Use of Non Cigarette Tobacco Products (NCTP)

Smokeless Tobacco
Waterpipes
Cigars
Pipes

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NCTP Definitions & Products

Pipes

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Cigars

Images from www.trinketsandtrash.org

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Cigar Definition

U.S. Department of Treasury (1996):

Cigar

"Any roll of tobacco wrapped in leaf tobacco or any substance containing tobacco."

vs.

Cigarette

"Any roll of tobacco wrapped in paper or in any substance not containing tobacco."

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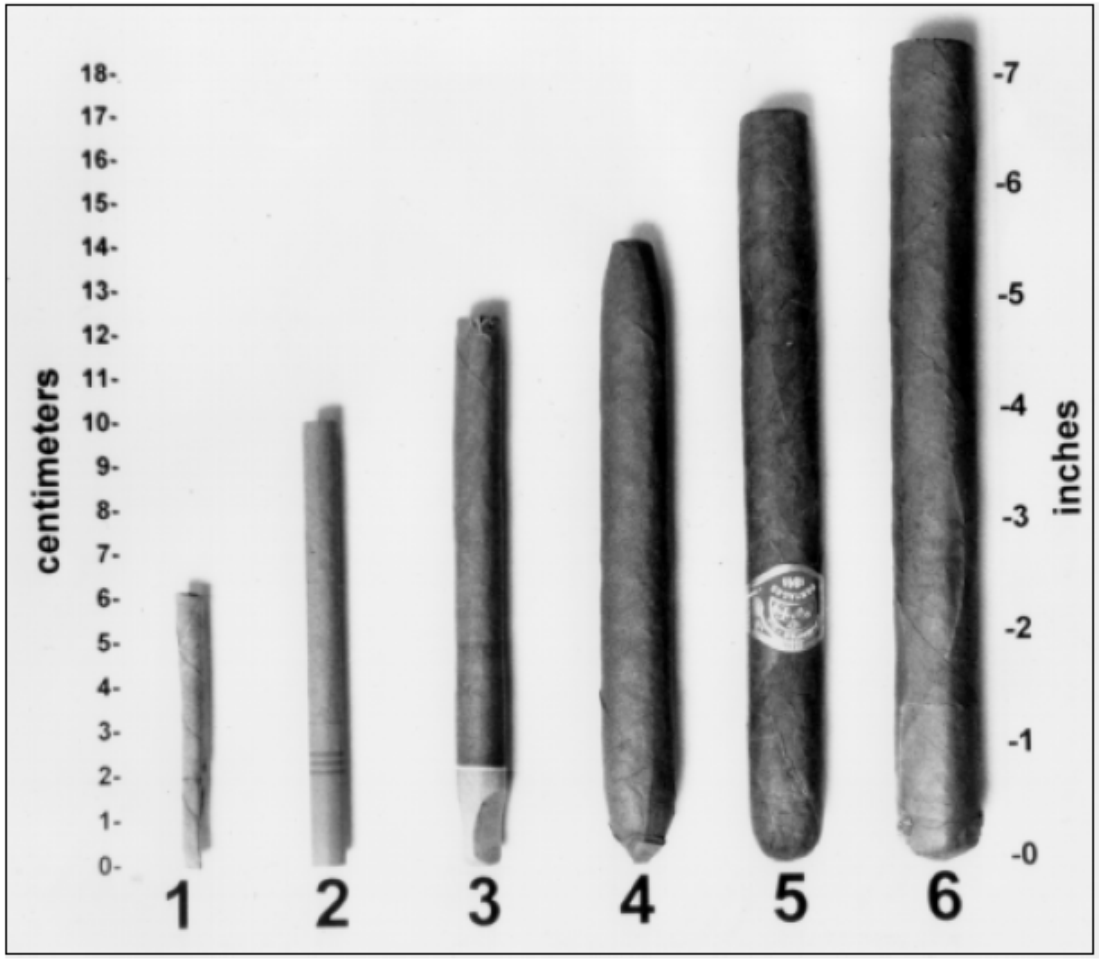
Types of cigars on the U.S. Market in 1996: (1) bidi (imported from India), (2) little cigar with filter tip, (3) small cigar with plastic mouth piece, (4) regular cigar, (5) and (6) premium cigar.



NCI Monograph 9. Cigars: Health Effects and Trends.

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TOPS
SWEET SNUFF
NAVY
SWEET
Scotch Snuff
NET WEIGHT 1.15 OZ


CANNON BALL
CHEWING TOBACCO


FOIL POUCH—FLAVOR FRESH TOBACCO
AMERICA'S BEST CHEW
RED MAN
CHEWING TOBACCO


Big On Taste.
MORGAN'S
CHEWING TOBACCO


BALANCED AND BETTER
BEECH-NUT
25¢ OFF


TAYLOR'S PRIDE
CHEWING TOBACCO
NET WT. 3 OZ.


SKOAL
LONG CUT
SKOAL
Pouches
SKOAL
BERRY BLEND


Rooster
LONG CUT


RED SEAL
LONG CUT


Copenhagen
LONG CUT
Copenhagen
POUCHES
Copenhagen
SNUFF
Copenhagen
BLACK


HUSKY

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Smokeless Tobacco

Chewing tobacco

- Loose leaf (i.e., Redman)
- Plugs
- Twists

Snuff

- Moist (i.e., Copenhagen, Skoal)
- Dry (i.e., Honest, Honey bee, Navy, Square)

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“Chewing Tobacco” = Cut tobacco leaves

“Snuff” = Moist ground tobacco

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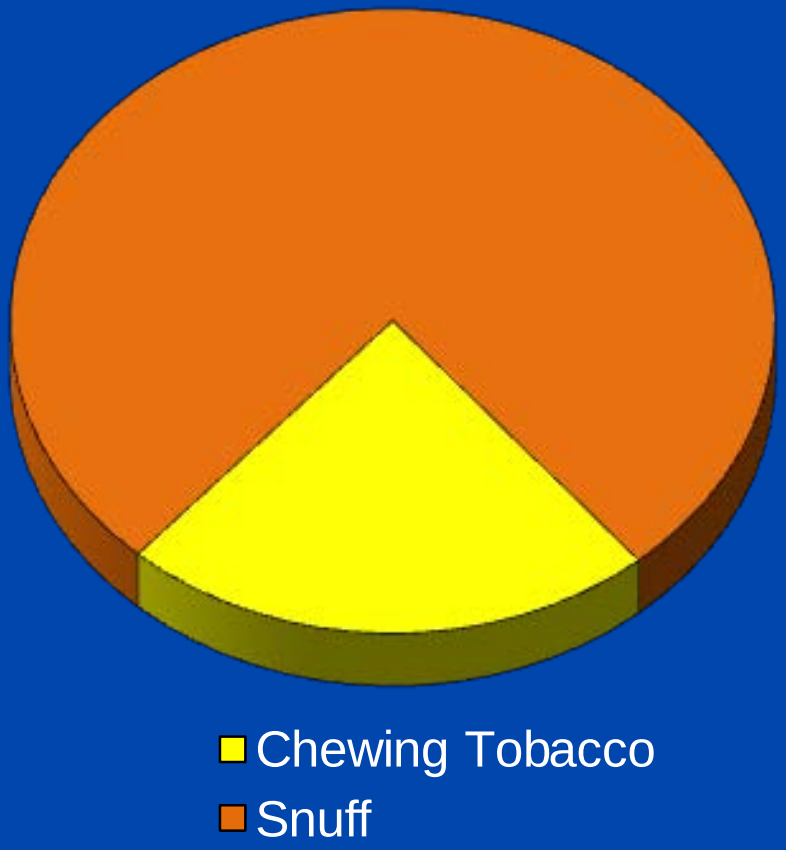
Type of ST Used in U.S.



National Survey on Drug Use and Health (NSDUH)

“Spitless Tobacco” – Star Scientific

RJ Reynold's

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“Swedish Style” ST

RJReynolds

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Phillip Morris (Altria)

“Fully Dissolvables”

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Tobacco-less Nicotine Product - Altria

Package of 16 discs, each containing about 1.5 milligrams of nicotine = $3

Virginia test market

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Waterpipe

- Use dates back 4 centuries in Asia & Africa
- Typically consumed socially with friends and family
- Becoming trendy in US among youth
- Hookah “cafes” gaining popularity
- Smoke described as smoother and more flavorful
- Often (mis)perceived as healthier alternative due to water filtration, cooler mouth feel, and reduced irritation

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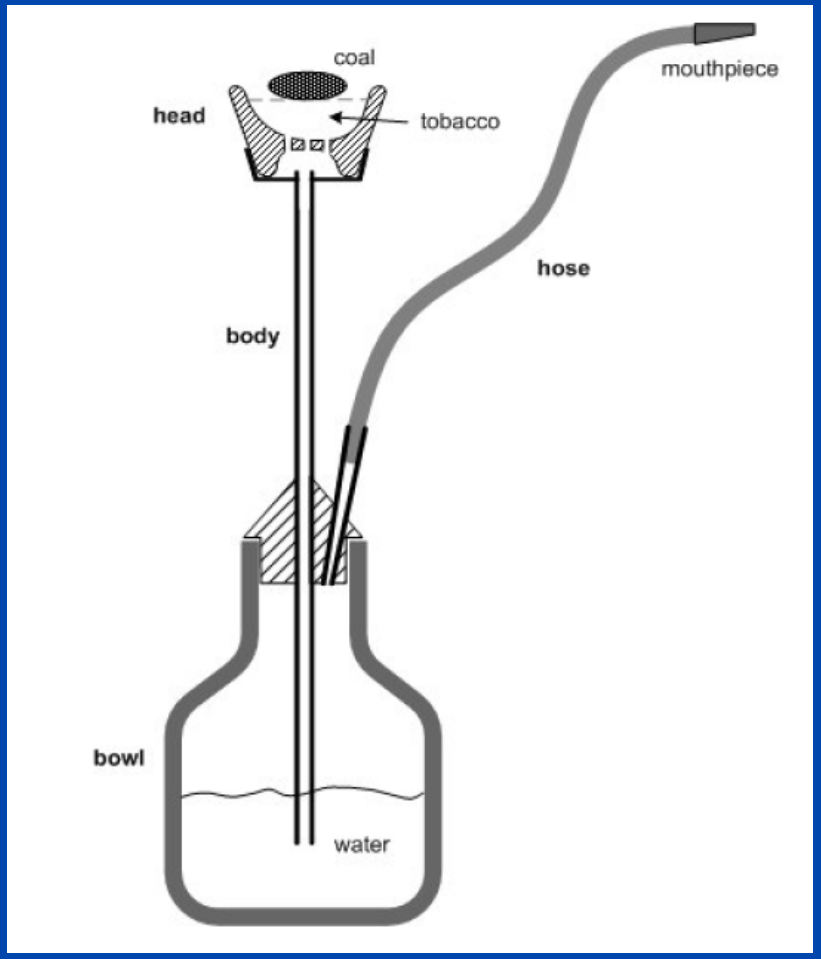
Anatomy of a Waterpipe



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Types of Waterpipe Tobacco

- Maasel/Mu'essel
  Combination of tobacco and molasses, honey or fruit
- Tumbak/Ajami
  Dark tobacco paste
- Jurak
  Combination of tobacco and fruits, oils, honey or molasses. May be flavored or flavorless
- Moist tobacco → requires charcoal to keep burning

Hookah tobacco

Charcoal

Source: Knishkowy & Amitai. (2005). Pediatrics, 116, e113-e119.


