

# Tobacco, E-Cigarettes and Alternative Products: Product Guide

FOR PEDIATRIC PROVIDERS

**NYC**  
Health



Although youth use of traditional cigarettes has declined in New York City (NYC), youth have turned to other products, including cigars, smokeless tobacco, and electronic cigarettes (e-cigarettes). These products are often flavored (such as with menthol) and almost always contain nicotine. Flavors are concerning because they can mask the harshness of tobacco, appeal to kids, and are often directly marketed to teens and preteens.

**NICOTINE** can change the chemistry of the adolescent brain. It may affect learning ability and worsen memory and concentration. Youth are particularly vulnerable to nicotine dependence, which can occur even with occasional use. Nicotine may also affect the way the adolescent brain processes other drugs, like alcohol, cannabis and cocaine.




The following is a list of selected products with their negative health effects to help you better counsel and guide your patients and their families.



# TOBACCO: Smokeless Tobacco

## THE FACTS

- Smokeless tobacco is not burned or smoked but always contains nicotine.\*
  - ◆ It includes tobacco that can be sucked, chewed, spit or swallowed, depending on the product.

PRODUCT NAME	WHAT IT IS
 <p><b>Chewing Tobacco</b> Also Known As Chew</p>	<ul style="list-style-type: none"><li>• Comes in loose leaf, plug or twist form<ul style="list-style-type: none"><li>◆ Used by taking a piece and placing it between the cheek and gums; may require spitting.</li></ul></li></ul>
 <p><b>Snuff</b> Also Known As Dip</p>	<ul style="list-style-type: none"><li>• Comes in moist, dry or packet (snus) form<ul style="list-style-type: none"><li>◆ Moist snuff is used by taking a pinch and placing it between the lip or cheek and gums; requires spitting.</li><li>◆ Dry snuff is used by putting a pinch of powder in the mouth or by sniffing into the nose.</li><li>◆ Snus comes in packets that are placed between the cheek and gums; do not require spitting.</li></ul></li></ul>
 <p><b>Dissolvables</b></p>	<ul style="list-style-type: none"><li>• Comes in lozenge, stick, strip and orb form<ul style="list-style-type: none"><li>◆ All forms dissolve slowly in the mouth.</li></ul></li></ul>

## SHORT-TERM EFFECTS AND EXPOSURES FROM SMOKELESS TOBACCO USE

- Can cause gum disease, tooth decay and tooth loss.<sup>1</sup>
- Can contain several known cancer-causing chemicals.<sup>2</sup>

## LONG-TERM EFFECTS OF SMOKELESS TOBACCO USE

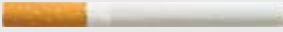
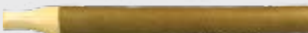
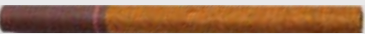

- Can increase risk of oral, esophageal, and pancreatic cancer.<sup>2,3</sup>

\*For health effects of nicotine, see page 2.

# TOBACCO: Combustible Tobacco

## THE FACTS

- Combustible tobacco is designed to be smoked and always contains nicotine.\*
- Cigar use is now as common among NYC high school students as cigarette use.<sup>4</sup> Youth may mistakenly perceive cigars as a safer alternative to cigarettes.<sup>5,6,7</sup>
- Little cigars, cigarillos and large cigars can come in flavors and have names that indirectly indicate a flavor, such as purple (grape), golden (vanilla) and tropical (pineapple and banana).
- Menthol cigarettes are just as harmful as non-menthol cigarettes, but this additive makes the smoke easier to inhale and exhale.<sup>8,9</sup>

