

# TIME TO QUIT VAPING: TEENS AND YOUNG ADULTS

## Goal:

The learner will be able to screen for and assess use of electronic cigarettes, vaping, and similar electronic nicotine delivery systems by adolescent and adult patients and provide basic motivational and behavioral nicotine interventions. This module covers interventions for patients from those who are not ready to stop using e-cigarettes, including vaping, through those who are ready to quit and need a plan.

## After completing this activity, participants will be able to:

- Screen and assess patients for nicotine use via e-cigarettes or vaping
- Provide brief counseling interventions using motivational interviewing for patients who are not ready to quit vaping nicotine
- Help patients who are ready to quit vaping nicotine develop a plan to quit and provide them with patient education.

## Professional Practice Gaps

Healthcare providers<sup>1,2</sup> have a limited understanding of the risks of e-cigarettes and vaping and minimal training, practice, or experience negotiating the fine art of engaging youth in discussions that productively detect and discuss substance use or can lead to intervention. Few providers ask patients about these products explicitly<sup>3</sup>. Although the medical professional societies, APA and AAFP, recommend screening for substance use at well-child visits<sup>4</sup> including screening for electronic nicotine delivery systems<sup>5,6</sup>, health care providers still use ineffective screening approaches<sup>7</sup>.

Providers have moderately low levels of knowledge about e-cigarettes and moderately low comfort discussing e-cigarettes with adolescent patients<sup>1</sup>. Teaching screening behavior is not sufficient. A lack of training in how to respond to a positive screen for substance use in general is common<sup>8</sup>. Only half of PCPs who received identification of a positively screened youth provided an appropriate brief intervention or treatment option<sup>9</sup>. However, there are treatment guidelines they could be trained to follow. Several medical professional organizations, including the APA and AAFP, have made recommendations that health care providers can follow for how to address the problem of vaping/e-cigarette use by adolescent and young adult patients who use these products<sup>5,6,10</sup>.

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## SUPPORTING QUITTING E-CIGS AND VAPING

### Introduction

This is a module about motivating adolescent and young adult patients to quit vaping and/or using e-cigarettes and develop a plan for quitting. It is focused on those who vape nicotine, however, many of the techniques described will be applicable to those vaping other substances. Vaping of cannabis will be covered in a separate module. Now that it is very clear that there is a potential for negative health consequences in the short term<sup>11,12</sup>, many young users will consider quitting. This is a pivotal moment.

Many people vaping, especially the young, may not realize that the pleasant buzz and rush they feel from e-cigarette use and vaping is actually often an effect of a very high dose of nicotine, delivered in seconds<sup>13,14</sup>.

These patients will need support in quitting nicotine use, similar to those who use the previously more conventional or familiar forms of tobacco products.

This case and supporting information will provide you with some guidance in helping people who need to quit vaping, and vaping nicotine in particular.

### **The CDC recommends that:**

- E-cigarette or vaping\* products should never be used by youths, young adults, or women who are pregnant.
- Adults who do not currently use tobacco products should not start using e-cigarette or vaping products.
- No one should use e-cigarette or vaping products that contain THC, especially those bought off the street. They have been associated with greater risk for a serious illness, "e-cigarette or vaping product use-associated lung injury" (EVALI).
- Everyone should consider refraining from using e-cigarette or vaping products that contain nicotine.

Sources: <sup>11,62,63</sup>

### The Products

There are many different e-cigarette or vaping products and they keep changing. However, much of the approach to helping patients quit these products is similar. They have in common a heating element with a battery which aerosolizes a liquid that is then inhaled.

A popular form of e-cigarettes is often referred to as "vapes" or the name of a particular brand (Juil<sup>TM</sup>) of vaper that uses a container for the liquid called a "pod," the use of which is sometimes called "juuling." One pod of nicotine-containing liquid, for example, which many teens vape in a day, has the equivalent nicotine to a pack of cigarettes<sup>15</sup>.



*Juulpods (TM)*

\*Note: To improve readability and familiarize clinicians with terms their patients will use, we will refer to vaping or e-cigarettes interchangeably and intend these terms to include "juuling."



Photo by CDC<sup>16</sup>

# SCREENING AND EVALUATION

## CURRENT RATE OF E-CIGARETTE USE AND VAPING

The numbers are alarming. Youth use of e-cigarettes has increased over the past 8 years, and especially steeply over the past two years:

**E-Cig/Vaping Rate** (Current use: at least 1 day in past 30 days):

- Current (past month) vaping rates by grade in school<sup>17</sup>:
  - 30.9% of highschool seniors (increased from 26.7% in 2018)
  - 25% of 10th graders (increased from 21.7% in 2018)
- For young adults ages 18-24, the rate of current use of e-cigarettes in 2018 was 7.6%, which was up from 5.1% in 2014<sup>18</sup>.

### E-Cig/Vaping Rates by Substance Used<sup>17</sup>

- Current (Past Month) Use of Nicotine-Containing Products in 2019:
  - 25.5% of high school seniors
  - 19.9% of 10<sup>th</sup> graders
  - 9.6% of 8<sup>th</sup> graders

This represents an increase from 2018 of 1.3, 5.6, and 6.5 percentage points respectively<sup>17</sup>.

