

**“Smoke is smoke...
is smoke...
is Smoke”**

Secondhand and Thirdhand Smoke

**El Dorado County
Health and Human Services Agency
Tobacco Use Prevention Program**

What is Secondhand Smoke?

- Secondhand smoke is the smoke from the burning end of a cigarette, cigars, hookahs, marijuana & smoke breathed out by smokers.
- According to the Centers for Disease Control, secondhand smoke causes more than 7,300 lung cancer deaths and nearly 34,000 premature deaths from heart disease each year in the U.S.
- Even brief exposure to secondhand smoke can damage cells & the lining of blood vessels, making you more vulnerable to cancer or heart disease.



Secondhand Smoke chemicals can cause...



Secondhand smoke and the **harmful** chemicals in it are known causes of **Sudden Infant Death Syndrome**, **RESPIRATORY INFECTIONS**, **ear infections**, and **asthma attacks** in infants and children.

They are also known causes of **HEART DISEASE**, **stroke**, and **lung cancer** in adult nonsmokers.



Did you know...

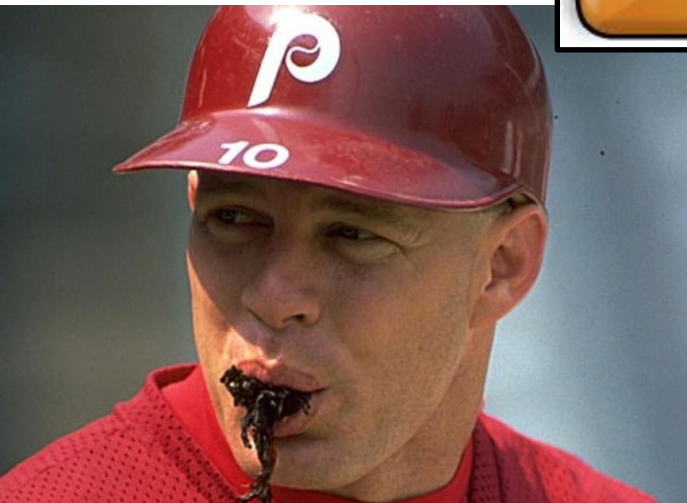
- California Air Resources Board classified secondhand smoke as a toxic air contaminant in the same category as asbestos, cyanide & arsenic, January 2006
- Surgeon General Report – there is no safe level of exposure to secondhand smoke, June 2006.
- American Academy of Pediatrics – there is no safe level of exposure to tobacco smoke & thirdhand smoke, 2009.



