



Screening, Diagnosis & Monitoring of Vaping among Adolescents

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Disclosures

I have no conflicts to disclose.

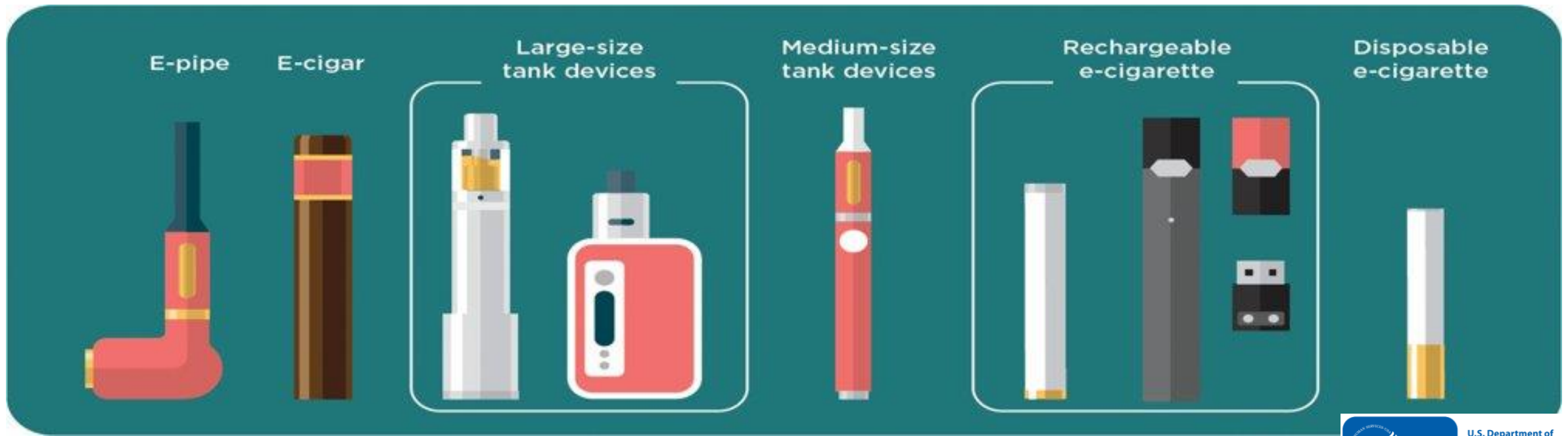


Agenda

- Review Screening Tools: BSTAD, CRAFFT-N, EHR
- Diagnosis Criteria
- Tests for Nicotine Dependence
- Monitoring



Challenges to Assessing Vaping



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention



Screening



U.S. Preventative Service Task Force Recommendations

Final Recommendation Statement

Prevention and Cessation of Tobacco Use in Children and Adolescents: Primary Care Interventions

April 28, 2020

Recommendation Summary

Population	Recommendation	Grade
School-aged children and adolescents who have not started to use tobacco	The USPSTF recommends that primary care clinicians provide interventions, including education or brief counseling, to prevent initiation of tobacco use among school-aged children and adolescents.	B

JAMA. 2020;323(16):1590-1598. doi:10.1001/jama.2020.4679



Screening

Screening for Substances Needs to Be:

1. Easy to administer
2. Easy to score
3. Easy to remember



BSTAD

FRIENDS' USE

Do you have friends who smoked cigarettes or used other tobacco products in the past year? No Yes

Do you have friends who drank beer, wine, or any drink containing alcohol in the past year? No Yes

Do you have friends who in the past year:

- sniffed or “huffed” anything;
- took illegal drugs like marijuana (weed, blunts), cocaine, etc;
- took prescription medications that were not prescribed for them; or
- took prescription or over-the-counter medications and took more than they were supposed to take?
 No Yes

PERSONAL USE

In the past year, have you smoked cigarettes or used other tobacco products? No Yes

In the past year, have you had more than a few sips of beer, wine, or any drink containing alcohol? No Yes

In the past year, have you:

