



Welcome To Miles To Go

Drug Abuse Prevention Education
Research, Lectures, Books

www.milestogodruggededucation.com

Simplifying A Complex Subject
Jonathan Scott

THE UNIVERSITY OF



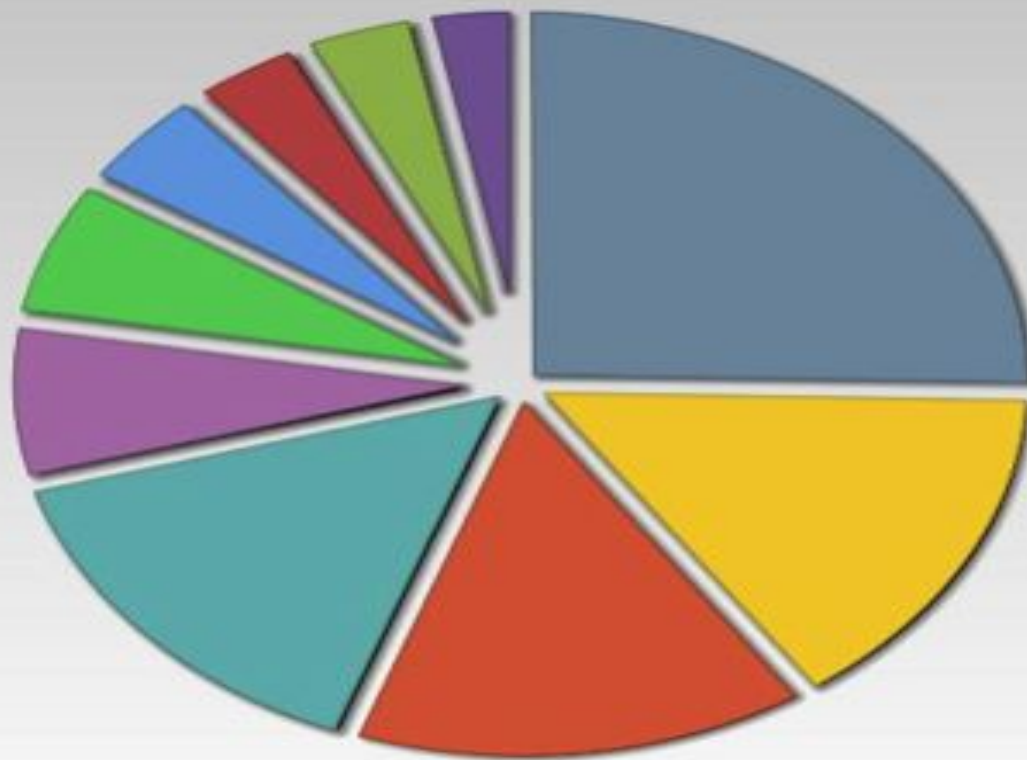
CHICAGO

*2016 Llewellyn John and Harriet Manchester Quantrell Award
for Excellence in Undergraduate Teaching*

*“It would be difficult to design a
better drug to promote addiction.”*

Dr. Dan McGehee, The University of Chicago

Distribution of patents issued for e-cigarettes



 PHILIP MORRIS INC.	 REYNOLDS TOBACCO CO R.	 ALEXZA PHARMACEUTICALS INC.	 PHILIP MORRIS PROD.	 RUYAN INVEST HOLDINGS LTD
 HON LIK	 PHILIP MORRIS USA INC.	 JAPAN TOBACCO INC.	 PHILIP MORRIS	 FONTEM HOLDINGS 1 B.V.

Hon Lik: Inventor

Ruyan Invest: Imperial Tobacco

Fontem Holdings: Imperial Tobacco



There are currently over 8,000 flavors

The Original Modern Era E-cigarette

China, 2004



Initially, the goal was to make the e-cigarette look like a conventional product.

