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County of Los Angeles Department of Public Health



# Medications for Smoking Treatment

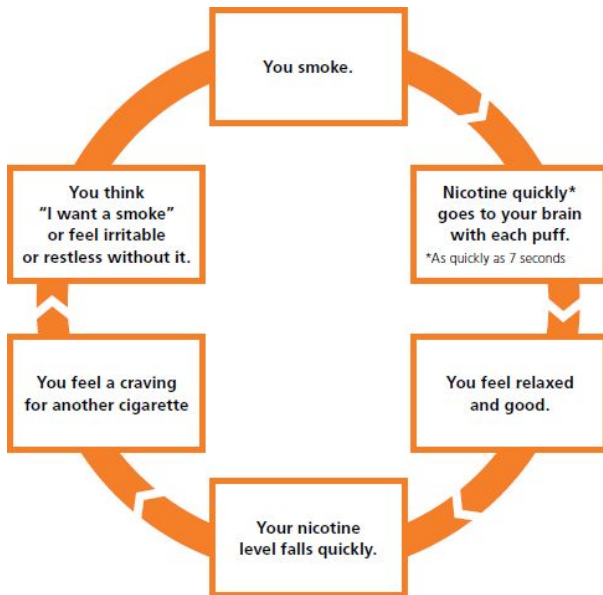


COUNTY OF LOS ANGELES  
**Public Health**

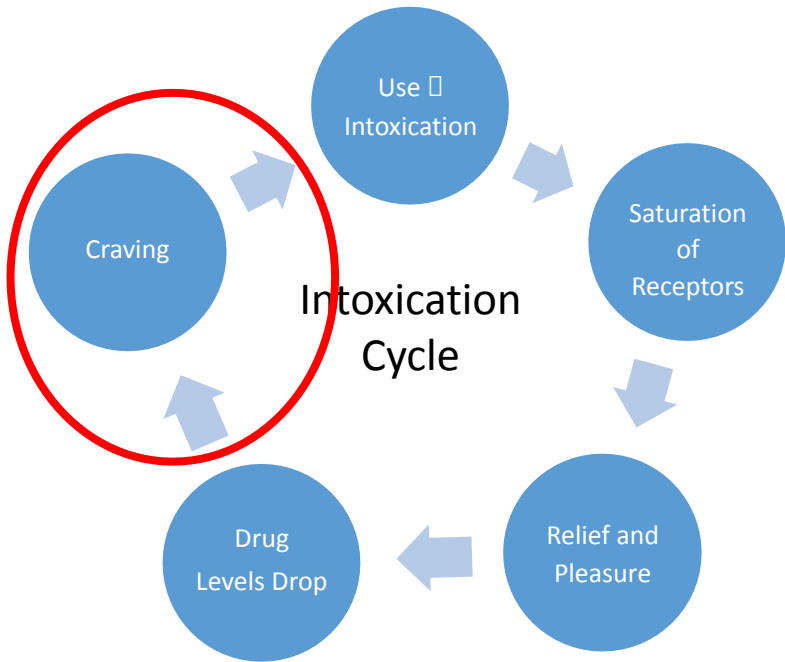
SUBSTANCE ABUSE SERVICE HELPLINE  
24/7 **1.844.804.7500**

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No disclosures



<https://www.quitplan.com/assets/documents/quitguide-english.pdf>



# Providers Have the Opportunity to Ask and Act

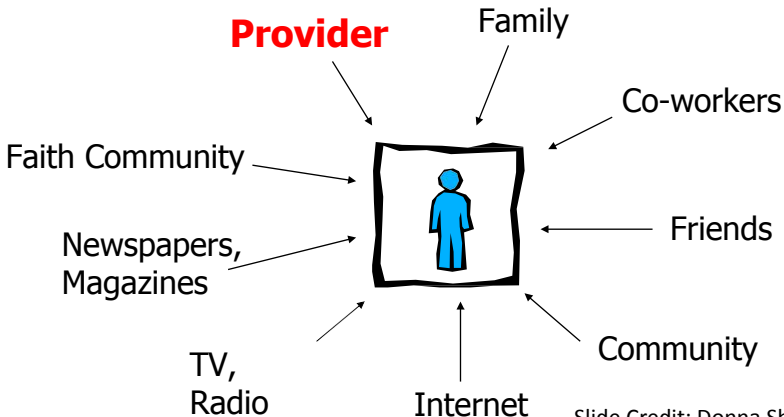
- 70% of tobacco users want to quit
- Without assistance only 5% are able to quit
- Most tobacco users try to quit on their own; more than 95% relapse
- Physicians using evidence-based programs can more than double the quit rates

*Ending the Tobacco Problem: A Blueprint for the Nation.*  
PHS Clinical Practice Guideline: *Treating Tobacco Use and Dependence: 2008 Update*

