Beyond the Basics: Medications for Smoking Cessation

Housekeeping

- All participants muted upon entry
- Engage in chat
- Raise hand if you would like to unmute
- Meeting is being recorded
- Slides and recording link will be sent via email

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National Center for Health in Public Housing

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- The National Center for Health in Public Housing (NCHPH), a project of North American Management, is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number U30CS09734, a National Training and Technical Assistance Partner (NTTAP) for $2,006,400, and is 100% financed by this grant. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.
- The mission of the National Center for Health in Public Housing (NCHPH) is to strengthen the capacity of federally funded Public Housing Primary Care (PHPC) health centers and other health center grantees by providing training and a range of technical assistance.

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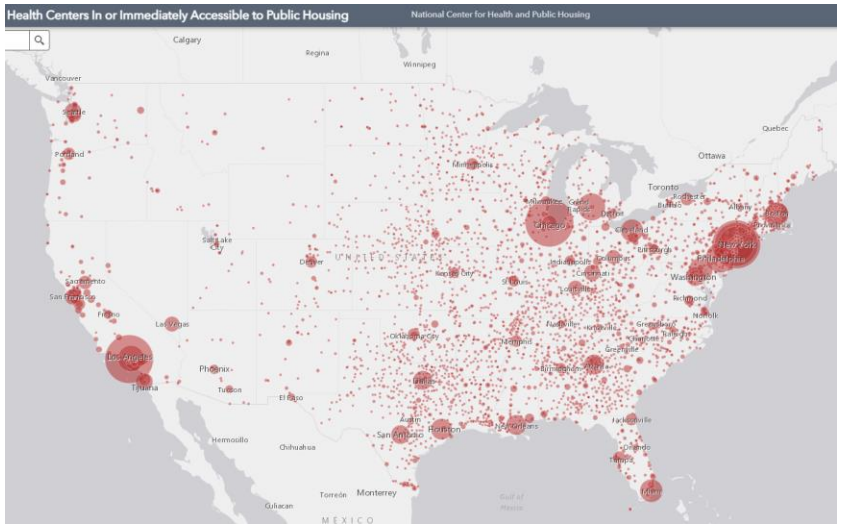
Health Centers Close to Public Housing

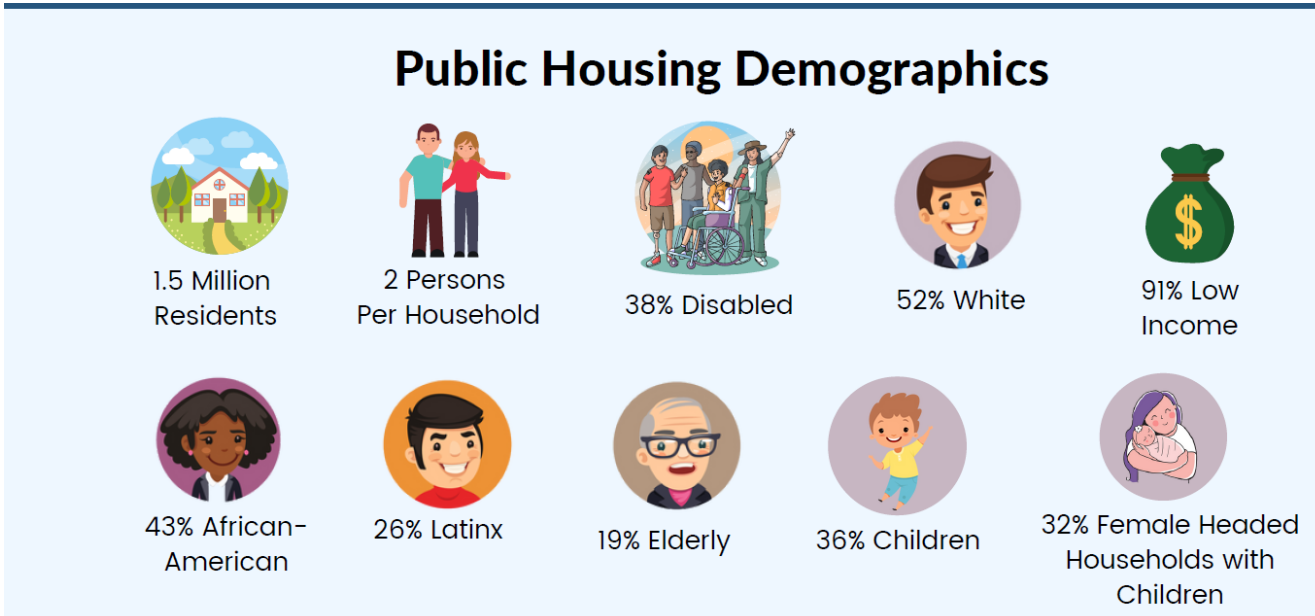
- 1,373 Federally Qualified Health Centers (FQHC) = **30 million patients**
- 485 FQHCs In or Immediately Accessible to Public Housing = **5.7 million patients**
- 108 Public Housing Primary Care (PHPC) = **911,683 patients**

