



Addressing Tobacco Use

Tuesday, July 20th, 2021



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Indigenous Land Acknowledgement



- We respectfully acknowledge that we live and work in territories where Indigenous nations and Tribal groups are traditional stewards of the land.
- Please join us in supporting efforts to affirm Tribal sovereignty across what is now known as California, and in displaying respect and gratitude for Indigenous people.
- We honor and recognize the original peoples of this land throughout California. We understand our healing is interconnected as we work to support and uplift our collective communities

The use of affirming language inspires hope and advances recovery.

LANGUAGE MATTERS.

Words have power.

PEOPLE FIRST.

The ATTC Network uses affirming language to promote the promises of recovery by advancing evidence-based and culturally informed practices.



ATTC

Addiction Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Smoking Cessation

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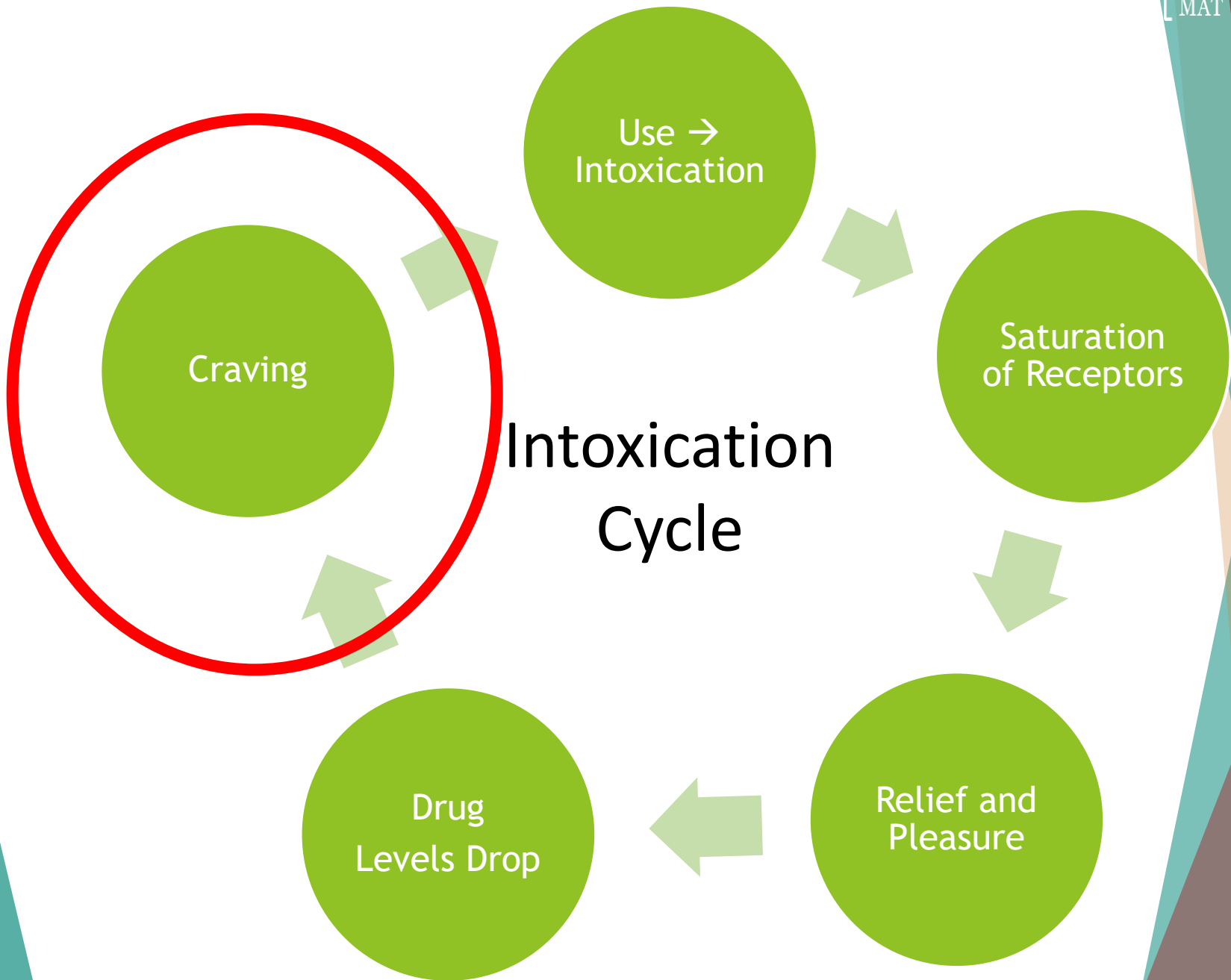
UCLA Department of Family Medicine