Slide Credit: American Academy of Family Physicians

# ROLE OF THE HEALTH CARE TEAM

## Multiple Influences on a Tobacco User



Assisted quit rates at one yr are 10-30%

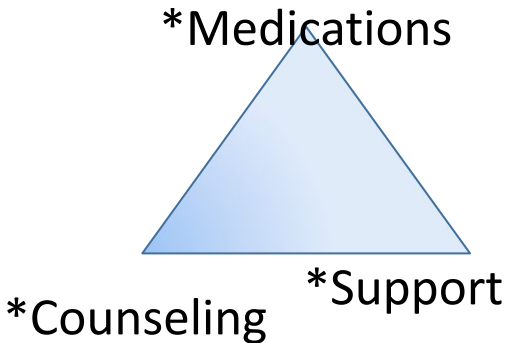
Slide Credit: Donna Shelley,  
MD, MPH, Columbia University

# Tobacco Cessation Strategies

Slide Credit: Chad Morris, PhD  
– Behavioral Health &  
Wellness Program



# Core Components of Smoking Cessation



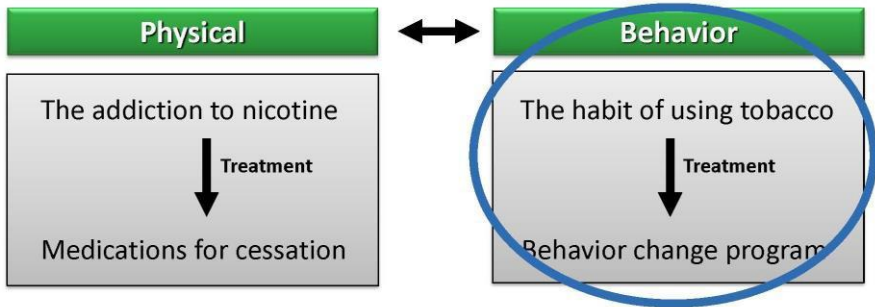
\*When appropriate

Source: <https://www.samhsa.gov/treatment>



# Tobacco Dependence Has Two Parts

**Tobacco dependence is a 2-part problem**



**Treatment should address both the addiction  
and the habit.**

Slide Credit: Chad Morris, PhD – Behavioral Health & Wellness Program

*Courtesy of the University of California, San Francisco*



# Behavior Change Interventions

- Screening, Assessment, Intervention, & Referral
- Cognitive-Behavioral Therapy
- Physician Advice
- Individual counseling
  - > 4 sessions
  - > 10 minutes
- Psycho-educational groups
- Peer support
- Age-tailored self-help materials
- Referral to quitlines



Slide Credit: Chad Morris,  
PhD – Behavioral Health  
& Wellness Program



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# Medications for tobacco use disorder\*

Nicotine replacement

Bupropion

Varenicline

\*paired with psychosocial support interventions when needed

Slide credit: Hilary Connery, M.D.