Source: 2021 Health Center Data



Source: Health Centers in or Immediately Accessible to Public Housing Map

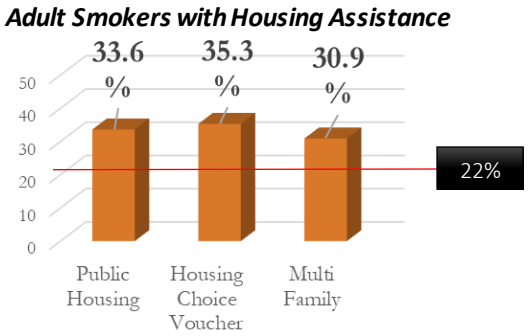
Public Housing Demographics



Source: [2022 HUD Resident Characteristics Report]

A Health Picture of HUD Assisted Adults, 2006 -2012

Adults in HUD-assisted housing have higher rates of chronic health conditions and are greater utilizers of health care than the general population.



Source: Helms, V. E., 2017, Sperling, J., & Steffen, B. L.

	HUD-Assisted	Low-income renters	All Adults
Fair/Poor Health	35.8%	24%	13.8%
Overweight/ Obese	71%	60%	64%
Disability	61%	42.8%	35.4%
Diabetes	17.6%	8.8%	9.5%
COPD	13.6%	8.4%	6.3%
Asthma	16.3%	13.5%	8.7%

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Health Center 2021 Diagnoses and Services Rendered

Mental Health Conditions and Substance Use Disorders

- Tobacco use disorder diagnoses
  - FQHCs**: 1,120,816 (3.7%)** Number of Patients
  - IOATs: **918,405 (16%)** Number of Patients
  - PHPCs: **32,161 (3.5%)** Number of Patients

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Medications for Cessation

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Pharmacy Partnership for Tobacco Cessation

