Assisting Clients with Quitting – How to Talk the Talk for Successful Tobacco Cessation (Part II)

Presented by Frank Vitale, MA

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https://www.streamtext.net/player?event=AssistingClientswithQuittingTobaccoPart2

National Behavioral Health Network
For Tobacco & Cancer Control

UCSF Smoking Cessation Leadership Center | National Center of Excellence for Tobacco-Free Recovery

Monday, March 09, 2020, 2:00 PM EDT

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STATE ASSOCIATIONS OF ADDICTION SERVICES
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Welcome!

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- Webinar is being recorded. All participants placed in “listen-only” mode.
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- Presentation slides, handouts and recording will be posted here:
  - https://www.bhthechange.org/resources/resource-type/archived-webinars/

National Behavioral Health Network
For Tobacco & Cancer Control

- Jointly funded by CDC's *Office on Smoking & Health* & *Division of Cancer Prevention & Control*
- Provides resources and tools to help organizations reduce tobacco use and cancer among people with mental illness and addictions
- 1 of 8 CDC National Networks to eliminate cancer and tobacco disparities in priority populations

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National Behavioral Health Network 2019 Annual Membership Survey:
https://is.gd/NBHN2019MembershipSurvey

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Frank Vitale, MA, Taslim van Hattum, LCSW, MPH, Samara Tahmid, Dana Lange, Christine Cheng, Jennifer Matekuare, Catherine Saucedo, and Steve Schroeder, MD

Learning Objectives

- Identify and implement evidence-based strategies to engage behavioral health populations with high rates of tobacco use.
- Enhance motivational interviewing techniques to best engage clients in tobacco cessation attempts.
- Increase knowledge of FDA approved NRTs and other pharmacological supports to best support your clinicians and clients.

CME/CEU Statement

Accreditation:

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Course meets the qualifications for 1.0 hour of continuing education credit for **LMFTs, LCSWs, LPCCs, and/or LEPs** as required by the California Board of Behavioral Sciences. Provider # 64239.

ASSISTING CLIENTS WITH QUITTING Part II: Optimization of Nicotine Replacement Therapy & Pharmacological Supports

Frank Vitale, MA

National Director, Pharmacy Partnership for Tobacco Cessation

Clinical Assistant Professor, Purdue College of Pharmacy

DRUG INTERACTIONS with SMOKING

PHARMACOKINETIC 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 INTERACTION: TOBACCO SMOKE and CAFFEINE

- Constituents in tobacco smoke induce CYP1A2 enzymes, which metabolize caffeine
  - Caffeine levels increase ~56% upon quitting
- Nicotine withdrawal effects might be enhanced by increased caffeine levels
- Decrease caffeine intake by 50% when quitting; no caffeine after 1PM for individuals with a typical bedtime

PHARMACODYNAMIC DRUG INTERACTIONS with SMOKING

Smokers who use combined hormonal contraceptives have an increased risk of serious cardiovascular adverse effects:

- Stroke
- Myocardial infarction
- Thromboembolism

This interaction **does not** decrease the efficacy of hormonal contraceptives.

Women who are 35 years of age or older AND smoke at least 15 cigarettes per day are at significantly elevated risk.

DRUG INTERACTIONS with SMOKING: SUMMARY

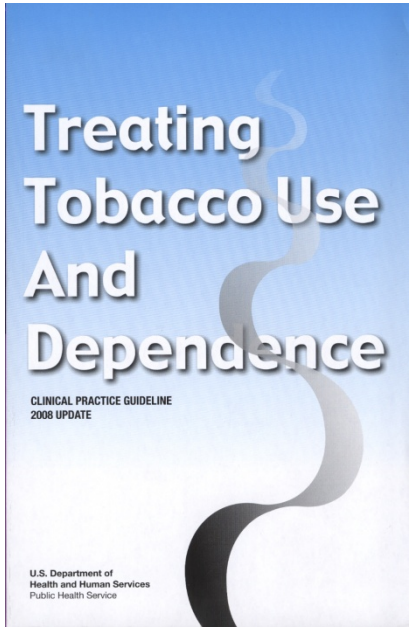
Clinicians should be aware of their patients' smoking status:

- Clinically significant interactions result the combustion products of tobacco smoke, not from nicotine.
- Constituents in tobacco smoke (e.g., polycyclic aromatic hydrocarbons; PAHs) may enhance the metabolism of other drugs, resulting in an altered pharmacologic response.
- 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.

MEDICATIONS for CESSATION

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.

Fiore et al. (2008). *Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guideline.* Rockville, MD: USDHHS, PHS, May 2008.