Disclosures

There are no relevant financial relationships with ACCME-defined commercial interests for anyone who was in control of the content of this activity.







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

Slide Credit: American Academy of Family Physicians

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



Core Components of Smoking Cessation

***Medications**



***Counseling**

***Support**

*When appropriate

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

<https://www.nobutts.org/>



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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

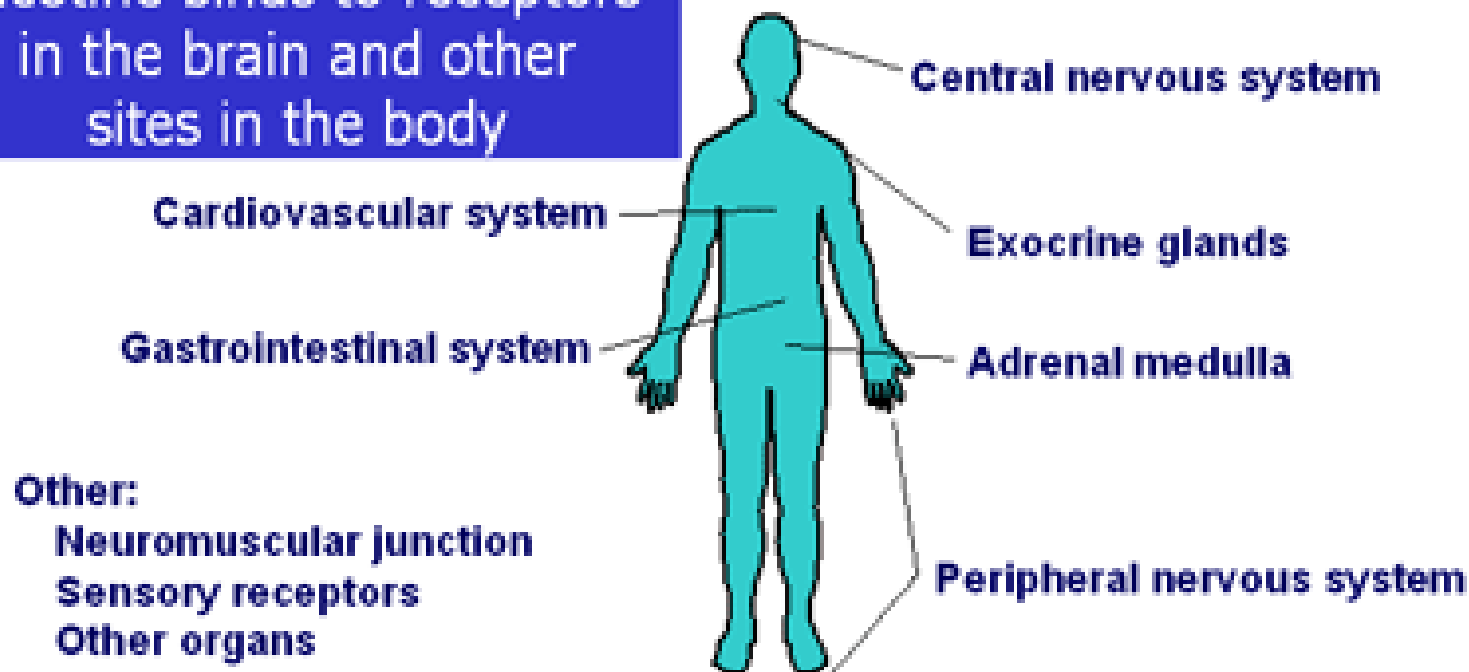
PRODUCT	NICOTINE REPLACEMENT THERAPY (NRT) FORMULATIONS					BUPROPION SR	VARENICLINE
	GUM	LOZENGE	TRANSDERMAL PATCH	NASAL SPRAY	ORAL INHALER		
	Nicorette ¹ , Generic OTC 2 mg, 4 mg original, cinnamon, fruit, mint	Nicorette ¹ , Generic Nicorette ¹ Mini OTC 2 mg, 4 mg; cherry, mint	NicoDerm CQ ¹ , Generic OTC (NicoDerm CQ, generic) 7 mg, 14 mg, 21 mg (24-hr release)	Nicotrol NS ² Rx Metered spray 10 mg/mL nicotine solution	Nicotrol Inhaler ² Rx 10 mg cartridge delivers 4 mg inhaled vapor	Zyban ¹ , Generic Rx 150 mg sustained-release tablet	Chantix ² Rx 0.5 mg, 1 mg tablet
PRECAUTIONS	<ul style="list-style-type: none"> Recent (≤ 2 weeks) myocardial infarction Serious underlying arrhythmias Serious or worsening angina pectoris Temporomandibular joint disease Pregnancy³ and breastfeeding Adolescents (<18 years) 	<ul style="list-style-type: none"> Recent (≤ 2 weeks) myocardial infarction Serious underlying arrhythmias Serious or worsening angina pectoris Pregnancy³ and breastfeeding Adolescents (<18 years) 	<ul style="list-style-type: none"> Recent (≤ 2 weeks) myocardial infarction Serious underlying arrhythmias Serious or worsening angina pectoris Pregnancy³ and breastfeeding Adolescents (<18 years) 	<ul style="list-style-type: none"> Recent (≤ 2 weeks) myocardial infarction Serious underlying arrhythmias Serious or worsening angina pectoris Underlying chronic nasal disorders (rhinitis, nasal polyps, sinusitis) Severe reactive airway disease Pregnancy³ and breastfeeding Adolescents (<18 years) 	<ul style="list-style-type: none"> Recent (≤ 2 weeks) myocardial infarction Serious underlying arrhythmias Serious or worsening angina pectoris Bronchospastic disease Pregnancy³ and breastfeeding Adolescents (<18 years) 	<ul style="list-style-type: none"> Concomitant therapy with medications/conditions known to lower the seizure threshold Hepatic impairment Pregnancy³ and breastfeeding Adolescents (<18 years) Treatment-emergent neuropsychiatric symptoms⁴ <p>BOXED WARNING REMOVED 12/2016</p> <p>CONTRAINDICATIONS:</p> <ul style="list-style-type: none"> Seizure disorder Concomitant bupropion (e.g., Wellbutrin) therapy Current or prior diagnosis of bulimia or anorexia nervosa Simultaneous abrupt discontinuation of alcohol or sedatives/benzodiazepines MAO inhibitors in preceding 14 days; concurrent use of reversible MAO inhibitors 	<ul style="list-style-type: none"> Severe renal impairment (dosage adjustment is necessary) Pregnancy³ and breastfeeding Adolescents (<18 years) Treatment-emergent neuropsychiatric symptoms⁴ <p>BOXED WARNING REMOVED 12/2016</p>