# Smoking Cessation

A Report of the Surgeon General



U.S. Department of Health and Human Services

# PHARMACOLOGIC PRODUCT GUIDE: FDA-Approved Medications for Smoking Cessation

PRODUCT	NICOTINE REPLACEMENT THERAPY (NRT) FORMULATIONS					BUPROPION SR	VARENICLINE
	GUM	LOZENGE	TRANSDERMAL PATCH	NASAL SPRAY	ORAL INHALER		
	Nicorette®, Generic OTC 2 mg, 4 mg original, cinnamon, fruit, mint	Nicorette®, Generic Nicorette® Mini OTC 2 mg, 4 mg, cherry, mint	NicoDerm CQ®, Generic OTC (NicoDerm CQ, generic) 7 mg, 14 mg, 21 mg (24-hr release)	Nicotrol NS® Rx Metered spray 10 mg/mL nicotine solution	Nicotrol Inhaler® Rx 10 mg cartridge delivers 4 mg inhaled vapor	Zyban®, Generic Rx 150 mg sustained-release tablet	Chantrel® Rx 0.5 mg, 1 mg tablet
PRECAUTIONS	<ul style="list-style-type: none"> <li>Recent (≤ 2 weeks) myocardial infarction</li> <li>Serious underlying arrhythmias</li> <li>Serious or worsening angina pectoris</li> <li>Temporomandibular joint disease</li> <li>Pregnancy<sup>a</sup> and breastfeeding</li> <li>Adolescents (&lt;18 years)</li> </ul>	<ul style="list-style-type: none"> <li>Recent (≤ 2 weeks) myocardial infarction</li> <li>Serious underlying arrhythmias</li> <li>Serious or worsening angina pectoris</li> <li>Pregnancy<sup>a</sup> and breastfeeding</li> <li>Adolescents (&lt;18 years)</li> </ul>	<ul style="list-style-type: none"> <li>Recent (≤ 2 weeks) myocardial infarction</li> <li>Serious underlying arrhythmias</li> <li>Serious or worsening angina pectoris</li> <li>Pregnancy<sup>a</sup> and breastfeeding</li> <li>Adolescents (&lt;18 years)</li> </ul>	<ul style="list-style-type: none"> <li>Recent (≤ 2 weeks) myocardial infarction</li> <li>Serious underlying arrhythmias</li> <li>Serious or worsening angina pectoris</li> <li>Underlying chronic nasal disorders (rhinitis, nasal polyps, sinusitis)</li> <li>Severe reactive airway disease</li> <li>Pregnancy<sup>a</sup> and breastfeeding</li> <li>Adolescents (&lt;18 years)</li> </ul>	<ul style="list-style-type: none"> <li>Recent (≤ 2 weeks) myocardial infarction</li> <li>Serious underlying arrhythmias</li> <li>Serious or worsening angina pectoris</li> <li>Bronchospastic disease</li> <li>Pregnancy<sup>a</sup> and breastfeeding</li> <li>Adolescents (&lt;18 years)</li> </ul>	<ul style="list-style-type: none"> <li>Concomitant therapy with medications/conditions known to lower the seizure threshold</li> <li>Hepatic impairment</li> <li>Pregnancy<sup>a</sup> and breastfeeding</li> <li>Adolescents (&lt;18 years)</li> <li>Treatment-emergent neuropsychiatric symptoms<sup>d</sup></li> </ul>	<ul style="list-style-type: none"> <li>Severe renal impairment (dosage adjustment is necessary)</li> <li>Pregnancy<sup>a</sup> and breastfeeding</li> <li>Adolescents (&lt;18 years)</li> <li>Treatment-emergent neuropsychiatric symptoms<sup>d</sup></li> </ul>
DOSE	<p>1st cigarette ≤30 minutes after waking: 4 mg</p> <p>1st cigarette &gt;30 minutes after waking: 2 mg</p> <p>Weeks 1-6: 1 piece q 1-2 hours</p> <p>Weeks 7-9: 1 piece q 2-4 hours</p> <p>Weeks 10-12: 1 piece q 4-8 hours</p> <ul style="list-style-type: none"> <li>Maximum, 24 pieces/day</li> <li>Chew each piece slowly</li> <li>Park between cheek and gum when peppy or tingling sensation appears (~15-30 chews)</li> <li>Resume chewing when tingle fades</li> <li>Repeat chew/park steps until most of the nicotine is gone (tingle does not return; generally 30 min)</li> <li>Park in different areas of mouth</li> <li>No food or beverages 15 minutes before or during use</li> <li>Duration: up to 12 weeks</li> </ul>	<p>1st cigarette ≤30 minutes after waking: 4 mg</p> <p>1st cigarette &gt;30 minutes after waking: 2 mg</p> <p>Weeks 1-6: 1 lozenge q 1-2 hours</p> <p>Weeks 7-9: 1 lozenge q 2-4 hours</p> <p>Weeks 10-12: 1 lozenge q 4-8 hours</p> <ul style="list-style-type: none"> <li>Maximum, 20 lozenges/day</li> <li>Allow to dissolve slowly (20-30 minutes)</li> <li>Nicotine release may cause a warm, tingling sensation</li> <li>Do not chew or swallow</li> <li>Occasionally rotate to different areas of the mouth</li> <li>No food or beverages 15 minutes before or during use</li> <li>Duration: up to 12 weeks</li> </ul>	<p>&gt;10 cigarettes/day: 21 mg/day x 4-6 weeks 14 mg/day x 2 weeks 7 mg/day x 2 weeks</p> <p>≤10 cigarettes/day: 14 mg/day x 6 weeks 7 mg/day x 2 weeks</p> <ul style="list-style-type: none"> <li>Rotate patch application site daily; do not apply a new patch to the same skin site for at least one week</li> <li>May wear patch for 16 hours if patient experiences sleep disturbances (remove at bedtime)</li> <li>Duration: 8-10 weeks</li> </ul>	<p>1-2 doses/hour (8-40 doses/day)</p> <p>One dose = 2 sprays (one in each nostril); each spray delivers 0.5 mg of nicotine to the nasal mucosa</p> <ul style="list-style-type: none"> <li>Maximum - 5 doses/hour or - 40 doses/day</li> <li>For best results, initially use at least 8 doses/day</li> <li>Do not sniff, swallow, or inhale through the nose as the spray is being administered</li> <li>Duration: 3 months</li> </ul>	<p>6-16 cartridges/day</p> <p>Individualize dosing; initially use 1 cartridge q 1-2 hours</p> <ul style="list-style-type: none"> <li>Best effects with continuous puffing for 20 minutes</li> <li>Initially use at least 6 cartridges/day</li> <li>Nicotine in cartridge is depleted after 20 minutes of active puffing</li> <li>Inhale into back of throat or puff in short breaths</li> <li>Do NOT inhale into the lungs (like a cigarette) but "puff" as if lighting a pipe</li> <li>Open cartridge retains potency for 24 hours</li> <li>No food or beverages 15 minutes before or during use</li> <li>Duration: 3-6 months</li> </ul>	<p>150 mg po q AM x 3 days, then 150 mg po bid</p> <ul style="list-style-type: none"> <li>Do not exceed 300 mg/day</li> <li>Begin therapy 1-2 weeks prior to quit date</li> <li>Allow at least 8 hours between doses</li> <li>Avoid bedtime dosing to minimize insomnia</li> <li>Dose tapering is not necessary</li> <li>Duration: 7-12 weeks, with maintenance up to 6 months in selected patients</li> </ul>	<p>Days 1-3: 0.5 mg po q AM</p> <p>Days 4-7: 0.5 mg po bid</p> <p>Weeks 2-12: 1 mg po bid</p> <ul style="list-style-type: none"> <li>Begin therapy 1 week prior to quit date</li> <li>Take dose after eating and with a full glass of water</li> <li>Dose tapering is not necessary</li> <li>Dosing adjustment is necessary for patients with severe renal impairment</li> <li>Duration: 12 weeks; an additional 12-week course may be used in selected patients</li> <li>May initiate up to 35 days before target quit date OR may reduce smoking over a 12-week period of treatment prior to quitting and continue treatment for an additional 12 weeks</li> </ul>

[https://www.aafp.org/dam/AAFP/documents/patient\\_care/tobacco/pharmacologic-guide.pdf](https://www.aafp.org/dam/AAFP/documents/patient_care/tobacco/pharmacologic-guide.pdf)

© Randy Glasbergen.



