Treating Tobacco Use Disorders: Evidence-Based Guidelines for Practitioners

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April 1, 2022

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Disclosure Information

- Presenter 1: Lori Karan, MD, DFASAM
  - No Disclosures
- Presenter 2: Michael Weaver, MD, DFASAM
  - No Disclosures

Learning Objectives

- Identify different tobacco products, including combustible cigarettes, smokeless products, and electronic nicotine delivery systems.
- Compare and contrast evidence-based behavioral and pharmacotherapy options for treatment of tobacco use disorder, including nicotine replacement products, varenicline, and bupropion.
- Discuss the management of patients with co-occurring psychiatric disorders, including the impact of smoking and stopping smoking.
- Discuss the management of patients with co-occurring substance use disorders

Case #1 SW

- 64 y/o Retired Railroad Worker
- Hospitalized for pneumonia complicating COPD pO2=65% when admitted to hospital 6mo ago
- Now, pO2 on room air is normal (98%), even as he continues to smoke
- SW lives independently
- He walks slowly due to back and knee ailments

Case #1 SW (cont 2)

- Family members and physicians repeatedly urge SW to quit smoking
- SW gets anxious and responds by changing the subject and avoiding the issue
- SW chain smokes; onset 16y/o, max 4ppd, now 1.5 ppd
- SW smokes within seconds of awakening
- SW gets up and leaves conversations to smoke, even when doing so is not socially appropriate

Case #1 SW (cont 3)

- SW did not smoke for a few days when he was ill.

- SW has tried smoking cessation books, classes, & groups, as well as nicotine gum and the patch

Case #1 SW

How do you assess the severity of SW's nicotine withdrawal and nicotine addiction?

What is the most appropriate level of care to treat SW?

Smoking Tobacco

- Cigarettes, cigars, pipes
- Many different harmful compounds
- Stimulant & relaxes
- Acute effects
  - Vasoconstriction
- Very short-acting, so high-frequency use
  - Very reinforcing

Smokeless tobacco

- Products
  - Chewing tobacco
  - “snuff”
  - Snus
- Used by 3.3% of U.S. population
  - Prevalence of use has not decreased like tobacco cigarette smoking
- Exposure to more nicotine & carcinogens than cigarettes

Electronic cigarettes

- Neither designed nor marketed for smoking cessation
- Intentionally attractive to youth with flavorings (bubblegum, etc.)
- Introduced in U.S. in 2006, only became regulated in U.S. in 2018
- Less harmful than tobacco, but more dangerous than air

DEAR SMOKING BAN,

blu ELECTRONIC CIGARETTE

Take back your freedom to smoke anywhere with blu electronic cigarettes. blu produces no smoke and no ash, only vapor, making it the smarter alternative to regular cigarettes. It's the most satisfying way to tell the smoking bans to kiss off. Okay, maybe the second-most satisfying way.

blu

New blu Smart Pack

blucigs.com

18+ only. CALIFORNIA PROPOSITION 65 Warning: This product contains nicotine, a chemical known to the state of California to cause birth defects or other reproductive harm.

Juul pods

- "pod mod" e-cigs introduced in 2015
  - 1 pod = 20 tobacco cigarettes (I pack)
- Used discreetly in places where smoking is forbidden
  - School bathrooms
  - Looks like a flash drive
  - Charges in USB port
- 1/5 of middle & high school students have seen Juul used in school

Psychiatric disorders & Nicotine

- Tobacco use is more prevalent & intense among psychiatric patients
- Up to 88% of patients with schizophrenia smoke
- 40% of patients with ADHD smoke
- 36% of all psychiatric patients smoke
- More difficulty quitting

- Higher rates of depression & anxiety among smokers
  - 59% of smokers have a lifetime history of depression
- Higher suicide rates
  - 2x higher risk in smokers