DOSING	<p>1st cigarette ≤30 minutes after waking: 4 mg 1st cigarette >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"> Maximum, 24 pieces/day Chew each piece slowly Park between cheek and gum when peppery or tingling sensation appears (~15-30 chews) Resume chewing when tingle fades Repeat chew/park steps until most of the nicotine is gone (tingle does not return; generally 30 min) Park in different areas of mouth No food or beverages 15 minutes before or during use Duration: up to 12 weeks 	<p>1st cigarette ≤30 minutes after waking: 4 mg 1st cigarette >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"> Maximum, 20 lozenges/day Allow to dissolve slowly (20-30 minutes) Nicotine release may cause a warm, tingling sensation Do not chew or swallow Occasionally rotate to different areas of the mouth No food or beverages 15 minutes before or during use Duration: up to 12 weeks 	<p>>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"> Rotate patch application site daily; do not apply a new patch to the same skin site for at least one week May wear patch for 16 hours if patient experiences sleep disturbances (remove at bedtime) Duration: 8-10 weeks 	<p>1-2 doses/hour (8-40 doses/day) 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"> Maximum - 5 doses/hour or - 40 doses/day For best results, initially use at least 8 doses/day Do not sniff, swallow, or inhale through the nose as the spray is being administered Duration: 3 months 	<p>6-16 cartridges/day Individualize dosing; initially use 1 cartridge q 1-2 hours</p> <ul style="list-style-type: none"> Best effects with continuous puffing for 20 minutes Initially use at least 6 cartridges/day Nicotine in cartridge is depleted after 20 minutes of active puffing Inhale into back of throat or puff in short breaths Do NOT inhale into the lungs (like a cigarette) but "puff" as if lighting a pipe Open cartridge retains potency for 24 hours No food or beverages 15 minutes before or during use Duration: 3-6 months 	<p>150 mg po q AM x 3 days, then 150 mg po bid</p> <ul style="list-style-type: none"> Do not exceed 300 mg/day Begin therapy 1-2 weeks prior to quit date Allow at least 8 hours between doses Avoid bedtime dosing to minimize insomnia Dose tapering is not necessary Duration: 7-12 weeks, with maintenance up to 6 months in selected patients 	<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"> Begin therapy 1 week prior to quit date Take dose after eating and with a full glass of water Dose tapering is not necessary Dosing adjustment is necessary for patients with severe renal impairment Duration: 12 weeks; an additional 12-week course may be used in selected patients 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