**“I’m prescribing a patch to help you quit smoking. Wear it over your mouth.”**

Slide credit: Hilary Connery, M.D.



## **Factors to Consider When Choosing a Medication Strategy**

- ☐ Patient preference
- ☐ Clinician familiarity with the medications
- ☐ Contraindications for selected patients
- ☐ Previous patient experiences with a specific agent (positive or negative)
- ☐ Patient characteristics (concern about weight gain, history of depression)

# NRT patch

- 7-21 mg available
- Produces steady nicotine levels which reduces cravings and withdrawal symptoms
- Take off at night (nightmares), skin irritation
- Have gum by bedside for early awakenings and before shower, put patch on after shower
- Easily comes off with sweat – have pts prepared with surgical tape and spare patches
- Combine with gum/lozenge for breakthrough cravings (recommended)

Slide credit: Hilary Connery, M.D.

# NRT gum or lozenge

- 2 – 4 mg; replacement boxes cheaper than starter kits
- “chew and park” method – nicotine absorbed through cheek mucosa – “peppery” taste
- Some peak effects but less than inhaled
- Lozenges also available OTC in 2-4 mg
- Inhalers and nasal spray prescription only, disadvantages are more adverse events with spray and failure to break behavioral cues with inhaler. Anticipated to be covered by Medi-Cal, but not currently on formulary for DHS/DMH.

## Figure 6: Nicotine Pharmacodynamics

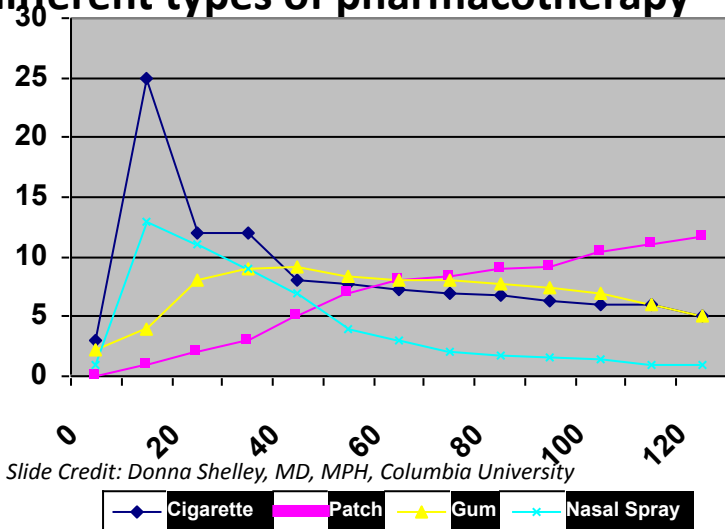
Nicotine binds to receptors in the brain and other sites in the body



**Possesses stimulant and sedative properties**

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# Plasma nicotine levels after a cigarette vs. different types of pharmacotherapy



# Bupropion XL (Zyban, Wellbutrin)

- Also an antidepressant, improves probability of quit success, may reduce weight gain
- Contraindicated in those with seizure disorder or predisposition to seizures (active bulimia nervosa) and also with bipolar I disorder patients
- Begin 1- 2 weeks before quit date: 150 mg daily x 3 days, then increase as tolerated to 300mg daily
- Warn about “jitters,” insomnia, dry mouth
- Maintenance - efficacious as maintenance medication for 6 months post-cessation
- Can combine with NRT safely

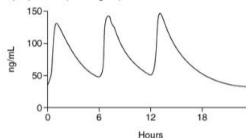
*Evins AE et al. (2007) J Clin Psychopharmacol. 27(4):380-6*

Slide credit: Hilary Connery, M.D.

# Bupropion formulations: IR, SR and XR

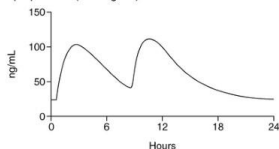
## IR: Thrice daily

Bupropion IR (100 mg tid)



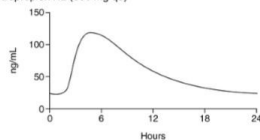
## SR: Twice daily

Bupropion SR (150 mg bid)



## XR: Once daily

Bupropion XL (300 mg qd)



<sup>4</sup>Data from GlaxoSmithKline, Research Triangle Park, N.C.  
Abbreviations: IR = immediate-release, SR = sustained-release  
XL = extended-release.

Fava M, et al. 15 years of clinical experience with bupropion HCl: from bupropion to bupropion SR to bupropion XL. Primary care companion to the Journal of clinical psychiatry. 2005;7(3):106-13.