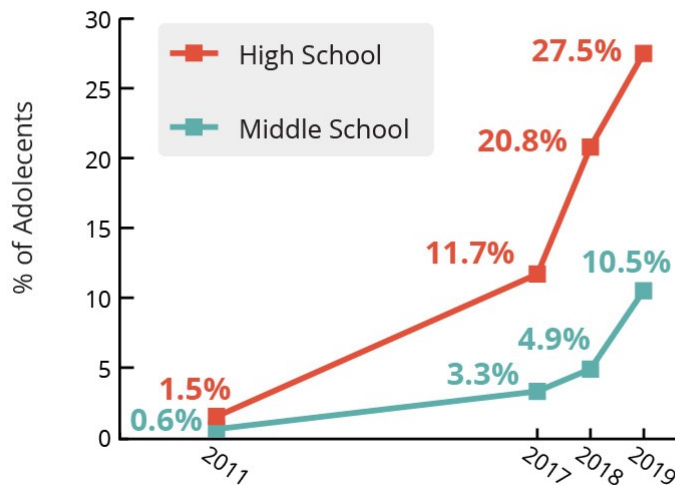
- Current (Past Month) Use of Tetrahydrocannabinol (THC)-Containing Products in 2019
  - 14% of high school seniors
  - 12.6% of 10th graders
  - 3.9% of 8th graders
  - This represents an increase from 2018 of 1.3, 5.6, and 6.5 percentage points respectively (NIDA, 2019).
- Many youths vape both nicotine and THC.

Polytobacco Use of e-cig/vaping plus other tobacco use: 11% of high school students use more than one tobacco product, which increases their chance of nicotine dependence and use in adulthood<sup>19,20</sup>.

### Demographics

### Current (Past Month) E-Cigarette Use By Adolescents In Past Decade

(>1 use in past 30 days)



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Source: Cullen et al., 2019

Males and whites are more likely to currently use or at least have tried e-cigarettes<sup>21</sup>. Those of intermediate or higher levels of education are more likely to have ever tried them than people with less education. In addition, those in higher socioeconomic groups exhibit higher rates of smoking e-cigarettes<sup>22</sup>. E-cigarettes are the most popular form of tobacco for teens of all races and ethnic groups (22.9%) except for African Americans, whose largest group (22%) favors cigars and American Indian/Alaskan Natives, whose largest group (31.4%) favors cigarettes<sup>23</sup>.

## SCREEN ALL PATIENTS

Guidelines from the U.S. Preventive Task Force (USPSTF) recommend that clinicians ask all patients about tobacco and any nicotine use annually and explicitly recommend to their patients who use nicotine to stop using it<sup>24</sup>. It is important to also ask specifically if they use e-cigarettes or vape, in addition to asking about other tobacco use, because there are unique associated risks and because not all vaping is of nicotine; vaping of cannabis is also fairly common.

### Be sure to ask young patients, too.

The Surgeon General report on e-cigarettes and vaping (2016) recommended that clinicians ask all youth about the use of all forms of e-cigarettes<sup>25</sup>. The American Pediatric Association recommends substance use screening start at age 11<sup>4</sup>. For patients who screen positively or who are seeing you in order to quit, follow up with questions to evaluate their use:

#### **Clinician:** What is your experience with e-cigarettes or vaping?

- If **"Yes,"**
  - Ask
    - How much? Last use? How often?
    - What (nicotine? just the liquid? THC? Is their liquid flavored? Product name or informal source? )
    - How? Method of use?
    - Product delivery system
  - Make a firm recommendation that they quit, because of your concern about their health. If they are not ready to quit, discuss steps they can take to reduce the harm to their health, such as cutting back frequency or potency.
- If **"No:"** Encourage them never to start.

Be sure to mark the patient record so that the patient's vaping status and substance used can be seen at a glance, and it can be addressed properly at each appointment.

## Determining the Level of Nicotine Dependence

Evaluating for nicotine dependence due to e-cigarette or vaping can be completed with a simple questionnaire. Two reasonable choices are 1) the Hooked on Nicotine Checklist and 2) questions recommended by the US Department of Health and Human Services at [Smokefree.gov](http://Smokefree.gov):

### **1. Hooked on Nicotine Checklist (HONC)**<sup>26</sup> modified for vaping/e-cigarette use:

10 questions that assess nicotine dependence in adults that were validated with adolescents<sup>19</sup>, modified for vaping.

1. Have you ever tried to quit vape, but couldn't?
2. Do you vape *now* because it is really hard to quit?

3. Have you ever felt like you were addicted to vaping nicotine?
4. Do you ever have strong cravings to vape?
5. Have you ever felt like you really needed a vape?
6. Is it hard to keep from vaping in places where you are not supposed to, like school?  
When you tried to stop vaping... (or, when you haven't vaped nicotine-containing liquid for a while ...)
7. Did you find it hard to concentrate because you couldn't vape?
8. Did you feel more irritable because you couldn't vape?
9. Did you feel a strong need or urge to vape?
10. Did you feel nervous, restless or anxious because you couldn't vape?

*Interpretation:* An answer of "Yes" to any question in the HONC indicates nicotine dependence. The number of positive responses corresponds to severity. For smokers, experimenters scored an average of 2 symptoms, and current smokers averaged 6 symptoms. The scoring system needs validating with users of e-cigarettes and vaping.