AL FAKHER
Quality product of the U.A.E.
AJMAN
NAKHLA TOBACCO
MANGO MOLASSES
El Nakhla
Banana
ORANGE MOLASSES
ميزو

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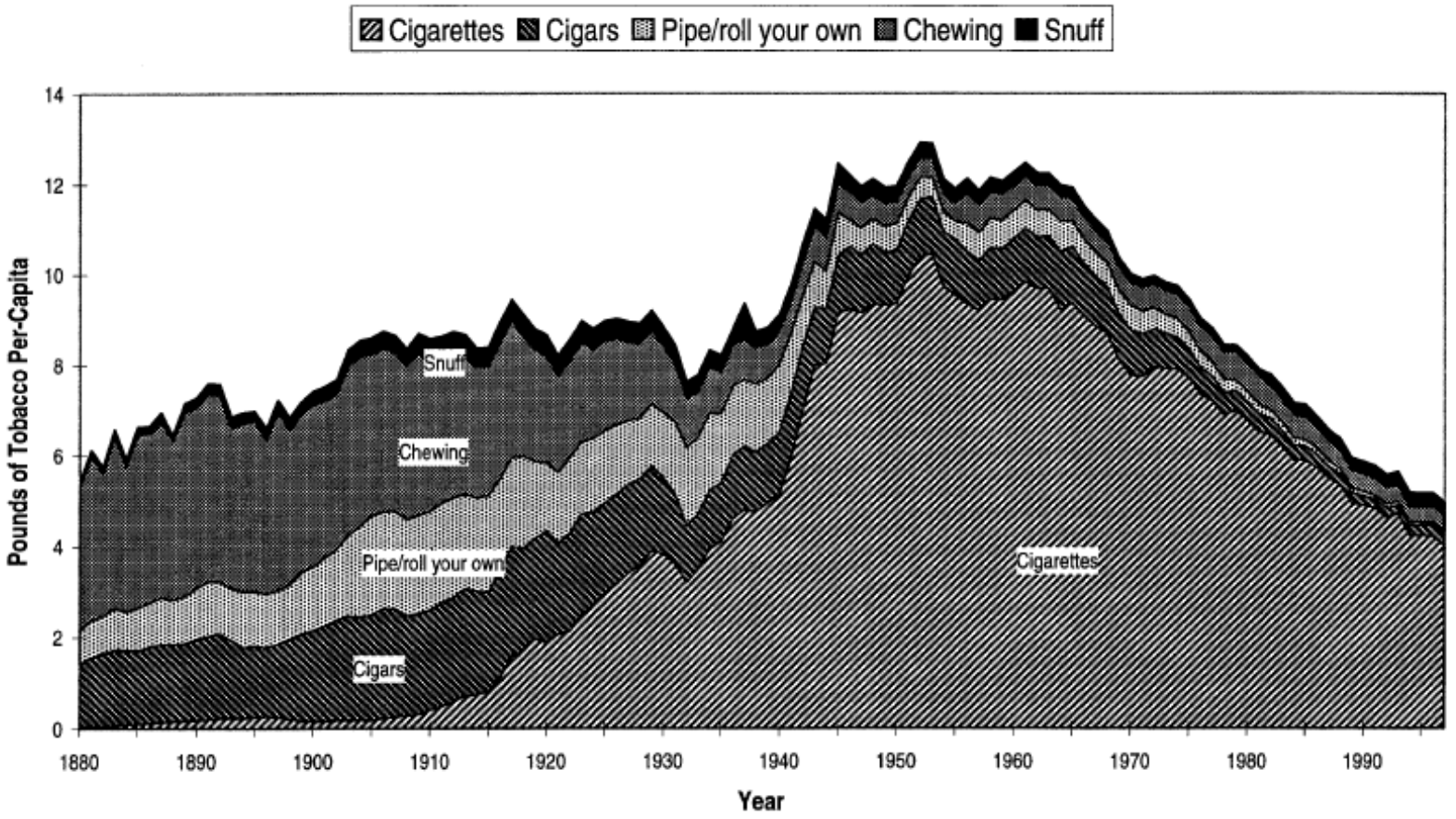
NCTP: Trends & Prevalence

Per-capita consumption of different forms of tobacco in the US 1880-1997



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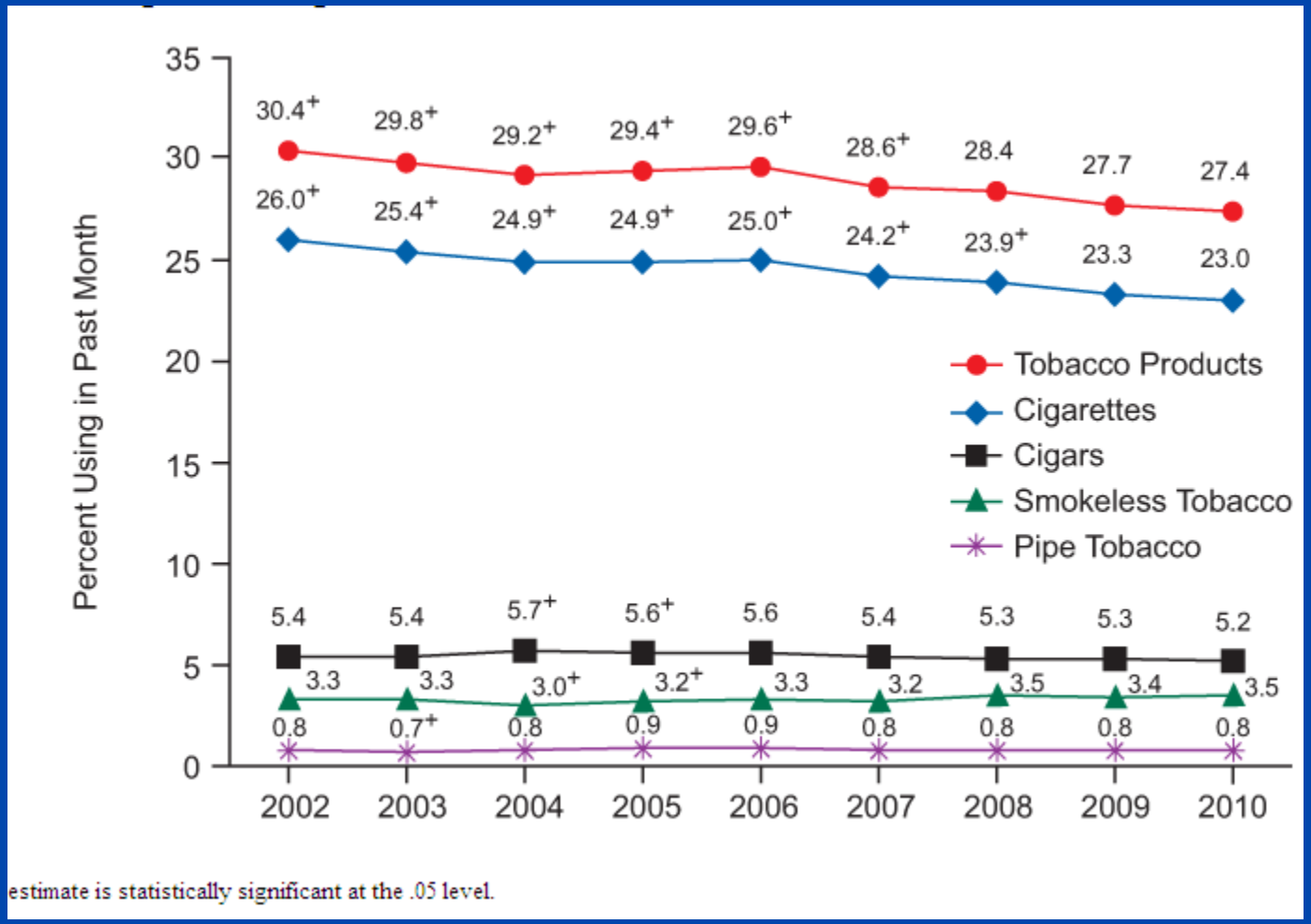
Past Month Tobacco Use among Persons Aged 12 or Older



