
Saving Smokers' Lives: Evidence Based Strategies

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at

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Today's Presentation

- Tobacco Harm Reduction (THR)
- Cessation
- Related Topics
 - E-cigarettes
 - Attractiveness to teens and other non-smokers
- Myths, Barriers and Bottom Lines
- Q and A

THR Intended to Reduce Risk of Death in Smokers

- Cigarettes – 443,000
 - Current and former smokers 394,000
 - Secondhand smoke 49,000
 - (numbers stable since 2004)
 - (CDC estimated deaths per year in USA)
- THR (projected if all smokers had used smoke-free products)
 - Current and former tobacco users <8,000
 - Secondhand smoke 0
- Vehicular deaths (for comparison) 33,000

Promises of THR

- Save lives of smokers
- No risk to non-smokers
- No risk of fire
- No costs for drugs or counseling
- Free choice and market forces
- Could be less attractive to teens
- Could be less addictive

Cigarettes v. Smokeless

□ Cigarettes

- Products of combustion inhaled deep into lung
- Sticky tar in lung – exposure continues 24/7



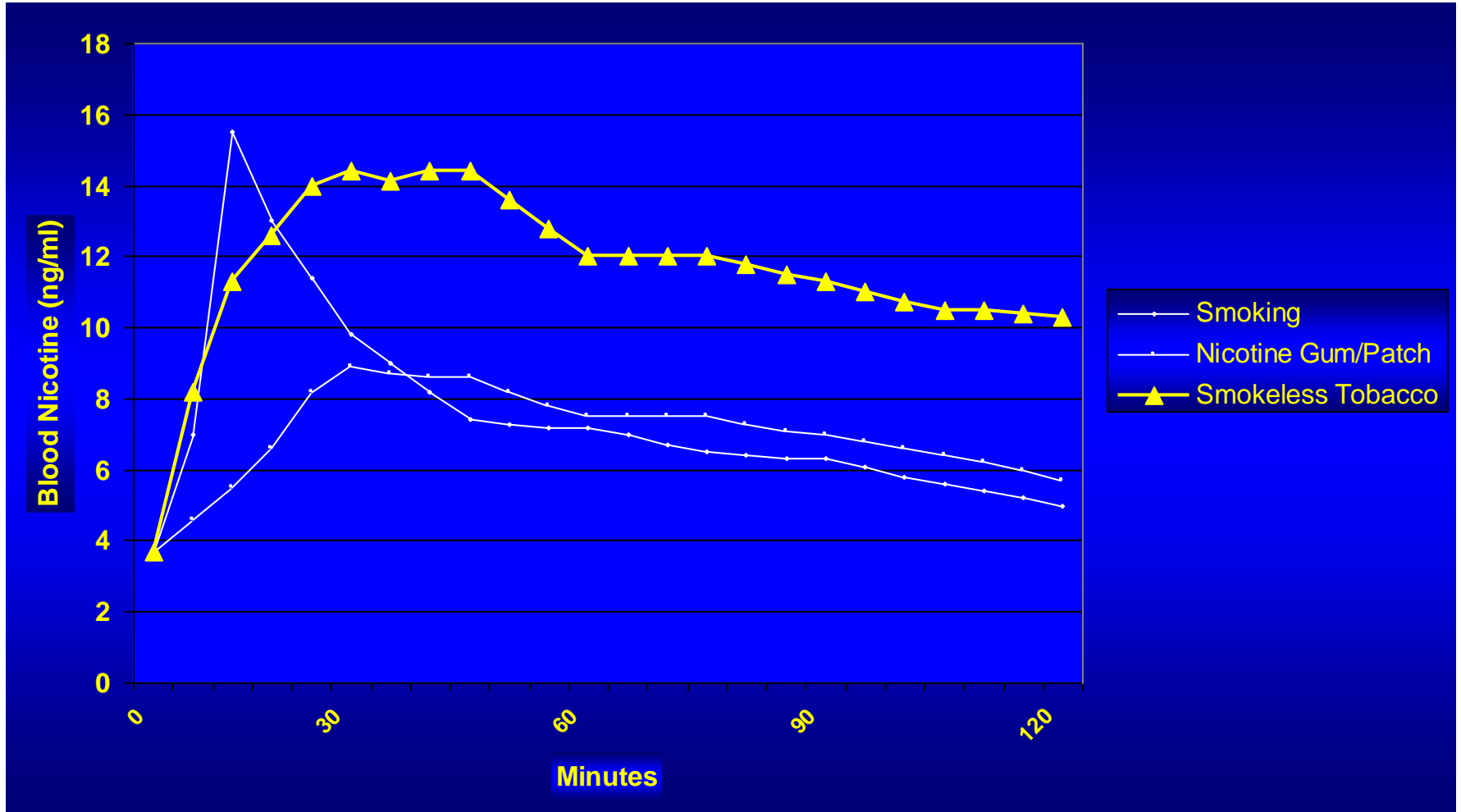
□ Smokeless

- No products of combustion
- No tar
- Exposure brief



Blood Nicotine Levels from Cigarettes, Snus, and NRT

(Adapted from N Benowitz. NEJM 319: 1318-1330, 1988)



American Smokeless Tobacco



Moist Snuff



Chewing Tobacco

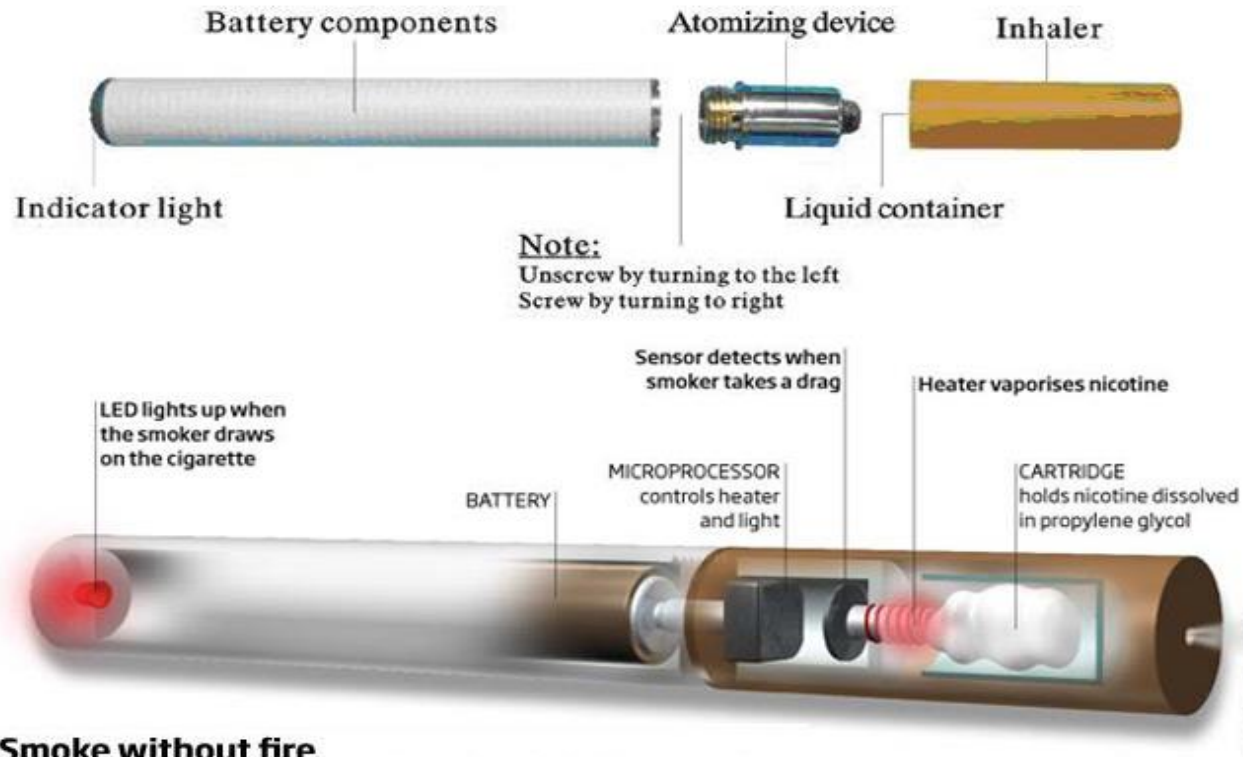
**(Powdered
Dry Snuff)**



Snus and Dissolvables



E-cigarettes



Smoke without fire

Suck on an e-cigarette and it produces a cloud of nicotine-carrying vapour with none of the toxic by-products of burning tobacco

