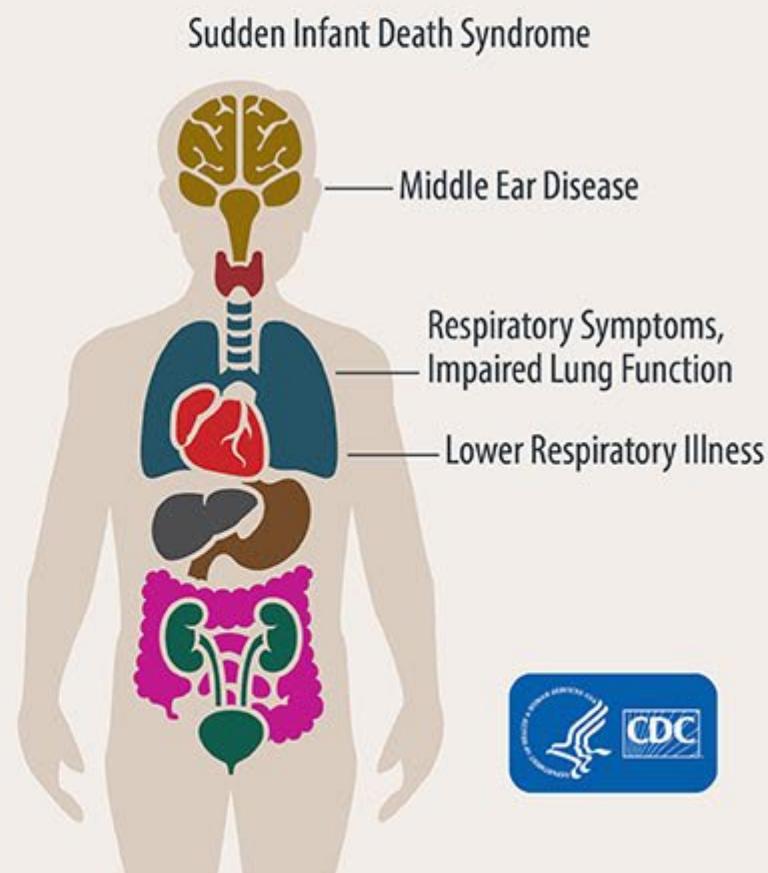
Table 1.2 Mean concentrations (in  $\mu\text{g}/\text{m}^3$ ) of selected components of secondhand smoke of four commercial cigarette brands and Eclipse<sup>a</sup> measured in a chamber with a controlled experimental atmosphere

Constituent	Full-flavour brand	Full-flavour light	100-mm brand	Ultralight	Eclipse
Respirable suspended particles	1458	1345	1706	1184	181
Nicotine	54	63	58	51	4.3
CO (ppm)	6.5	6.2	7.9	6.6	5.2
3-Ethenylpyridine	25	28	28	34	0.56
Acetaldehyde	313	301	384	312	46
Phenol	17.4	16.7	20.0	16.8	4
NO <sub>x</sub> (ppb)	241	233	268	250	24
Total hydrocarbons <sup>b</sup>	2.6	2.6	3.0	2.8	0.47

# ADULT



# CHILDREN



# HEALTH EFFECTS ON ADULTS

## Cardiovascular Diseases

Heart Disease: SHS increases the risk of coronary heart disease by 25–30%, contributing to plaque buildup in arteries.

Stroke: Exposure raises the risk of stroke by 20–30%.



Hypertension (High Blood Pressure): SHS can worsen blood pressure levels.



## Respiratory Problems

Lung Cancer: Non-smokers exposed to SHS have a 20–30% higher risk of developing lung cancer.

Chronic Obstructive Pulmonary Disease (COPD): SHS worsens symptoms like coughing, wheezing, and shortness of breath.

Asthma & Bronchitis: Triggers asthma attacks and increases the risk of chronic bronchitis.

# CHILDREN

Respiratory Infections: Pneumonia, bronchitis.

Asthma: Increased severity/frequency.

Ear Infections: Higher incidence.

SIDS: 2x risk with maternal exposure (NIH).



# SECONDHAND SMOKE

# SECONDHAND AEROSOL

## SECONDHAND SMOKE

presents a major health risk to nonsmokers and is known to cause cancer in humans and animals.



## SECONDHAND SMOKE

causes the **premature death of 41,000 adults** and more than **400 infants** each year – and deaths caused by secondhand smoke have a disproportionate impact on Black Americans and Hispanic/Latino Americans.



## SECONDHAND SMOKE

67.2% of youth who live with a **smoker** have been exposed to secondhand smoke.



## SECONDHAND AEROSOL

from e-cigarettes is a known source of secondhand exposure to nicotine and can also contain **aldehydes and heavy metals**, which are also found in cigarette smoke.



48.4%



## SECONDHAND AEROSOL

In 2019, less than half of working adults (48.4%) reported that their employer had a formal policy addressing vaping in the workplace.