Results from the 2010 National Survey on Drug Use and Health

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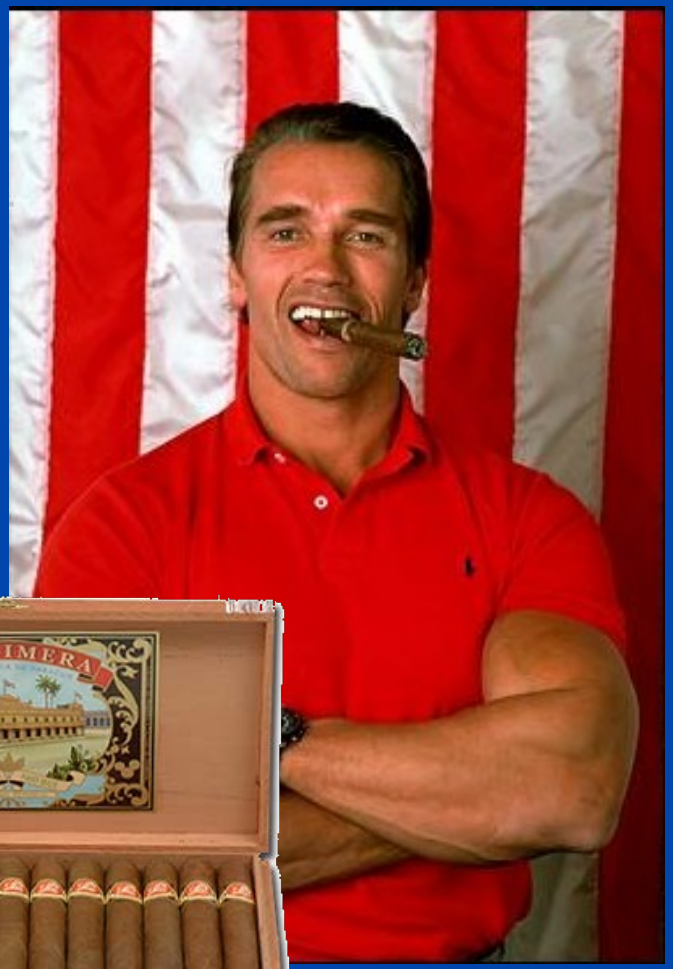
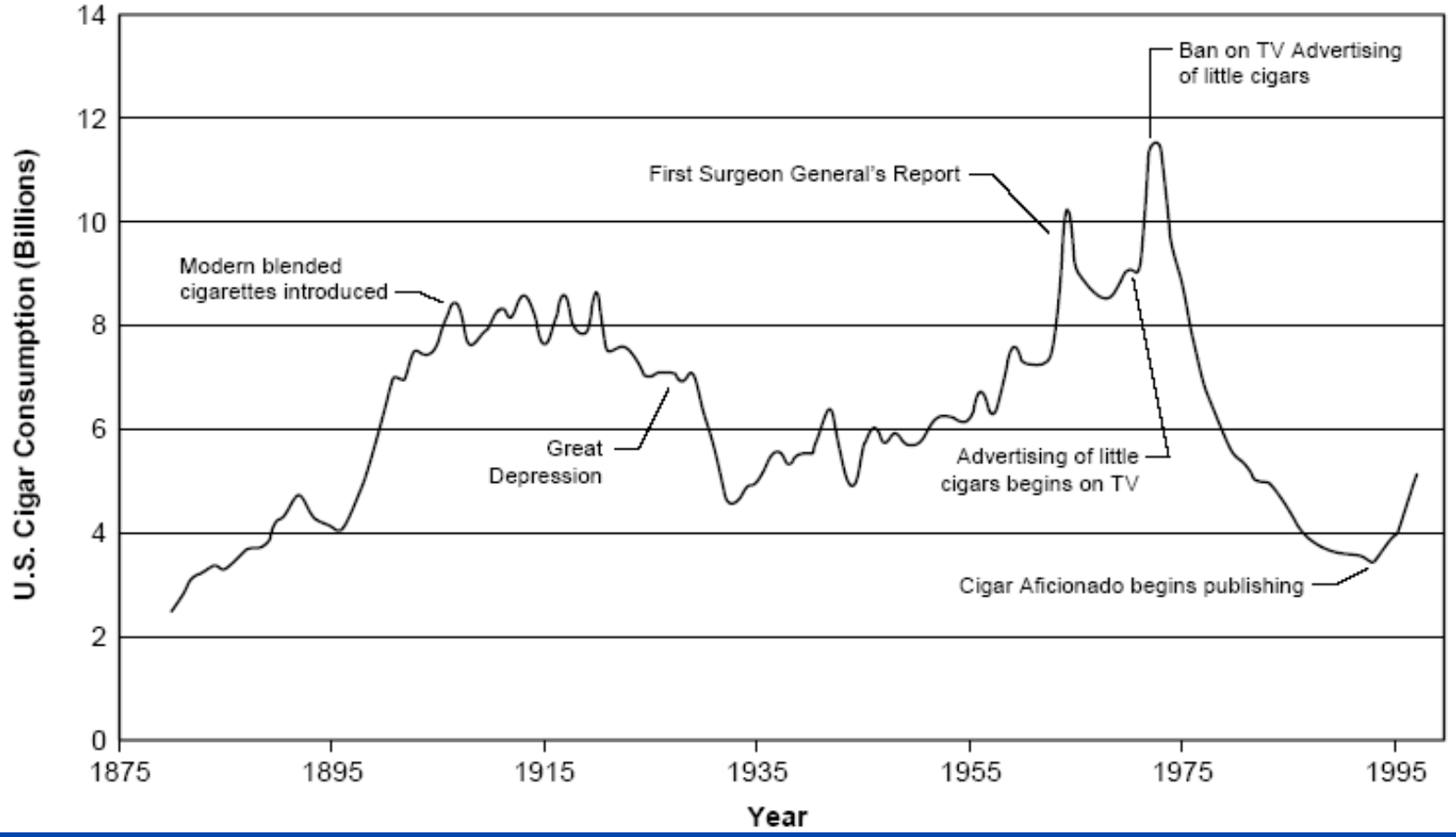
Cigar Smoking

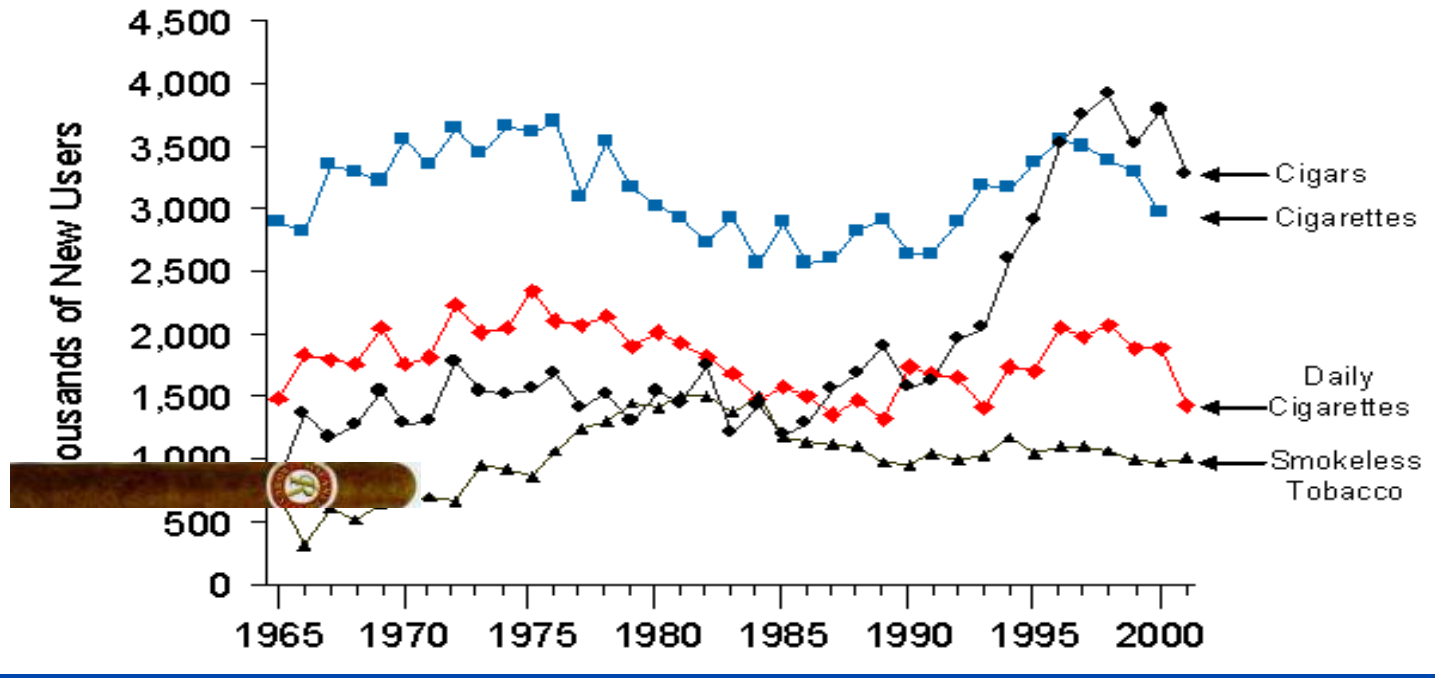


Total U.S. cigar consumption 1880-1997 and significant events in the use of cigars



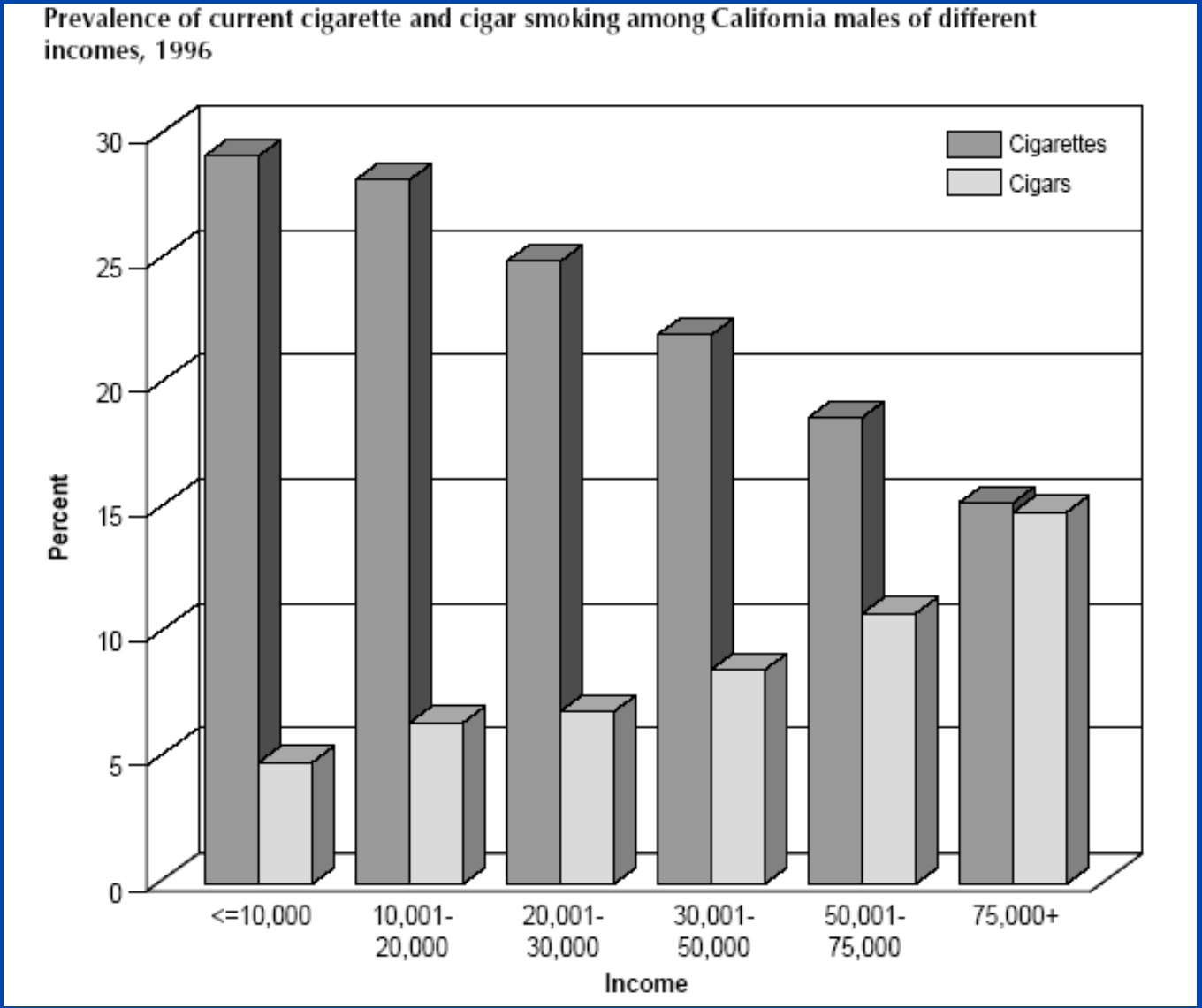
NCI Monograph 9. Cigars: Health Effects and Trends.