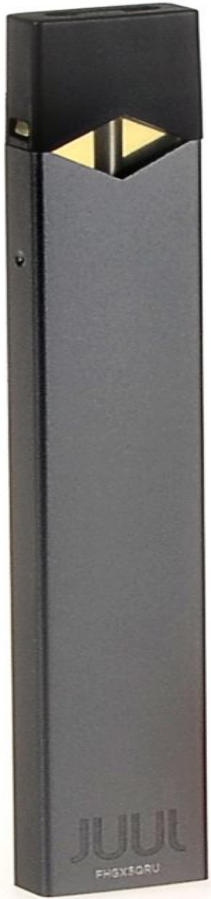


Once they figured out that their real market wasn't just current adult smokers, they expanded the product line and changed the terminology to limit or alter their association with cigarettes and conventional smoking.





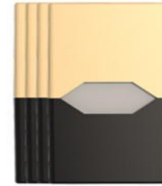
Juul combines
high-tech looks
with a nicotine
salt delivery
system.



cool
mint



fruit
medley



creme
brulee



virginia
tobacco





EZvapebuy



ezvapebuy.en.alibaba.com

NicoStick









J U S T
Y O U

&

blu



© 2008 Blu. NOT FOR SALE TO MINORS. WARNING: This product
contains a substance derived from tobacco. Nicotine is an addictive chemical.

blu.com



Study: Just One E-Cigarette With Nicotine Can Cause Heart Damage in Nonsmokers

September 28, 2017

They found participants had a pattern of abnormal heart rate variability, indicating increased adrenaline levels, after they used the e-cigarette with nicotine. They determined the increased levels were due to the inhaled nicotine and not the non-nicotine components of the e-cigarette aerosol, Newsweek reports.

“These findings challenge the concept that inhaled nicotine is benign, or safe,” senior study author Dr. Holly Middlekauff of the David Geffen School of Medicine at UCLA said in a news release.

E-cigarettes and heavy metals

- Both the e-liquid and the Poly-fil fibers that are used to absorb the e-liquid for heating and conversion to an aerosol come into contact with heating elements that contain heavy metals (tin, nickel, copper, lead, chromium).
- E-cigarette fluid containing tin was cytotoxic to human pulmonary fibroblasts.
- E-cigarette aerosol also contained metals, including nickel, 2 to 100 times higher than found in Marlboro cigarette smoke.
- The nickel and chromium nanoparticles possibly originated from the heating element.
- These metal nanoparticles can deposit into alveolar sacs in the lungs, potentially causing local respiratory toxicity and entering the bloodstream.

E-Cigarettes and Nanoparticles

- E-cigarettes deliver nicotine by creating an aerosol of ultrafine particles.
- There is strong evidence that frequent low or short-term levels of exposure to fine and ultrafine particles from tobacco smoke or air pollution can contribute to pulmonary and systemic inflammatory processes and increase the risk of cardiovascular and respiratory disease and death.
- Higher e-liquid nicotine content was associated with higher particle numbers in the resulting aerosol.
- E-cigarette particle size distribution was similar to that of conventional cigarettes, with some e-cigarettes delivering more particles than conventional cigarettes.

The headlines aren't good:

Cancer-causing benzene found in e-cigarette vapors operated at high power

Date: March 8, 2017

Source: Portland State University

E-cigarette use accelerates effects of cardiovascular aging

Date: August 12, 2017

Source: American Physiological Society (APS)

Trauma surgeon seeing rise in burns from electronic cigarettes

Date: April 27, 2017

Source: University of Arizona

E-cig refills contain irritants, and people who smoke and use e-cigs suffer more symptoms

Date: September 10, 2017

Source: European Lung Foundation

Increased Cardiac Sympathetic Activity and Oxidative Stress in Habitual Electronic Cigarette Users--Implications for Cardiovascular Risk

NEW AT 5:00

5:06 44°
 **2**
CBSNewYork.com

An NIH study, published in the journal

***Pediatrics*, December, 2017:**

**Teens Vaping E-Cigarettes Up To 7 Times
More Likely To Smoke Later**

The National Academies of Science,

Engineering, and Medicine, January 23, 2018:

**Teens who use e-cigarettes are more likely to
try smoking.**



Current research into e-cigarette technology points to unsafe levels of fine and ultra-fine particulate matter levels in the inhaled product—even in varieties that contain no nicotine.