**2. Smokefree.gov** recommended questions. 6 questions recommended by the USDHHS that are specifically about vaping in a section on teen nicotine vaping<sup>27</sup>:

- Do you continue to vape even though you want to stop or think it's hurting you in some way?
- Do you feel anxious or irritable when you want to use your vape but can't?
- Do thoughts about vaping interrupt you when you are focused on other activities?
- Do you still vape after getting in trouble with your parents or school for vaping?
- Have you ever tried to stop vaping but couldn't?
- Do you feel like you have lost control over your vaping?

*Interpretation:* An answer of "Yes" to one or more of these questions means the teen may be addicted to vaping.

## HEALTH EFFECTS OF VAPING AND NICOTINE USE

Youths often do not realize the health effects of vaping or e-cigarette use<sup>28</sup> including that they are breathing in nicotine or that it is addictive<sup>29,30</sup>

### Severe Pulmonary Disease Potential: EVALI

**A total of 2,668 hospital cases of the pulmonary disease named "e-cigarette or vaping product use-associated lung injury" (EVALI) have been reported including 60 deaths as of 1/14/2020<sup>11</sup>.** Most patients (86%) reported use of e-liquids containing tetrahydrocannabinol (THC) during the 3 month period before onset of symptoms<sup>31</sup>. The CDC reported that products coming from informal sources, such as friends, family, or illicit sources play a major role in this outbreak, and therefore they recommend that e-cigarette products should not be bought off the street<sup>11</sup>. Lung fluid samples tested from many cases contained vitamin E acetate<sup>11</sup>. The median age for those affected who survived (23 years) is lower than the median age for those who died from the illness (45 years)<sup>31</sup>.



Around half of persons diagnosed with EVALI have been age 13-24<sup>31</sup>, which could be a talking point for use with teen and young adult patients who do not believe they are at risk because of age. However, the number of people



their age who have been affected compared to the number who vape is low. This means that many will not know anyone who has been affected. Furthermore, since the majority of cases have not involved vaping nicotine, teens who only vape nicotine may feel they are safe. It is important to remind them that in 14% of the cases, the patient reported only nicotine-containing products<sup>32</sup>, and that information on the harm from the other ingredients in vaping liquids is still emerging.

**Symptoms of EVALI:** Respiratory signs and symptoms developing over days to weeks prior to the severe illness may include:

- Nonproductive cough,
- Pleuritic chest pain
- Shortness of breath<sup>11,33,34</sup>.
- Other findings include:
  - Gastrointestinal symptoms (nausea, vomiting, abdominal pain, diarrhea)
  - Constitutional symptoms (fever, chills, fatigue, and weight loss).

EVALI is a diagnosis of exclusion. Tell patients that the CDC has published interim guidelines on recognizing and managing EVALI<sup>35</sup>, that are likely to be updated regularly as more is learned. It includes guidance on distinguishing influenza from EVALI and treatment.

**CDC recommendations include:** Asking patients having signs and symptoms of EVALI or similar respiratory illness whether they used e-cigarettes or vaped, within 90 days and asking those who have used these products within 90 days whether they have respiratory illness<sup>35</sup>.

**Current recommendation for prevention:** Because one compound causing EVALI appears to be identified (vitamin E acetate), but there may be others, tell patients that the CDC notes that the only way to completely assure yourself of not getting the illness is to avoid all e-cigarette and vaping products<sup>11,35</sup>.

### Other Health Effects of E-Cigarettes

Other Potential Health risks from e-cigarettes and vaping include those from inhaling the flavoring ingredients such as diacetyl, contaminants including ultrafine particles, heavy metals, volatile organic compounds, and known cancer-causing chemicals<sup>12,25</sup>.

- The CDC notes that ingredients in e-cigarette vapor may be harmful to lungs long-term<sup>12</sup>.
- A common ingredient of the e-liquid itself, propylene glycol, causes lung inflammation<sup>36</sup>.
- Asthma is also likely to be exacerbated by use<sup>37</sup>.
- Evidence is growing for both short (reduced blood flow) and long-term potential (poorer cholesterol levels) cardiovascular harm from vaping<sup>38,39</sup>.
- The health effects are still being defined because of the many and changing variations in products and the need for more long-term data.

### Health Effects of Nicotine

**Vaping/e-cigarettes actually can deliver more nicotine than cigarettes.**

Health effects specifically from nicotine relevant to young patients include:

- Addiction, potentially greater risk for younger users<sup>25,40</sup>
- Negative impact on general health<sup>25,41</sup>
- Mental health effects: May lead to mood disorder and lower impulse control<sup>40</sup>
- Harm to the developing brain's control circuits for attention and learning<sup>40</sup> and other harmful cognitive effects<sup>42</sup> The Surgeon General's report (2016) concluded that exposure to nicotine during adolescence may have lasting adverse consequences on brain development.<sup>25</sup>

### **Other Risks of Harm to Health from Using E-Cigarette Use/Vaping**

Other risks that can lead to harm to health include:

- Potential to act as a gateway to smoking cigarettes, alcohol, or other drug use<sup>25,43</sup>. Using a flavored product when first encountering tobacco products, including e-cigarettes use, is associated with greater risk of using tobacco a year later<sup>44</sup>.
- Vaping devices have exploded, although infrequently, causing burns and other injuries to the face, mouth, and hands<sup>45</sup>. The cause is most often related to the battery. It is important to follow instructions, use as intended, and take care in charging the device, not using a damaged device, however, quality of batteries is not well-regulated.