PRODUCT NAME	WHAT IT IS
 <p><b>Cigarettes</b>  <b>Also Known As</b>            Cigs, ciggies, loosies, smokes, butts, stokes</p>	<ul style="list-style-type: none"> <li>• Thin cylinder of finely cut tobacco rolled in paper for smoking and usually has a filter.</li> <li>• Often contains other preservatives and additives, including menthol. Menthol has analgesic and anesthetic properties, which make the cigarette smoke easier to inhale and exhale.</li> </ul>
 <p><b>Cigarillos</b>  <b>Also Known As</b>            Blunts (when hollowed out and filled with cannabis)</p>	<ul style="list-style-type: none"> <li>• Longer, slimmer versions of cigars</li> <li>• Usually has a wooden or plastic tip</li> <li>• Wrapped in brown paper that contains tobacco               <ul style="list-style-type: none"> <li>◆ Often hollowed out and used to smoke cannabis; a cannabis-filled cigarillo is called a blunt</li> </ul> </li> </ul>
 <p><b>Little Cigars</b>  <b>Also Known As</b>            Small cigars, blunts (when hollowed out and filled with cannabis)</p>	<ul style="list-style-type: none"> <li>• Wrapped in brown paper that contains tobacco and usually artificial sweeteners</li> <li>• Has an integrated filter, like a cigarette</li> <li>• Often hollowed out and used to smoke cannabis; a cannabis-filled little cigar is called a blunt</li> </ul>
 <p><b>Cigars</b>  <b>Also Known As</b>            Large cigars, stogies, blunts (when hollowed out and filled with cannabis)</p>	<ul style="list-style-type: none"> <li>• Any roll of tobacco wrapped in leaf tobacco or another substance that contains tobacco               <ul style="list-style-type: none"> <li>◆ Often hollowed out and used to smoke cannabis; a cannabis-filled cigar is called a blunt</li> </ul> </li> </ul>

## SHORT-TERM EFFECTS OF SMOKING

- Is a common cause of bad breath and dry mouth, and can decrease the ability to taste and smell.<sup>10,11,12</sup>
- Contributes to teeth discoloration and gum disease.<sup>13,14</sup>
- Increases respiratory symptoms, like cough and shortness of breath.<sup>15</sup>

## LONG-TERM EFFECTS OF SMOKING

- Impacts nearly every organ in the body, and can cause lung disease (asthma, chronic obstructive pulmonary disease and pneumonia), heart disease, stroke, diabetes, vascular disease and more than 10 types of cancer, including lung, oropharynx, esophagus, stomach, liver, pancreas, kidney, cervix and bladder cancer.<sup>16</sup>
- Can cause reduced fertility in women and erectile dysfunction in men.<sup>16</sup>
- Up to one half of people who smoke long-term will die from a smoking-related illness.

## SECONDHAND SMOKE

- Children exposed to secondhand smoke have higher risks of asthma attacks, sudden infant death syndrome (SIDS), and respiratory and ear infections.<sup>16</sup>
- Adult nonsmokers exposed to secondhand smoke have higher risks of stroke, heart disease and lung cancer.<sup>16</sup>
- Family smoking is also a strong risk factor for smoking initiation among children and adolescents.<sup>17</sup>



# TOBACCO: Heated Tobacco Products

## THE FACTS

- Heated tobacco products are designed to heat loose leaf tobacco or a tobacco stick, similar to a cigarette, to produce an aerosol that the user can inhale.
- Heated tobacco products always contain nicotine.\*
- The only electronic heated tobacco product currently available in the United States is IQOS, a Philip Morris heated cigarette product, which became available in summer 2019.<sup>18</sup>
- IQOS marketing in other countries has promoted the products as high-tech and modern, with a harm reduction message,<sup>19</sup> which can appeal to youth, including those who have never smoked.<sup>20,21</sup> In Italy, nearly half of people who had tried IQOS in 2017 had never previously smoked.<sup>22</sup>
- Although the FDA has allowed the product to be sold in the US, it must follow all existing regulations for cigarettes, including marketing restrictions and warning label requirements.<sup>23</sup>



\*For health effects of nicotine, see page 2.