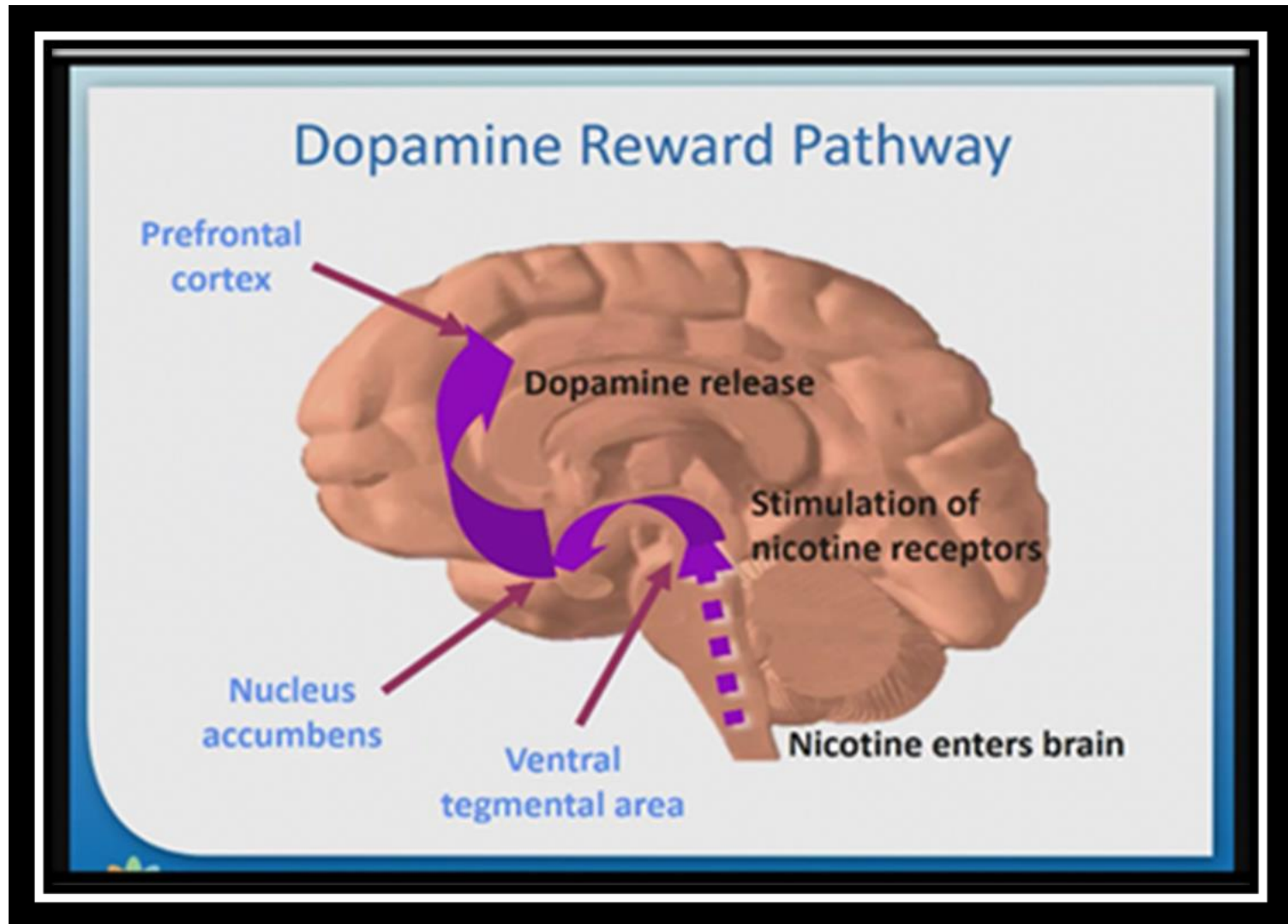
Health Effects of Nicotine



- A highly addictive neurotoxin; as addictive as heroin & cocaine.
- Stimulates pleasure/reward pathways in the brain & adversely affects the cardiovascular, nervous & reproductive systems.
- Causes blood vessels to constrict, raising the pulse & blood pressure; may increase the risk of a heart attack.
- Impedes brain development in adolescence & predisposes future tobacco use.
- Contributes to low birth weight, preterm delivery & stillbirth.



Nicotine and the Brain



Tobacco Chiefs say “Cigarettes Aren’t Addictive”



Tobacco companies broke civil racketeering laws by lying to Americans for decades about the deleterious health effects of smoking. Have they learned from their mistakes? Of course not, there's no profit in it. ☞ <http://bit.ly/BigTobaccoLies>

Big Tobacco finally tells the truth in court-ordered ad campaign

"It has been a long fight," said Robin Koval, CEO and president of Truth Initiative, a nonprofit established as part of a separate, 1998 Master Settlement Agreement between major U.S. tobacco companies and 46 states, the District of Columbia and five U.S. territories.



The tobacco companies "have marketed and sold their lethal product with zeal, with deception, with a single-minded focus on their financial success, and without regard for the human tragedy or social costs that success exacted."



Smoke or Vapor



While e-cigarettes pollute the air less than traditional cigarettes, contrary to popular belief, e-cigarettes don't emit a harmless water vapor, but a concoction of chemicals toxic to human cells in the form of an aerosol.

Only Vapor?



Smoke vs Vapor vs Aerosol

- **Smoke:** The gaseous products of burning materials especially of organic origin made visible by the presence of small particles of carbon.
- **Vapor:** A substance that is in the form of a gas or consists of drop or particles mixed with the air.
- **Aerosol:** A suspension of fine solid or liquid particles in smoke, fog, mists (such as hair spray) dispensed from a pressurized container.

Merriam-Webster

Are E-Cigarettes Harmless?

- Emissions contain carcinogens and toxic chemicals in the form of an aerosol.
- A health concern for those exposed to the secondhand aerosol.
- Exposure to e-cigarette aerosol, nicotine absorption levels comparable to people exposed to tobacco secondhand smoke.
- Contains volatile organic compounds (VOCs) and high concentrations of fine/ultrafine particles. These ultrafine particles can travel deep into the lungs where they get trapped and may lead to tissue inflammation.

Marijuana Secondhand Smoke

- Marijuana smoke contains many of the same chemicals/carcinogens as secondhand tobacco smoke.
- Marijuana secondhand smoke contained more than twice as much tar & ammonia as tobacco smoke.
- More than eight times as much hydrogen cyanide.