DSM-5 Tobacco Use Disorder
≥ 2 Criteria within 12 mo

1. Taken in larger amts or over a longer period of time than intended
2. Persistent desire or unsuccessful efforts to cut down or control use
3. A great deal of time is spent in activities necessary to obtain or use
4. Craving, or a strong desire or urge to use tobacco
5. Recurrent use ➔ failure to fulfill major role obligations (work, school, home)
6. Continued use despite social or interpersonal problems
7. Important social, occupational, or recreational activities reduced
8. Recurrent use when physically hazardous (i.e., smoking in bed)
9. Tobacco use is continued despite knowledge of physical or psychological problem exacerbated by tobacco

DSM-5 Tobacco Use Disorder
≥ 2 Criteria within 12 mo

10. Tolerance, as defined by either:
    a. A need for markedly ⇧ tobacco to achieve the desired effect
    b. A markedly ⇩ effect with continued use of the same amount

11. Withdrawal, as defined by either:
    a. Characteristic withdrawal syndrome
    b. Tobacco (or nicotine) is taken to relieve withdrawal sx

Assessing Severity: DSM-5 Problems

General DSM issues:

Measures are context-specific

No threshold to determine if a specific criteria is met

Nicotine vs other drugs:

1. Nicotine does not cause gross intoxication

   not socially acceptable ≠ behavioral disruption caused by intoxication

   Judgment is not worsened by nicotine use

   Less interference with role obligations & interpersonal relations

2. Dose escalation and tolerance are less important

Fagerstrom Test For Nicotine Dependence

Question	Score
How soon after you wake up do you smoke your first cigarette? <5 min ☐ 3 6-30 min ☐ 2 31-60 min ☐ 1 >60 min ☐ 0	0-3
Do you find it difficult to refrain from smoking in places where it is forbidden i.e., in church, at the library, in cinemas, etc? Yes ☐ 1 No ☐ 0	0-1
Which cigarette would you hate most to give up? 1st one of the morning ☐ 1 any other ☐ 0	0-1
How many cigarettes do you smoke? >31 ☐ 3 21-30 ☐ 2 11-20 ☐ 1 <10 ☐ 0	0-3
Do you smoke more frequently during the first hours after awakening for the day? Yes ☐ 1 No ☐ 0	0-1
Do you smoke when you are so ill that you are in bed most of the day? (I you never get sick, give the most likely response) Yes ☐ 1 No ☐ 0	0-1
TOTAL (10 points possible = most severe)	

Why is nicotine so addicting?

- Early onset
  - Often 1st drug used (including as a fetus)
- Rapid onset of action
- Fine-tunes behavior (both stimulates + relaxes)
- Rapid onset of action (cigarette enables ‘freebase’)
- Can self-adjust dose
- Numerous doses each day (1 pack = 200 puffs)
- Use linked with environmental and internal cues

Nicotine Pharmacotherapy

- Replacement
  - nicotine patches
  - nicotine gum
  - nicotine lozenges
  - nicotine inhaler (puffer)
  - nicotine nasal spray
- Antidepressants
  - Bupropion (Zyban)
- Partial agonists
  - Varenicline (Chantix)

Nicotine Patch

- Highest success rate of available nicotine replacement pharmacotherapies
- Nicoderm, Nicotrol, Habitrol, Prostep
- Most come in 3 strengths: 21, 14, & 7mg
- Start with 21mg patch for 6 wks, taper to 14 mg for 2-4 wks, finally 7 mg for 2-4 weeks
- Use new patch in different spot on upper trunk every 24 hrs

Nicotine Gum & Lozenges

- 2 or 4mg
- Gum: “chew and park”-- don’t chew like regular chewing gum
- Lozenge: let dissolve
- Requires basic pH for mucosal absorption (avoid coffee, etc.)
- Use as needed: i.e., 1 piece for 30 minutes every 1 to 2 hours to prevent nicotine withdrawal

Nicotine Inhaler (Puffer)

Assists with handling (hand-mouth ritual)
Do not deeply inhale
Nicotine is absorbed in mucosa & back of throat
Caution: bronchospasm