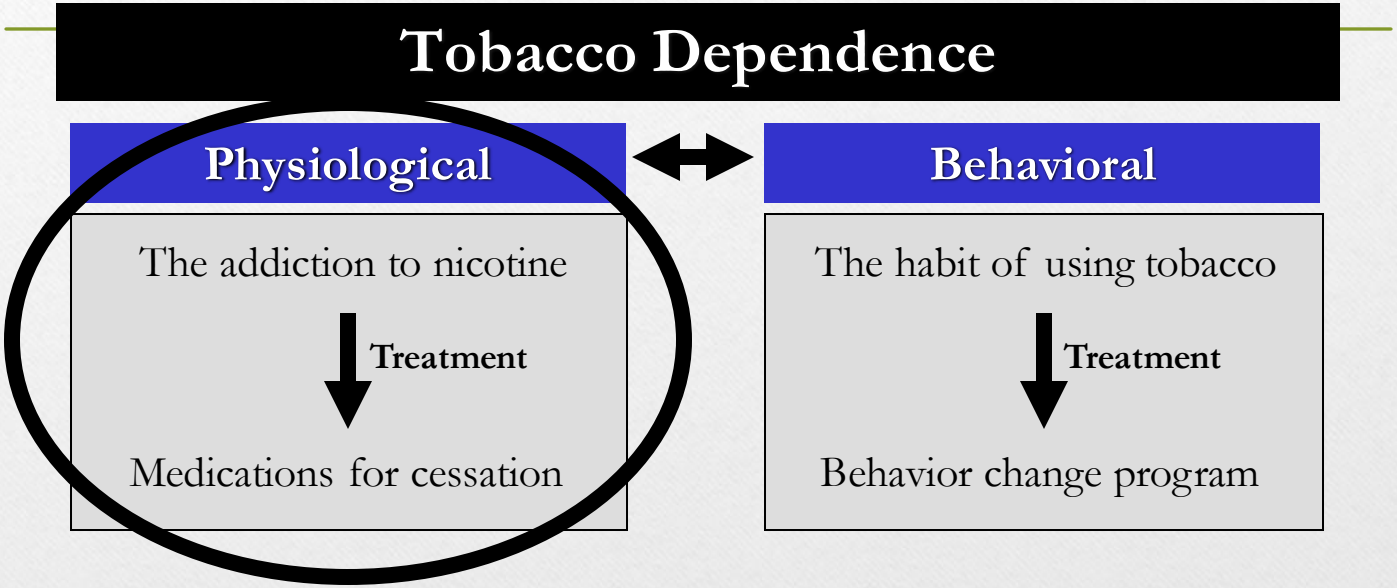
Objectives

Upon successful completion of this activity

participants should be able to:

- Recognize which of the three OTC cessation medications would be appropriate for a particular patient
- Comfortably refer patients who want to use one of the four prescription cessation medications
- Understand the drug interactions that exist between constituents in tobacco smoke and many commonly prescribed medications

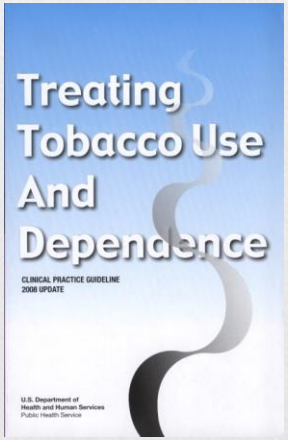
TOBACCO DEPENDENCE: A 2-PART PROBLEM



Treatment should address the physiological **and** the behavioral aspects of dependence.

PHARMACOTHERAPY

"Clinicians should encourage all patients attempting to quit to use effective medications for tobacco dependence treatment, except where contraindicated or for specific populations* for which there is insufficient evidence of effectiveness."



** Includes pregnant women, smokeless tobacco users, light smokers, and adolescents.*

Medications significantly improve success rates.

Currently available products

- Over-the-counter
  - Patch
  - Gum
  - Lozenge
- Prescription
  - Oral Inhaler
  - Nasal Inhaler
  - Bupropion
  - Varenicline

Nicotine Replacement Therapy: Why?

- Prevents withdrawal
- Eliminates the reinforcing effect of nicotine as administered through smoking
  - **Lower** levels
  - **Slower** delivery
- Gives the quitter the time to ***comfortably*** break the habit and psychological dependence

Nicotine Patch

Patch

- Transdermal delivery system
- 24/16 hour use
- Step down system
  - 21 mg.
  - 14 mg.
  - 7 mg.
- Easy to use, once a day administration

Heavy Smokers

- Brand 24/16 Hours
  - 21mg x 6wks, 14mg x 2wks, 7mg x 2wks
- Private Label
  - 21mg x 4wks, 14mg x 2wks, 7mg x 2wks

Light Smokers

- Brand (Less than 10/day)
  - 14mg x 6wks, 7mg x 2wks
- Private Label (Less than 10/day)
  - 14mg x 4wks, 7mg x 2wks

Very Light Smokers

- 5 cigarettes a day or less
  - NRT is generally not recommended
    - Use behavioral techniques
  - If quitter insists, only use lowest strength
  - Suggest gum or lozenge

Patch Patient Counseling

- Remove from pouch/Apply promptly
- Apply a new patch every day to a different, dry, clean, hairless place
  - Usually on upper portion of body
- Rotate sites over a seven day period
- Do not leave on for more than 24 hours
- Do not cut patches

Patch Side Effects

- Vivid dreams
- Localized skin reactions (rash)
  - Up to 50% of patients have mild form
  - Incidence higher with 24 hour products
  - Less than 5% discontinue therapy

Nicotine Gum

Gum

- Brand/Generic (Various flavors)
- Buccal absorption
- Sugarless resin (chicle) base
- Comes in:
  - 2mg
  - 4mg