## **HEALTH-BASED INTERVENTION:**

### **Using Health-Based Interventions to Encourage Patients to Stop Vaping**

It is important to educate patients about the health effects of nicotine use and vaping. While adolescent patients may tune out when being told about health effects that are minor or in the distant future, they are likely to respond to serious effects that happen in people their own age or symptoms they have experienced<sup>46</sup>. The e-cigarette and vaping-associated lung disease, EVALI, that has resulted in some young people dying is therefore likely to help motivate youths to consider quitting vaping. However, young people are less likely to respond to information about addiction, which they often view as mild, like food cravings.

# INTERVENTIONS TO HELP WITH QUITTING

## MOTIVATIONAL INTERVIEWING

Motivational interviewing (MI) involves communication skills that you can use in brief interventions to help motivate patients who have screened positively to quit substance use<sup>47</sup>. Instead of giving the patient advice, you recognize that they are the experts on what motivates them. Using MI, you would guide the patient to examine and resolve their ambivalence about their substance use in order to help the patient move closer to quitting.



### Motivational Interviewing Intervention Steps

#### 1. Establish Rapport With The Patient.

To decrease patient defensiveness and increase their openness to the possibility of quitting, try

- Introducing the topic with openness, concern, and non-judgmental stance.
- Expressing acceptance and affirmation<sup>47</sup>.
- Expressing empathy – by describing your understanding of the patient's emotions and feelings.

#### 2. Assess The Patient's Stage Of Change

Find out how ready the teen is to quit vaping and accept their response non-judgmentally. For example:

- **Clinician:** *How close are you to quitting, on a scale of 1 to 10?...So you feel you are at 2 out of 10 with respect to being ready to quit? Okay, let's start there.*

#### 3. Elicit The Patient's Motivations

Next, ask the patient's concerns, desires, and intentions. What motivates them to vape? Common reasons include curiosity and use by someone they know<sup>48</sup>. Avoid using the word "why?" as it can raise defenses. What motivates them, if anything, to quit? Asking them to articulate reasons to quit helps build their awareness that part of them may want to quit.

**Clinician:** *Tell me about the part of you that is motivated to quit, no matter how small.*

#### 4. Assess The Patient's Confidence About Quitting

If a patient has some interest in quitting, find out their confidence in their ability to quit.

**Clinician:** *How confident are you that you could quit successfully?*

Focus on building up confidence that is low. For example:

**Clinician:** Remember a past problem that you overcame...[pause while they remember] You could apply the same strength, now that you are more mature, to this situation.

Confidence about quitting can also be rated on a scale of 1 to 10, followed by asking what it would take to be at a rating of 10. If they are confident, you can congratulate them and address a plan for quitting.

## 5. Evaluate And Help Resolve The Patient's Ambivalence

Patients often feel ambivalent about changing their substance use<sup>49</sup>. They want both the pleasures of indulgence and the benefits of restraint. Help the patient explore, articulate, and clarify any ambivalence they feel about vaping. Highlight discrepancies in what the patient says in order to produce internal tension that can lead to change.

**Clinician:** *From what you say, vaping is important to you to help you cope with stresses at school, while at the same time, it is hurting your schoolwork and sports performance.*

## 6. Addressing Discord:

If the teen patient seems resistant to intervention, avoid arguing, confronting them directly, or being judgmental. To keep the conversation going, try being willing to compromise or talking about a less-threatening health behavior such as getting exercise or about problems they faced successfully in the past<sup>50</sup>. You can also try agreeing with them, or "rolling" with it by agreeing with them<sup>47</sup>, for example:

**Teen:** *If I quit vaping and avoided people who vaped, I wouldn't have any friends, because everyone vapes.*

**Clinician:** *I can see where it would be hard to find new friends who don't vape.*

**Teen:** *Yes, but I suppose I could find someone who doesn't vape.*

## Motivational Interviewing Communication Skills

The following communication skills will improve the effectiveness of your assessment and brief interventions:

### 1. Asking Rather Than Telling

Eliciting insights from the patient may take a little longer than simply providing advice, but can increase the effectiveness of brief interventions. Avoid questions that have a yes or no answer.