1 cartridge lasts about 20 min with continuous puffing
Each cartridge contains 10mg nicotine, delivers 4mg
Only 2mg is actually absorbed

https://www.accessdata.fda.gov/drugsatfda_docs/label/2019/020714s018lbl.pdf

Nicotine Nasal Spray

Prime pump (before first use)
1 spray in each nostril =2 sprays- 1mg nicotine

Nasal irritation
Can trigger cravings in patients with hx intranasal drug use

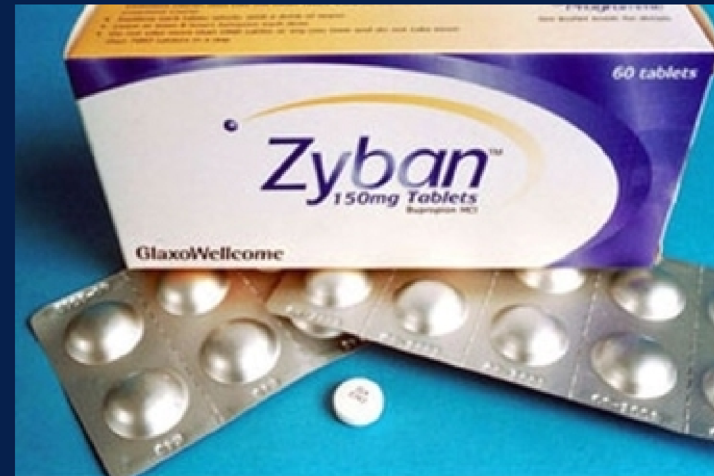
https://www.accessdata.fda.gov/drugsatfda_docs/label/2010/020385s010lbl.pdf

Varenicline (Chantix)

- Nicotine partial agonist
- Start pills 10 days before quit date
  - Increase dose
  - Take for 12-24 weeks
- Includes behavioral program
  - GetQuit.com

Bupropion (Zyban)

- Bupropion 150mg sustained release pills
- Works on dopamine & norepinephrine receptors in the brain to decrease withdrawal
- May cause insomnia, anxiety, or seizures
- Prescription includes behavioral program
- Start pills 10-14 days before “quit date”
- Take daily for 3 days, then twice a day
- Continue pills for 8 - 12 weeks



Efficacy of tobacco cessation products

There have been many studies and several meta-analyses of all products

Varenicline	• Higher rate of continuous tobacco abstinence • Compared to bupropion & nicotine patch
Nicotine replacement therapy	• Quit rates are similar with different products • Patch, gum, lozenge • Doubles chance of successful quitting
Bupropion	• Quit rates are comparable to nicotine patch

Plasma nicotine levels – contrast between cigarettes and NRT

Plasma nicotine (ng/ml)

25	
20	Cigarette
15	Spray
10	Gum/Inhalator/Tablet/lozenge
5	
0	Patch

0 10 20 30 40 50 60

Time (minutes)

Adapted from: Tobacco Advisory Group of the Royal College of Physicians 2000.

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Combination therapy

- Combinations are more effective than a single product at a time
- Patch + gum/lozenge

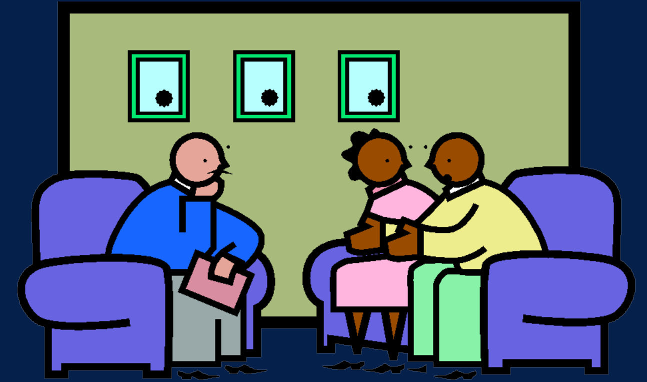
- Varenicline + NRT
  - Superior to either alone
  - Can start both together
    - Patch faster for withdrawal symptoms
- Varenicline + bupropion
  - Do not interact
  - Good for heavy smokers

Case #1 SW

- Severe Nicotine Addiction
  - Death imminent if smoking continues
  - Physically Dependent, Prior Tries & Unable to Quit