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)

Figure 6: Nicotine Pharmacodynamics

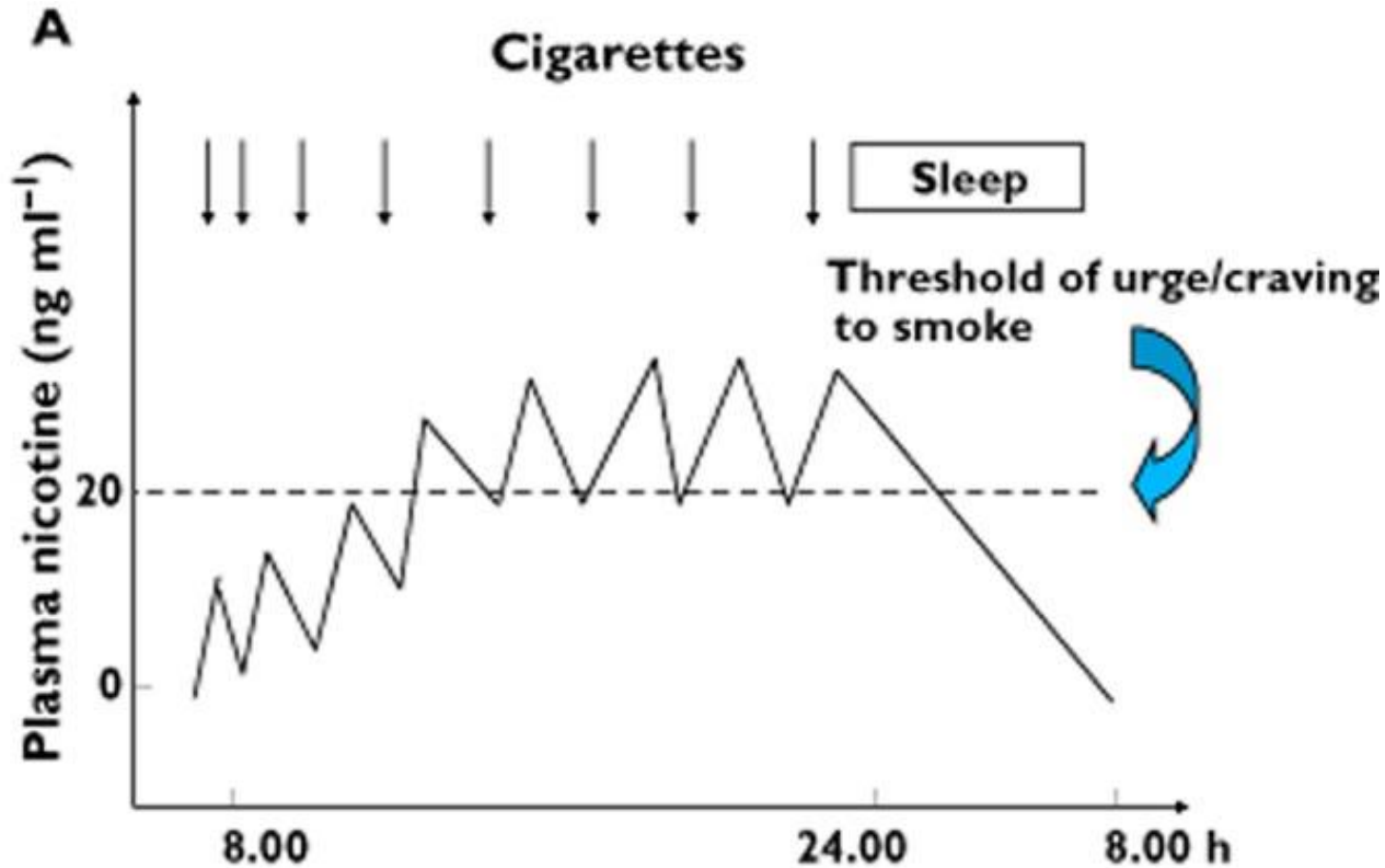
Nicotine binds to receptors in the brain and other sites in the body