Instead of saying, "I recommend that you quit because it is likely to harm your health," you might say:

**Clinician:** *Would it be okay if we talked about the health problems associated with using e-cigarettes?*

**Teen:** *Yes*

**Clinician:** *Tell me what you already know about it?*

**Teen:** *I've heard you can get a really serious lung disease, and some people died.*

**Clinician:** *How does that compare to what you want for your own health?*

**Teen:** *I do think about quitting because of that.*

### 2. Active Listening

Repeating back to the patient what you heard is called active or reflective listening<sup>47</sup>. Use your own style and summarize, rather than repeating everything. Discussing concerns using similar wording to what the patient said helps them feel heard. For instance, if a patient says:

**Teen:** *I don't really feel I'm addicted to vaping, or not very much. I'm just as addicted to eating sweets.*

To respond with active listening, you might say:



**Clinician:** So vaping doesn't feel like an addiction for you any more than your eating of sweets.

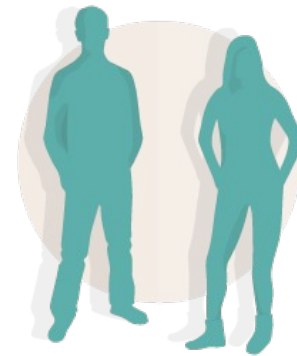
### Practice Tip

- Pauses are a powerful way to draw people out. After making a simple question or a reflective statement, pause and wait patiently. Most people will fill the pause.

## MOTIVATIONAL INTERVIEWING WITH TEENS

### Effectiveness And Limitations Of MI With Teens

Motivational Interviewing is also effective with teens, even those who are rebellious because it **avoids confrontation**<sup>51</sup>. Their often evolving sense of identity and self-esteem is calmed by meeting them where they are, **developing rapport**, and **providing positive feedback**, such as admiring their resourcefulness or expressing your faith in them. **Eliciting a patient's motivations** and **examining their ambivalence** can be especially useful for mobilizing teens who are not ready to consider quitting. Similarly, their typical craving for autonomy is met through the process of **eliciting their opinions**. **Reflective listening** in combination with a **non-judgmental approach** gives teens a sense of being heard, which they often long for at this age.



**Limitations of Motivational Interviewing for Teens:** There are some considerations when working with teens, however.

- Complete patient autonomy in letting the patient determine whether they vape is not possible because it is illegal for people under age 21. Ideally, you would include parents for teens under 18 and potentially other family members in the patient education component.
- Confidentiality may need to be broken if the teen's safety is at stake. If breaking confidentiality is being considered, discuss with the teen what details will be revealed. Also, they need to know that reporting "illegal" behavior is not going to get them in trouble, which is often a concern.
- Goals for teens need to consider safety. Because teens are still developing, they may need assistance in the use of good judgment.

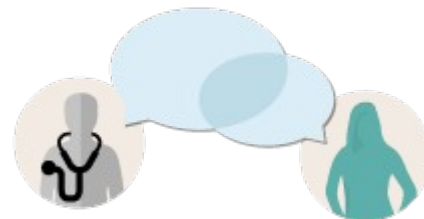
### Practice Tip

There might be time to add a discussion of SBIRT topics with teens during brief check-in appointments, such as a follow up on acne treatment.

### Establishing Rapport with Teens

In order to encourage teens to connect with you enough to provide a successful intervention for nicotine or any substance use, establishing rapport is critical. The following steps are important:

1. Talk to the teen alone.
2. Explain a confidentiality policy that you will not tell parents about your conversation if the patient is not in danger. Parents should be made aware of this policy, too.
3. Explain that you talk with all teens about substance use, not just them.



4. Emphasize that you are on their side, and your goal is their health and sound medical advice.
5. Listen. Use reflections to let them know you are listening to them. They are very sensitive to being "lectured" about vaping and other substance use.

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**Mini-case:**

15-year-old Marcy Anthony presents for a TB test to get a job at a restaurant. She answered the clinic's screening questions that she does vape "a little."

**Clinician:** *I see you vape "a little." Can you say more about how frequently and what you vape?*

**Marcy:** *I guess my mom told you that. I'm not sure I should tell you.*

**Clinician:** *I know it's kind of hard to talk about, but I think it's really important. That is why I made sure we could be alone to talk about this. I want you to know that our conversation will remain just between the two of us – unless you are in danger. I talked with your parents and let them know that is my policy.*

**Marcy:** *Sure, okay. I vape sometimes between classes. Just a little I get from friends sometimes. I think the vape juice usually has some nicotine.*

**Clinician:** *Thank you for letting me know. As your healthcare provider, I want you to know that I recommend you not vape at all. I'd like to talk to you about reasons why. There are some ways I'd like to help and that others could help.*

**Practice Tip**

If an adolescent uses a parent's insurance, and you use a billing code related to substance abuse, the insurance statement sent to the parent may break confidentiality.

## QUITTING

### Nicotine Withdrawal

Withdrawal symptoms typically begin within hours of quitting and peak within 2 to 3 days. The worst symptoms usually fade by 2 to 3 weeks, but some symptoms may persist<sup>52</sup>. Individual experiences may vary. The following symptoms are experienced after abrupt cessation of nicotine (without any nicotine replacement therapy) following a period of prolonged use (weeks):

- Dysphoric or depressed mood
- Insomnia
- Irritability, frustration, or anger
- Anxiety
- Restlessness or impatience
- Decreased heart rate
- Increased appetite or weight gain
- Difficulty concentrating

For a diagnosis of nicotine withdrawal (now referred to as tobacco withdrawal in the DSM-5), four or more of the symptoms above must be present<sup>53</sup>.

Psychological symptoms of withdrawal from nicotine include cravings, irritability, low mood, and anxiety and peak around day 3 of quitting, but diminish over 3-4 weeks<sup>52</sup>.

