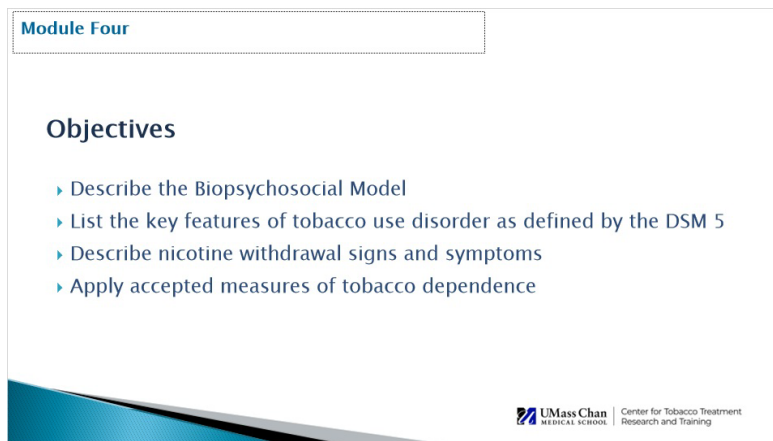


# Module 4: Describing Tobacco Use Disorder

## 1.1 Describing Tobacco Use Disorder



## 1.2 Objectives



## 1.3 Exercise

### Module Four

#### Exercise

- ▶ Read the vignette on the following slide.
- ▶ Think about ways that Anita is showing signs of tobacco use disorder.

## 1.4 Anita

### Module Four

#### Anita



*"When I run out of cigarettes, it doesn't matter if it's five degrees outside and I have to walk three extra blocks to an ATM for cash -- I stop whatever I'm doing, and I go buy a pack. I feel relief the minute I start peeling off the wrapper. When I light up and inhale, I feel like myself again. Smoking relaxes me. I love the taste, the smell, everything. This might sound weird, but cigarettes are my best friends.*

*The thing is, I'm not getting any younger. I've been coughing stuff up in the mornings, and my teeth are stained yellow. Last time I saw my doctor she told me I had bronchitis again and needed to quit. I ended up stopping for six days because I was so sick. As I got better, I started to miss smoking. I felt depressed. Like something very important was missing. I thought to myself, I'll just have one or two. I'll smoke less than I was before, and start going back to the gym. That idea failed. Since then I've tried to quit several times and I just can't seem to do it. For someone with a college degree, I feel like a real idiot. I'm still smoking a pack a day and I know I have bronchitis again. I can feel how clogged my lungs are. I cough all the time. I get out of breath going up a flight of stairs and I'm only thirty-eight.*

*As much as I think I need cigarettes in my life, I don't like what they're doing to me. I want to stop smoking. I'm embarrassed to admit it, but I need help with this."*

## 1.5 Brainstorm: How does Anita show signs of tobacco

### Module Four



**Brainstorm: How does Anita show signs of tobacco use disorder?**

## 1.6 Responses

### Module Four



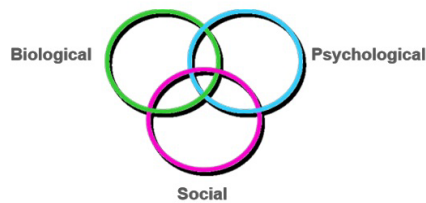
Here are some responses from other participants:

- She wants to stop, has made several attempts and has not yet been successful
- When she tries to cut down, she ends up smoking her usual amount
- Despite recognizing some health consequences she continues to smoke
- Making sure she has cigarettes around is a priority
- Smoking brings on a feeling of relief
- Cigarettes are like a friend and something is missing without them

## 1.7 Biopsychosocial

### Module Four

#### Tobacco Use Disorder: The "Biopsychosocial" Model



"Biopsychosocial" recognizes that health is impacted by a complex interaction among the biological, psychological, and social factors.