Dosing

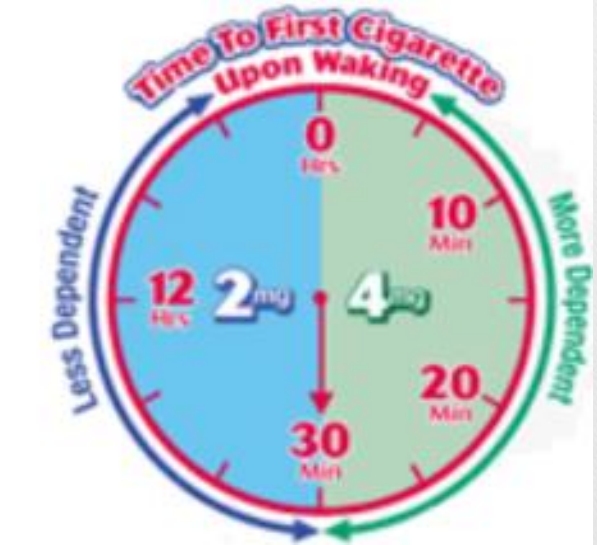
Dose based on the "time to first cigarette" (TTFC) as an indicator of nicotine dependence

Use the 2 mg gum/lozenge:

If first cigarette of the day is smoked more than 30 minutes after waking

Use the 4 mg gum/lozenge:

If first cigarette of the day is smoked within 30 minutes of waking



Dosing Schedule

- Same Schedule for 2mg and 4mg
- Weeks 1-6
  - 1 piece every hour on the hour
- Weeks 7-9
  - 1 piece every 2-4 hours
- Weeks 10-12
  - 1 piece every 4-8 hours

Proper Gum Technique

- *Do not Chew!!*
- Proper technique:
  - Activate slowly until "peppery taste" emerges
  - Then park between cheek and gum
  - When taste disappears, move to another spot and repeat
  - One piece is usually good for 30 minutes


Chew slowly
Stop chewing when you notice a peppery taste or tingle
Park between cheek & gum
Chew again when the taste or tingle fades

Gum Patient Counseling

- Must use on a regular, consistent basis throughout the day (at least 9 pieces)
- Use for a full three months with a fixed tapering schedule
- Do not use more than 24 piece a day
- Avoid eating or drinking with gum in mouth
- Additional pieces can be used PRN to deal with specific urges

Gum Precautions

- Incorrect use may lead to:
  - Mouth soreness
  - Dyspepsia, hiccups, etc.
  - Jaw ache
- May stick to dental work, dentures, and braces
- Contraindicated with TMJ

Nicotine Lozenge

Lozenge/Mini

- Brand/generic
- Buccal absorption
- Quick acting
- Various flavors
- Sugar free
- 2mg
- 4mg

Dosing

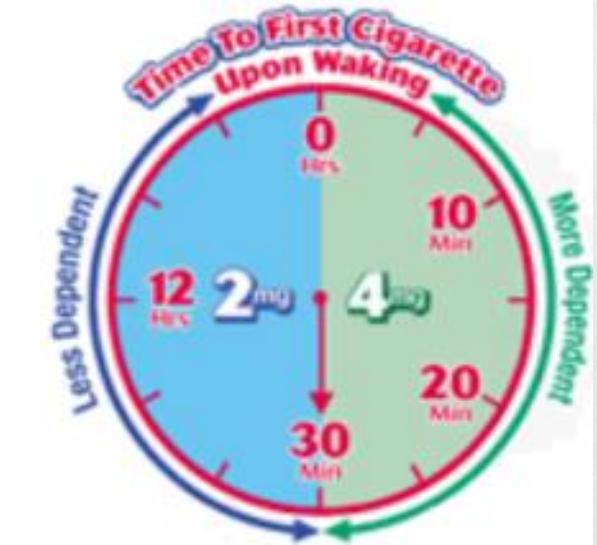
Dose based on the "time to first cigarette" (TTFC) as an indicator of nicotine dependence

Use the 2 mg gum/lozenge:

If first cigarette of the day is smoked more than 30 minutes after waking

Use the 4 mg gum/lozenge:

If first cigarette of the day is smoked within 30 minutes of waking



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- Weeks 10-12
  - 1 piece every 4-8 hours

Usage Instructions

- Place between cheek and gum
- Move occasionally
- Allow to dissolve slowly
  - Do not bite, chew or swallow
- One piece usually lasts 20-30 minutes

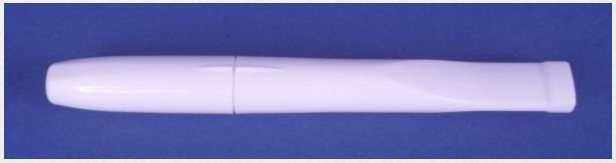
Label Extensions

- FDA changes for patch/gum/lozenge 1/14:
  - Can start NRT prior to Quit Day
  - Can stay on NRT even if there is a slip
  - Can extend NRT as long as needed