## How Quitting Vaping and E-Cigarettes Differ from Quitting Smoking Cigarettes and Why

Because of a lack of evidence-based guidelines for quitting vaping/e-cigarettes, tobacco cessation treatments are currently most often used. The rationale is that nicotine is the addictive substance in both cigarette smoking and e-cigarette/vaping. However, there are differences that impact both the severity of addiction and motivations to quit.

- **Vaping nicotine can be more addictive.** The vaping e-liquid and its delivery method result in a potentially greater spike in nicotine with each inhalation because of two factors: 1) The nicotine in e-cigarettes and vaping is highly concentrated and gets to the brain quickly. 2) The amount inhaled is less limited by unpleasant effects from breathing in very deeply. This relatively smoother inhaling experience often results in high levels of nicotine, which is very addictive and can easily result in an overdose of nicotine.
- **Fewer social incentives to quit.** Some social incentives that have motivated many smokers to quit are not as strong for vapers.
  - **Easier to hide.** It is easier to vape inconspicuously since the vaping device can be hidden more easily between uses than a cigarette. Users may hold the vapor in their mouth to diminish the telltale cloud that would give away that they are vaping surreptitiously.
  - **2nd hand exposure not as obvious and perceived as less dangerous.** Although increasingly people object to second-hand vapor, they are often not aware they are breathing it because of the lack of smoke or odor and the ability to vape inconspicuously. Some people perceive the vapor as less dangerous than smoke. So although there are many objections to its use indoors or at family events, objections are fewer than for cigarettes.
  - **Vaping seems cleaner.** Smells do not linger on clothing or hair and in rooms the way they do with cigarettes. Teeth are not stained. There are no cigarette butts to clean up.
  - **Vaping has less stigma than smoking.** Vaping of a popular brand was instead considered “highly acceptable” in a survey of 243 college students only 10.7% believed that their friends would not approve of their vaping<sup>54</sup>.

## Counseling Talking Points for Your Patients Who Are Quitting

You can work a few counseling points into each office visit with young patients, for example:

- Describe the addictive nature of nicotine.
- Explain to patients that they will experience withdrawal when they quit vaping nicotine, the severity depending on their level of dependence, but that it is temporary. Symptoms usually peak 1 to 3 days and the worst are over in 2-3 weeks after quitting but may persist for months<sup>52</sup>. Symptoms include negative mood, urges to vape, and difficulty concentrating.
- At each new quit attempt, help patients review what they learned from previous quit attempts.

## Patient Education

Make sure that you leave ample time for them to ask any questions. Because appointment time is limited, provide written patient education materials to reinforce and expand upon the information discussed during the visit.

Many patient education resources have been designed with the engagement of the adolescent and young adult in mind. Some can be found at the end of this module. See the Resources section accompanying this module. Consider the patient's reading level/education/socioeconomic status to assure useful resources are selected.

## Practice Tip

### Finding Clinic Time for Nicotine Counseling Interventions

- Do as many steps as you can in a particular appointment. Interventions made over a period of time can make a difference. Ask each time if they have given any further thought to what you talked about last time.
- Involve the whole clinic team. Many of these steps can be achieved by nursing or other staff.

## HELP PATIENTS DEVELOP A PLAN FOR CHANGE

Once the patient has agreed to take a step, such as thinking about quitting or setting a date to quit, help them come up with their own plan for change for the next 30 to 90 days<sup>47</sup>. For example, you could ask,

**Clinician:** *What steps, if any, can you do in the next month to move in the direction of thinking about quitting vaping?*

If they cannot think of any, ask if they can commit to a followup appointment. Also, consider discussing harm reduction steps in the interim, such as reducing dose, frequency of use, or depth of inhale.

## A Plan for Quitting

This includes **telling them about the problems they are likely to face and helping them get ready through problem-solving ahead of time.**

Nicotine is highly addictive, making it difficult for an adolescent or young adult to quit on their own. The skills needed to quit nicotine addiction, patience and discipline, are still developing in the adolescent brain. So, once they have decided to quit and are ready to attempt it, they will need a structured plan to support the process. Work with teens to develop a plan that includes the following:



1. **Setting a quit date:** For some people, quitting immediately is effective. For others, getting everything in place first feels important. Ask the patient which they prefer.
2. **Seeking support:** Advise patients to tell the people in their lives that they are quitting. This includes asking for support and asking friends and family who also vape to join them in a quit attempt or not use it around them.  
Refer the teen for counseling and/or provide external support contact information such as supportive text messages or telephone quitlines (discussed separately).
3. **Using alternative ways to manage anxiety and stress.** Talk to the teen about ways other than vaping that they can use to manage their anxiety and stress. For example, teach them to take deep breaths during stressful events and make lifestyle changes that reduce stress and improve quality of life (e.g., exercise).
4. **Planning to abstain completely:** Recommend that they abstain completely because any vaping, even a single use, increases the likelihood of a full relapse. However, let them know that a slip does not mean failure.



**5. Planning for withdrawal:**

Help the patient develop a plan for how they will manage withdrawal symptoms. The worst symptoms last a few days and decrease over the next month, but some linger. By informing patients, they can plan whether they want to schedule their quitting with respect to the rest of their life.