Figure 6.4 Annual Numbers of New Users of Tobacco: 1965–2001



< 18 years of age group constituted an increasingly greater proportion of the number of new cigar smokers:

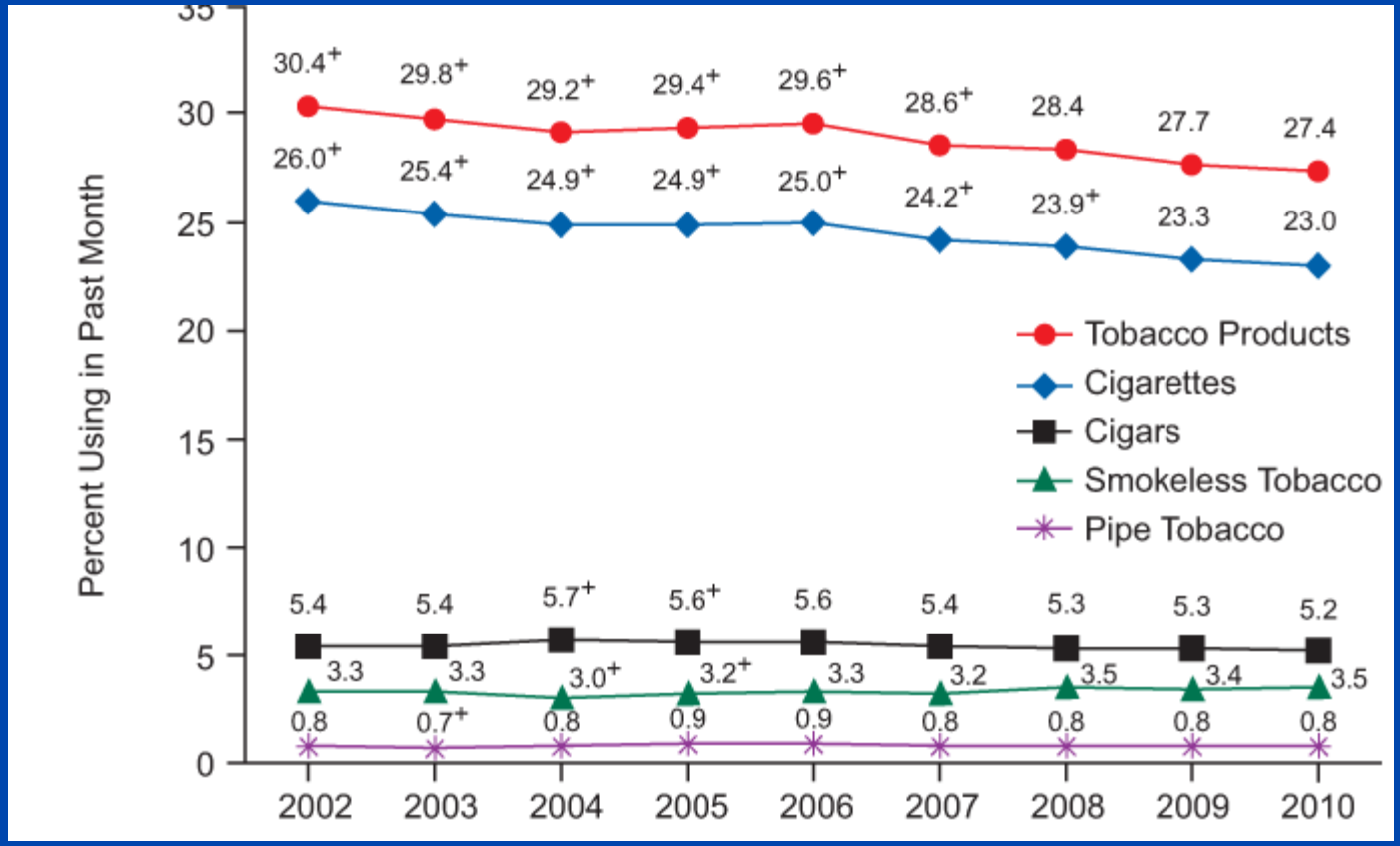
SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002.
The Monitoring the Future Study, University of Michigan, 2001 and 2002.



NCI Monograph 9. Cigars: Health Effects and Trends.

Prevalence of ST Use

- In 2010, 8.9 million (3.5%) used smokeless tobacco



Results from the 2010 National Survey on Drug Use and Health: National Findings

SAMSHA

Percentages of Persons Aged 12 or Older Using Smokeless Tobacco in the Past Month, by Demographic and Geographic Characteristics: 2002 to 2007

Demographic and Geographic Characteristic	Past Month
Age Group in Years	
12 to 17	2.2%
18 to 25	5.0%
26 or Older	3.0%
Gender	
Male	6.2%
Female	0.4%
Race/Ethnicity	
White	4.1%
Black or African American	1.4%
American Indian or Alaska Native	7.1%
Native Hawaiian or Other Pacific Islander	2.9%
Asian	0.6%
Hispanic or Latino	0.9%
Two or More Races	2.9%
County Type	
Large Metropolitan	1.9%
Small Metropolitan	3.7%
250,000 to 1 Million Population	3.2%
<250,000 Population	4.7%
Non-Metropolitan	6.6%
Urbanized	5.5%
Less Urbanized	7.1%
Completely Rural	8.4%
Region	
Northeast	1.7%
Midwest	3.7%
South	4.2%
West	2.4%

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Waterpipe

- After cigarettes, waterpipe use is the most common form of tobacco use among university students
- Predominantly young, males
- 30% ever use & 8.4% current use
- Used in a social context
  - More common in fraternities/sororities
- Most smoked < 2 years
  - 10% daily
- Most perceive less addictive and harmful
  - 67% said “cigarettes more harmful”

Ward KD, et al. Nicotine Tob Res. 2007 Dec;9(12):1339-46.

Primack BA, et al. Nicotine Tob Res. 2012 May 28.

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Odds of Trying Waterpipe, Snus, or ENDDs (n = 3158)

Predictors	Have tried one of these products adjusted OR (95% confidence interval)
Smoking status	
Former smoker	2.71 (2.06, 3.56)
Nondaily smoker	6.13 (4.02, 9.33)
Daily smoker	5.53 (4.03, 7.58)
Region	
Northeast	1.68 (1.16, 2.42)
Midwest	1.65 (1.20, 2.28)
West	1.80 (1.36, 2.39)
Age	
18–24	2.18 (1.60, 2.97)
Sex	
Males	3.51 (2.77, 4.45)
Education	
High school	1.58 (.99, 2.51)
Some college	2.67 (1.69, 4.22)
College degree	2.04 (1.26, 3.30)

Model also included race, not significant. Reference groups were as follows: never smokers, south region, 25 years of age and older, females, and no high school degree.

*Lifetime Use

McMillen R, et al. Use of emerging tobacco products in the United States. J Environ Public Health. 2012;2012:989474.

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Health Impact of NCTP

Adjusted relative risk* (95% CI) of death
Sustainer = No switching

Deaths from	'Sustainers'		
	Never smoked	Pipe only	Cigarettes only
Men (n=16 932 aged 20–49 years)			
All causes	1.00	1.99 (1.73 to 2.27)	2.44 (2.27 to 2.62)
Ischaemic heart disease	1.00	3.07 (2.35 to 4.00)	3.17 (2.69 to 3.73)
Stroke	1.00	1.54 (0.84 to 2.82)	2.30 (1.71 to 3.11)
Cardiovascular disease	1.00	2.49 (1.99 to 3.10)	2.81 (2.48 to 3.20)
Lung cancer	1.00	10.32 (5.55 to 19.18)	16.78 (10.31 to 27.33)
Other smoking related cancer	1.00	1.47 (0.99 to 2.18)	1.95 (1.59 to 2.38)

Tverdal et al. Tob Control 2011;20 123-130

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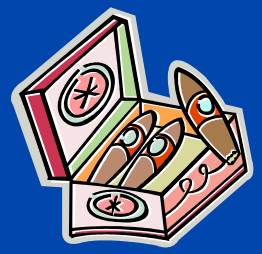
Disease Risks



- Tar of cigar is more carcinogenic than cigarette smoke tar
- Morbidity and mortality correlates with:
  - +/- inhalation
  - depth of inhalation
  - number of cigars they smoke

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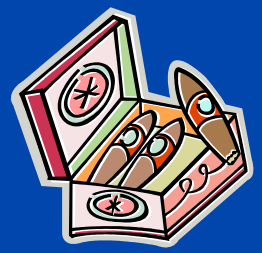
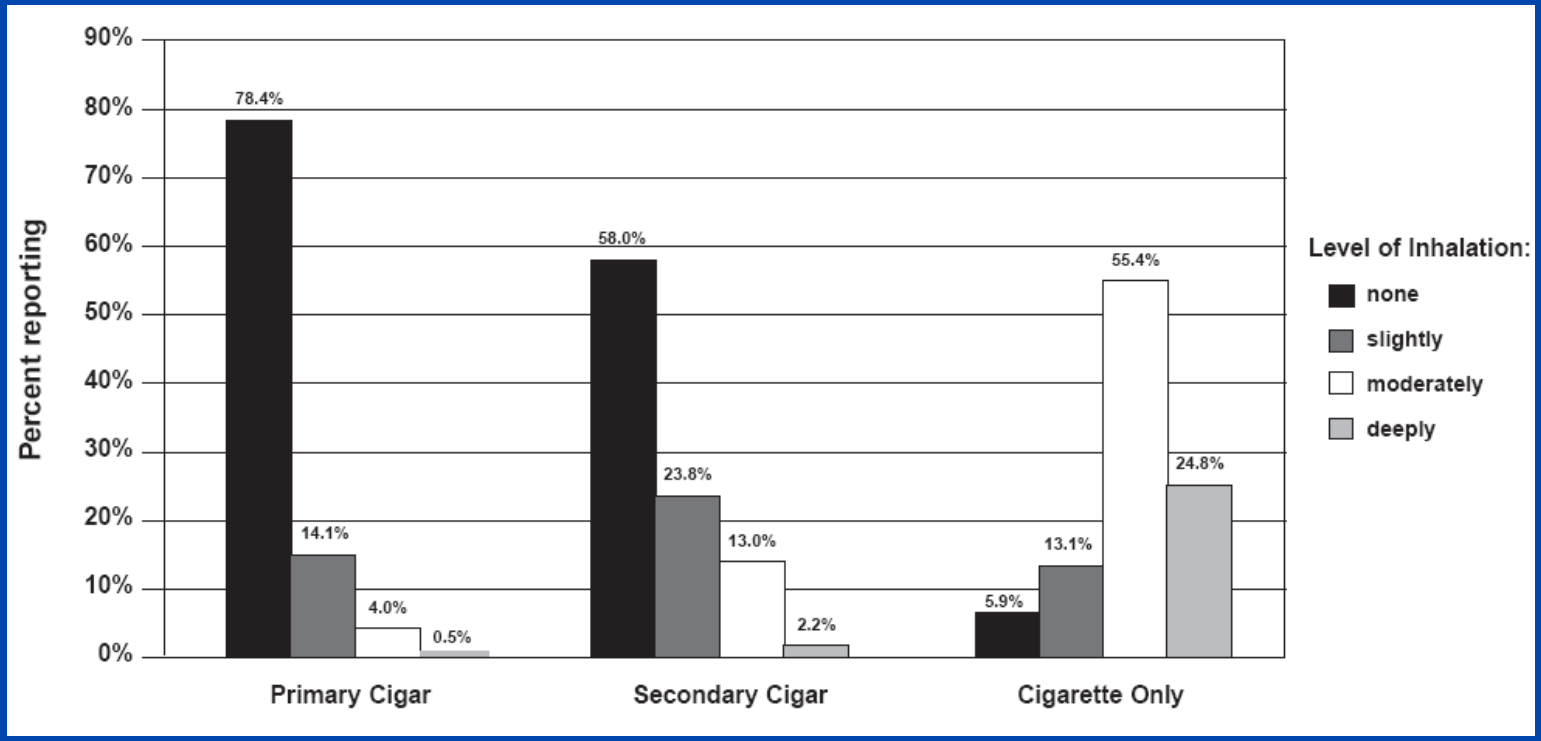
Levels of Inhalation, CPS-1 Study





