To vape or not to vape
E cigarettes for smoking cessation

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Disclosures

- None
Case

- 33yo man presents for a “Physical Exam”
  - Requests STD testing - no other concerns
  - Smokes 1 pack per day
What’s the appeal?

- Appetite suppressant
- Stimulant
- Anxiolytic
- Social connection
Tobacco Dangers

• Life expectancy is reduced by around three months for every year of smoking after the age of 35
  • Myocardial infarction
  • Stroke
  • Aneurysm
  • Lung cancer

• “people smoke for nicotine but die from the tar”
Comprehensive treatment

• Address nicotine with replacement
• Address anxiety with SSRI, counseling
• Address habit with behavioral therapy
What about vaping?

- What is vaping?
- Who is vaping?
- Evidence for smoking cessation
- Safety and dangers
- Laws and regulations
E-cigarettes
What are e-cigarettes?
How e-cigarettes work

- Vaporising chamber
- Atomiser
- LED indicator
- Heating coil
- Nicotine cartridge
- Voltage control
- Rechargeable battery
MOD
The battery housing that controls the power of your vaporizer.

BATTERY
Some mods have rechargeable internal batteries, while some require an externally charged battery to be inserted.

TANK
This holds your juice and heating element.

COIL HEAD
The heating element that vaporizes your juice. Note: Coil head replacement is dependant on use.

E-JUICE
E-Juice is available in a variety of flavors and nicotine levels, and consists of Vegetable Glycerin, Propylene Glycol, nicotine, and flavoring.

E-JUICE
CONSISTS OF VG, PG, NICOTINE, AND FOOD GRADE FLAVORS.

PG
(Propylene Glycol)
Commonly used in food products and as the delivery agent in asthma inhalers and nebulizers, makes e-juice thinner and carries flavor.

VG
(Vegetable Glycerin)
A somewhat sweet, clear liquid derived from plants, also used in food and pharmaceutical products.
Purity As Water, warn As Sunshine,
Electronic Cigarette,
For You And For Me
E-cig vs vaping?

- Cigalike
- eGo Style
- Modified
Who is vaping?

- Current smokers
- Adolescents?
20,679 * Physicians say "LUCKIES are less irritating"

"It's toasted"
Your Throat Protection against irritation against cough

* The figures quoted have been checked and certified to by LYBRAND, ROSS, BEGS. AND MONTGOMERY, Accountants and Auditors.
THE randomized control trial

- Are e-cigarettes more effective than nicotine patches at helping people quit smoking?
- Assessment: abstinence at 6 months
- 657 people randomized
  - Nicotine patch (21mg)
  - Nicotine e-cig (16mg)
  - Placebo e-cig
Results

- Nicotine e-cig > nicotine patch > placebo e cig
- No significant increased adverse events

- Intervention adherence

<table>
<thead>
<tr>
<th></th>
<th>Nicotine E-cig</th>
<th>Nicotine Patch</th>
<th>placebo</th>
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<tbody>
<tr>
<td>1 month</td>
<td>78%</td>
<td>46%</td>
<td>82%</td>
</tr>
<tr>
<td>3 months</td>
<td>51%</td>
<td>18%</td>
<td>53%</td>
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<tr>
<td>6 months</td>
<td>29%</td>
<td>8%</td>
<td>35%</td>
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Cochrane review

- E-cigs with nicotine help smokers reduce amount smoked by at least half
- Short term e-cig use without increased risk adverse events
- Overall quality of evidence is low
Adverse effects

- Current data moderate quality at best
- Long term health effects unknown
- ? Toxins ?
- Second hand vapor
- Not FDA Regulated
Laws and Regs

SURGEON GENERAL’S WARNING:
Smoking Causes Lung Cancer,
Heart Disease, Emphysema, And
May Complicate Pregnancy.
FDA Regulation

- **Purchase**
  - Must be at least 18yo
  - Must show ID if 18 - 26yo

- **Production**
  - Register with FDA
  - Provide list of all ingredients
  - Apply for permission of sale of product
My thoughts

McRobbie H, Bullen C, Hartmann-Boyce J, Hajek P; Can electronic cigarettes help people stop smoking or reduce the amount they smoke, and are they safe to use for this purpose?; Cochrane Review; Dec 17, 2014

Sarah Knapton. E-cigarettes are no safer than smoking tobacco, scientists warn. The Telegraph. December 29 2015


FDA Vaporizers, E-Cigs, and other Electronic Nicotine Delivery Systems (ENDS); http://www.fda.gov/TobaccoProducts/Labeling/ProductsIngredientsComponents/ucm456610.htm
Resources

- John Britton, Deborah Arnott, Ann McNeill, Nicholas Hopkinson; *Nicotine without smoke—putting electronic cigarettes in context*; the BMJ Talk Medicine podcast, April 27, 2016; accessed online: [http://www.bmj.com/content/353/bmj.i1745](http://www.bmj.com/content/353/bmj.i1745)


- Multiple images from Stanford School of Medicine, Stanford Research into the Impact of Tobacco Advertising
Cost compare E-cig vs cig

- Cost compare cig vs e cig