Determine whether the teen will likely be able to get through the worst of withdrawal which is only a few days, with lots of support or whether they will need medication to help reduce withdrawal symptoms. The pros and cons of medication are discussed separately.

**6. Anticipate cravings and temptations:** Provide advice on how to deal with cravings and temptations. Tell them:

- Figure out what you crave and when and use strategies ready to counter it. Ideas to share with patients include:
- Delay vaping; see if you can get through one craving or one class without vaping. Cravings typically last only around 10 minutes.
- Distract yourself, do something else, drink some water. Plan what to do if they are tempted to vape and how to avoid cues such as the location where they used to vape.
- Staying busy in activities where vaping is difficult, such as sports or an adult-supervised youth group activity. Exercise raises dopamine and adrenaline naturally, two of the natural chemicals they were stimulating through their addiction. Drinking water also can help
- Remove reminders about vaping from their environment. For example, throw out vaping devices and pods or cartridges.

**Brief Interventions For Each Stage Of Teen Vaping (or Other Substance Use)**

**First, Determine Extent of Use. Ask:**

- Have you ever used e-cigarettes? (if no: Abstinence)
- (if yes) Have you used e-cigs in the past year? (if no: Experimentation)
- (if yes) Have you used e-cigs in the past 30 days? (if no: Limited use)
- (if yes to past year or past 30 days) determine Mild vs. Moderate vs. Severe Use:
  - When was the last time you used an e-cigarette?
  - (if current user) Do you use e-cigarettes every day or some days?
  - On the days you use e-cigarettes how much do you use them?

Stage of Substance Use	Intervention
Abstinence	Positive reinforcement; patient and parent education to prevent or delay substance use
Experimentation	Encourage abstinence/cessation and promote patient strengths
Limited use	Encourage cessation and promote patient strengths
Problematic use (Mild)	Brief interventions to motivate behavior change, such as advice to stop and education on health effects and risks or a signed contract to stop problem use, close follow-up; consider breaking confidentiality and referral
Problematic use (Moderate)	Same as for problematic (mild) use above, plus exploring ambivalence, refer for comprehensive assessment and treatment
Problematic use	Same as above plus encourage parental involvement, enhance motivation to

(Severe)	accept referral
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## Practice Tip

### After implementing a brief intervention,

- Review the treatment plan with the patient (and potentially the parent).
- Make sure that you leave ample time for them to ask any questions.
- Provide verbal education supported by printed or online educational materials.
- Follow up with a phone call or another appointment.

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## PHARMACOLOGICAL INTERVENTIONS

Pharmacotherapy can help reduce symptoms of withdrawal from nicotine, however, most of the evidence available is for smoking cessation.

**Smoking Cessation Medications:** The FDA-approved medications for smoking cessation are recommended for all adults, except for the following groups for which effectiveness is not sufficiently documented: pregnant women, smokeless tobacco users, light smokers, and adolescents.

- Because these medications are not FDA-approved for use in **adolescents**, quitting smoking with **only counseling and support** is typically recommended first.
- However, for **adult patients over 21, both counseling and pharmacotherapy** such as nicotine gum, is the recommended treatment for nicotine addiction from smoking or vaping.

**Vaping Cessation and Medications:** Most substance use experts and professional societies recommend adolescents attempt quitting first without medication. However, if an adolescent has made multiple failed attempts or has a severe addiction, the clinician may use their judgment and consider prescribing nicotine replacement therapy. Evidence is not yet available for whether FDA approved medications for smoking cessation are effective for quitting vaping/e-cigarettes. However, there is anecdotal evidence that the medications have helped some patients. The amount of nicotine delivered in a hit of vaping is typically more intense than what is experienced in nicotine replacement therapy, and this difference may affect their efficacy as a substitute. Also, consider that nicotine replacement only helps stop the physical habit of vaping; the patient is still addicted to nicotine and will need to taper off of that.

## First-line Medications for Nicotine Cessation

### Nicotine replacement medications

- Nicotine patch (OTC)
- Nicotine gum (OTC)
- Nicotine lozenge (OTC)
- Nicotine inhaler (Prescription)
- Nicotine nasal spray (Prescription)
- Precautions for nicotine replacement medications include cardiovascular and pregnant women. Refer to each medication's product information for further details.

### Non-nicotine replacement medications

- Bupropion SR



- Bupropion is more effective than placebo in helping smokers fight off cravings, a major contributor to relapse.
- Precautions include change in behavior, hostility, suicidal thoughts (black box label removed, but precautions remain), seizures, cardiovascular disease.
- Varenicline
  - Varenicline reduces craving and withdrawal, and, for those who continue to smoke, smoking satisfaction<sup>58</sup>.
  - Not recommended for adolescents 16 years and younger<sup>59</sup>.
  - Precautions include as monitoring patients for behavior or mood changes. Black box warnings have been removed, but precautions for suicidal thoughts and aggressive behavior remain. Others include pregnant women, renal impairment, driving impairment, and cardiovascular. Evidence is currently insufficient to evaluate harms vs. benefits of the medications in pregnancy<sup>24</sup>.

### **Considerations for Pharmacological Treatment of Vaping**

FDA approved medication should be added according to the patient's level of addiction and readiness to change<sup>5</sup> to manage withdrawal symptoms if needed. If the health professional feels it is warranted, nicotine replacement therapy (NRT) can be prescribed.