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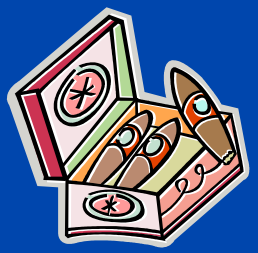
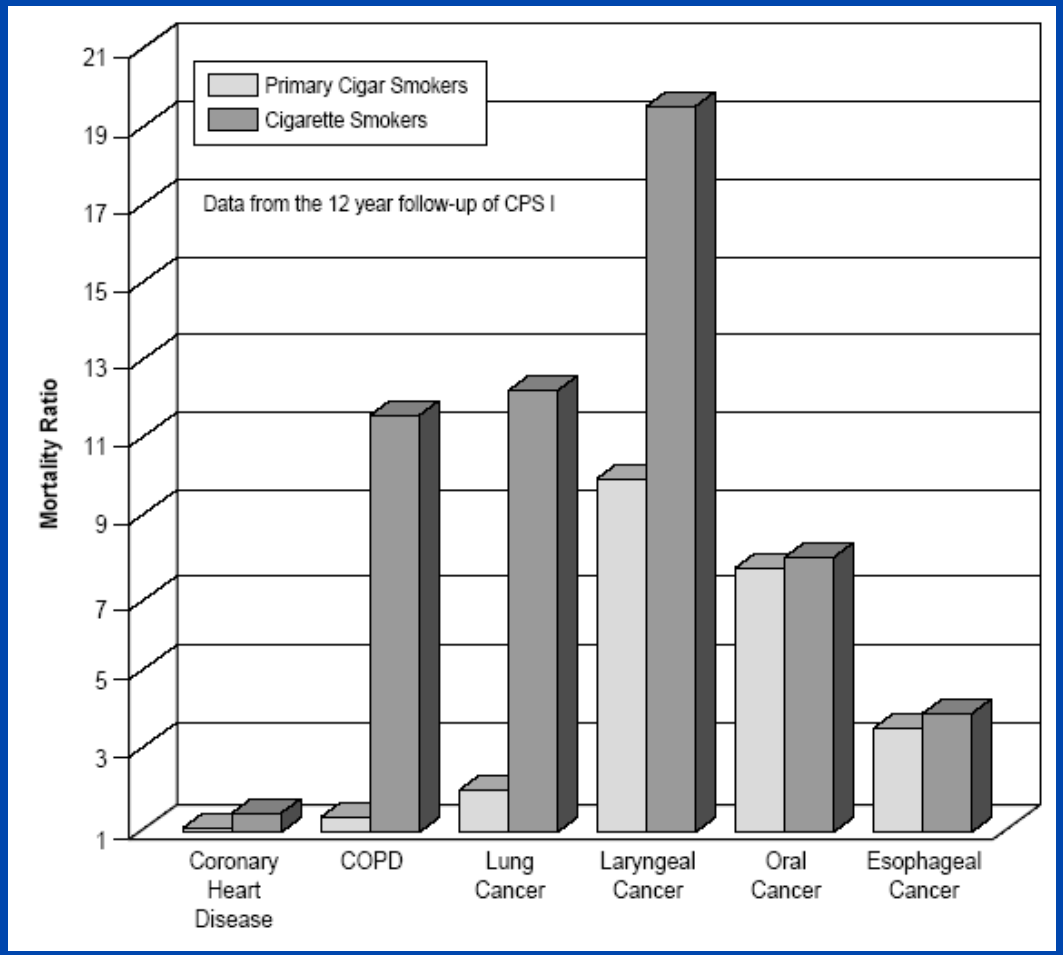
Mortality Ratios for Cigar & Cigarette Smokers vs. Never Smokers





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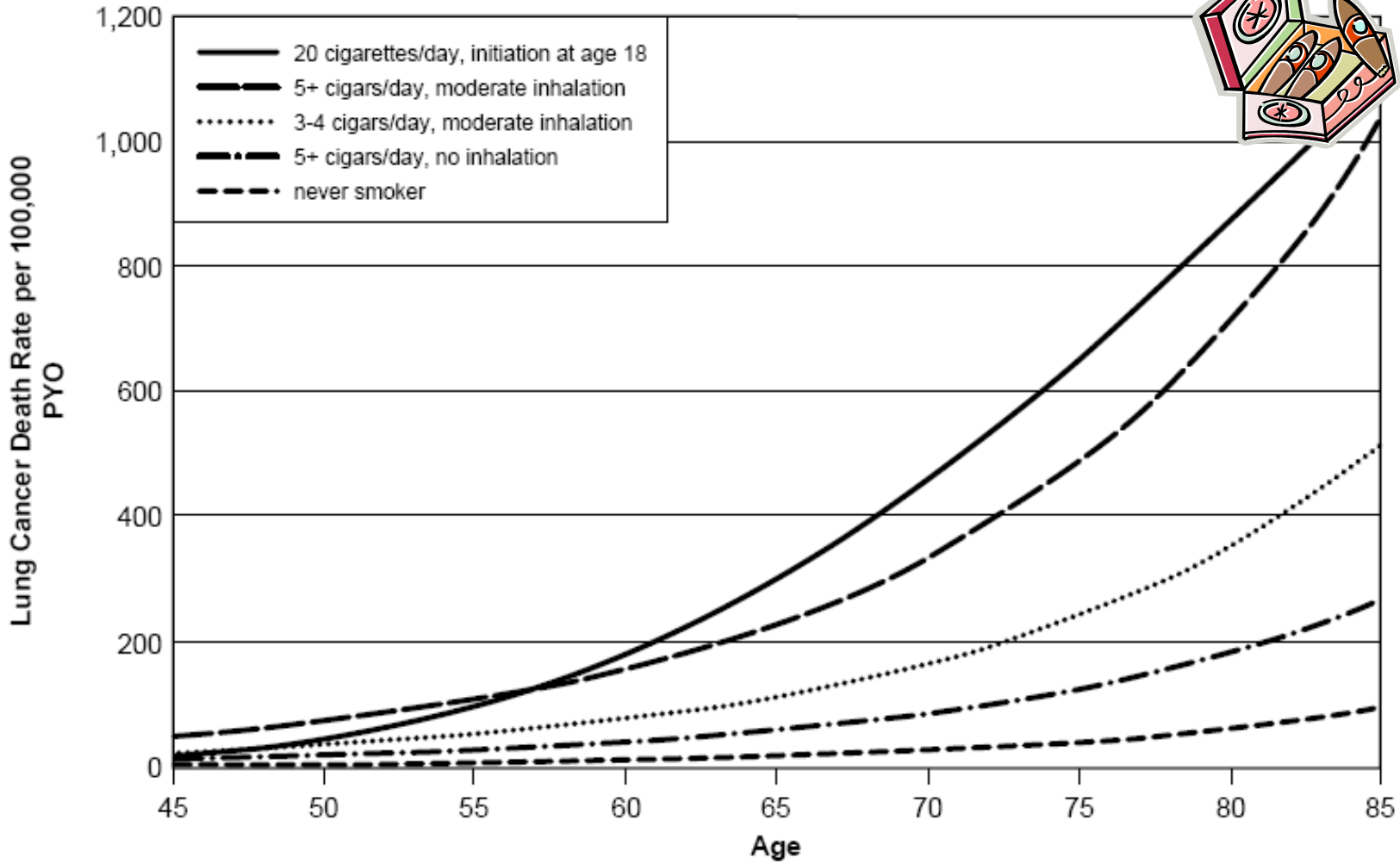
Lung cancer death rates for cigar smokers with different patterns of inhalation and number of cigars per day compared with one pack per day cigarette smokers



NCI Monograph 9. Cigars: Health Effects and Trends.

Cigar Smoking – Pancreatic Cancer Risk

- Compared with never tobacco users, cigar-only smokers have an increased risk for pancreatic cancer
  - OR 1.6 (95% CI: 1.2-2.3)
- Comparable to that of cigarette-only smokers
  - OR 1.5 (95% CI 1.4-1.6)

Bertuccio P, et al Ann Oncol. 2011 Jan 18. PubMed PMID: 21245160.

ST – Health Consequences

Report on Carcinogens, 10th Edition, National Toxicology Program, USDHHS

Smokeless tobacco

“Known to be a human carcinogen”

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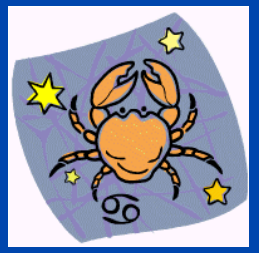
28 Known Carcinogens in ST



- Including…..