PRODUCT NAME	WHAT IT IS
<b>IQOS</b> <b>(I-Quit-Ordinary-Smoking)</b>	<ul style="list-style-type: none"> <li>IQOS consists of disposable tobacco sticks (HeatSticks) that are soaked in propylene glycol and heated by an electronic holder, which allows the user to inhale an aerosol.</li> </ul>

### SHORT-TERM EXPOSURES FROM HEATED TOBACCO USE

- Although Philip Morris claims that the products are safer than cigarettes, research has shown that IQOS emits lower levels of some toxic chemicals but higher levels of other chemicals. IQOS products also deliver similar levels of nicotine as traditional cigarettes.<sup>24</sup>
- The aerosol from IQOS contains nicotine and other toxic chemicals like formaldehyde and benzene (cancer-causing chemicals), particulate matter (linked to decreased lung function, heart attacks and cancer), and tobacco specific nitrosamines (cancer-causing chemicals).<sup>25,26,27</sup>

### LONG-TERM EFFECTS OF HEATED TOBACCO USE

- More research is needed to understand any differences in health outcomes from use compared to smoking.




### SECONDHAND AEROSOL FROM HEATED TOBACCO

- Secondhand tobacco aerosol from IQOS contains many of the same toxic chemicals that are in secondhand cigarette smoke.<sup>28,29,30</sup>
- Those exposed to secondhand IQOS aerosol have reported related symptoms, including sore throat and feeling ill.<sup>31</sup>

# E-CIGARETTES

## THE FACTS

- E-cigarettes are devices that heat liquid (e-liquid) into aerosol (mist). When people use e-cigarettes (also called vaping), they inhale this aerosol.
- E-liquids do not contain tobacco, but almost always contain flavors, chemicals and nicotine.\* Nicotine is addictive and has other health effects for youth.<sup>32,33</sup>
- E-cigarettes come in many shapes and sizes, and thousands of flavors.<sup>34</sup> As of 2019, the formulation of e-liquids is not regulated, so nicotine content, additives and flavorings in each product can vary extensively.
- Cannabis (herb and THC oil) is often consumed using e-cigarette devices.<sup>35</sup>

PRODUCT NAME	WHAT IT IS
 <p><b>Rechargeable E-Cigarettes</b>  <b>Also Known As</b>            E-cigs, e-hookahs, Juul, USB stick, vapes, electronic nicotine delivery system (ENDS)</p>	<ul style="list-style-type: none"> <li>• E-cigs can be made to look like regular cigarettes, cigars or pipes, as well as other devices, like USB flash drives or albuterol inhalers.               <ul style="list-style-type: none"> <li>◆ Juul is currently the most popular e-cigarette.<sup>36</sup></li> <li>◆ Juul is relatively small and discreet and resembles a USB flash drive. Less visible aerosol is exhaled.</li> <li>◆ E-liquid refills are often called pods or cartridges.</li> <li>◆ One Juul pod can contain the same amount of nicotine as a whole pack of cigarettes.</li> </ul> </li> </ul>
 <p><b>Tank Devices</b>  <b>Also Known As</b>            Vape pens, ENDS, mods, tanks</p>	<ul style="list-style-type: none"> <li>• Come in large sizes (tank or mod) and small sizes (vape pens) and do not resemble tobacco products.               <ul style="list-style-type: none"> <li>◆ Are less discreet because the user exhales a cloud of vape aerosol when using the product.</li> </ul> </li> <li>• Are popular for doing vape tricks, such as exhaling the aerosol in specific shapes and patterns.</li> </ul>
 <p><b>Single-Use E-Cigarettes</b>  <b>Also Known As</b>            Vape, ENDS</p>	<ul style="list-style-type: none"> <li>• These can resemble traditional pipes and cigars, but are electronic.</li> <li>• Use of these items is still considered vaping.</li> </ul>