Possesses stimulant and sedative properties

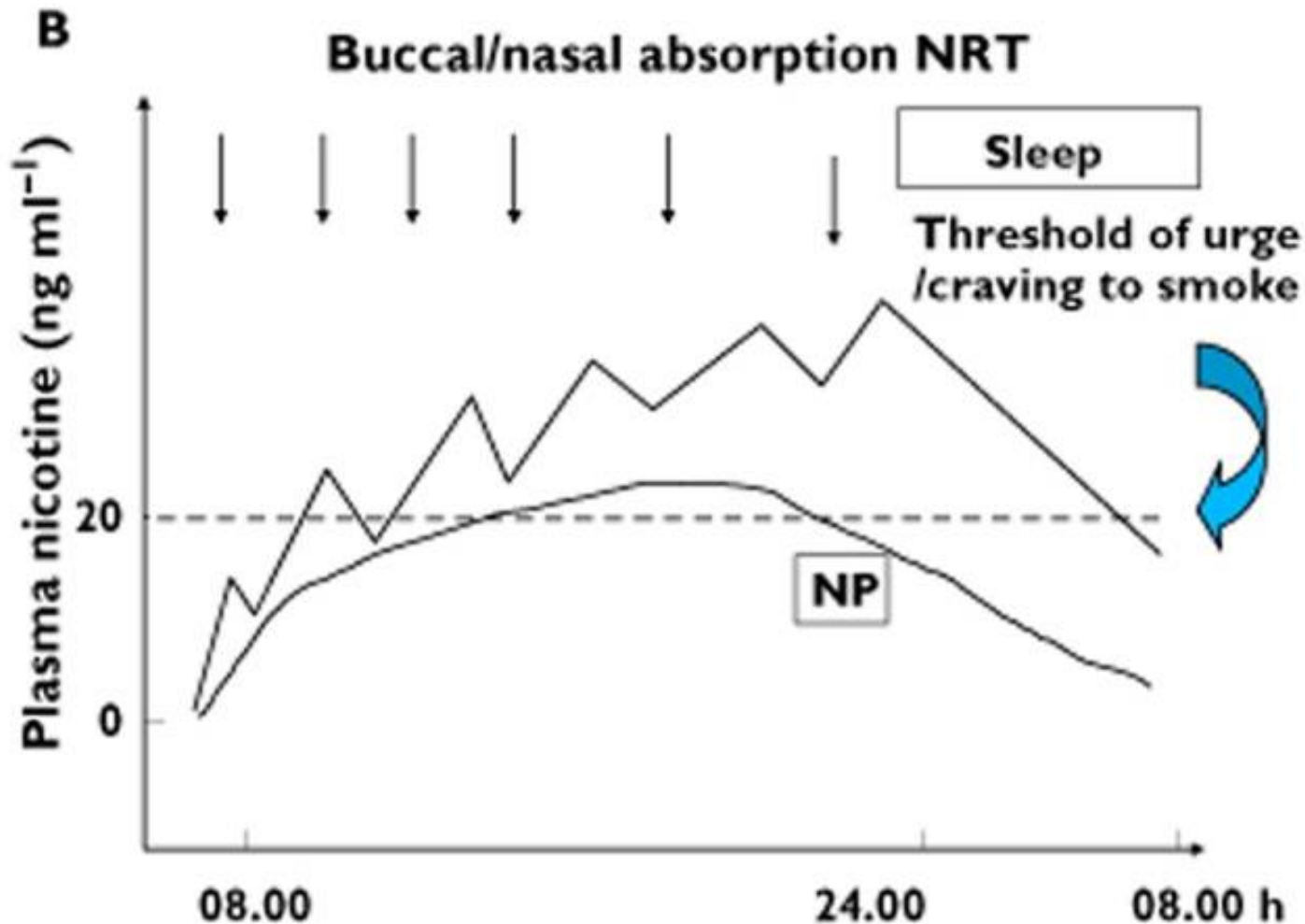
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Plasma nicotine levels with cigarette smoking



