ECIGS & TANNING

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Disclosure: Conflict of Interest

Neither I, nor any immediate family member has any financial relationship with, or interest in, any commercial interest connected with this presentation.

Objectives

- Ecigarettes
  - To better understand who is using e-cigarette products, how they are being used and what information we have about their risks and benefits
  - To increase awareness of marketing misinformation
  - To optimize counseling of the adolescent population about e-cigarettes in the clinic venue

- Indoor tanning
  - Debunk the myths and better educate our young female patients about the realities of indoor tanning
  - Incorporate evidence-based education regarding indoor tanning into our routine counseling for our patients/adolescent gynecology patients
Electronic Cigarettes (ENDS, e-cigarettes)

New Bluetooth E-Cigarette Lets You Vape AND Receive Calls, Listen to Music

Key issue

Exposure to Nicotine and Evidence of toxins
- Mismatch between labeled and actual nicotine content
- Risks of propylene glycol and glycerin for inhalation?
- Nicotine present in the aerosol, bystanders have detectable cotinine
- Toxic chemicals present – lower levels than cigarettes
  - Acetic acid
  - Acetone
  - Isoprene
  - Formaldehyde
  - Acetaldehyde
  - Heavy metals (e.g., tin, copper)
  ≈20% of cigarette pollution

Health Effects?
- Few studies - acute exposure and lung function – one showing an effect and one no effect (Huckvale et al., 2013 and Vardavas et al., 2012)
- 5 minutes at 30 puff e-cigarette use in healthy smokers increased airway resistance
- Unknown clinical significance but signal of possible negative effects
- CDC MMWR: Calls to poison control centers increased 2013-2014
  - Avg 1 per month in September 2010 to 215 in February 2014
  - Most common adverse events were vomiting, nausea, and eye irritation
- Unregulated by any federal authority
E-cigarette Ever Use

<table>
<thead>
<tr>
<th>Country/Region, year collected</th>
<th>General Population (%)</th>
<th>Smokers (%)</th>
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</thead>
<tbody>
<tr>
<td>US 2010</td>
<td>3.3</td>
<td>20.4</td>
</tr>
<tr>
<td>2011</td>
<td>6.2</td>
<td>21.1</td>
</tr>
<tr>
<td>UK 2010</td>
<td>17.7</td>
<td>21.4</td>
</tr>
<tr>
<td>2012</td>
<td>7.0</td>
<td>22.6</td>
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<tr>
<td>European Union 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canada 2010</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Australia 2010</td>
<td>11</td>
<td></td>
</tr>
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King et al., 2013; Dockrell et al., 2013; Adkison et al., 2013; Eurobarometer 385, 2013

US Youth (2011 and 2012)

NYTS: n=18,644 middle and high school students

Utah Youth (2013)
Dual Use of E-cigarettes and Tobacco Cigarettes

- Most use is among current smokers (dual use of e-cigarettes and tobacco cigarettes)
- Among smokeless tobacco dual users:
  - Associated with increased nicotine dependence, delayed quitting
- Continuing dual use:
  - No cardiovascular benefit
  - Nonlinear dose-response
- Cancer risks
  - Duration may be more important than intensity

Godtfredsen et al., 2003; Barnoya and Glantz, 2009; Fac et al., 2013;
Tverdal and Bjartveit, 2006

Health Claims Featuring Doctors

How can Altinoff E-Cigarette help you quit smoking?
What is the best method to quit smoking with Altinoff E-Cigarette?
Is there a possibility of a relapse?
Flavored Tobacco Products Are Starter Products

http://old.gothamgazette.com/article/searchlight/20091015/203/3053

http://www.mydiscountcigarette.net/info/candy-flavored-cigarettes-product

Sales Online & In store

http://www.kinston.com/news/local/electric-cigarettes-helpful-or-not-1.165739

In stores next to candy

http://www.henleycigs.com/vaporium/
In the Movies…

blu on the Silver Screen

There has been a smooth change in a cigarette’s appearance in the hands of stars and the upcoming movie, blu on the Silver Screen.

Producers Oliver Stone and writer-director George Lucas, the man behind the iconic ‘Star Wars’ saga, have managed to make smoking look cool again, showing how a new cigarette can be a fashion statement in itself. The movie is set in 1974, and it’s a tale of love and revolution, with a young couple embarking on a journey to find their way in the world.

The Advent of E-Cigs in Movies

Since smoking in movies was banned, filmmakers have found a new way to express smoke without actually smoking. E-cigarettes have become a fashionable alternative in recent years. In the upcoming movie, ‘The Social Network’, the protagonist is seen using an e-cigarette, which the director used as a way to represent the technological advancements of modern society.