Health Effects of Marijuana

- Marijuana secondhand smoke impairs vessel function for much longer than the exposure to tobacco smoke.
- Impairment is temporary, repeated exposure leads to long-term impairment.
- Individuals who had experienced a heart attack, use of marijuana on a weekly or more frequent basis was significantly associated with a greater risk of death.
- Decline in respiratory function among heavy marijuana users may be due to either frequent deep inhalation and breath holding or the bronchodilatory effects of THC.

Secondhand Smoke: more than 7,000 chemicals, that may be toxic & about 70 can cause cancer.

Tobacco Smoke & Aerosol

Formaldehyde

Diethylene

Nickel

Chromium

Cadmium

Lead

Hydrogen cyanide

***Pentanedione**

Fine/Ultrafine Particles

Volatile Organic Compounds

Tobacco Specific Nitrosamines (TSNAs)

Heavy metals

Silicate Particles

Acetaldehyde

Acrolein

Benzene

Isoprene

Ammonia

***Diacetyl**

Nicotine

Touline

***Items in RED: On CA prop 65 list of carcinogens and reproductive toxins**

***Causes “popcorn lung” from flavored e-liquids when heated**

Marijuana Smoke

- **2 x** as much tar and ammonia
- **8x** as much hydrogen cyanide as tobacco smoke



Each year in California...

40,000 adults die from smoking

30,600 kids becomes new daily smokers

Among 12th graders, 17% reported using e-cigarettes vs. 14% using cigarettes

64.6% high school students reported they tried marijuana before cigarettes

What we know in El Dorado County...

Smoking Rates

- 16.3% of adults smoke
- 22.7% of youth use tobacco products (2016, grades 9-12)
- 16% of youth use electronic smoking devices/vape

Cost of Smoking

\$35,017,267

What is Thirdhand Smoke?

- The stale smell. The sticky residue on the walls.
- Sometimes referred to as “tobacco smoke pollution” or “smoke residue.”
- Tar chemicals stick to surfaces...walls, carpet, dust, people.
- Tar absorbs into porous materials and contains nicotine and many toxins and carcinogens.
- Exposure is continuous & persistent environmental contaminant.
- Chemicals persisted on/in surfaces after 50-110 days of constant ventilation with clean air.



Anyone can be exposed to Thirdhand Smoke

- Nicotine & chemicals from smoke, e-cigarettes, smokeless tobacco or marijuana stick to surfaces around where the product is used.
- While it's the stale smell that is a give-away for most people, thirdhand smoke can be present even after thorough cleaning.
- Infants, children & pets are most at risk, contact by touch or mouths, they're more likely to breathe in, swallow, absorb off-gassing through skin, or ingest it.



Tobacco Waste = Toxic Litter

- They are the **#1 item** found on beaches, Roadsides, lakes, riverbanks & parks
- Filters have no health benefit
- They accumulate in waterways
- They are toxic to the environment
- They are non-biodegradable
cellulose acetate (plastic), arsenic, lead & nicotine
- 65% of cigarettes disposed of improperly



Is it a littering problem or is this a smoking problem... or both?

- 1,676-Pounds of Garbage Left on Lake Tahoe Beaches on 4th of July, 2017.
- Top trash items were **cigarette butts** (5,242).