- β-Angelica lactone
- Coumarin
- Ethyl carbamate (urethane)
- Formaldehyde
- Acetaldehyde
- Crotonaldehyde

Smokeless Tobacco and Some Tobacco-specific N-Nitrosamines. IARC Working Group on the Evaluation of Carcinogenic Risks to Humans (2004)

- Tobacco-specific N-nitrosamines (TSNA)
  - N′-Nitrosonornicotine (NNN)
  - 4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanone (NNK)
  - 4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanol (NNAL)
  - N′-Nitrosoanabasine (NAB)
- Arsenic
- Nickel compounds
- Polonium-210
- Uranium-235
- Uranium-238

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Health Effects: Cancers – U.S. Data

Location	OR (95% CI)
Cancer, Mouth and Gum	11.2 (4.1-30.7)[A]
Gum & Buccal Mucosa	4.2 (2.6-6.7)[B]
Larynx	7.3 (2.9-18.3)[A]
Salivary gland	5.3 (1.2-23.4)[A]
Kidney	4.0 (1.2-12.9)[C]
Pancreatic	3.6 (1.0-12.8)[D]

A - Stockwell HG, et al. Head Neck Surg. 1986 Nov-Dec;9(2):104-10.
B - Winn DM, et al. N Engl J Med. 1981 Mar 26;304(13):745-9.
C - Goodman MT, et al. Am J Epidemiol. 1986 Dec;124(6):926-41.
D - Muscat JE, et al. Cancer Epidemiol Biomarkers Prev. 1997 Jan; 6(1):15-9.

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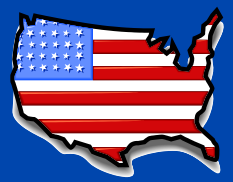
ST Health Effects: CV Disease



CPS-II

- **Current ST use vs. never* associated with death from:
  - All causes: HR 1.18 (95% CI: 1.08-1.29)
  - CHD: HR 1.26 (95% CI: 1.08-1.47)
  - Cerebrovascular dz: HR 1.40 (95% CI: 1.10-1.79)
- No difference between snuff and chewing tobacco
- Former use did increase the risk of death in any category

*Multivariate-adjusted

Henley et al., Canc Cause Control. 2005; 16: 347-358.

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ST – Oral Lesions

- Leukoplakia
- Oral cancer
- Dental disease
  - erosion of enamel
  - dental caries
- Periodontal Disease
  - gingival recession
  - soft tissue/hard tissue loss
  - gingivitis

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Waterpipe – Health Effects

- 1-hour session involves inhaling 100-200 times volume of smoke from a single cigarette
- Smoke contains CO, heavy metals, and carcinogens
- Charcoal added to keep tobacco burning increases health risks
- Sharing = tuberculosis & hepatitis

WHO. TobReg Advisory Note. Waterpipe Tobacco Smoking

Google: " who tobreg water pipe"

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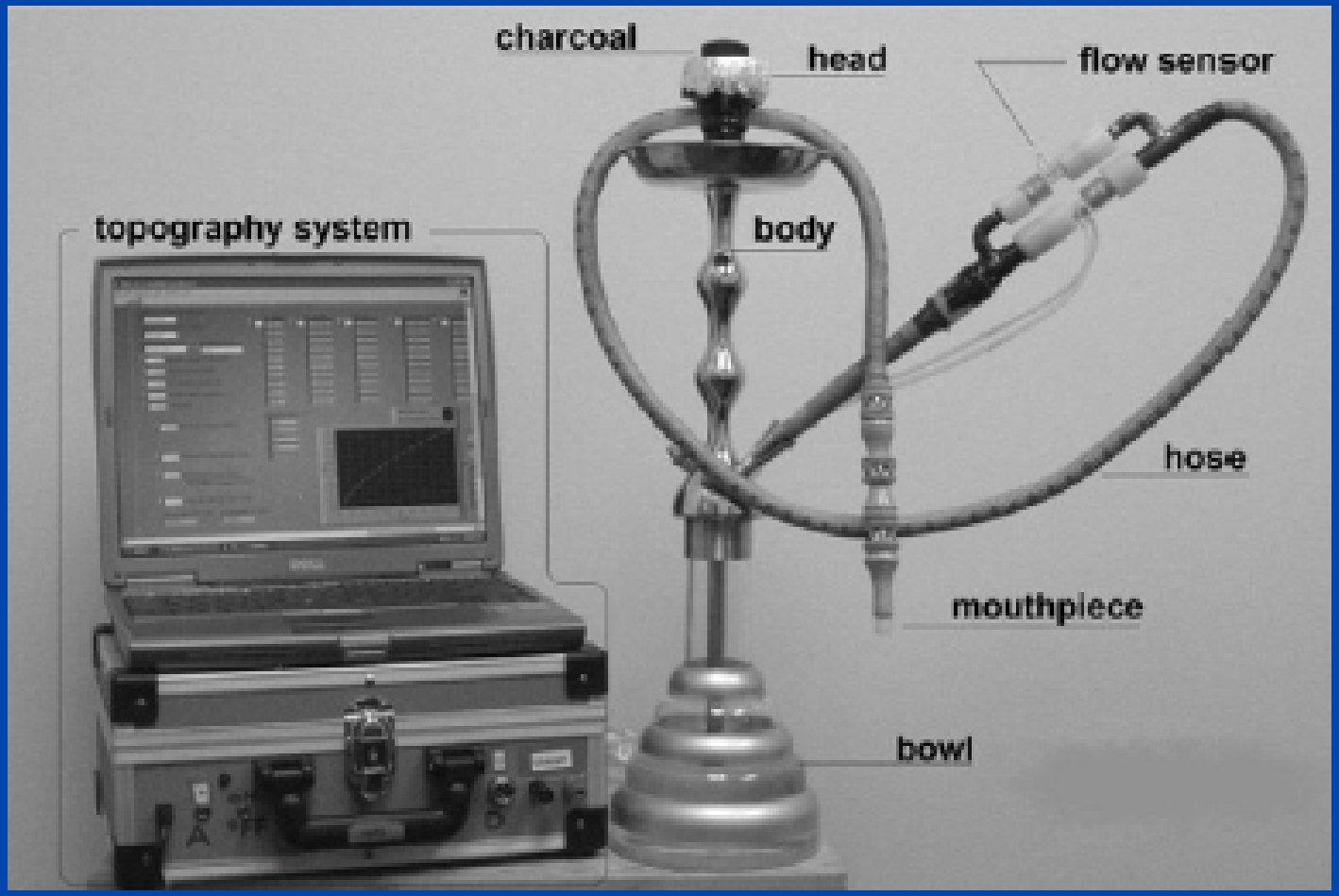
Waterpipe Analysis



Eissenberg T, et al. American journal of preventive medicine. 2009 Dec;37(6):518-23.

Waterpipe vs. Cigarette

- Directly compare waterpipe use & cigarette smoking
- 31 participants reporting monthly waterpipe use & weekly cigarette smoking
- Cross-over: 45 minutes with waterpipe (WP) and 1 cigarette
- CO (carbon monoxide): 23.9 ppm WP vs. 2.7 C
- COHb (carboxyhemoglobin): 3.9% WP vs. 1.3% C
- Puff volume: 48.6 L WP vs. 1.0 L C
- Peak nicotine levels were comparable
  - 1.7 times the nicotine exposure

Eissenberg T, et al. American journal of preventive medicine. 2009 Dec;37(6):518-23.

Disease Risks

- Burning charcoal is normally placed atop the tobacco to smoke the narghile waterpipe
- Waterpipe smokers thus also inhale large quantities of combustion-generated toxicants

Monzer B, et al. Food Chem Toxicol. 2008 Jun 4

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Waterpipe – Health Effects

Single narghile smoking session:

- 50 times the quantities of carcinogens as one cigarette[A]
- Many times the formaldehyde, acetaldehyde and acrolein typically found in a cigarette[B]
- 2.25 mg nicotine[C]
- 242 mg nicotine-free dry particulate matter (NFDPM)[C]
- Higher levels of arsenic, chromium and lead than a cigarette[C]

A - Sepetdjian E, et al. Food Chem Toxicol. 2008 May;46(5):1582-90.

B - Al Rashidi et al. Volatile aldehydes in the mainstream smoke of the narghile waterpipe. Food Chem Toxicol. 2008 Nov;46(11):3546-9.

C - Shihadeh A. Investigation of mainstream smoke aerosol of the argileh water pipe. Food Chem Toxicol. 2003 Jan;41(1):143-52.

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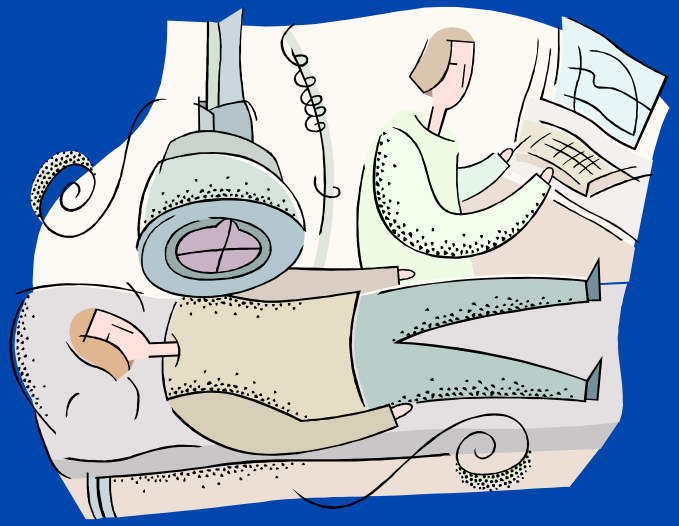
Waterpipe

- Waterpipe tobacco smoking negatively affects lung function
  - Significant reduction in FEV1 compared to no smoking (4% lower FEV1)
  - Trend toward lower FVC (1.38% lower FVC) compared to no smoking
  - No statistically significant difference in FEV(1), FVC, and FEV(1)/FVC compared to cigarette smoking
- May be as harmful as cigarette smoking
- Likely to be a cause of COPD

Raad D, et al. Chest. 2010 Jul 29. PubMed PMID: 20671057.

Waterpipe

- Literature review
  - Cohort, case-control and cross-sectional studies
- Increased risk for
  - Lung cancer
  - Respiratory illness
  - Low birth-weight
  - Periodontal disease



Warnakulasuriya S. Evid Based Dent. 2011;12(2):44-5. PubMed PMID: 21701545.