This will be further explored in Modules 5, 6 & 7

## 1.8 The US Surgeon General Described Tobacco Dependence in 1988

### Module Four

#### The US Surgeon General Described Tobacco Dependence in 1988

A report of the Surgeon General, 1988


Cigarettes and other products containing tobacco can lead to dependence

Nicotine is the drug in tobacco that causes dependence


The pharmacologic and behavioral processes that determine tobacco dependence are like those that determine dependence to other substances such as heroin and cocaine

## 1.9 “Substance Use Disorder” Instead of “Addiction”


**Module Four**



In 2022 the American Psychiatric Association released the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition Text Revision, also referred to as the DSM 5 TR.



The term “addiction” is no longer used because of the potential negative connotation and sometimes ambiguous definition.



We will follow this lead and use the more neutral term “substance/tobacco use disorder.”

**“Substance Use Disorder” Instead of “Addiction”**

American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.). <https://doi.org/10.1176/appi.books.9780890425787>


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## 1.10 Development of Tobacco Use Disorder:

**Module Four**

**Development of Tobacco Use Disorder: Risks for Adolescents**

- ▶ People who smoke start in their youth: 88% have their first cigarette before age 18, and 99% have their first cigarette by age 26.
- ▶ Symptoms of nicotine dependence can occur after the first few cigarettes.
- ▶ The adolescent's brain appears to be more responsive to nicotine's rewarding effects than the adult brain
- ▶ Studies show that nicotine vapes deliver similar nicotine levels to users as cigarettes
- ▶ Adolescents who smoke or vape may describe themselves as dependent.



DiFranza et al. Tobacco Control 2002;9:228-35; Tobacco Control 2000;9:313-319; USDHHS, 2012.

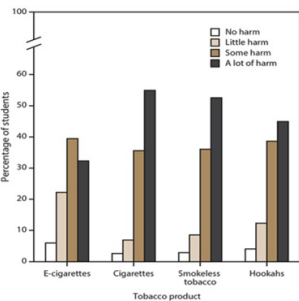
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## 1.11 Vaping Poses New Risk for Tobacco Use Disorder among Adolescents

**Module Four**

**Vaping Poses New Risk for Tobacco Use Disorder among Adolescents**

- ▶ Use of e-cigarettes among youth has been increasing as youth smoking rates have decreased.
- ▶ US adolescents start using e-cigarette use at young ages:
  - In 2018, 28.6% of lifetime e-cigarette users started use at 14 years or younger.
- ▶ Youth perceive vaping as being less harmful than other tobacco use.



Tobacco product	No harm	Little harm	Some harm	A lot of harm
E-cigarettes	~5%	~25%	~35%	~35%
Cigarettes	~5%	~5%	~35%	~55%
Smokeless tobacco	~5%	~10%	~35%	~50%
Hookahs	~5%	~15%	~40%	~40%

Wang TW, et al., 2019; Evans-Polce R, et al., 2020; Russel C, et al, 2020

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## 1.12 Why Do Youth Vape

### Module Four

#### Why Do Youth Vape?

Reason Given for E-Cig Use (Middle and High school students)	Ever Used E-Cigs	Current User E-Cig
I was curious about them	55.3%	56.1%
Friend/family member used them	30.8%	23.9%
Available in flavors	22.4%	22.3%
I can use them to do tricks	21.2%	22.0%
I can use them unnoticed	13.9%	14.5%
Peer pressure	10.7%	8.9%
Trying to quit other tobacco product	5.5%	2.8%

Data from 2019 NYTS. Wang et al, 2019

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## 1.13 Tobacco Use Disorder is a Chronic Condition

### Module Four

#### Tobacco Use Disorder is a Chronic Condition

- ▶ Biological, psychological and social factors all contribute to the initiation and maintenance of tobacco use
- ▶ Most users underestimate the risks to their health
- ▶ Over 2/3 of people who smoke want to stop
- ▶ Over half try to quit each year
- ▶ Most people who initially quit smoking relapse within days
- ▶ 75–80% relapse within six months
- ▶ In 2022, 9% of adults who smoke successfully quit

Surgeon General Report 2004 and 2000; Treating Tobacco Use and Dependence - Clinical Practice Guideline, 2000; Tobacco Control 14:1, 2005.; Babb, 2017

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## 1.14 Tobacco Use Disorder

### Module Four

#### Tobacco Use Disorder

“Substance Use Disorder” encompasses  
10 separate classes of drugs, one of which is **tobacco**.

Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, 2013  
Substance Use Disorders, p. 481

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## 1.15 Substance Use Disorder

### Module Four

Substance/Tobacco Use Disorder definition includes this essential feature:

**“...a cluster of cognitive, behavioral and physiological symptoms indicating that the individual continues using the substance despite significant substance–use related problems.”**

Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, 2013  
• Substance Use Disorders, p. 483

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## 1.16 Untitled Slide

### Module Four

#### Tobacco Use Disorder Diagnostic Criteria

Includes at least 2 of 11 items within a 12-month period:

1. Taken in larger amounts or over longer period of time than intended
2. Persistent desire or unsuccessful efforts to cut down or control use
3. Great deal of time spent to obtain or use
4. Craving or strong desire to use tobacco
5. Recurrent use resulting in failure to fulfill major role obligations
6. Continued use despite persistent or recurrent social or interpersonal problems exacerbated by effects of tobacco

\*DSM 5, p 571

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## 1.17 Tobacco Use Disorder

### Module Four

#### Tobacco Use Disorder: Diagnostic Criteria continued

7. Giving up or reducing important social, occupational, or recreational activities because of tobacco use
8. Recurrent use in situations in which it is physically hazardous
9. Continued use despite knowledge of having persistent or recurrent physical or psychological problem caused or exacerbated by tobacco use
10. Tolerance, defined as either:
  - Need for increased amount to achieve desired effect
  - Diminished effect with continued use of same amount
11. Withdrawal as manifested by either:
  - Characteristic withdrawal syndrome
  - Tobacco is used to relieve or avoid withdrawal symptoms

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## 1.18 Francine

### Module Four

#### Francine



*"My doctor says I have the beginning stages of emphysema. He and my husband say I have to quit smoking. I know I should, but I'll never be able to quit. I've been smoking 2 packs a day for 40 years. I've been enjoying smoking for such a long time, and I don't know how they expect me to just give them up. When I was young they didn't tell us cigarettes were bad for you. In fact it was very glamorous to smoke. I've tried to quit a few times over the years but never did. One year I did that Smokeout day, but I had such a headache and couldn't stand it – I didn't even make it in the afternoon. I never want to go through that again. Almost all my girlfriends smoke, and we've been playing cards together every week for years. I'm not giving that up. As it is, I can't play bingo anymore; they changed it to non-smoking. I don't know what to do. My breathing is getting bad. I know it's the smoking, but how can I ever quit?"*

## 1.19 Brainstorm: List at least 3 examples of DSM 5 Criteria

### Module Four



**Brainstorm: List at least 3 examples of DSM 5 Criteria from Francine's story**

## 1.20 Responses

### Module Four



**Here are some possible responses:**

- ❖ Persistent desire or unsuccessful efforts to cut down or control use:
  - She has made several quit attempts intending not to smoke again but has relapsed.
- ❖ Giving up or reducing important social, occupational or recreational activities because of tobacco use:
  - She has given up bingo because the venue is non-smoking
- ❖ Continued use despite knowledge of having persistent or recurrent physical or psychological problem caused or exacerbated by tobacco use:
  - She has emphysema, and her breathing is getting bad.
- ❖ Tolerance:
  - Able to smoke 2 packs per day with no nausea or dizziness
- ❖ Withdrawal:
  - Describes headache during a quit attempt

## 1.21 Key Characteristics of Withdrawal

### Module Four

#### Key Characteristics of Withdrawal



A withdrawal syndrome is a key feature of “physical” dependence



Some symptoms are more strongly related to relapse (e.g., craving, sadness)



There are individual differences in:

1. intensity of withdrawal
2. patterns in the timing of withdrawal

## 1.22 Tobacco Withdrawal Symptoms

### Module Four

#### Tobacco Withdrawal Symptoms Include:

- ▶ Irritability/frustration/anger
- ▶ Anxiety
- ▶ Difficulty concentrating
- ▶ Increased appetite/weight gain
- ▶ Restlessness/impatience
- ▶ Depressed mood/dysphoria/sadness
- ▶ Insomnia