Smokeless Tobacco and Oral Cancer

Lee and Hamling, BMC Medicine 2009

Oropharynx Cancer

| | <u>All</u> | <u>Since 1990</u> |
|-------------------|--------------------|--------------------|
| All | 1.79 (1.36 – 2.36) | 1.28 (0.94 – 1.76) |
| Smoke Adjusted | 1.36 (1.04 – 1.77) | 1.00 (0.83 – 1.20) |
| Smoke-Alcohol Adj | 1.07 (0.84 – 1.37) | 1.07 (0.84 – 1.37) |

Nine recent studies from Scandinavia and the U.S. show no risk*

*Weitkunat et al., BMC Public Health, 2007.

Smokeless Tobacco and Cancer Risk

Lee and Hamling, BMC Medicine 2009

| <u>Site (No. Studies)</u> | <u>RR (95% CI)- Smoking Adjusted</u> |
|---------------------------|--------------------------------------|
| Esophagus (7) | 1.1 (0.95 – 1.4) |
| Stomach (8) | 1.0 (0.9 – 1.2) |
| Pancreas (7) | 1.1 (0.7 – 1.6) |
| Any Digestive (5) | 0.9 (0.6 – 1.3) |
| Larynx (2) | 1.3 (0.6 – 3.0) |
| Lung (6) | 1.0 (0.7 – 1.4) |
| Prostate (4) | 1.3 (1.1 – 1.6) |
| Bladder (10) | 1.0 (0.7 – 1.3) |
| Kidney (5) | 1.1 (0.7 – 1.7) |
| Lymphoma (3) | 1.4 (0.6 – 2.9) |
| All Cancer (7) | 1.0 (0.8 – 1.2) |

Smokeless Tobacco Use and Cardiovascular Diseases

**14 epidemiologic studies
2 meta-analyses**

| | <u>Relative Risk Among ST Users:</u> <u>Heart Attack</u> | <u>Stroke</u> |
|--|---|---------------------------|
| ¹Lee, 2007 | 1.12 (0.99 – 1.27) | 1.42 (1.29 – 1.57) |
| ²Boffetta-Straif, 2009 | 0.99 (0.89 – 1.10) | 1.19 (0.97 – 1.47) |

¹International Journal of Epidemiology 36: 789-804, 2007

²BMJ Aug 18 (online), 2009

Efficacy of Pharmaceutical Cessation Protocols

- Currently available evidence-based pharmaceutical protocols fail more than 90% of smokers who use them, even under the best of study conditions
(Moore et al BMJ 338:b1024 2009)

NRTs and Smokeless Tobacco for Smoking Cessation, Men in the U.S., 2000

| <u>Method</u> | <u>Attempted*</u> | <u>% Former</u> | <u>% Current</u> |
|---------------------|-------------------|-----------------|------------------|
| All | 39.3 | 61 | 39 |
| Nicotine Patch | 2.9 | 35 | 65 |
| Nicotine Gum | 1.0 | 34 | 66 |
| Bupropion | 1.1 | 29 | 71 |
| Nicotine Inhaler | 0.098 | 28 | 72 |
| Nicotine Spray | 0.014 | 0 | 100 |
| <u>Switch to ST</u> | <u>0.36</u> | <u>73</u> | <u>27</u> |