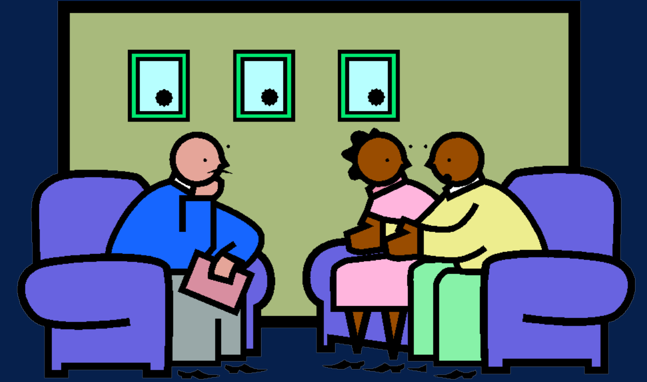
- Education & Intervention
- Refer to Residential Treatment
  - Intensive Pharmacotherapeutic Intervention
  - Intensive Behavioral & Addictions Rx

Case #2: TH



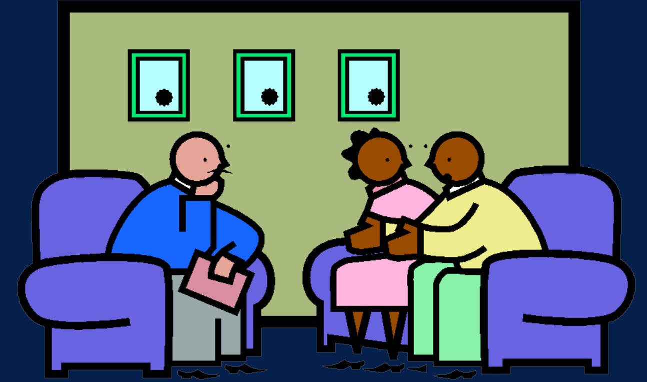
- *50* y/o Addiction Counselor - Residential Rx Center
- Rx Center to begin treating tobacco addiction along with all other addictions
- Staff cannot smell of smoke, nor smoke at work

Case #2: TH (cont 2)



- "Recovery" alcohol & pain meds x 23 yrs
- Always knew tobacco was not part of his disease
- Feels extra rapport when takes smoking breaks with pts
- Advised pts, who wanted to stop smoking, to wait > 1 yr "it is too hard to quit more than one thing at a time."

Case #2: TH (cont 3)



- Frequent bronchitis
- MD told to stop before permanent lung damage
- 40 lbs overweight, fears wt gain if quits cigs
- Angry that workplace is forcing him to quit smoking

Addiction Professionals: Issues

- **Staff may have belief system about Nicotine Addiction**
  - **“You can only deal with one addiction at a time.”**
  - **“You should wait a year before you attempt to stop.”**
  - **“Tobacco use disorders are less harmful than the immediate consequences of alcohol or illicit drug use.”**