## SHORT-TERM EFFECTS AND EXPOSURE FROM E-CIGARETTE USE

- E-liquids almost always contain nicotine.<sup>37</sup>
- If swallowed or absorbed in the skin or eyes, e-liquid can poison children and adults.<sup>38</sup>
- The aerosol from heated e-liquids can contain harmful chemicals such as formaldehyde and benzene (cancer-causing chemicals), diacetyl from flavoring (linked to lung disease), and heavy metals (nickel, tin and lead).<sup>38</sup>
- The main ingredient in many e-liquids is propylene glycol or glycerol.<sup>38</sup> Glycol and glycol mists can cause airway irritation and cough.<sup>39,40</sup>

## LONG-TERM EFFECTS OF E-CIGARETTE USE

- Youth who use e-cigarettes are more likely to try cigarettes.<sup>41-53</sup>
- The long-term health consequences of e-cigarette use are unknown, especially given the wide range of additives, flavorings, and other chemicals used in e-liquids.

## SECONDHAND AEROSOL

- The aerosol from heated e-liquids contains nicotine and may also contain harmful chemicals like formaldehyde and benzene (cancer-causing chemicals), diacetyl from flavoring (linked to lung disease), and heavy metals (nickel, tin, lead).<sup>54</sup>
- The main component of many e-liquids is propylene glycol or glycerol. Glycol and glycol mists can cause airway irritation and cough.<sup>55,56</sup>

## 2019 OUTBREAK OF LUNG INJURIES ASSOCIATED WITH E-CIGARETTE USE OR VAPING

- A national outbreak of lung injuries associated with e-cigarette use developed in 2019, including multiple cases in New York City. The majority of patients were hospitalized and some died.
- Although most of the cases seemed to involve vaping cannabis products, such as THC oils, no single substance, chemical or type of product had been linked to every case by late 2019.
- Patients reported respiratory symptoms (cough, shortness of breath, or chest pain). Some also reported gastrointestinal symptoms (nausea, vomiting or diarrhea) or non-specific constitutional symptoms (fatigue, fever or weight loss).
- Many patients required supplemental oxygen; some required assisted ventilation and were intubated.
- For updated information, visit **cdc.gov** and search for **lung injury**.

# HOOKAH



## THE FACTS

- A hookah, or water pipe, uses burning charcoal to heat shisha, a flavored blend of herbal substances. Tobacco is common in shisha, but some shisha is tobacco-free. There is no type of shisha — with or without tobacco — that is harmless when smoked.
- Young people ages 18 to 20 in NYC are much more likely to smoke hookah than those over 21.<sup>57</sup> This may be because they underestimate the health risks.<sup>58,59,60</sup>
- In 2018, new NYC laws about hookah went into effect. Retail stores and other establishments are banned from selling or serving shisha to people younger than 21. People younger than 21 are not permitted to enter hookah-serving establishments.
- A hookah consists of multiple parts:
  - ◆ Ashtray/Plate: catches ash from the burning charcoal
  - ◆ Bowl: holds the charcoal and shisha
  - ◆ Charcoal: heats the shisha when burned
  - ◆ Hose: draws smoke from the water base to the smoker's mouth
  - ◆ Shisha: flavored blend of herbal substances that often includes tobacco
  - ◆ Water base: cools the smoke created in the bowl

## SHORT-TERM EXPOSURES FROM HOOKAH USE

- Hookah smoke contains toxic chemicals such as carbon monoxide, particulate matter (linked to decreased lung function, heart attacks and cancer) and formaldehyde (cancer-causing chemical), which water does not effectively filter out.<sup>61,62,63,64</sup>
- One hour of smoking hookah can expose someone to more carbon monoxide and tar than smoking 10 cigarettes.<sup>65</sup>
- Smoking hookah can cause carbon monoxide poisoning.<sup>66,67</sup>





## SECONDHAND HOOKAH SMOKE


- Everyone in a room where hookah is being smoked is exposed to carbon monoxide and toxic chemicals in hookah smoke.<sup>68,69,70</sup>