- sniffed or “huffed” anything;
- taken illegal drugs like marijuana (weed, blunts), cocaine, etc;
- taken prescription medications that were not prescribed for you; or
- taken prescription or over-the-counter medications and took more than you were supposed to take?
 No Yes



[IF DRUGS ARE ENDORSED IN THE PERSONAL USE QUESTION, ASK THE FOLLOWING:]

Which of the following substances have you used in the past year? (check all that apply)

- Marijuana or Hashish
- Cocaine or crack
- Heroin
- Amphetamines or methamphetamine (nonpharmaceutical)
- Hallucinogens (eg, Mushrooms, LSD)
- Inhalants

Which of the following medications have you used in the past year that were not prescribed for you or which you took more of than you were supposed to take? (check all that apply)

- Prescription pain relievers (eg, morphine, percocet, vicodin, oxycontin, dilaudid, methadone, buprenorphine)
- Prescription sedatives (eg, Valium, Xanax, Klonopin, Ativan)
- Prescription stimulants (eg, Adderall, Ritalin)
- Over-the-Counter Medications (eg, Nyquil, Benadryl, cough medicine, sleeping pills)

[FOR EACH SUBSTANCE WHERE USE WAS ENDORSED, ASK:]

In the past 30 days, on how many days have you...

smoked cigarettes or used other tobacco products/used alcohol/used [SUBSTANCE]? days

In the past 90 days, on how many days have you...

smoked cigarettes or used other tobacco products/used alcohol/used [SUBSTANCE]? days

In the past year, on how many days have you...

smoked cigarettes or used other tobacco products/used alcohol/used [SUBSTANCE]? days

BSTAD Scoring

BSTAD Response	Risk Category
0 days	No Reported Use
1 day	Lower Risk
2+ days (alcohol or other drugs) and/or 6+ days (tobacco)	Higher Risk

<https://www.drugabuse.gov/ast/bstad/#/>



CRAFFT +N

The CRAFFT+N Questionnaire

To be completed by patient

Please answer all questions honestly; your answers will be kept confidential.

During the PAST 12 MONTHS, on how many days did you:

1. Drink more than a few sips of beer, wine, or any drink containing alcohol? Put "0" if none. # of days
2. Use any marijuana (weed, oil, or hash by smoking, vaping, or in food) or "synthetic marijuana" (like "K2," "Spice")? Put "0" if none. # of days
3. Use anything else to get high (like other illegal drugs, prescription or over-the-counter medications, and things that you sniff, huff, or vape)? Put "0" if none. # of days
4. Use any tobacco or nicotine products (for example, cigarettes, e-cigarettes, hookahs or smokeless tobacco)? # of days

READ THESE INSTRUCTIONS BEFORE CONTINUING:

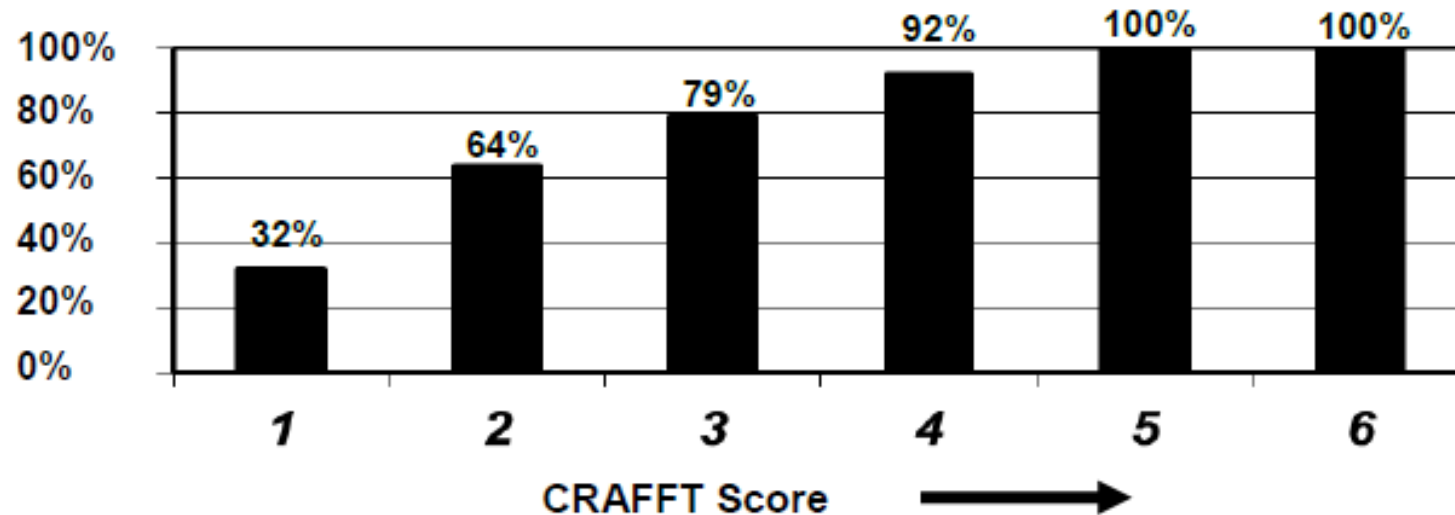
- If you put "0" in ALL of the boxes above, ANSWER QUESTION 5, THEN STOP.
- If you put "1" or higher in ANY of the boxes above, ANSWER QUESTIONS 5-10.

- | | No | Yes |
|--|--------------------------|--------------------------|
| 5. Have you ever ridden in a CAR driven by someone (including yourself) who was "high" or had been using alcohol or drugs? | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Do you ever use alcohol or drugs to RELAX, feel better about yourself, or fit in? | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Do you ever use alcohol or drugs while you are by yourself, or ALONE? | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Do you ever FORGET things you did while using alcohol or drugs? | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Do your FAMILY or FRIENDS ever tell you that you should cut down on your drinking or drug use? | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Have you ever gotten into TROUBLE while you were using alcohol or drugs? | <input type="checkbox"/> | <input type="checkbox"/> |



CRAFFT +N Scoring

Percent with a DSM-5 Substance Use Disorder by CRAFFT score*



*Data source: Mitchell SG, Kelly SM, Gryczynski J, Myers CP, O'Grady KE, Kirk AS, & Schwartz RP. (2014). The CRAFFT cut-points and DSM-5 criteria for alcohol and other drugs: a reevaluation and reexamination. *Substance Abuse*, 35(4), 376–80.



Electronic Health Record Screener

E-cigarette/Vaping

E-cigarette/Vaping Use

Passive Exposure

Counseling Given

Start Date

Quit Date

Comments

E-cigarette/Vaping Devices

Disposable

Pre-filled or Refillable Cartridge

Refillable Tank

Pre-filled Pod

Other

E-cigarette/Vaping Substances

Nicotine

THC

CBD

Flavoring

Other



Diagnosis Criteria



DSM-5 Tobacco Use Disorder

A problematic pattern of tobacco use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period:

1. Larger quantities of tobacco over a longer period than intended are consumed
2. Persistent desire or unsuccessful efforts to quit or reduce intake of tobacco
3. Inordinate amount of time spent acquiring or using tobacco product
4. Cravings, strong desire, or urge to use for tobacco
5. Failure to attend to responsibilities and obligations at work, school, or home due to tobacco use
6. Continued use despite adverse social or interpersonal consequences
7. Forfeiture of social, occupational or recreational activities in favor of tobacco use
8. Tobacco use in hazardous situations
9. Continued use despite awareness of physical or psychological problems directly attributed to tobacco use
10. Tolerance for nicotine, as indicated by:
 - Need for increasingly larger doses of nicotine in order to obtain the desired effect
 - A noticeably diminished effect from using the same amounts of nicotine
11. Withdrawal symptoms upon cessation of use as indicated by
 - The onset of typical nicotine associated withdrawal symptoms is present
 - More nicotine or a substituted drug is taken to alleviate withdrawal symptoms

Diagnostic and Statistical Manual of Mental Disorders (5th ed.). Copyright 2013 American Psychiatric Association.