PSYCHOPHARMACOLOGY  
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# Bupropion Pharmacokinetics

- The parent drug has a half-life of 8 to 10 hours and is transformed to three active metabolites:
  - Hydroxybupropion, which is the major metabolite
  - Threohydrobupropion
  - Erythrohydrobupropion
- These metabolites all have half-lives of around 24 hours or more and accumulate to a greater extent than the parent drug.
- CYP 2B6 is responsible for the conversion of bupropion to hydroxybupropion . The mechanisms responsible for the conversion of bupropion to its other two major

Fava M, et al. 15 years of clinical experience with bupropion HCl: from bupropion to bupropion SR to bupropion XL. Primary care companion to the Journal of clinical psychiatry. 2005;7(3):106-13.



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<https://psychopharmacologyinstitute.com/antidepressants/bupropion-psychopharmacology/>



# Bupropion Cautions

## Precautions

- Concomitant therapy with medications/conditions known to lower the seizure threshold
- Hepatic impairment
- Pregnancy and breastfeeding
- Adolescents (<18 years)
- Treatment-emergent neuropsychiatric symptoms (BOXED WARNING REMOVED 12/2016)

## Contraindications

- Seizure disorder
- Concomitant bupropion (e.g., Wellbutrin) therapy
- Current or prior diagnosis of bulimia or anorexia nervosa
- Simultaneous abrupt discontinuation of alcohol or sedatives like benzodiazepines
- MAO inhibitors in preceding 14 days; concurrent use of reversible MAO inhibitors

# Varenicline (Chantix)

- Partial agonist at the  $\alpha 4\beta 2$  nicotinic cholinergic receptors
- Provides mild activation while blocking nicotine from being able to activate receptor
- Abrupt discontinuation can result in mild withdrawal syndrome
- Most effective cessation agent when used as monotherapy
- Begin 1 week before quit date:
  - Days 1 – 3: 0.5 mg once daily
  - Days 4 – 7: 0.5 mg twice daily
  - Day 8 – End of treatment: 1 mg BID
- 12-24 weeks; nausea, insomnia, HA

Slide credit: Hilary Connery, M.D.

# Varenicline Precautions

- Severe renal impairment (dosage adjustment is necessary)
- Pregnancy and breastfeeding
- Adolescents (<18 years)
- Treatment-emergent neuropsychiatric symptoms (BOXED WARNING REMOVED 12/2016)

# Varenicline Side Effects

- Nausea
- Sleep disturbances (insomnia, abnormal/vivid dreams)
- Headache
- Flatulence
- Constipation
- Taste alteration
- Neuropsychiatric symptoms (rare)

# Varenicline Cardiovascular Risk

- Meta-analysis of 14 double-blind randomized controlled trials, n=8216. (Singh et al 2011)
  - Varenicline was associated with an increased risk of serious adverse cardiovascular events compared to placebo (1.06% vs 0.82%). OR: 1.72.
    - Too few deaths to compare mortality
- Meta-analysis of 22 double-blind randomized controlled trials, n=9232. (Prochaska and Hilton 2012)
  - Varenicline was associated with an increased risk of serious adverse cardiovascular events compared to placebo (0.63% vs 0.47%).
    - Neither clinically or statically significant
- Cohort study: Denmark 2007-2010, n=17,926 (Svanstrom et al 2012)
  - 57 major cardiovascular events (6.9 cases per 1000 person years)
    - vs 60 events in patients treated with bupropion
      - Acute coronary syndrome, ischemic stroke and cardiovascular death.
  - Varenicline was not associated with increased risk of major cardiovascular events in patients with or without a history of cardiovascular disease

[www.fda.gov/safety](http://www.fda.gov/safety)

# Varenicline Psychiatric

- **Events** Prospective trials have not reported increased incidence of psychiatric adverse events other than sleep disturbance.
  - However, Smokers with major mental illness have been excluded from most large prospective trials to date

**[12-16-2016]** Based on a U.S. Food and Drug Administration (FDA) review of a large clinical trial that we required the drug companies to conduct,<sup>1</sup> we have determined the risk of serious side effects on mood, behavior, or thinking with the stop-smoking medicines Chantix (varenicline) and Zyban (bupropion) is **lower than previously suspected**.

The risk of these mental health side effects is **still present**, especially in those currently being treated for mental illnesses such as depression, anxiety disorders, or schizophrenia, or who have been treated for mental illnesses in the past.

However, most people who had these side effects **did not have serious consequences** such as hospitalization. **The results of the trial confirm that the benefits of stopping smoking outweigh the risks of these medicines.**

Keating and Lyseng-Williamson 2010, Yousefi et al 2011, Ahmed 2011, MacSuihne et al 2010, Pachas et al 2012, Knibbs and Tsoi 2011, Forcen et al 2012, Tonstad et al 2010, Cahill et al 2009, Moore et al 2010, Garza et al 2011, Bolliger et al 2011, Els et al 2011, Cerimele and Durango 2012,



## FDA Updates and Press Announcements on Nitrosamine in Varenicline (Chantix)



### Drug Safety and Availability

[Information about Nitrosamine Impurities in Medications](#)[Drug Alerts and Statements](#)[Medication Guides](#)[Drug Safety Communications](#)

### 9/17/2021: UPDATE - Pfizer again expands voluntary Chantix recall

**Update [9/17/2021]** FDA is alerting patients and health care professionals that Pfizer is expanding its voluntary [recall](#) to include all lots of varenicline (Chantix) 0.5 mg and 1 mg tablets. Pfizer is recalling these lots due to the presence of unacceptable N-nitroso-varenicline levels.