# IMPACT ON PREGNANT WOMEN



- Complications: Preterm birth, low birth weight.
- Placental Transfer: Toxins like nicotine reach the fetus.

# PREVENTION AND SOLUTIONS

- Policy: Smoke-free laws (mention WHO Framework Convention).
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- Awareness: Campaigns like WHO's World No Tobacco Day.
- Personal Actions: Smoke outdoors, use smoke-free childcare.
- Cessation Programs: Resources (e.g., quitlines, apps).

# SMOKE FREE MAP 2022



Country	Overall	Compliance	HTP*	Restaurants Bars	Terraces	Indoor Workplaces	Outdoor Workplaces	Sports venues Stadiums	Schools Universities	Hospitals	Public Transport	Private Cars
Cyprus	Limited	Limited	Complete Ban	Complete Ban	No Ban	Complete Ban	No Ban	Partial Ban	Partial Ban	Partial Ban	Partial Ban	Partial Ban

# SUCCESS STORIES

- **Scotland:** 17% reduction in childhood asthma post-ban (study citation).
- **New York City:** Decline in heart attack admissions.

## Effects of the Irish Smoking Ban on Respiratory Health of Bar Workers and Air Quality in Dublin Pubs

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**TABLE 4. IRRITANT SYMPTOMS QUESTIONNAIRE DATA BEFORE AND AFTER THE WORKPLACE SMOKING BAN BY SMOKING STATUS**

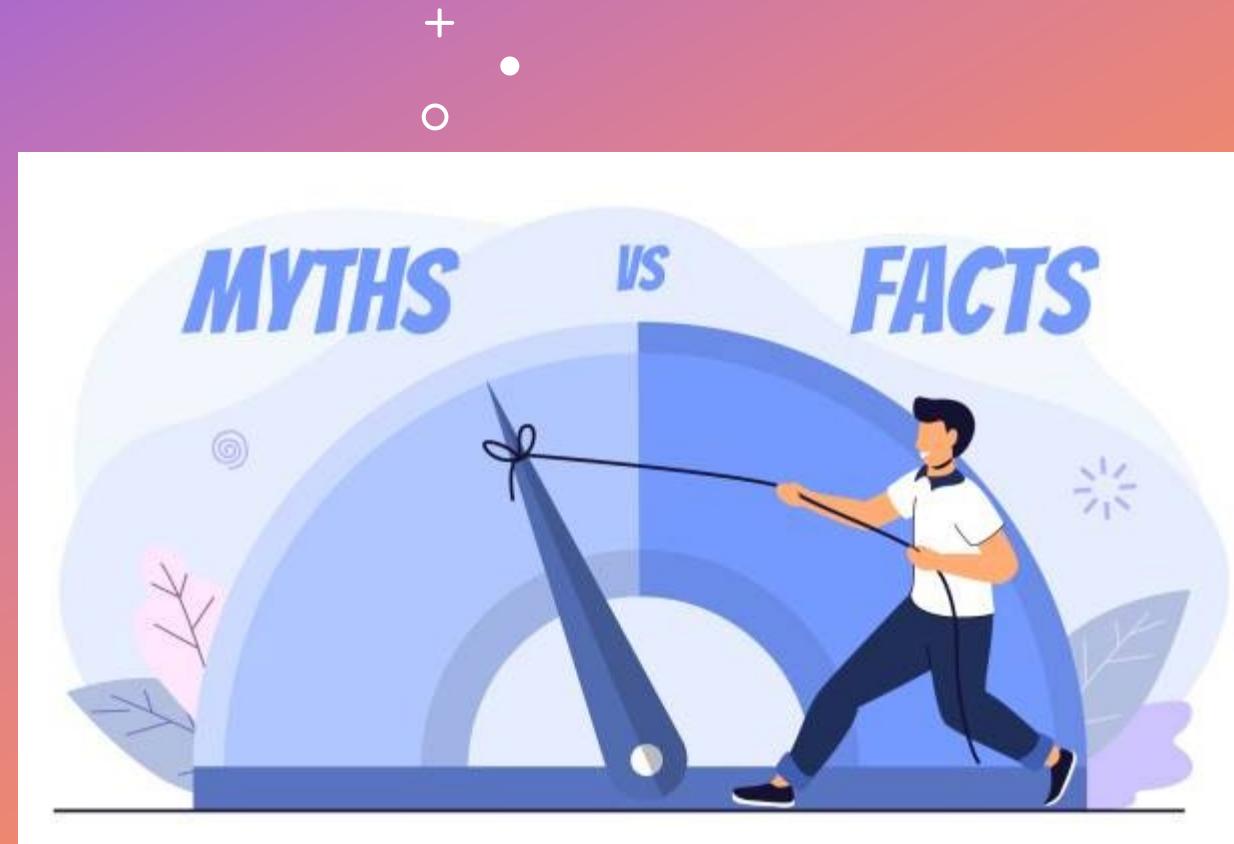
	Number Reporting Symptom		Change (%)	p Value
	Preban	Postban		
<b>Q1. In the past 4 weeks have your eyes been red/irritated?</b>				
Never-smokers (n = 34)	20 (59%)	5 (15%)	-75	< 0.01
Ex-smokers (n = 31)	21 (68%)	2 (6%)	-90	< 0.01
Smokers (n = 8)	3 (38%)	1 (13%)	-67	NS
<b>Q2. Have you had a runny nose, sneezing, or nose irritation?</b>				
Never-smokers (n = 34)	22 (65%)	11 (32%)	-50	< 0.01
Ex-smokers (n = 31)	12 (39%)	9 (29%)	-25	NS
Smokers (n = 8)	8 (100%)	4 (50%)	-50	0.03
<b>Q3. Have you had a sore or scratchy throat?</b>				
Never-smokers (n = 34)	16 (47%)	7 (21%)	-56	< 0.01
Ex-smokers (n = 31)	15 (48%)	5 (16%)	-67	< 0.01
Smokers (n = 8)	4 (50%)	2 (25%)	-50	NS
Total reporting any irritant symptom?	64 (87%)	32 (43%)	-50	< 0.01