Onset: **1-2 days**

Peak: **first 7 days**

Lessen: **2-4 weeks**

## 1.23 These criteria help determine if the symptoms are due to withdrawal

### Module Four

#### These criteria help determine if the symptoms are due to withdrawal

- ▶ Tobacco use for at least several weeks
- ▶ Presence of **≥ 4 withdrawal symptoms** within **24 hours** of stopping or reducing tobacco
- ▶ Symptoms are not due to a general medical condition or mental disorder
- ▶ Symptoms must cause clinically significant distress or impairment

## 1.24 Norman

### Module Four Norman



*"I feel like I'm ready to give up cigarettes. I started smoking after I started drinking, just once in a while at the bars, but I've been at a pack and a half a day for like 10 years. I'm really trying to quit. I thought quitting smoking would be easy compared to quitting drinking, but every time I try to quit, I get so anxious and depressed that I go back to smoking. Last time I quit, I gained like 15 pounds. I don't want that to happen again. Most of my friends still smoke, and I don't know how they'd react if I was to quit.*

*Last week, my boss told me I was taking too many breaks at work, but I can't help it, after a while, I just can't get any work done until I have a cigarette. I don't know what I'm going to do. Plus, for the past few months, I've been coughing like crazy in the morning, and sometimes my heart beats really fast right after I smoke. My problem is I've always been a worrier. I have this fear that I won't be able to get through any kind of tough situation without smoking. I mean, what will I use as a crutch?"*

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## 1.25 Brainstorm: Describe Norman's withdrawal symptoms

### Module Four



Brainstorm: Describe Norman's withdrawal symptoms

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## 1.26 Responses

### Module Four



Here are some possible responses:

- ❖ Feelings of anxiety and depression during last quit attempt
- ❖ Weight gain after quitting
- ❖ Inability to concentrate during the day when nicotine levels start to drop

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## 1.27 Measures of Nicotine Dependence Level

### Module Four

#### Measures of Nicotine Dependence Level

- ▶ In addition to the DSM 5 there are several accepted measures of nicotine dependence
- ▶ Some measures help with determining appropriate nicotine replacement dosing
- ▶ They also can be helpful as a guide to the behavioral support that may be most helpful

## 1.28 FTND and HSI

### Module Four

#### FTND and HSI

- ▶ Fagerstrom Test of Nicotine Dependence (FTND)
  - Standard tool for assessing dependence in adults
  - Score > 6 = high dependence (10 = max score)
- ▶ Heaviness of Smoking Index (HSI)
  - Subset of two questions from FTND correlate with overall score
  - High dependence=
    - Time to first cigarette (< 5 minutes)
    - Number of cigarettes per day (> 20 cigarettes per day)

## 1.29 FTND

### Module Four

The Fagerstrom Test for Nicotine Dependence

Place points for each question in the score column	0 Points	1 Point	2 Points	3 Points	Score
1. How soon after you wake do you smoke your first cigarette?	After 60 minutes	31-60 minutes	6-30 minutes	Within 5 minutes	
2. Do you find it difficult to refrain from smoking in places where it is forbidden, e.g. in church, library, or cinema, etc.?	No	Yes			
3. Which cigarette would you hate most to give up?	All others	The first one in the morning			
4. How many cigarettes do you smoke a day?	10 or less	11-20	21-30	31 or more	
5. Do you smoke more frequently during the first hours after waking than the rest of the day?	No	Yes			
6. Do you smoke if you are so ill that you are in bed most of the day?	No	Yes			
Total:					

#### Classification of dependence

0-2	Very low
3-4	Low
5	Moderate
6-7	High
8-10	Very high





## 1.30 Hooked on Nicotine Checklist (HONC)

### Module Four

#### Hooked on Nicotine Checklist (HONC)

- ▶ Developed and validated for use with adolescents
- ▶ Based on FTND
- ▶ Includes items that address withdrawal symptoms
- ▶ Adapted for use with youth who vape

DiFranza JR, et al, 2002

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## 1.31 Hooked on Nicotine Checklist

### Module Four

#### The Hooked on Nicotine Checklist

	NO	YES
1. Have you ever tried to quit, but couldn't?		
2. Do you smoke <u>now</u> because it is really hard to quit?		
3. Have you ever felt like you were addicted to tobacco?		
4. Do you ever have strong cravings to smoke?		
5. Have you ever felt like you really needed a cigarette?		
6. Is it hard to keep from smoking in places where you are not supposed to?		
When you haven't used tobacco for a while ... OR When you tried to stop smoking ...		
7. did you find it hard to concentrate because you couldn't smoke?		
8. did you feel more irritable because you couldn't smoke?		
9. did you feel a strong need or urge to smoke?		
10. did you feel nervous, restless or anxious because you couldn't smoke?		