DSM-5 Criteria for Substance Use Disorders

	DSM-IV Abuse ^a		DSM-IV Dependence ^b		DSM-5 Substance Use Disorders ^c	
Hazardous use	X	} ≥1 criterion	-	} ≥3 criteria	X	} ≥2 criteria
Social/interpersonal problems related to use	X		-		X	
Neglected major roles to use	X		-		X	
Legal problems	X		-		X	
Withdrawal ^d	-		X		X	
Tolerance	-		X		X	
Used larger amounts/longer	-		X		X	
Repeated attempts to quit/control use	-		X		X	
Much time spent using	-		X		X	
Physical/psychological problems related to use	-		X		X	
Activities given up to use	-		X		X	
Craving	-		-		X	



Tests for Dependence



Penn State Electronic Cigarette Dependence Index

Box 1. Penn State [Electronic] Cigarette Dependence Index

[For the Electronic Cigarette Dependence Index, substitute the underlined word with the words in square brackets]

1. How many cigarettes [times] per day do you usually smoke [use your electronic cigarette]?^a ([assume that one "time" consists of around 15 puffs or lasts around 10 minutes])
(Scoring: 0–4 times/day = 0, 5–9 = 1, 10–14 = 2, 15–19 = 3, 20–29 = 4, 30+ = 5)
2. On days that you can smoke [use your electronic cigarette] freely, how soon after you wake up do you smoke your first cigarette of the day [first use your electronic cigarette]?^a
(Scoring: 0–5 mins = 5, 6–15 = 4, 16–30 = 3, 31–60 = 2, 61–120 = 1, 121+ = 0)
3. Do you sometimes awaken at night to have a cigarette [use your electronic cigarette]?^b
(Scoring: Yes = 1, No = 0)
4. If yes, how many nights per week do you typically awaken to smoke [use your electronic cigarette]?^b
(Scoring: 0–1 nights = 0, 2–3 nights = 1, 4+ nights = 2)
5. Do you smoke [use an electronic cigarette] now because it is really hard to quit?^c
(Scoring: Yes = 1, No = 0)
6. Do you ever have strong cravings to smoke [use an electronic cigarette]?^c
(Scoring: Yes = 1, No = 0)
7. Over the past week, how strong have the urges to smoke [use an electronic cigarette] been?^d
(Scoring: None/Slight = 0, Moderate/Strong = 1, Very Strong/Extremely Strong = 2)
8. Is it hard to keep from smoking [using an electronic cigarette] in places where you are not supposed to?^e
(Scoring: Yes = 1, No = 0)
When you haven't used tobacco [an electronic cigarette] for a while or when you tried to stop smoking [using]...
9. Did you feel more irritable because you couldn't smoke [use an electronic cigarette]?^e
(Scoring: Yes = 1, No = 0)
10. Did you feel nervous, restless, or anxious because you couldn't smoke [use an electronic cigarette]?^e
(Scoring: Yes = 1, No = 0)

Total scoring: 0–3= not dependent, 4–8 low dependence, 9–12 medium dependence, 13+ = high dependence.

Foulds et al. Nicotine & Tobacco Research, 2015, 186–192. doi:10.1093/ntr/ntu204



Heaviness of Vaping Index

- Combines time to first e-cig use on awakening and number of daily sessions
- Based on Heaviness of Smoking Index (derived from Fagerstrom Test of Cigarette Dependence)



E-Cigarette Addiction Severity Index (EASI)

- Self-described addiction
 - “On a scale of 0 (not)—100% (extremely): How addicted to e-cigarettes do you think you are?”
- Correlates with cotinine levels in adolescents

Monitoring



Monitoring

- Self-report: TLFB
- Nicotine/cotinine testing
- UDS



Questions