Oral Nicotine Inhaler

Oral Inhaler

- Two part mouth piece enclosing nicotine cartridge
- Cartridge = 10mg nicotine
- Mimics the oral aspect of smoking
- Use 6-16 cartridges/day puffing as needed for up to six months



DIRECTIONS for USE

- Press nicotine cartridge firmly into bottom of mouthpiece until it pops down into place

- Line up the markings on the mouthpiece again and push the two pieces back together so they fit tightly
- Twist top to misalign marks and secure unit

DIRECTIONS for USE (cont.)

- During inhalation, nicotine is vaporized and buccally absorbed
- Inhale into back of throat or puff in short breaths
- Nicotine in cartridges is depleted after about 20 minutes of active puffing
  - Cartridge does *not* have to be used all at once
  - Try different dosing schedules to find what works best
  - Open cartridge retains potency for 24 hours
- Mouthpiece is reusable; clean regularly with mild detergent

Side Effects

- Includes:
  - Mild irritation of the mouth or throat
  - Cough
  - Headache
  - Rhinitis
  - Dyspepsia
- Severity generally rated as mild
- Frequency declines with continued use

Nicotine Nasal Spray

Nasal Spray

- One metered spray contains 0.5mg nicotine
- One to two sprays in each nostril per hour, initially---increase as needed
- No more than 5 doses/hr. or 40 doses/day
- Use for eight weeks then taper for 4-6 wks

DIRECTIONS for USE

- Prime the pump (before first use)
  - Re-prime if spray not used for 24 hours
- Blow nose (if not clear)
- Tilt head back slightly and insert tip of bottle into nostril as far as comfortable
- Breathe through mouth, and spray once in each nostril
- Do not sniff or inhale while spraying

Precautions for NRT Use

- MI within two weeks
- Unstable angina
- Dysrhythmia
- Uncontrolled hypertension
- Pregnancy

Review all on a case-by-case basis. Risk of continued smoking may far outweigh the minimal risk of short term NRT use

Safety of NRT: Cardiac Patients

- In patients > 2 wks. post MI, no greater risk of CV death for those who use patch vs. placebo
- Inaccurate media reports caused confusion
- American College of Cardiology recommends that *all* smokers receive NRT even if CAD present

Joseph Am. NEJM 1996 335:1792-8 Joseph Am. 1996 JACC 29:1422-31

Safety of NRT cont.

- Smokers with CAD and myocardial ischemia underwent stress tests while smoking and on nicotine patch
  - Ischemia improved while on patch
  - No deaths even in patients who continued to smoke
- ***2008 Guideline concludes that there is no increased risk of heart disease with these products***

Mahmarian JJ. JACC 1997 30: 125-30, Clinical Practice Guideline for Treating Tobacco Use and Dependence, HHS, 2008, p.127

Bupropion

Bupropion (Wellbutrin)

- Formerly Zyban
  - May increase dopamine levels
  - Begin one week prior to quitting
  - 150mg Q/day x 3 then 150 BID
  - 7-10 weeks of therapy: no tapering

Bupropion (cont.)

- Side effects: Dry mouth, insomnia, agitation
  - Minimized by reducing dosage to once/day
  - Drug interactions:
    - Tricyclic antidepressants

      (lowers seizure threshold)
    - MAOI (hypertensive crisis)

CONTRAINDICATIONS

- Patients
  - With a seizure disorder
  - With a current/prior diagnosis of bulimia/anorexia nervosa
  - Patients undergoing abrupt discontinuation of alcohol, benzodiazepines, barbiturates and antiepileptic drugs
  - Patients taking MAO inhibitors
    - Within 14 days of initiating or discontinuing therapy

Varenicline

Varenicline/Chantix

- Approved May 2006
- Activates nicotine receptors allowing brain to think nicotine has arrived
- Reduces craving and withdrawal
- Also reduces effect of nicotine if someone does smoke
- Not approved for use with any under 18

Dosing

- Begin Therapy one week prior to quitting
  - 0.5mg/day for 3 days
  - 0.5mg B.I.D. for 3 days
  - 1mg B.I.D. for remainder of therapy
- Recommended for 12 weeks
- Additional 12 wks. if needed to stop relapse