Aubin HJ, Luquiens A, Berlin I. Pharmacotherapy for smoking cessation: pharmacological principles and clinical practice. *Br J Clin Pharmacol*. 2014 Feb;77(2):324-36. doi: 10.1111/bcp.12116. PMID: 23488726; PMCID: PMC4014023. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4014023>

Plasma nicotine levels with combination NRT



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 Precautions

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

Varenicline Side Effects

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



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.
- ▶ Insufficient data to support use of varenicline and/or bupropion

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

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

Patients With Mental Illness

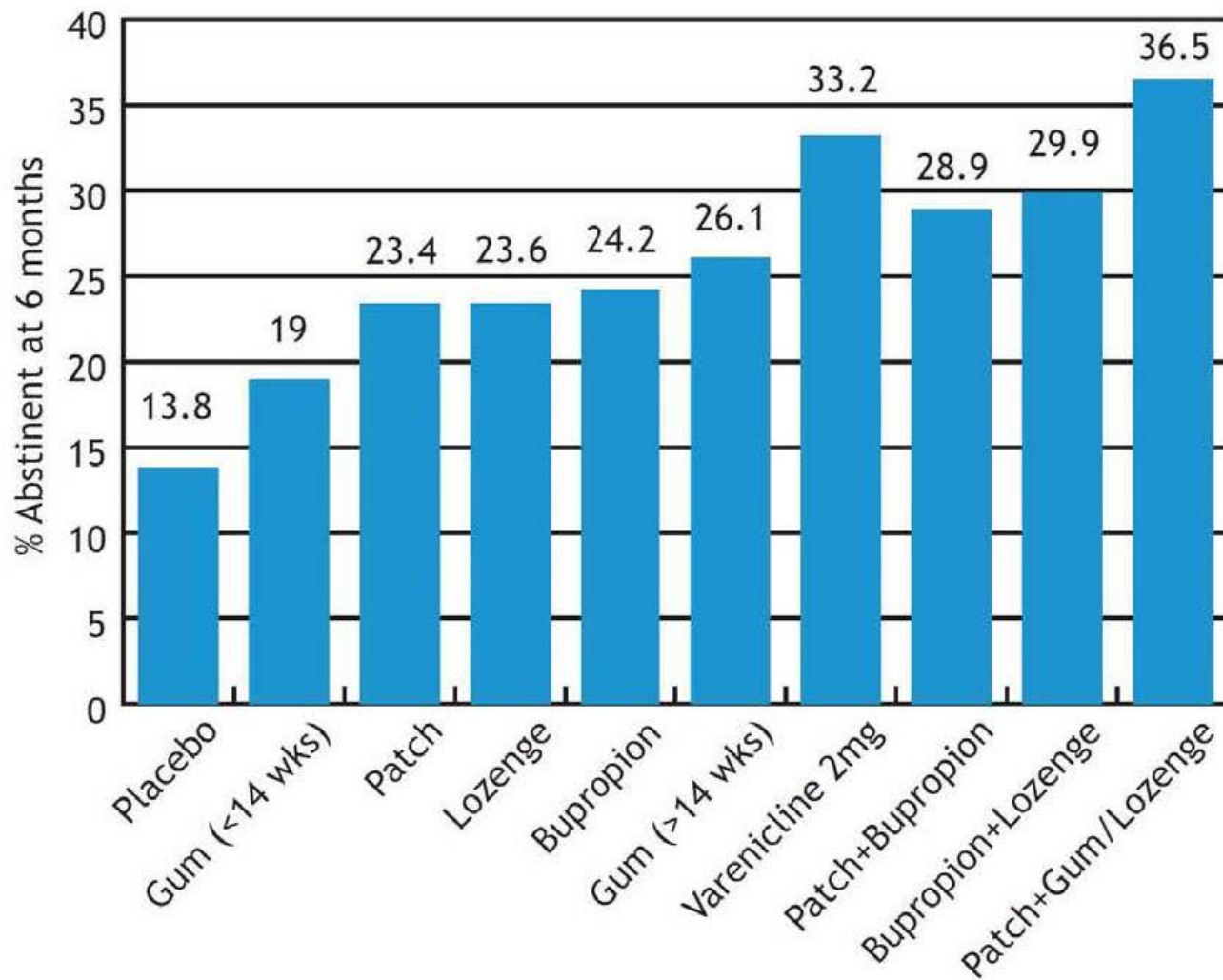
- ▶ Most will need medication
- ▶ May need higher doses, longer duration of treatment and combination of medications
- ▶ Patients with bipolar disorder should only receive bupropion if on mood stabilizer
- ▶ Each agent is effective for those with schizophrenia



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).

FIGURE 1. EFFICACY OF MEDICATIONS FOR SMOKING CESSATION^{6,9,12-1}



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: <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: <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>Start with:</p>	<p>Combine with:</p>	<p>If patient interested in an additional agent that can help treat depression and mitigate weight gain, add:</p>
<p><input type="checkbox"/> Nicotine Patch 7mg / 24 hour, apply to bare skin in the morning and take off at bedtime</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>
<p>Or if the patient has not responded to or tolerated nicotine patches in the past, or declines nicotine patches:</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 Strategy

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
Or if the patient has not responded to or tolerated nicotine patches in the past, or declines nicotine patches:		
<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
Or if the patient has not responded to or tolerated nicotine patches in the past, or declines nicotine patches:		
<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

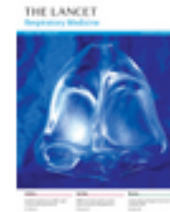
Smoking >1 ppd (corresponds >20 nicotine cigarettes or equivalents daily):

- 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.

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 ^a, Prof Stanton A Glantz PhD ^{a, b}  

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.

PERSISTENCE



THANK YOU!

Questions?

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Interested in more? Come to:

- ▶ ASAM Annual Meeting (Florida in April 2022!)

<http://www.asam.org>

- ▶ CSAM Annual Meeting (Aug or Sept 2021!)

<http://csam-asam.org>

- ▶ AAAP Annual Meeting (Virtual! Dec 2021)

<http://www.aaap.org>