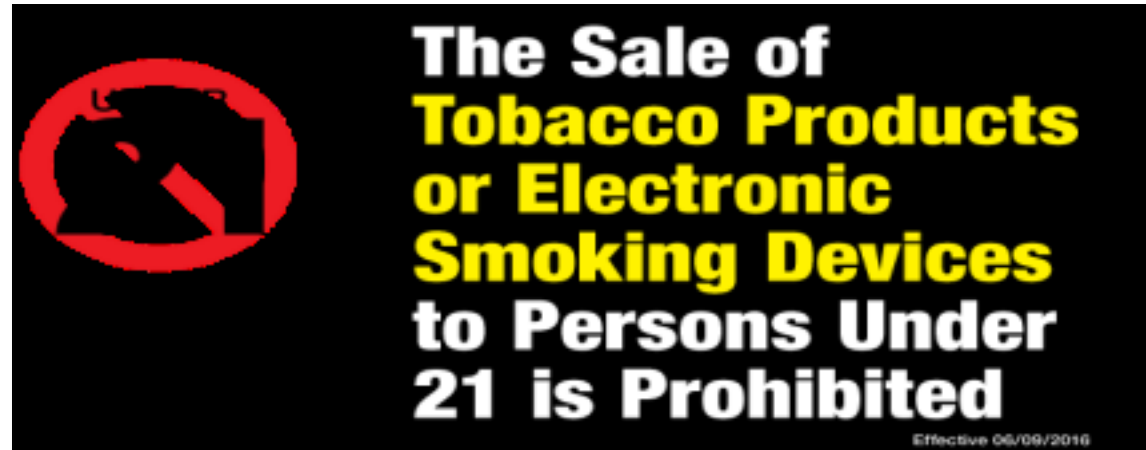


What we know...

- 90% believe that secondhand smoke & aerosol vapors are harmful to those exposed.
- 76% reported being bothered smoke exposure in outdoor areas in the past year.
- 85% support smoking restrictions in front of doors and windows into offices and other areas.
- 79% support smoking restriction in outdoor areas.
- 91% support smoking restrictions to reduce cigarette butt litter in outdoor areas.
- 82% of those surveyed do not currently use tobacco products
- **A smoke-free policy could equal as little as one behavioral change.**
- Non-smoking properties are safer (from fire and damage), often eligible for lower insurance rates, suffer from less litter clean-up, and are much easier and cheaper to clean, in addition to providing staff a healthier workplace.

First Time California Has Changed Tobacco Age Law in 144 Years

- E-cigarettes
- E-hookah
- Vape Pens
- Vaping Devices
- Mods
- E-liquids
- Hookah
- Cigarettes
- Cigars
- Cigarillos
- Little Cigars
- Chewing Tobacco
- Snus
- Pipe Tobacco



California Clean Indoor Air laws prohibit smoking these products indoors:

Cigars, Little Cigars/Cigarillos



E-Cigarettes

Cigarettes

Marijuana

Hookah



shutterstock - 156177593



We all have to work, however...

- Breathing secondhand smoke should not be a condition of employment in California.
- Creating a Model Ordinance Prohibiting Smoking in Outdoor Places of Employment and Public Places protects everyone.



Smoke-free outdoor dining in the City of Placerville : Café Luna, Creekside Cantina, Daily Grind, London Best Fish & Chips, Teriyaki Junction, Baskin Robbins 31 Flavor, Sweetie Pie's Restaurant and Bakery.

Model Smoking Definition

“Smoke” means the gases, particles, or vapors released into the air as a result of combustion, electrical ignition or vaporization, when the apparent or usual purpose of the combustion, electrical ignition or vaporization is human inhalation of the byproducts, except when the combusting or vaporizing material contains no tobacco or nicotine and the purpose of inhalation is solely olfactory, such as, for example, smoke from incense. The term “Smoke” includes, but not limited to, tobacco smoke, electronic smoking device, vapors, marijuana smoke, and crack cocaine smoke.”

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Comprehensive Outdoor Secondhand Smoke Ordinances

- 98 cities and counties in California with comprehensive secondhand smoke ordinances.
- 88 municipalities with that prohibit smoking at all public events.
- 97 municipalities that restrict smoking in all outdoor dining areas to ensure that all workers and customers are protected from secondhand smoke exposure.

Next steps...

**TOBACCO-FREE
CAMPUS**



**The use of tobacco
and e-cigarettes is
prohibited on campus.**

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EVEN IF YOU **DON'T SMOKE,
CIGARETTES CAN **KILL** YOU.**

NON-SMOKERS breathe deadly chemicals from secondhand smoke.



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**NO
TOBACCO
ALLOWED**



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Resources

- CDPH/CTCP website <http://www.cdph.ca.gov/programs/tobacco/Pages/default.aspx>
- California Department of Public Health, California Tobacco Control Program. State Health Officer's Report on E Cigarettes: A Community Health Threat, Sacramento, CA 2015.
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- Science Lesson: what are vapor, aerosol, particles, liquids, and such? 20 March 2015 by Carl V Phillips
- Centers for Disease Control and Prevention
- U.S. Department of Health and Human Services and U.S. Department of Labor. (1978). *Occupational Health Guideline for Nicotine*
- U.S. Department of Health Human Services (2012). Preventing tobacco use among youth and young adults: A report of the Surgeon General. U.S. Department of Health Human Services. (2014). The health consequences of smoking—50 years of progress: A report of the Surgeon General.
- EDC, Tobacco Use Prevention Program 2014/2016-Public Opinion Poll