To lessen the impact to patients from a drug shortage due to this ongoing recall, FDA will not object to certain manufacturers distributing varenicline tablets containing N-nitroso-varenicline above FDA's acceptable intake limit of 37 ng per day but below the interim acceptable intake limit of 185 ng per day until the impurity can be eliminated or reduced to acceptable levels.

Content current as of:  
09/17/2021

**Regulated Product(s)**  
Drugs

**Topic(s)**  
Safety - Issues, Errors, and Problems

The FDA has approved the first generic version of varenicline. Developed by Par Pharmaceutical, which is part of Endo International, the generic varenicline tablet was approved August 11, 2021.

FDA will not object to certain manufacturers distributing varenicline tablets with below the interim acceptable nitrosamine intake limit

<http://www.fda.gov/drugs/drug-safety-and-availability/fda-updates-and-press-announcements-nitrosamine-varenicline-chantix>

# During Pregnancy

- **Psychotherapy** remains first-line
- No evidence of perinatal harms related to NRT use among pregnant women, although studies examining rare harms are limited
- Conventional wisdom is that NRT is safer than smoking.

Patnode, C. D., Henderson, J. T., Thompson, J. H., Senger, C. A., Fortmann, S. P., & Whitlock, E. P. (2015). Behavioral Counseling and Pharmacotherapy Interventions for Tobacco Cessation in Adults, Including Pregnant Women: A Review of Reviews for the US Preventive Services Task Force Interventions for Smoking Cessation. *Annals of internal medicine*, 163(8), 608-621.



# During Pregnancy

- The metabolism nicotine is increased in pregnancy and NRT can become less effective at standard doses.
- Varenicline and bupropion metabolism is not affected

Coleman, T., Chamberlain, C., Davey, M. A., Cooper, S. E., & Leonardi-Bee, J. (2012). Pharmacological interventions for promoting smoking cessation during pregnancy. *Cochrane Database Syst Rev*, 9(9).

# During Pregnancy

- There are insufficient data to support the use of varenicline and/or bupropion for smoking cessation during pregnancy

Patnode, C. D., Henderson, J. T., Thompson, J. H., Senger, C. A., Fortmann, S. P., & Whitlock, E. P. (2015). Behavioral Counseling and Pharmacotherapy Interventions for Tobacco Cessation in Adults, Including Pregnant Women: A Review of Reviews for the US Preventive Services Task Force Interventions for Smoking Cessation. *Annals of internal medicine*, 163(8), 608-621.

# After Pregnancy

- The use of **nicotine replacement therapy** while **breastfeeding** is safer than continuing smoking as it reduces infant exposure to cigarette smoke
- Lactated nicotine is ~50 times less than maternal exposure

Dempsey DA, Benowitz NL. Risks and benefits of nicotine to aid smoking cessation in pregnancy. Drug Saf 2001;24(4):277-322.

# After Pregnancy

- Bupropion & metabolites are present in small quantities in the breast milk of lactating women.
- Unknown whether varenicline is secreted in human breast milk

Haas, J. S., Kaplan, C. P., Barenboim, D., Jacob, P. I. I. I., & Benowitz, N. L. (2004). Bupropion in breast milk: an exposure assessment for potential treatment to prevent post-partum tobacco use. *Tobacco control*, 13(1), 52-56.

Pang, E., & Stern, M. (2014). Providing support to patients who wish to quit smoking. *Prescriber*, 25(7), 22-26.

# Patients With Mental Illness

- Most will need medication
- May need higher doses, longer duration of treatment and combination of medications
- Patients with bipolar disorder should only receive bupropion if on mood stabilizer
- Each agent is effective for those with schizophrenia

PHS Clinical Practice Guideline: *Treating Tobacco Use and Dependence: 2008 Update*  
Signal Behavioral Health Network and the Colorado State Tobacco Education & Prevention Partnership (STEPP).  
*Smoking Cessation for Persons with Mental Illness: A Toolkit for Health Providers*. 2009

# Smoking and psychotropics

- Polycyclic aromatic hydrocarbons induce hepatic enzymes to increase metabolism of many categories of medication, including antipsychotics, antidepressants and anxiolytics

*Desai, Seabolt and Jann. 2001 CNS Drugs, 15, 469-494.*

# Smoking and psychotropics

P450 1A2 isoenzyme particularly affected:

**haloperidol**

**perphenazine**

**chlorpromazine**

**fluphenazine**

**clozapine**

**olanzapine**

**ziprasidone**

amitriptyline

clomipramine

imipramine

duloxetine

mirtazapine

ropinirole ALL

methylxanthines

[http://www.psychresidentonline.com/CYP450\\_drug\\_interactions.htm](http://www.psychresidentonline.com/CYP450_drug_interactions.htm) – Accessed 9/10/11 at 12:00pm

# Medication interactions with smoking and smoking cessation



Health

- Smoking interacts with both psychiatric and non-psychiatric medications commonly used by people with mental illness.
- Medication levels can vary if someone starts or stops smoking, or if they change how much they smoke.
- Some people may need dose adjustment when quitting or reducing smoking or when resuming smoking following abstinence.
- Interactions are caused by components of tobacco smoke – not nicotine – and nicotine replacement therapy will not affect changes in medication levels caused by smoking cessation.
- Interactions are often the result of tobacco smoke inducing cytochrome P450 enzymes in the liver, affecting absorption, distribution, metabolism or elimination of the medication.