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## 1.32 HONC can also be used with clients who vape

### Module Four

#### HONC—Vaping

HONC can also be used with clients who vape

	YES	NO
1) Have you ever tried to stop vaping, but couldn't?		
2) Do you vape <u>now</u> because it is really hard to quit?		
3) Have you ever felt like you were addicted to vaping?		
4) Do you ever have strong cravings to vape?		
5) Have you ever felt like you really needed to 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 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?		



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## 1.33 Penn State Electronic Cigarette Index (Promise-E)

### Module Four

#### Penn State Electronic Cigarette Index (Promise-E)

- ▶ Developed and validated for measuring dependence upon e-cigarettes
  - ▶ Items assess:
    - Times per day of use
    - Cravings
    - Withdrawal symptoms if unable to use
- <https://research.med.psu.edu/smoking/dependence-index/>

Foulds J, Veldheer S, Yingst J, et al. (2015).

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## 1.34 E-cig Index

### Module Four

#### Penn State Electronic Cigarette Index

1. How many times per day do you usually use your electronic cigarette? (assume that one "time" consists of around 15 puffs or lasts around 30 minutes) ..... times  
(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 use your electronic cigarette freely, how soon after you wake up do you first use your electronic cigarette? ..... minutes  
(Scoring: < 5 minutes = 5, 6-15 = 4, 16-30 = 3, 31-60 = 2, 61-120 = 1, 121+ = 0)
3. Do you sometimes awaken at night to use your electronic cigarette? \*  
(Scoring: Yes = 1, No = 0)
4. If yes, how many nights per week do you typically awaken to use your electronic cigarette? \*  
(Scoring: 0 = 1 night = 0, 2-3 nights = 1, 4+ nights = 2)
5. Do you use your electronic cigarette now because it is really hard to quit (using e-cigs)? \*  
(Scoring: Yes = 1, No = 0)
6. Do you ever have strong cravings to use your electronic cigarette? \*  
(Scoring: Yes = 1, No = 0)
7. Over the past week, how strong have the urges to use your electronic cigarette been? \*  
(Scoring: None/Slight = 0, Moderate/Strong = 1, Very Strong/Extremely Strong = 2)
8. Is it hard to keep from using your electronic cigarette in places where you are not supposed to? \*  
(Scoring: Yes = 1, No = 0)
9. When you haven't used an electronic cigarette for a while or when you tried to stop using.....  
Did you feel more irritable because you couldn't use your electronic cigarette? \*  
(Scoring: Yes = 1, No = 0)
10. Did you feel nervous, restless, or anxious because you couldn't use your electronic cigarette? \*  
(Scoring: Yes = 1, No = 0)
11. What is the concentration of nicotine in the liquid that you usually use in your electronic cigarette?  
(Answers can be accepted in either % nicotine or mg/ml. This does not contribute to the score but is often relevant to assessing dependence. Many e-cig users are unclear about the concentration.)  
Scoring: 0-3 = not dependent, 4-8 low dependence, 9-12 medium dependence, 13+ = high dependence  
\*From FTND/HIS, \*From Bower, \*From Hooked on Nicotine Checklist, \*From Fiddler



Penn State  
E-cig Index

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## 1.35 Severson's Smokeless Tobacco (ST) Dependence Scale

### Module Four

#### Severson's Smokeless Tobacco (ST) Dependence Scale

##### Asks about:

- Number of days a tin/pouch lasts
- Cravings when abstaining
- How soon after waking ST is used
- Anxious when abstaining
- Drowsy when abstaining
- Use more ST when worried
- Use more ST when rushed/busy
- Feel more alert when using ST