# CANNABIS (MARIJUANA)

## THE FACTS

- Nicknames include weed, pot, Mary Jane, green, grass, ganga, dope, herb, reefer, cannabis, bud, chronic, skunk and 420.
- THC, or tetrahydrocannabinol, is the psychoactive compound in cannabis that produces the feeling of being high.
- CBD, or cannabidiol, is another compound in cannabis. It is not psychoactive. The FDA recently approved a CBD medication for the treatment of refractory epilepsy.<sup>71</sup>
- The legal status of cannabis is evolving, with multiple states and local jurisdictions decriminalizing and legalizing cannabis for adult recreational use. Medical cannabis is legal in 34 states, Washington, D.C., Guam, Puerto Rico and the U.S. Virgin Islands.
- National data suggests that teens and preteens' perceptions of cannabis harms have declined in recent years.<sup>72</sup>

PRODUCT NAME	WHAT IT IS
 <p><b>Marijuana Cigarettes</b> Also Known As Joints, spliffs</p>	<ul style="list-style-type: none"> <li>• Thin cylinder of cut marijuana rolled in paper for smoking</li> <li>• Can be mixed with rolling tobacco (soft, moist, sticky) or dry tobacco from deconstructed cigarettes</li> </ul>
 <p><b>Blunts</b></p>	<ul style="list-style-type: none"> <li>• Created by slicing open a cigar or cigarillo and replacing some or all of the tobacco with marijuana</li> </ul>
 <p><b>Pipes, Water Pipes</b> Also Known As Pieces, bowls, bongs</p>	<ul style="list-style-type: none"> <li>• Used to smoke marijuana in its dried herb form</li> <li>• Paraphernalia can range from simple, homemade devices, such as water pipes made from used soda bottles, to glass or ceramic bongs</li> </ul>
 <p><b>Marijuana-Laced Food and Drink</b> Also Known As Edibles</p>	<ul style="list-style-type: none"> <li>• Taken orally and often incorporated into food, including candy</li> </ul>

PRODUCT NAME	WHAT IT IS
 <p><b>Marijuana Oils, Concentrates, Tinctures and Extracts</b></p> <p><b>Also Known As</b> Dabs, wax, shatter, oil</p>	<ul style="list-style-type: none"> <li>• Concentrates (most commonly called dabs) are products that look like honey or butter in solid and liquid form.</li> <li>• Concentrates in solid form can be smoked using very high heat or diluted and consumed via e-cigarette devices (often called wax pens or dab pens).</li> <li>• Tinctures, extracts and oils can be mixed into beverages and consumed in drinks.</li> </ul>

## SHORT-TERM EFFECTS OF CANNABIS<sup>73</sup>

- Can impair recall memory and ability to retain information
- Increases risk of motor vehicle accidents
- See E-Cigarettes section for information about the 2019 outbreak of lung injuries associated with e-cigarette use or vaping

## LONG-TERM EFFECTS OF CANNABIS<sup>73</sup>

- There is limited evidence of a potential link between cannabis use and impaired academic achievement.
- Frequent or long-term cannabis use is linked to dropping out of school and lower educational achievement.
- People who use cannabis frequently, or who use cannabis with higher concentrations of THC, have a higher risk of experiencing psychotic symptoms. People who have a history of psychosis are also more likely to have psychotic symptoms after using cannabis.
- People who smoke cannabis can experience respiratory symptoms like cough, asthma and bronchitis.
- Other long-term health risks of cannabis use are still being studied.

## SECONDHAND SMOKE

- Cannabis smoke contains toxic chemicals like carbon monoxide, particulate matter (linked to decreased lung function, heart attacks, and cancer), formaldehyde (cancer-causing chemical) and benzene (cancer-causing chemical).<sup>74</sup>
- Metabolites of THC have been found in children exposed to secondhand cannabis smoke.<sup>75</sup>

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