The table on the following pages summarises possible interactions between common medications and smoking or smoking cessation as described in guidance developed by the former Hunter New England Area Health Service, Mersey Care NHS Trust, UK and Regents University, California.

<https://www.health.nsw.gov.au/tobacco/publications/tool-14-medication-intera.pdf>

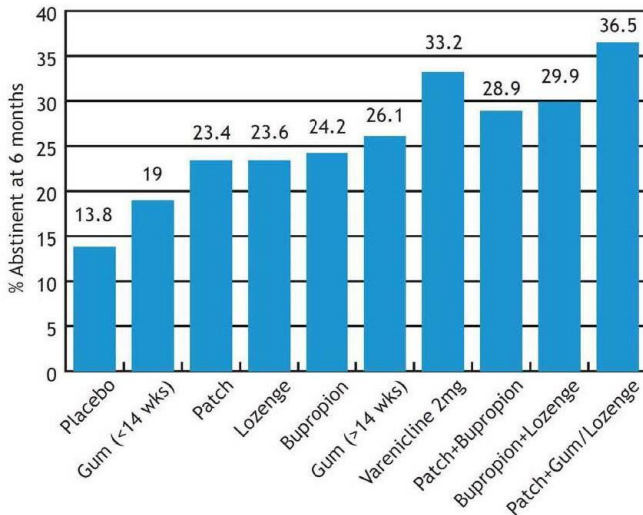


# Quitting in Rehab?

- Stopping smoking during first year of substance use treatment predicted alcohol and drug treatment outcomes:
  - 1 year: 14.1% smokers stopped, 10.7% of the non-smokers started.
  - Smokers who stopped were more likely in remission from SUD, OR 2.4 (year 1 data).

*Tsoh, et al. Drug and alcohol dependence 114.2 (2011): 110-118.*

**FIGURE 1. EFFICACY OF MEDICATIONS FOR SMOKING CESSATION**<sup>6,9,12-1</sup>



United States Department of Veterans Affairs. Primary Care & Tobacco Cessation Handbook. Washington, DC : U.S. Department of Veterans Affairs, Veterans Health Administration, 2014. Retrieved from <https://pulsesearch.princeton.edu/catalog/9567271> - Accessed 12/1/2015.

# Recommended Medication Strategy

Non-Daily tobacco product user - offer prn nicotine replacement therapy

<p>If 2 or fewer cigarettes or equivalents during a typical smoking episode:</p> <p><input type="checkbox"/> Nicotine Gum or Lozenge 2mg, take up to 5x/d prn smoking urge</p>	<p>If 3 or more cigarettes or equivalents during a typical smoking episode:</p> <p><input type="checkbox"/> Nicotine Gum or Lozenge 4mg, take up to 5x/d prn smoking urge</p>
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Smoking 1/4 ppd (corresponds to 8 or fewer nicotine cigarettes or equivalents daily):

<p><b>Start with:</b></p> <p><input type="checkbox"/> Nicotine Patch 7mg / 24 hour, apply to bare skin in the morning and take off at bedtime</p>	<p><b>Combine with:</b></p> <p><input type="checkbox"/> Nicotine Gum or Lozenge 2mg, take up to 5x/d prn smoking urge</p>	<p><b>If patient interested in an additional agent that can help treat depression and mitigate weight gain, add:</b></p> <p><input type="checkbox"/> Bupropion XL 150mg daily for three days, then 300mg daily thereafter</p>
<p><b>Or if the patient has not responded to or tolerated nicotine patches in the past, or declines nicotine patches:</b></p>		
<p><input type="checkbox"/> Varenicline 1mg, take ½ tab daily x3d, then ½ tab BID x4d, then 1 tab BID thereafter</p>	<p><input type="checkbox"/> Nicotine Gum or Lozenge 2mg, take up to 5x/d prn smoking urge</p>	<p><input type="checkbox"/> Bupropion XL 150mg daily for three days, then 300mg daily thereafter</p>

# Recommended Medication

Smoking **1/2 ppd** (corresponds to 9-15 nicotine cigarettes or equivalents daily):

Start with:	Combine with:	If patient interested in an additional agent that can help treat depression and mitigate weight gain, add:
<input type="checkbox"/> Nicotine Patch 14mg / 24 hour, apply to bare skin in the morning and take off at bedtime	<input type="checkbox"/> Nicotine Gum or Lozenge 2mg or 4mg take up to 5x/d prn smoking urge	<input type="checkbox"/> Bupropion XL 150mg daily for three days, then 300mg daily thereafter
<b>Or if the patient has not responded to or tolerated nicotine patches in the past, or declines nicotine patches:</b>		
<input type="checkbox"/> Varenicline 1mg, take ½ tab daily x3d, then ½ tab BID x4d, then 1 tab BID thereafter	<input type="checkbox"/> Nicotine Gum or Lozenge 2mg or 4mg take up to 5x/d prn smoking urge	<input type="checkbox"/> Bupropion XL 150mg daily for three days, then 300mg daily thereafter