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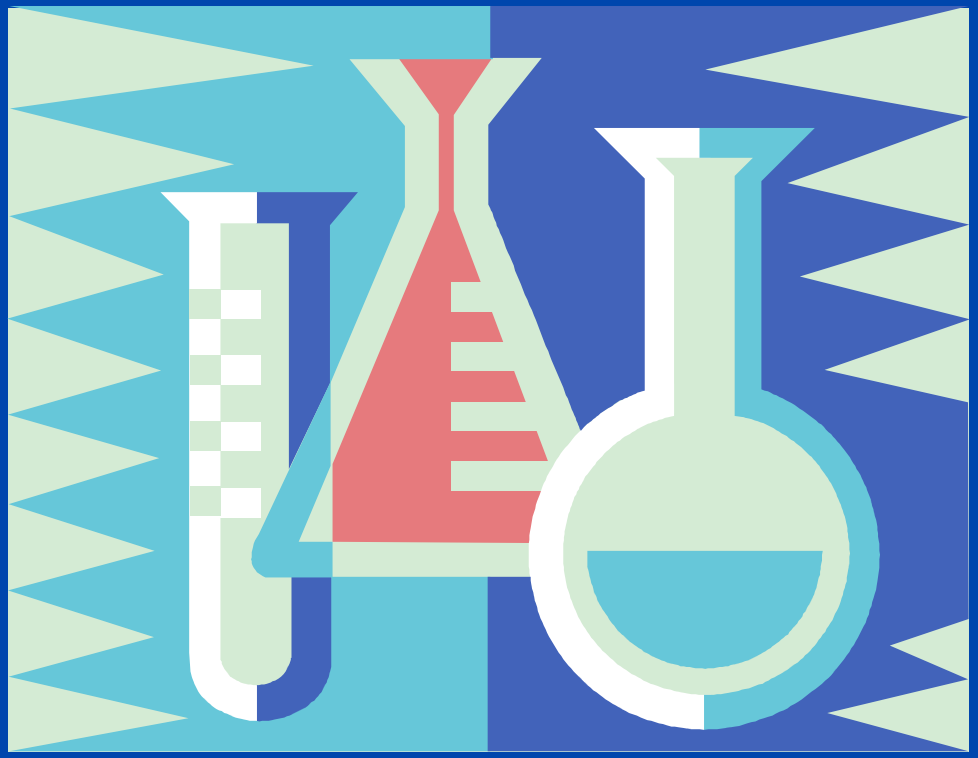
Pharmacology



NCTP Bioavailability of Nicotine (aka "Smoke Yields")

Type	*Nicotine (mg)*
Cigarette (filter)	1.1
Pipe	5.2
Smokeless tobacco	
Chewing tobacco	4.5
Moist snuff	3.6
Cigars	
Little cigars, Swishers	3.8
Premium, Macanudo	13.3
4 mg nicotine gum	1.9

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Smokeless Tobacco Nicotine "Content"

- 4.8 mg nicotine/gm of moist snuff x 30 gm/can = 144 mg
- 144 mg nicotine/(1.8 mg nicotine/cigarette) = 80 cigarettes
- 80 cigarettes/(20 cigarettes/pack) = 4 packs
- 1 can snuff = 4 packs of cigarettes
- ST Users are exposed to as much, and possibly more, daily nicotine than cigarette smokers

=

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Table 1. Tobacco-specific nitrosamines, pH, total and unprotonated nicotine, and minor tobacco alkaloids in smokeless tobacco products.

							Alkaloids, mg/g dry weight				
	TSNAs[a], µg/g dry weight						Nicotine				
Product	NNN[a]	NNK[a]	NAT[a]	NAB[a]	Total	pH	Total	Free	Nornicotine	Anatabine	Anabasine
New products											
Taboka											
Original	1.05	0.077	0.370	ND[b]	1.50	6.64	21.1	0.844	1.04	3.78	0.149
Green	0.948	0.092	0.292	0.002	1.33	6.85	19.9	1.26	1.02	4.03	0.197
Marlboro Snus											
Rich	1.27	0.259	0.455	ND	1.98	6.83	17.8	1.08	0.438	2.60	0.111
Mild	1.52	0.229	0.234	ND	1.98	6.47	12.8	0.350	0.484	1.82	0.072
Spice	1.56	0.257	0.246	ND	2.06	6.85	17.9	1.13	0.411	2.17	0.097
Mint	3.28	0.215	0.221	ND	3.72	6.58	20.0	0.701	0.454	1.97	0.063
Camel Snus											
Original	1.15	0.270	0.297	0.012	1.73	7.46	28.2	6.09	0.353	1.39	0.164
Spice	1.27	0.157	0.305	0.015	1.75	7.75	25.4	9.16	0.314	1.09	0.183
Frost	1.20	0.267	0.204	0.009	1.68	7.59	23.7	6.40	0.313	0.741	0.103
Skoal Dry											
Regular	3.57	0.360	0.478	ND	4.41	7.23	11.3	1.57	0.345	1.41	0.117
Cinnamon	5.30	0.313	0.572	0.002	6.19	6.85	11.9	0.751	0.324	1.02	0.130
Menthol	2.53	0.279	0.203	ND	3.01	7.18	11.9	1.51	0.386	1.37	0.127
Mean for new products	2.05	0.231	0.323	0.008	2.61		18.5	2.57	0.490	1.95	0.126
Traditional products											
General Snus	1.66	0.464	0.969	0.008	3.10	7.95	16.7	7.69	0.223	0.367	0.072
Copenhagen Snuff	5.12	1.40	1.12	0.152	7.79	7.45	23.0	4.88	0.248	1.43	0.150
Copenhagen Long Cut	3.76	1.10	1.35	0.062	6.27	7.53	26.7	7.14	0.157	0.770	0.037
Skoal Long Cut	4.66	1.64	1.59	0.074	7.96	7.51	25.6	6.03	0.233	1.02	0.049
Kodiak Wintergreen	6.86	1.41	3.58	0.179	12.0	8.23	19.6	12.1	0.164	0.438	0.055
Mean for traditional products	4.41	1.20	1.72	0.095	7.42		22.3	7.57	0.205	0.805	0.073

Note. [a]Abbreviations: TSNAs, tobacco-specific *N*-nitrosamines; NNN, *N*′-nitrosonornicotine; NNK, 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone; NAT, *N*′-nitrosoanatabine; NAB, *N*′-nitrosoanabasine. [b]ND, not detected.

MAYO CLINIC

Stepanov I et al. Nicotine & Tobacco Research Volume 10, Number 12 (December 2008) 1773–1782.

ST Characteristics Affecting Nicotine Blood Concentrations

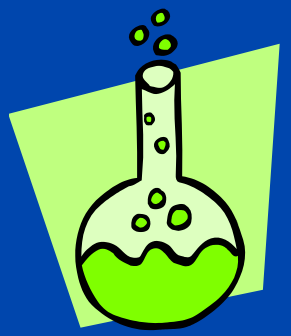
- Concentration of nicotine in ST product
- Size of the tobacco cuttings
  - Long cut
  - Fine cut (higher)
- Ammonium bicarbonate (additive)
  - Lower acid level of product = higher free nicotine
- Acetic acid (additive)
  - Increases salivation – enhances absorption

Richter P, et al. Nicotine Tob Res. 2003 Dec;5(6):885-9.

pH Manipulation by Industry

- October 1994, Wall Street Journal:
- “US Tobacco routinely adds chemicals to its snuff to deliver the free nicotine faster and to make the product stronger.”
  - Larry Story, former UST chemist
- “It (Copenhagen) was brought up to a pH of 7.8 by adding more sodium bicarbonate and ammonium carbonate.”

  - Larry Story, former UST chemist26



Connolly, G. N. Tob Control **4**: 73-79.

Impact of pH Manipulation: Long-Term

- Likelihood of choosing a brand with higher nicotine content is related to:
  - Increasing duration of use
  - Increasing intensity of use
  - Frequency of ST use

- ST users who have used higher nicotine-containing products are more likely to report:
  - More nicotine withdrawal symptoms
  - Continued use because of **difficulty quitting**

Tomar, S. L., et al. Tob Control **4**: 67-72.

MAYO CLINIC

Waterpipe

- Data indicates that daily waterpipe use of the produced a 24-hr urinary cotinine level of: 0.785 microg/ml (95% CI = 0.578-0.991 microg/ml)
- Daily waterpipe smoking is equivalent to smoking 10 cigarettes (95% CI: 7-13)

Neergaard J, et al. *Nicotine Tob Res*. 2007 Oct;9(10):987-94. Review.

MAYO CLINIC

Current Recommendations for Treatment

Pipes, Cigars, & Waterpipe

Treatment Options

Non-daily users

- Nicotine gum
- Nicotine lozenge
- Nicotine inhaler
- Nicotine nasal spray

Daily users

- Nicotine patch
- Bupropion SR
- Varenicline

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Smokeless Tobacco (ST)

Assessing Dependence in ST Users

Number of cans per week

- Strongest correlation with nicotine/cotinine blood concentrations
- Used for dosing guidelines

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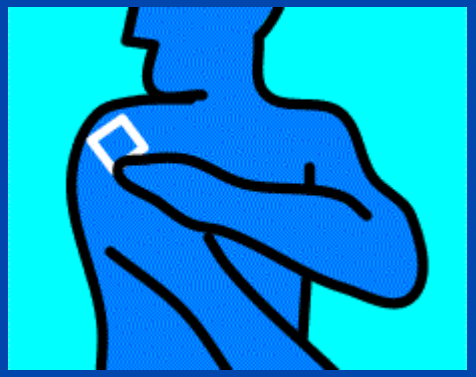
Nicotine Patch Dosing Algorithm for ST Users

	Peak serum nicotine concentrations (ng/mL)	Cans or pouches per week	Patch dose
Low	0-10	< 2	14 mg/d
Intermediate	11-20	2-3	21mg/d
High	> 20	> 3	42 mg/d



Ebbert. JSAT. 2004

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Bupropion SR: Dosing

150 mg daily for 3-4 days

then

150 mg twice a day for 3-4 days

THEN

STOP CHEWING

3 to 12 months – No taper needed

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Snuff Substitutes

- Smokey Mountain®
- Golden Eagle®
- Oregon Mint®
- KIK IT®
- Jerky®
- Bacc-Off®

MAYO CLINIC

Nicotine Lozenge

- 2 mg & 4 mg
- Dissolves in mouth over 20-30 minutes
- Delivers 25% more nicotine than the gum

Nicorette “Mini” – 2 mg/4 mg

Generic (large) lozenge

MAYO CLINIC

Nicotine Lozenge: Dosing

- Not to be chewed or swallowed whole
- Avoid eating or drinking food during and 15 minutes prior to use
- Monotherapy
  - 2 mg
    - First dip ≥ 30 min
    - ≤ 3 cans/week
  - 4 mg
    - First dip < 30 min
    - > 3 cans/week
- Combination may be optimal (patch)
- 1-2 lozenges every 1-2 hours
- Minimum of 9/day
- Taper over 12 weeks

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Nicotine Gum

- Monotherapy
  - 2 mg
    - First dip ≥ 30 min
    - ≤ 2 cans/week
  - 4 mg
    - First dip < 30 min
    - > 2 cans/week