Vitamin

ELECTRONIC CIGARETTE.

- Nicotine-Free
- No Smoke, Second Hand Smoke, or Tar
- Just Vitamins + Flavored Vapor
- 500 Puffs per VitaCig
(Disposable/Recyclable)
- Only \$5 per VitaCig
- Five Exciting Flavors:
Relax, Refresh, Energize,
Calm, Grace.



Every VitaCig includes the following
base Vitamins A, B, C, E,
and CoQ10 (Ubidecarenone).

Pax Labs



Dried Leaf



Dried Leaf and Extracts



Pods



RELAX

ALCHEMY

ALCHEMY

by DARK HEART



EXPERIENCE

Relax

BOTANICALS

A soothing elixir of lavender
& chamomile melts
away stress

VARIETY

Indica

30% THC
NET WT. & GRA

This Is Your Brain On Weed

Hypothalamus:

Involves appetite,
hormonal levels, sexual
behavior
THC increases appetite

Nucleus Accumbens:

Involves motivation and reward
THC affects euphoria

Neocortex:

Responsible for complex
thinking, feeling, movement,
sensory information.
THC alters thinking, judgment
and sensation

Basal Ganglia:

Involves motor control and planning.
THC Slows reaction time

Amygdala:

Anxiety, emotion, fear.
THC causes
panic/paranoia

Hippocampus:

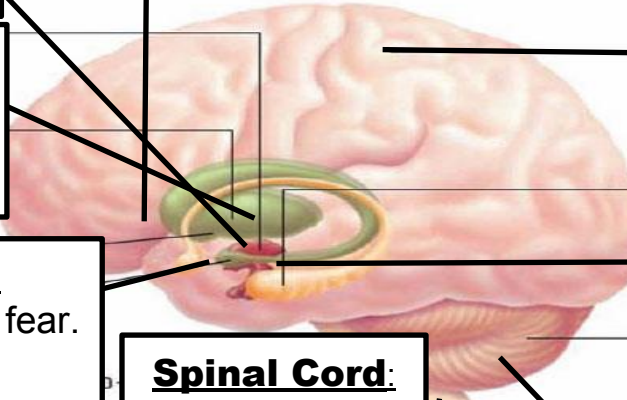
Involves memory, learning,
sequence and places.
THC impairs memory and
learning

Spinal Cord:

Transmits
information
between brain
and body
THC important
in the vomiting
reflex and alters
pain sensitivity

Cerebellum:

Involves motor
control and
balance
THC impairs
coordination.



August 9, 2014

American Psychological Association (APA)

Regular marijuana use bad for teens' brains, study finds

"It needs to be emphasized that regular cannabis use, which we consider once a week, is not safe and may result in addiction and neurocognitive damage, especially in youth," said Krista Lisdahl, PhD, director of the brain imaging and neuropsychology lab at the University of Wisconsin.

Abnormalities in the brain's gray matter, which is associated with intelligence, have been found.

The Lancet Psychiatry—October 29, 2014

Teens who smoke marijuana daily are...

- 60% less likely to complete high school than those who never use.
- 60% less likely to graduate college.
- 18 times more likely to become dependent on marijuana.
- 8 times more likely to use other illegal drugs in the future.
- 7 times more likely to attempt suicide.

Currently, about 5.9% of seniors in HS smoke weed daily, up from 2% in the 1980's.

The Lancet Psychiatry—October 29, 2014

Teens who smoke *just once per month* are not free from consequence:

By age 25, they are:

- 38% less likely to graduate high school or earn a college degree.
- 2.5 times more likely to attempt suicide.
- 4 time more likely to be addicted to cannabis.
- 3 times more likely to have used other illegal drugs.