**TABLE 1. PM<sub>2.5</sub>, PM<sub>10</sub>, AND BENZENE LEVELS IN PUBLIC HOUSES AND THE OUTDOOR ENVIRONMENT BEFORE AND AFTER THE INTRODUCTION OF THE WORKPLACE SMOKING BAN**

	Preban (SD)	Postban (SD)	Change (%)	p Value
<b>Public houses (n = 42)</b>				
Ave PM <sub>2.5</sub>	35.5 (17.8)	5.8 (2.2)	-83.6	< 0.01
Ave PM <sub>10</sub>	72.1 (27.8)	45.5 (17.1)	-36.9	NS
Benzene (n = 26)	18.8 (14.0)	3.7 (1.6)	-80.2	< 0.01
<b>Outdoor (n = 42)</b>				
Ave PM <sub>2.5</sub>	6.0 (0.8)	5.2 (0.1)	-13.6	NS
Ave PM <sub>10</sub>	24.1 (19.3)	20.0 (5.0)	-17.4	NS
Benzene*		3.7		

# DEBUNKING MYTHS

- **Myth:** “Ventilation eliminates risk.”
- Fact: No safe exposure level (WHO).
  
- **Myth:** “Thirdhand smoke is harmless.”
- Fact: Residual toxins persist on surfaces.



# Thirdhand smoke

- Thirdhand smoke (THS) refers to the persisting particulate matter that becomes embedded in environments exposed to cigarette smoke, even after the smoke has cleared from the air.
- Some researchers have surveyed indoor environments exposed to secondhand smoke and found multiple compounds lingering on furniture and other surfaces, such as nicotine and even carcinogenic nitrosamines.
- Additional research is needed on THS to understand the full breadth of potential health effects – especially for infants who are likely to place their mouths on objects in their environment, leading to oral exposures of THS compounds.

**Do you  
smoke?**

**QUIT.**

Or don't  
smoke around  
others.

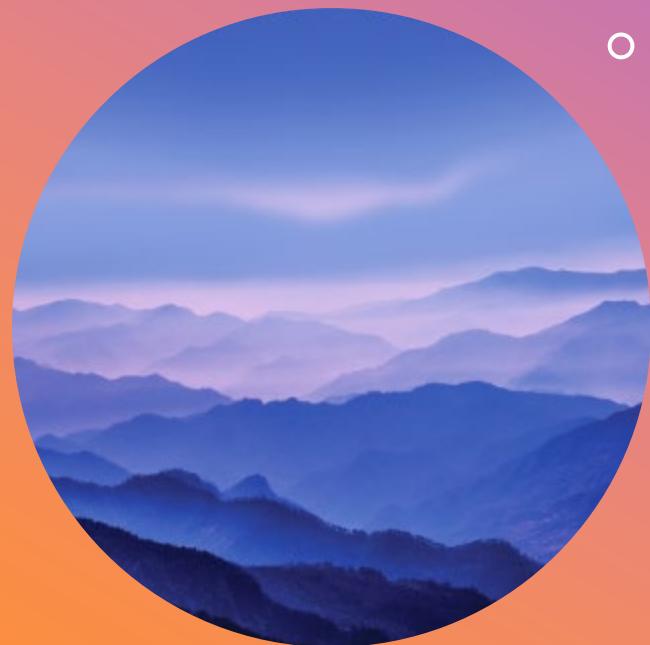


**Do not**  
allow anyone  
to smoke in your  
home or car.

Seek out  
restaurants  
and other  
businesses that  
don't allow  
smoking.



Two white icons of people standing together, representing children and others.  
Teach your  
children and  
others to  
**stay away**  
from secondhand  
smoke.



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# THANK YOU

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