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## 1.36 Smokeless Dependence Scale

**Module Four**

**Severn Smokeless Tobacco Dependence Scale**  
(Short Form, 8 Items)

1. How many days does a tin or pouch last you?  
☐ less than one day ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ more than 7 days
2. Do you experience strong cravings for a dip/chew when you go more than 2 hours without one?  
☐ Yes  
☐ No  
☐ I never go more than 2 hours without one
3. How soon after you wake up do you use chew/snuff?  
☐ 0-5 minutes  
☐ 6-15 minutes  
☐ 16-30 minutes  
☐ 31-60 minutes  
☐ more than 60 minutes
4. When you go without a dip or chew do you find yourself getting anxious more quickly?  
☐ never ☐ seldom ☐ sometimes ☐ often ☐ always
5. When you go without a dip or chew do you find yourself getting drowsy more quickly?  
☐ never ☐ seldom ☐ sometimes ☐ often ☐ always
6. I use more snuff/chew when I am worried about something.  
☐ not at all ☐ a little ☐ quite a bit ☐ very much so
7. I use more snuff/chew when I am rushed and have little to do.  
☐ not at all ☐ a little ☐ quite a bit ☐ very much so
8. I get a definite lift and feel more alert when using snuff/chew.  
☐ not at all ☐ a little ☐ quite a bit ☐ very much so

From Herb Severson, Oregon Research Institute, 2003 WCTN

 [Smokeless Dependence Scale](#)

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## 1.37 Expired Carbon Monoxide Can Estimate the Amount of Daily Smoking

**Module Four**

**Expired Carbon Monoxide Can Estimate the Amount of Daily Smoking**

- ▶ Carbon Monoxide (CO) is measured in parts per million (ppm)
- ▶ CO estimates pack per day (ppd)
  - 15 ppm = 1/2 ppd
  - 20-25ppm = 1 ppd
  - >30 ppm = 1 1/2 - 2 ppd or deep inhaler
- ▶ Most CO will be cleared within 8 hours
- ▶ Provides bio-feedback
- ▶ May be a billable service
- ▶ Non-combustible forms of tobacco (vapes, oral) do not produce CO

<https://www.covita.net/wp-content/uploads/Smokerlyzer-Results-Handout.pdf>



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## 1.38 Cotinine is commonly used as biochemical validation of cessation during intervention studies

**Module Four**

**Cotinine is commonly used as biochemical validation of cessation during intervention studies**

- ▶ Nicotine is metabolized to cotinine
  - Half life of nicotine = 2 hrs
  - Half life of cotinine = 20 hrs
- ▶ Cotinine can be measured in saliva, blood, and urine
- ▶ Clinics focused on treating substance use disorders may often test clients for different substances, including tobacco

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## 1.39 When Conducting a Brief Assessment

### Module Four

#### When Conducting a Brief Assessment

- ▶ Ask the key questions:
  - How soon after waking do you use nicotine/tobacco?
  - How much nicotine/tobacco do you use per day?
    - Ask about the type of tobacco/nicotine product used by the client: cigarettes, vaping, nicotine pouches, oral chew, etc.
- ▶ Discuss how nicotine/tobacco use fits into the patient's life
  - Keep in mind DSM 5 criteria
- ▶ Ask about withdrawal symptoms experienced during times of abstinence

## 1.40 Summary

### Module Four

#### Summary

- ▶ The DSM 5 includes 11 criteria for Tobacco Use Disorder that include cognitive, behavioral and physiological symptoms
- ▶ Commonly used checklists for assessing TUD include
  - FTND and Heaviness of Smoking Index
  - HONC for smoking and vaping
  - Promise-E
  - Seversons Smokeless Tobacco Dependence Scale
- ▶ Expired Carbon Monoxide (CO) and Cotinine provide biological data related to tobacco use levels

## 1.41 Untitled Slide

### Module Four

#### Module 4 Required Quiz

To take the quiz, click on the 'course homepage' link below, it will take you to the course main homepage where you can click on the module quiz 'button' to start the quiz.

[Course homepage](#)