Longtime Marijuana Use Leads to Downward Economic Spiral

UC Davis, March 23, 2016

Regular cannabis users experience:

- Downward social mobility and more financial problems.
- More antisocial behaviors at work, such as stealing money or lying to get a job.
- More relationship problems, such as intimate partner violence and controlling partner abuse.
- On average, persistent cannabis users from middle class origins attained lower adult socioeconomic status than did their parents.

Thursday, 28 January, 2016

College Marijuana Use Linked With Skipped Classes, Lower Grades, Late Graduation

A new study finds marijuana use in the first year of college can lead to students missing classes.

The more frequently a student uses marijuana, the more they tend to skip class, earn lower grades, and graduate later.

Researchers at the University of Maryland School of Public Health followed 1,117 college students for eight years to test the direct and indirect effects on marijuana use on GPA and time to graduation.

April 15, 2014

Recreational Pot Use Harmful to Young People's Brains

A new study from medical researchers at Harvard and Northwestern shows that 18- to 25-year-olds who smoke marijuana—even just recreationally!—had marked abnormalities in areas of their brains that regulate emotion and motivation.

“This is a part of the brain that you absolutely never ever want to touch,” Breiter asserts. “I don’t want to say that these are magical parts of the brain — they are all important. But these are fundamental in terms of what people find pleasurable in the world and assessing that against the bad things.”

January 23, 2014

Why It's Still a Big Deal If Your Teen Smokes

Pot Northwestern University's Feinberg School of Medicine

“Marijuana is the ideal compound to screw up everything for a kid,” says Hans Breiter, a professor of psychiatry and behavioral science and a senior author of the study. “If you’re an athlete, a chess player, a debater or an artist, you need working memory, and marijuana hurts that brain circuitry.”

The earlier the drug was taken up, the worse the effects on the brain.

Butane Hash Oil



Also known as BHO, wax, earwax,
dabs, shatter, budder,

honeycomb

Strong marijuana regularly exceeds 20-25%
THC content, but BHO can exceed 90%.

Some users find the resulting high extremely
overwhelming and unpleasant.



Cancerous toxins linked to cannabis extract

September 26, 2017

Portland State University

Researchers have found benzene and other potentially cancer-causing chemicals in the vapor produced by butane hash oil, a cannabis extract.

Journal of Child Psychology and Psychiatry

July 5, 2017

Marijuana use linked to greater psychosis risk in teens

“Our findings confirm that becoming a more regular marijuana user during adolescence is, indeed, associated with a risk of psychotic symptoms.”

Josiane Bourque, Department of Psychiatry at the University of Montreal



Butane hash oil: nobody
ever died—
they just thought
they were going to.

Extreme panic and anxiety attacks
are common. One official described
*'overdoses,' which...involve
extreme
discomfort, to the point of freaking
out for long periods of time.'*

Teen/adolescent **alcohol** use is linked with or causes the following:

- Increased rates of adult alcoholism/alcohol dependence.
- Increased rates of binge drinking.
- Cognitive impairment/poor academic performance.
- Increased risk of physical/sexual assault.
- Higher levels of motor vehicle accidents/fatalities.
- Higher rates of illicit drug use/tobacco use.
- Higher rates of suicidal ideation/suicide attempts.
- Increase risk of unprotected sexual activity.
- Dysfunctional brain development re: myelination, hippocampal size and function, working memory.

MOTHERS AGAINST DRUNK DRIVING
PARENT HANDBOOK
TALKING WITH YOUR HIGH SCHOOLER
ABOUT ALCOHOL

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PARENTS**

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<https://www.madd.org/the-solution/power-of-parents/>

Why do teens use?

1. Stress, especially stress caused by school.
2. Lack of clear intrinsic goals.
3. Low levels of parental containment.
4. Brain development.
5. Lack of other options.
6. A sense of entitlement.
7. Parental confusion over what is appropriate.

"I can, therefore I must": Fragility in the upper-middle classes

Suniya S. Luthar

Arizona State University

https://www.researchgate.net/publication/285221097_I_can_therefore_I_must_Fragility_in_the_upper-middle_classes

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