- NRT offers the advantage that it helps break the behavioral addiction to vaping itself, and can then be tapered slowly.
- However, NRT, such as the nicotine patch, is not approved by the FDA for teens younger than 18. So, it cannot be purchased by teens over-the-counter, and many pediatricians won't prescribe NRT for kids.
- Nicotine gum may better replicate the intermittent quality of vaping than the patch.
- If a teen is placed on NRT, parents should discuss it with the school to assure the teen will not get into trouble for wearing their patch or using other NRT during school.
- Tapering vaping, in combination with NRT, can result in a patient getting too much nicotine because many teens have no idea how much nicotine they take in through vaping<sup>14</sup>.

# VAPING TREATMENT REFERRALS

Comprehensive evidence-based treatment guidelines for vaping cessation are not yet available.

**The American Academy of Pediatrics (AAP) guidelines recommend that adolescents who vape or use e-cigarettes should receive tobacco cessation counseling and if needed, FDA-approved tobacco dependence pharmacotherapies appropriate to their level of addiction and readiness to change<sup>5</sup>.**

For adolescents, many experts recommend trying to quit with only psychosocial support and counseling and no medication, because counseling is effective for nicotine addiction in teens. This is typically completed by quitting abruptly and stopping completely. Some approaches use tapering, typically over a one-week period. Like smoking cessation, quitting vaping may take multiple attempts.

## COUNSELING AND TREATMENT PROGRAMS

The type of counseling that works best for vaping is not yet well-studied, so experts currently recommend what has worked best for tobacco cessation. As a result, experts recommend what has worked for treating nicotine addiction in tobacco use which is behavioral therapy, cognitive behavioral therapy, and related therapies. A smoking cessation program may be helpful since the substance of addiction is the same. However, a vaper may feel that that smoking cessation programs do not speak to them directly. Out-patient treatment that addresses vaping addiction has been difficult to find, although outpatient addiction treatment centers may start adding this service in response to the growing concern about the danger of lung disease from vaping. Occasionally, an adolescent has struggled with severe vaping addiction requiring residential treatment.



## Supports to Recommend

1. **Quitlines:** Some health professionals have developed phone quitlines for youths who vape, similar to tobacco cessation quit-lines, although little research has been completed on their effectiveness for vaping<sup>60</sup>. Advise the patient of the local quit-line number or provide the national number: 1 800 QUIT NOW for additional support. Quitlines may offer support for vaping/e-cigarette cessation.
2. **Texting Intervention:** Truth Initiative has a program called [This Is Quitting](#) that youths can enroll in and receive text messages in support of their quit attempt<sup>61</sup>. When they need additional support, they can text, Cope, Stress, Slip, or More and receive additional messages. Follow-up messages are available for as long as needed.
3. **Community Resources:** Learn about and provide information on appropriate community resources to the patient.

## Insurance Coverage of Vaping Treatment

Insurance coverage for the treatment of vaping addiction has been a problem at times, but this may be changing as the scope of the problem is better understood. Parents should contact their insurance companies regarding current policy.

- Insurance does cover some medications and treatment programs. There is sometimes financial support available for treatment through a grant in cases of financial need (AAFP).
- Treatments recommended by an adult treatment facility for an adolescent may be denied by some insurance policies.

## SUMMARY

Here is a summary of the skills learned in this module:

### Health Effects of Vaping

- Health effects of vaping include nicotine addiction for the majority who vape nicotine and risk for serious lung disease. Long-term effects are uncertain, but there are concerns because of known ingredients and contaminants inhaled.

### Screen and Assess Vaping

- Screen all patients over 12 regarding vaping and e-cigarette use regularly.
- Assess vapers for what substance is in the vaping liquid they use. Assess current nicotine users for type and amount of nicotine used, level of dependence, readiness to quit, and self-confidence about quitting.

### Help Motivate Patients to Quit Vaping

- Motivational Interviewing skills can help move patients toward quitting vaping and other substance use. It is particularly effective with teens because it avoids confrontation and recognizes their autonomy. Skills include:
  - Establish rapport by being non-judgmental and expressing empathy
  - Assess their motivation and elicit statements of motivation
  - Evaluate ambivalence about quitting
  - Use active listening and open-ended questions
  - Avoid confronting resistance, try agreeing or rolling with it
  - Elicit statements about motivation
  - Make a plan for change

### Help Patients Quit Vaping

- Patients who are quitting should know that withdrawal and symptoms are at their peak only for 2 to 3 days and include irritability, dysphoric mood, anxiety, and restlessness<sup>52</sup>.
- Help patients develop a plan for quitting that includes avoiding cues to vaping and thinking ahead of what they will do in response to challenges when they are tempted to vape.
- AAP guidelines recommend that adolescents who vape or use e-cigarettes containing nicotine should receive tobacco cessation counseling<sup>5</sup>. If needed, they should also receive FDA-approved tobacco dependence pharmacotherapies appropriate to their level of addiction and readiness to change.
- Quitting vaping differs from quitting smoking in that the nicotine, and its method of delivery, are more addictive and there are fewer social incentives to quit.

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