*Numbers in millions

Rodu and Phillips, Harm Reduction Journal 5: 18, 2008

Cessation – Allen Carr published data

- Of 357 smokers attending A.C. seminar in Austria, 2002, 308 consented to FU, 223 (72%) followed up; 40% were abstinent at 1 year (29% of the 308) (Hutter et al: Int Arch Occup Env Health 79:42-8, 2006)
- Of 515 employees of a steel plant attending A.C. seminar, 510 responded, with 51.4% reporting continued abstinence at 3 years, random sample of 61 respondents, urine cotinine showed high agreement with smoking history. (Mosshammer and Neuberger Addictive Behaviors 32(7) 1486-93 2007)

Notes on e-cigarettes

- ❑ Morgan Stanley's David Adelman estimates e-cigarettes will replace 1.5 Billion cigarettes on the market this year, up from 600 million in 2012. (<http://au.businessinsider.com/chart-e-cigarette-growth-20132-14>)
- ❑ E-cigarettes only tobacco/nicotine product with huge, vocal, politically active users groups not affiliated or supported by manufacturers or vendors

E-cigarettes and Dual Use

(Dawkins et al Addiction 108(6) 11115-25 2013)

- Survey of 1,347 e-cigarette users from 33 countries recruited from two e-cigarette web sites
- 57% have not smoked “for months” after quitting, using e-cigarette to quit
- 88% either quit or cut down substantially on cigarettes smoked

Smokers Uninterested in Quitting

- Six month pilot study (Italy) smokers uninterested/unwilling to quit 9/40 (22.5%) abstinent at 6 months; 22/40 (55%) abstinent or 50% reduction in smoking; 88% reduced cigarette consumption (Polosa et al BMC Public Health 11:786 2011)
- Twelve month pilot study (Italy) schizophrenic smokers uninterested in quitting abstinence at 12 months 2/14 (14.4%) abstinent or 50% reduction in 9/14 (64.3%) (Caponnetto et al Int J Environ Res Public Health 10(2) 446-61 2013)

Attractiveness to Teens and other non-smokers (re smoke-free alternatives compared to cigarettes)

- ❑ No pandemic of tobacco use prior to predatory marketing of machine-made cigarettes
- ❑ 30% of smokers can satisfy their urge to smoke with zero-nicotine from e-cigarette (Eissenberg Tobc Control 19: 87-8 2010)
- ❑ Non-smokers know about e-cigarettes, but don't use them despite unrestricted marketing
 - National (US) study of 3,240 adults could only find 6 non-smokers who have ever tried e-cigarettes (McMillen et al J Env Pub H Article ID 98974, 2012)
 - ASH (Great Britain) commissioned survey of 12,171 adults and 2,178 children age 11-18 could not find a single non-smoker, youth or adult that regularly used e-cigarettes (www.ash.org.uk Fact Sheet May 2013)

Myths

- ❑ Pharmaceutical smoking cessation products are highly effective
- ❑ Smokeless tobacco (in USA) causes oropharyngeal cancer
- ❑ Nicotine is responsible for much, if not most of the cardiovascular mortality of cigarettes
- ❑ Lack of FDA approval of e-cigarettes is because e-cigarettes fail to meet FDA standards

Barriers to THR

- ❑ Usual interpretation of goal of “tobacco free society”
 - Unwillingness to consider use of non-pharmaceutical tobacco products in public health initiative
- ❑ Mandated warnings on smokeless
 - Mouth cancer
 - Tooth and gum disease
 - “not safe alternative”
 - (addictive)
- ❑ Lack of biomarkers
- ❑ 10+ year “incubation” initiation of smoking to onset of disease
- ❑ Impossibility of ultimate controlled clinical trial

Purpose of AAPHP Resolutions

- ❑ **-- pave way for development of new evidence-based strategies to save smokers' lives and reduce nicotine addiction**
- ❑ Separation of smoking cessation from nicotine cessation for smokers unable or unwilling to quit
- ❑ Replacement of cigarettes with less attractive and less addictive products as new approach to reducing nicotine addiction
- ❑ New approaches to cigarette and/or tobacco cessation
 - Intensive cognitive-behavioral therapy with self-reinforcement
 - ?? Other new approaches ??

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