Letlloyd Inc. - blu-eCigs Announces Sponsorship Of The Governors Ball Music Festival

The annual Governors Ball Music Festival returns to Randall’s Island in NYC on June 1 & 2, 2013, bringing together the best in music and arts. Letlloyd Inc. - blu-eCigs is proud to announce its sponsorship of the event. As a leading provider of electronic cigarettes, the company is dedicated to offering consumers a healthier alternative to traditional tobacco products.

For more information on Letlloyd Inc. - blu-eCigs and its commitment to the health and safety of its customers, visit www.blu.com.
Melanoma
Squamous cell cancer
Suppression of immune system
Premature aging
Sunburn
Cataracts
Basal cell cancer
UVA & UVB

Risks of UV light
Risky Business

E-cigarettes & Tanning Booths

E-cigarettes

- Data summary
  - Who is using e-cigarette products?
  - How are people using e-cigarette products?
  - What do we know about their risks and benefits?

- E-cigarette marketing
  - How are people being informed about who should use e-cigarettes and how they should be used?
  - Implications for public health and clinical practice

Slides->

1. **What are e-cigs?**
   The term e-cigarette does not refer to one thing. There is a diversity of products out there. Ranging from small cig shaped disposables to refillable devices to large devices with big batteries and liquid capacity.

2. A new ecig – it connects through Bluetooth technology with your smartphone – so you can use to conduct phone calls and stream music

3. Another important framing often done by the companies themselves is as a tobacco product. In fact the tobacco companies increasingly are in the ecig business….and legal standing right now is as tobacco products because they were found to not be making health claims.
   A little background and framing to keep in mind when thinking about the public health implications of the marketing and use trends

4. **Are e-cigs safe? Dangerous? What do we know?**
   We don’t know if the product is safe. We don’t know the short- or long-term health risks of using the product. We don’t yet know it is effective for smoking cessation? Or if it is used to sustain cigarette use, or just reduce . And we do not know what will be the impact of the use of these products on existing effective tobacco control efforts. Currently the products are classified by court as tobacco products because they were found to not be making health claims. Harm reduction focus is on the individual, most frequently characterized as a smoker who cannot quit. However, as you will see, the marketing reaches many different audiences who would not be considered appropriate for harm reduction.
As noted in the German Cancer Research Center at Heidelberg Report, PG and glycerin have approved for ingestion in food, cosmetics and some drug preparations but may not be safe for inhalation.

5. When heated and vaporized, propylene glycol can form propylene oxide, an IARC class 2B carcinogen and glycerol forms acrolein, which can cause upper respiratory tract irritation.

6. Health effects→ few studies, possible negative lung effects, increase calls to poison control

7. **Who is using e-cigs?** Use is increasing particularly among smokers

8. What about the US Youth? Around 3 percent to over 6 percent

   High school trial rates in 2011 similar to the general population of adults in 2011 and higher in 2012

9. Utah is an interesting state→ Three times the rate of adults in Utah use ecigarettes.

   Also, among current users, one-third of youth who used e-cigarettes had never smoked a conventional cigarette. There is a unusually low adult smoking rate with the Mormon population in Utah.

10. Dual use of ecigs and cigarettes—even a few cigarettes a day is associated with substantial elevated risk for heart disease and stroke and some cancers


   **Recommendations for health care professionals**

   What if a patient asks you about e-cigs for quitting smoking:

   • Questions about e-cigarettes may signal willingness to quit
     • Opportunity for discussion
     • Support quit attempt
   • Use language that is easy to understand
   • Personalize counseling to their medical conditions and life context
   • Correct misperceptions
   • Not “harmless water vapor”
   • Not approved for smoking cessation
   • Ask about other tobacco product use (cigarettes, little cigars, smokeless tobacco)
   • Inform patients that dual use may not confer health benefit and encourage quitting tobacco use completely
   • If patient insists on using e-cigarettes
   • Do not expose others to the aerosol
   • Set a separate quit date for e-cigarettes

   **Policy recommendations**

   • Apply cigarette advertising restrictions to e-cigarettes
   • Prohibit flavors in e-cigarettes
   • Prohibit cessation and dual use-oriented marketing messages
   • Include e-cigarettes in smoke-free policies
Tanning beds

Slide 1: Risks of UV light

Premature aging, melanoma, sunburn, squamous cell cancer, basal cell cancer, suppression of immune system, cataracts