Additional Information

- Take after eating and with glass of water
- Caution in use with renal insufficiency and during hemodialysis
- Adverse effects:
  - Nausea, vomiting, gas, dreams
- Pregnancy Category C

"EAGLES" Study

- 8,144 participants (4,116 with a psychiatric disorder)
- 140 multinational centers
- 24-week, double-blind; active and placebo-controlled:
  - **Varenicline:** standard dosing, 12 wks.
  - **Bupropion SR:** standard dosing, 12 wks.
  - **Nicotine patch:** 21 mg/day with standard taper, 12 wks.
  - **Placebo:** 12 wks.
- All arms: 13 counseling visits, 11 telephone calls
- Follow-up through 24 wks.; outcome = continuous abstinence

"EAGLES" = Evaluating Adverse Events in a Global Smoking Cessation Study

Anthenelli RM et al. Lancet 2016;387:2508-2520.

Results: Safety

Incidence of Moderate or Severe Neuropsychiatric Adverse Events

Patient cohort	Varenicline	Bupropion SR	Nicotine patch	Placebo
Non-psychiatric	1.3%	2.2%	2.5%	2.4%
Psychiatric	6.5%	6.7%	5.2%	4.9%

No significant differences in neuropsychiatric events by treatment arm

Results: Efficacy

Continuous abstinence

Patient cohort	Varenicline	Bupropion SR	Nicotine patch	Placebo
Non-psychiatric	25.5%	18.8%	18.5%	10.5%
Psychiatric	18.3%	13.7%	13.0%	8.3%

Highest efficacy with varenicline

Anthenelli RM et al. Lancet 2016;387:2508-2520.

COMBINATION THERAPIES

- **Combination NRT**
  - Long-acting formulation (patch)
    - Produces relatively constant levels of nicotine

    PLUS
  - Short-acting formulation (gum, lozenge, inhaler, nasal spray)
    - Allows for acute dose titration as needed for withdrawal symptoms
- **Bupropion SR + NRT (equivocal results)**
- **Safety and efficacy of combination of Varenicline with NRT or bupropion has not been established.**

COMBINATION THERAPIES (cont'd)

- These combinations have enough evidence to be "recommended"
  - Long-term patch (>14 weeks) + *ad lib* 2 mg gum
  - Long-term patch (>14 weeks) + *ad lib* nasal spray
  - Standard-dose patch + oral inhaler
  - Standard-dose patch + bupropion

Other Products

- No clinical evidence of efficacy:
  - Nicotine Lollypops
  - Nicotine Lip Balm
  - Nicotine Water
  - Nicotine Hand Gel
  - Herbal Remedies

Vaping???

NO, NO,

and NO!

An Additional Consideration

DRUG INTERACTIONS with SMOKING

Drugs that may have a *decreased effect* due to induction of CYP1A2:

- Bendamustine
- Caffeine
- Clozapine
- Erlotinib
- Fluvoxamine
- Haloperidol
- Olanzapine
- Riociguat
- Ropinirole
- Tacrine
- Tasimelteon
- Theophylline
- Irinotecan (clearance increased and systemic exposure decreased, due to increased glucuronidation of its active metabolite)

Smoking cessation will reverse these effects.

DRUG INTERACTIONS with SMOKING

- Clinically significant interactions result from the combustion products of tobacco smoke, **not from nicotine**.
- Hydrocarbons in the smoke may enhance the metabolism of other drugs
- Changes in smoking status might alter the clinical response to the treatment of a wide variety of conditions.
- Drug interactions with smoking should be considered when patients start smoking, quit smoking, or markedly alter their levels of smoking.

The best way to quit smoking is to combine a smoking cessation medication with a behavior modification program

For More Information:

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Pharmacy Partnership for Tobacco Cessation

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412 481-7767

Upcoming Webinar

- **Busting the Myths: Smoking Cessation for Individuals with Psychiatric Disorders**
- **Date:** September 21, 2022 from 12:00 – 1:00 pm EDT
- **Learning objectives:**
  - Learn how to refute the myths surrounding tobacco use, quitting and individuals with behavioral health issues
  - Examine the challenges posed by individuals with behavioral health issues who want to quit smoking
  - Provide effective strategies for clinicians to employ with this population when designing a cessation program

- **Registration Link:** https://us06web.zoom.us/webinar/register/WN_sN7FdnINTuKxEBIado_Uwg

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Q & A

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Thank you!