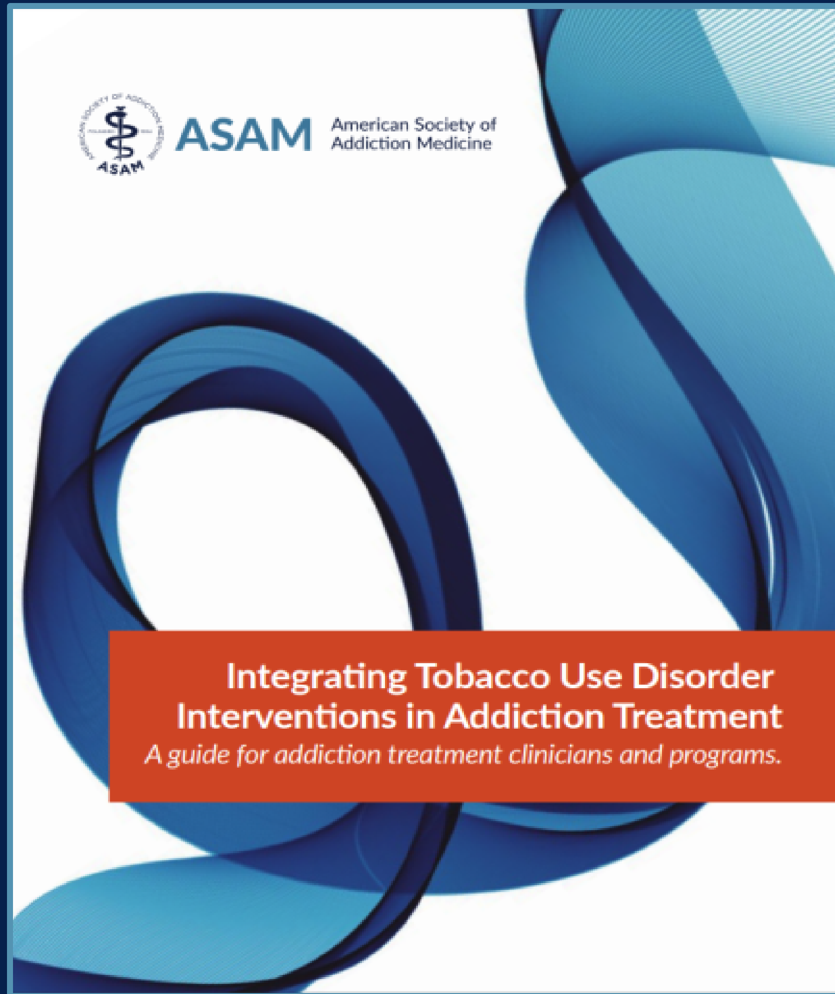
Addiction Professionals: Issues

- **Staff who are still smoking themselves:**
  - **May be reticent to diagnose and treat tobacco addiction**
  - **May be tempted to use smoking time as “milieu management”**
  - **May “feel sorry” for the patients and sabotage the patients’ treatment**

Addiction Professionals: Issues

- Leadership must recognize that TUD can no longer be ignored during prevention, diagnosis, and treatment of other addictions & mental illness
- Staff need to be trained in diagnosis and treatment of TUD
- All facility staff, including clinical and non-clinical support staff should not smell of tobacco
- All staff who want to quit should have access to pharmacotherapy & support for cessation

INTEGRATING TUD **TREATMENT** WITH OTHER SUD TREATMENT



SUMMARY OF RECOMMENDATIONS

1. Screen all patients for tobacco use disorder

2. Offer evidence-based treatment to all patients with tobacco use disorder

3. Use motivational and harm reduction strategies for patients ambivalent about quitting

4. Implement organizational policies to support treatment of tobacco use disorder

Takeaway Points

- Ask all patients about smoking, and also about electronic nicotine delivery systems and smokeless tobacco products
- Advise all patients to stop use of all nicotine/tobacco products
- Medications are very effective to help patients successfully quit
- Combinations of medications are better than monotherapy
- Stopping nicotine use improves recovery from other substances

References

- ASAM Quality Improvement Council. Integrating Tobacco Use Disorder Interventions in Addiction Treatment: A Guide for Addiction Treatment Clinicians and Programs, 2022
- Breland, A.B., Almond, L., Kienzle, J., et al: Targeting Tobacco in a Community-Based Addiction Recovery Cohort: Results from a Computerized, Brief, Randomized Intervention Trial. Contemporary Clinical Trials, 2014.
- Rigotti, N.A., Kruse, G.R., Livingstone-Banks, J., Hartmann-Boyce, J. Treatment of Tobacco Smoking: A Review. JAMA 2022; 327(6):566-577.
- Weaver, M.F., Breland, A.B., Spindle, T., Eissenberg, T.: Electronic cigarettes: a review of safety and clinical issues. Journal of Addiction Medicine, 8(4): 234-240, 2014.
- West R, et al.: Factors associated with the efficacy of smoking cessation treatments and predictors of smoking abstinence in EAGLES. Addiction 2018;113(8):1507-1516.

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Questions?

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