Incidence of use of tanning beds are on the rise

- Two to three million annual users of tanning booths are adolescents.
- Twenty four percent of indoor tanners are 13-19 year olds.
- In a study of more than 10,000 teenagers, 35% were found to be using tanning devices.
  Indoor tanning devices are carcinogenic.
- Tanning induces DNA mutations in the human genome and suppresses the DNA skin repair mechanisms.
- Any darkening of the skin color due to tanning is evidence of skin damage from UV radiation.
- Indoor tanning booths emit UV radiation in far greater levels than the sun.
- The increased incidence of melanoma is dose related—the more exposure, the higher the risk of melanoma.
- In July 2010, the World Health Organization added tanning beds and sunlamps to its list of cancer-causing agents.

<table>
<thead>
<tr>
<th>Myths</th>
<th>Realities</th>
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<tr>
<td>Some of our young patients use tanning booths for “event” tans. It is common to hear a young teen say: “I just want to look good for prom.”</td>
<td>All tanning causes DNA damage. Even if it is a one time “special event”, it is damaging to the skin. This early exposure to intense UV radiation poses even higher risks for future skin cancer. These girls should be counseled that it is much safer to use a spray tan or self-applied lotion to give a tanned appearance. An “event tanner” interested in her appearance may also be receptive to information about indoor tanning as a cause of premature skin aging.</td>
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<td>Many young girls use tanning beds because they are told it makes them less likely to sunburn. Tanning proponents advocate that indoor tanning helps</td>
<td>There is no such thing as safe or a base tan. The UV indoor tan does not prevent future DNA damage from the sun. All tanning, particularly repeated doses of UV</td>
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establish a “base” tan before travel or summer.

radiation from an indoor tanning booth causes skin damage and puts that young woman at risk for future skin cancer. In fact, indoor tanning actually increases sunburns. Teens who use tanning beds are more likely than those who do not to experience sunburns (76% vs 68%). People who use tanning beds are more likely to spend more time outdoors and less likely to use sunscreen. Moreover, older teens who used tanning beds ten times in the past year were more likely to have sunburns compared with teens who did not.

The Indoor Tanning Association (ITA) tells our teens that UV light from tanning beds is no different from sunlight--exposure to either one raises the risk of skin cancer. Tanning companies state that they always emphasize the importance of moderation in tanning booth use because of the risks.

Tanning companies are profit minded and as such, their statements concerning the effects of UV radiation must be viewed with skepticism. In actuality, indoor tanning beds are far riskier than exposure to direct sun. They emit primarily UVA radiation. The doses of UVA emitted can be up to 10-15 times higher than that emitted by the midday sun.

Investigators at San Diego State University demonstrated that tanning salons do not promote moderation in tanning use in teens. The study trained five female college students to pose as fair-skinned, 15-year-old first-time tanners and had them call tanning salons to inquire about services. Each time, the students asked the same questions: Could a 15-year-old use the tanning beds? How many visits would be allowed in a week? Would a parent need to be present? The majority of tanning salons required parental consent in the form of a phone call or written statement. Only 5% said they would not allow a teenager to tan despite California’s restrictions on tanning in young under 18. And of the establishments that allowed teen tanning, a mere 11% adhered to the FDA guidelines limiting visits at three times a week.
<table>
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<th>Many girls claim to use indoor tanning booths because “tanning makes me look and feel better.”</th>
<th>Despite awareness of the risks of tanning, many young girls start and continue to tan in indoor tanning booths. Studies have shown that continued and frequent users share characteristics with those who have addictive disorders. Several researchers have postulated that possible endorphin release may have evolved to reward behaviors that augment UV exposure. Safer and healthier ways to look better and feel better should be promoted, such as running, dancing or other exercise regimen.</th>
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<td>There have been many who claim that indoor tanning is a good way to raise concentrations of vitamin D. The ITA states that vitamin D is one of the most effective ways the body controls abnormal cell growth which may help prevent cancers.</td>
<td>The role of vitamin D in cancer prevention is unclear. In 2012 the US Preventive Services Task Force concluded that “the current evidence is insufficient to assess the balance of the benefits and harms of vitamin D supplementation, with or without calcium, for the primary prevention of cancer in adults.” In fact, it is not clear that indoor tanning is even an effective method of inducing vitamin D production.</td>
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**Recommendations for health care professionals**

- Debunk the myths and teach our girls about the realities of indoor tanning.
- Incorporate evidence based education regarding indoor tanning into our routine counseling for our pediatric/adolescent gynecology patients.