Smoking **1 ppd** (corresponds to 16-20 nicotine cigarettes or equivalents daily):

Start with:	Combine with:	If patient interested in an additional agent that can help treat depression and mitigate weight gain, add:
<input type="checkbox"/> Nicotine Patch 21mg / 24 hour, apply to bare skin in the morning and take off at bedtime	<input type="checkbox"/> Nicotine Gum or Lozenge 4mg take up to 5x/d prn smoking urge	<input type="checkbox"/> Bupropion XL 150mg daily for three days, then 300mg daily thereafter
<b>Or if the patient has not responded to or tolerated nicotine patches in the past, or declines nicotine patches:</b>		
<input type="checkbox"/> Varenicline 1mg, take ½ tab daily x3d, then ½ tab BID x4d, then 1 tab BID thereafter	<input type="checkbox"/> Nicotine Gum or Lozenge 4mg take up to 5x/d prn smoking urge	<input type="checkbox"/> Bupropion XL 150mg daily for three days, then 300mg daily thereafter

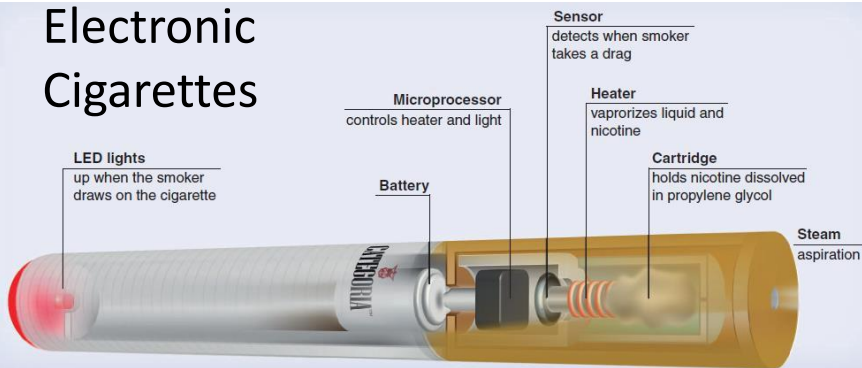
- Smoking **>1 ppd** (corresponds **>20** nicotine cigarettes or equivalents daily):
  - ☐ If the patient is taking nicotine patches, should prescribe additional patches for tobacco product users who use greater than 1 ppd or the equivalent in tobacco products to match or exceed their daily tobacco consumption. There are no dose adjustments for varenicline or bupropion for heavy tobacco product users – dose as 1ppd smoker.

# MB: Smoking Cessation Treatment

- Would you recommend MB use vaping / e-Cigarettes as a tool to quit?



# Electronic Cigarettes



## Electronic cigarette contains:

Propylene glycol, glycerin, nicotine and food flavoring

## Traditional cigarette contains:

Nicotine, benzene, formaldehyde, lead, tar, methanol, hydrogen cyanide, butane, ammonia, chloroform, carbon monoxide, acetone, nitrosamines, aluminum, carbon dioxide, cadmium, arsenic, ethanol, vinyl chloride, radon, +3500 more chemicals and +50 known carcinogens

The American Cancer Society is awaiting further research on this topic, and has not taken a position on whether electronic cigarettes should be banned from the US market.

—cancer.org, Last Revised: 09/09/2013

Caponnetto et al 2012,

# THE LANCET

## Respiratory Medicine

Volume 4, Issue 2, February 2016, Pages 116-128



### Articles

## E-cigarettes and smoking cessation in real-world and clinical settings: a systematic review and meta-analysis

Sara Kalkhoran MD <sup>a</sup>, Prof Stanton A Glantz PhD <sup>a, b</sup>  

E-cigarettes are associated with significantly less quitting among smokers.

Kalkhoran, S., & Glantz, S. A. (2016). E-cigarettes and smoking cessation in real-world and clinical settings: a systematic review and meta-analysis. *The Lancet Respiratory Medicine*, 4(2), 116-128.

# Resources: DO's and DON'Ts

- [www.smokefree.gov](http://www.smokefree.gov)
- <http://www.nicotine-anonymous.org/>
- <http://smokingcessationleadership.ucsf.edu/BehavioralHealth.htm>
- **DON'T recommend:**
  - “light” cigarettes or “natural” cigarettes
  - Smokeless tobacco (carcinogenic, just as addictive)
  - SNUS: harm reduction vs. marketing for nicotine addiction?
    - PLoS Med. 2007 Jul;4(7):e185.
  - E-cigarettes: antifreeze, expensive, not proven safe or effective Int J Gen Med. 2011 Feb 1;4:115-20.



# PERSISTENCE



# THANK YOU!

# Questions?

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Interested in more? Come to:

- ASAM Annual Meeting • CSAM Annual Meeting • AAAP Annual Meeting  
(Florida in April 2022!) (San Diego in Summer 2022!) (Virtual! Dec 2021)

<http://www.asam.org>

<http://csam-asam.org>

<http://www.aaap.org>