- "Chew and Park"
- Combination with nicotine patch may be optimal

MAYO CLINIC

Scandinavian Snus

32% of men aged
16-35 use snus daily

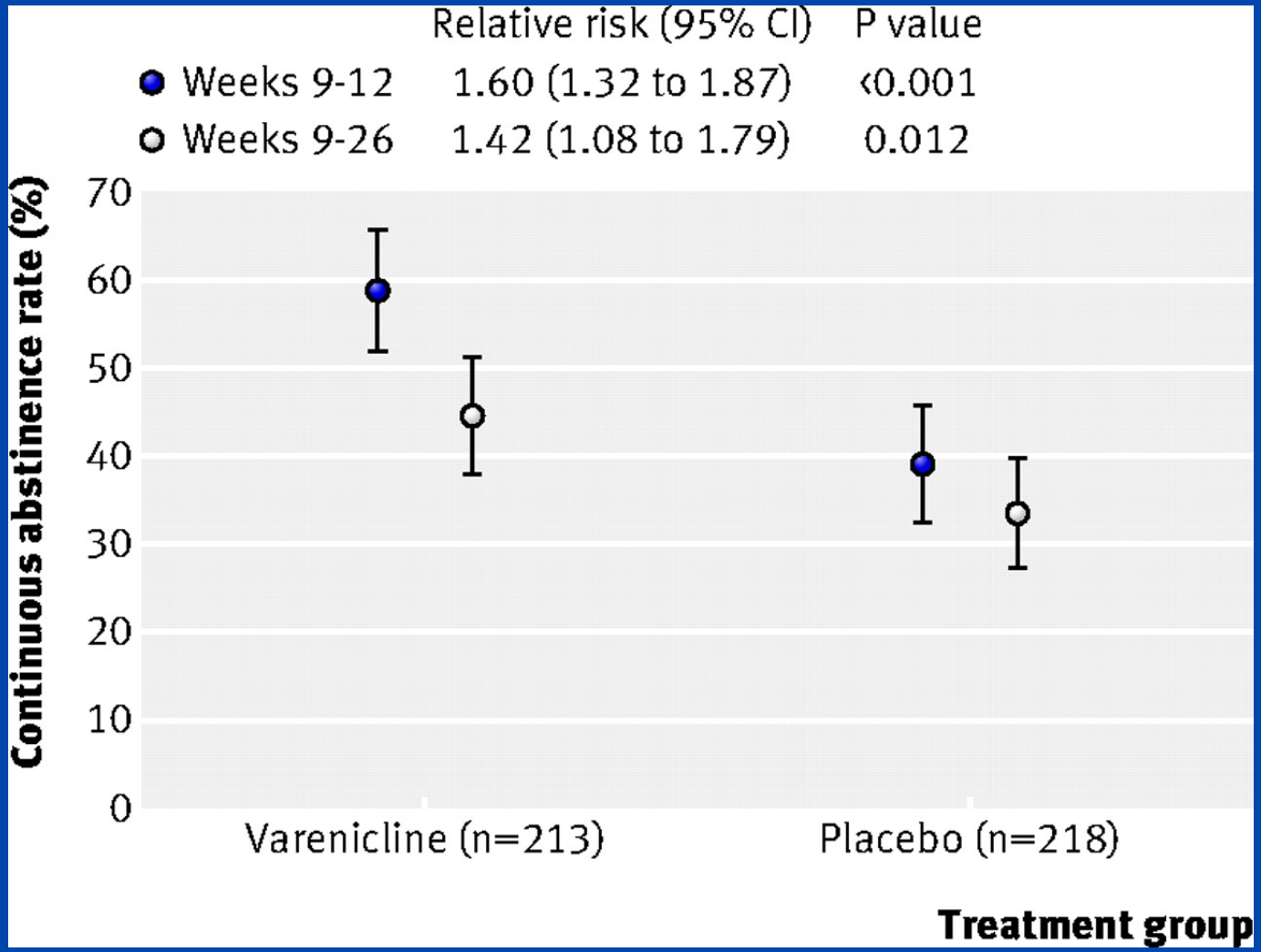
19% adult snus
use prevalence

Varenicline (Chantix™) for Snus Users

- Norway (7 sites) & Sweden (9 sites)
- Male/female daily ST users
  - Use at least 8 times/day
- Randomized to:
  - Varenicline for 12 weeks
  - Placebo
- Biochemical confirmation of abstinence
  - Salivary cotinine > 15 ng/mL

Fagerström K, et al. BMJ. 2010 Dec 6;341.

MAYO CLINIC



Fagerström K, et al. BMJ. 2010 Dec 6;341.

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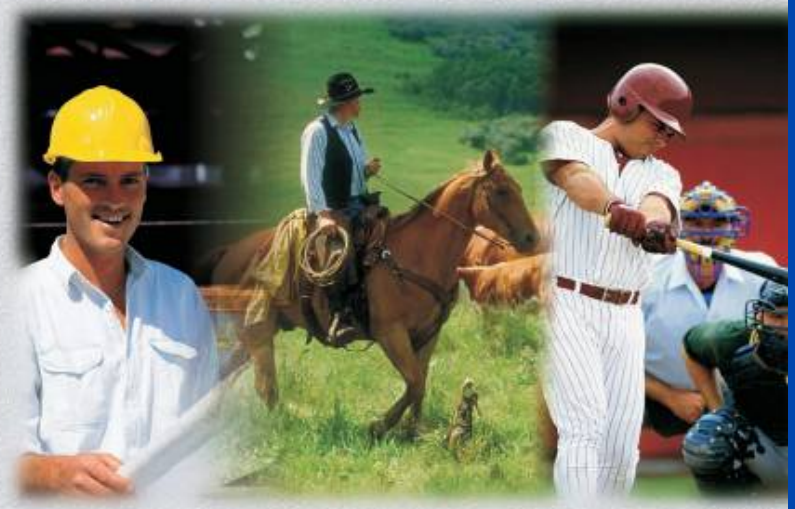
Facilitator Guide

Your Path to Smokeless Tobacco Freedom

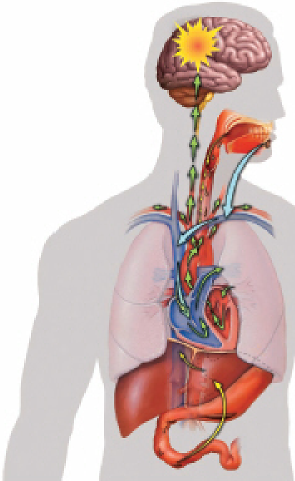


MAYO CLINIC
NICOTINE DEPENDENCE CENTER

Y

Your brain and nicotine: The physical challenge of quitting

You use chew for many reasons. One main reason is because smokeless tobacco contains an addicting drug called nicotine. This is the substance that makes it so difficult to stop, even though you want to.



Nicotine from chewing tobacco is absorbed into your bloodstream ... mouth (blue arrows). Nicotine from swallowed tobacco juice is al... small intestine and then passes through your liver before enterin... arrows). Your heart pumps nicotine to your brain and the rest of ...

You're prepared! It's your quit day!

I

It's the start of your tobacco-free life

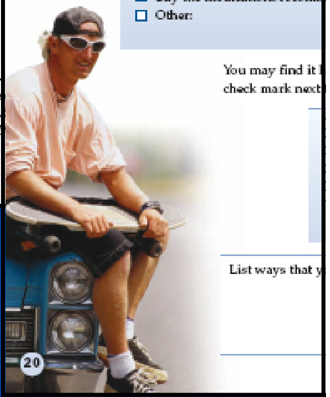
My Quit Date is:

In preparation for today, I will:

- ☐ Clean out my car
- ☐ Make plans with my support people
- ☐ Plan activities or projects
- ☐ Dispose of all tobacco (check my gym bag, glove compartment and other storage areas)
- ☐ Make an appointment to see ... clean my teeth
- ☐ Make an appointment to see ... prescriptions
- ☐ Buy the medications recomm...
- ☐ Other:

You may find it ... check mark next ...

List ways that y...



CHEW CHECKS: Keep these "chew checks" attached to your tin or pouch with a rubberband. Remove these cards by folding and tearing along the perforated lines. Carry these with you and record each time you take a chew — see page 17 for instructions.

Adapted from the American Lung Association, 1990

DATE:

No.	Time of day	New dip/chew	Add more chew	Need S = strong M = moderate L = light	Mood One word (angry, sad, happy, content)	Activity What you were doing at the time
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

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MAYO CLINIC

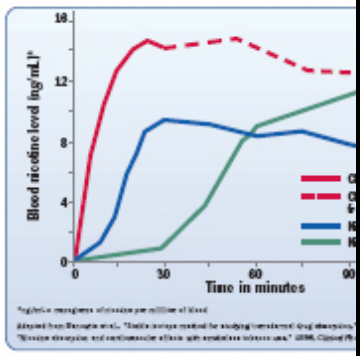
Bupropion
Available dose:
150 mg

Comments:

Varenicline
Available doses:
0.5 mg
1 mg

Comments:

Blood nicotine levels of chewing tobacco vs. nic



Nicotine in chewing tobacco is absorbed very rapidly and peaks within
placement. Even after the chew is removed, nicotine is absorbed thro
and small intestine. In comparison, the nicotine absorbed through the
of the mouth (from gum) is absorbed much more slowly and often res
obtained with chewing tobacco.

National Institutes of Health

Normal inside cheek

© MFMER

Snuff dipper pouch (where chew is placed)

National Institutes of Health

© MFMER

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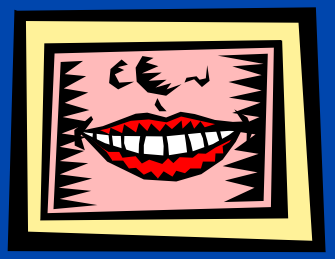
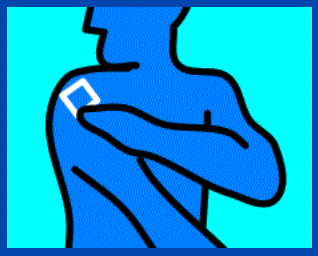
Recommended ST Treatment Approach

- Bupropion SR
  - Weight gain prevention
  - Craving reduction



- Tailored nicotine patch therapy
  - Craving reduction
  - Short-term (end-of-treatment) abstinence

- Nicotine lozenge (short-term abstinence)
- Nicotine gum (craving reduction)
- Varenicline



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Treatment Not Recommended for ST Users

- Nicotine inhaler
  - Designed to replicate the tactile sensation of a cigarette

- Nicotine nasal spray
  - Speed of intranasal delivery designed to the speed of delivery of a cigarette

MAYO CLINIC

Goals & Objectives

- Review NCTP definitions & products
- Discuss prevalence/trends of NCTP
- Describe NCTP pharmacology
- Discuss NCTP dependence measures/withdrawal
- Review recommended treatments for NCTP

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