FDA-APPROVED MEDICATIONS for CESSATION

Nicotine polacrilex gum*
- Nicorette (OTC)
- Generic nicotine gum (OTC)

Nicotine lozenge*
- Nicorette (OTC)
- Generic nicotine lozenge (OTC)

Nicotine transdermal patch*
- NicoDerm CQ (OTC)
- Generic nicotine patches (OTC)

Nicotine inhaler *
- Nicotrol (Rx)

Nicotine nasal spray *
- Nicotrol NS (Rx)

Bupropion SR
- Zyban (Rx)
- Generic bupropion SR (Rx)

Varenicline
- Chantix (Rx)

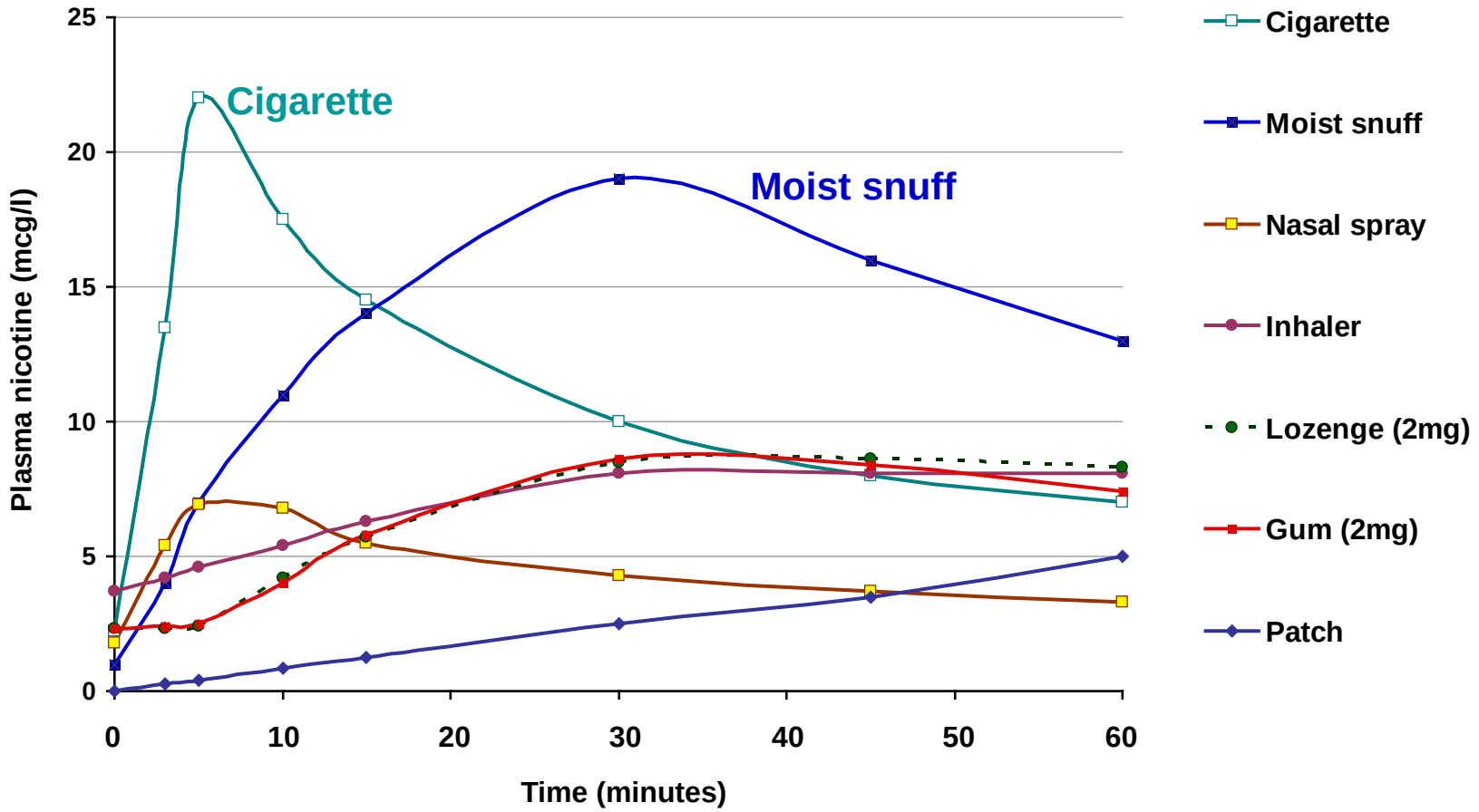
* Nicotine replacement therapy (NRT) products.

NICOTINE REPLACEMENT THERAPY (NRT) RATIONALE for USE

- Reduces physical withdrawal from nicotine
- Eliminates the immediate, reinforcing effects of nicotine that is rapidly absorbed via tobacco smoke
- Allows patient to focus on behavioral and psychological aspects of tobacco cessation

NRT products approximately doubles quit rates.

PLASMA NICOTINE CONCENTRATIONS for NICOTINE-CONTAINING PRODUCTS



NRT: PRECAUTIONS

- Patients with underlying cardiovascular disease
  - Recent myocardial infarction (within past 2 weeks)
  - Serious arrhythmias
  - Serious or worsening angina

NRT products may be appropriate for these patients if they are under medical supervision.

NICOTINE GUM

Nicorette; generics

- Resin complex
  - Nicotine
  - Polacrilin
- Sugar-free chewing gum base
- Contains buffering agents to enhance buccal absorption of nicotine
- Available: 2 mg, 4 mg; original, cinnamon, fruit, and mint (various) flavors

NICOTINE LOZENGE

Nicorette Lozenge and Nicorette Mini Lozenge; generics

- Nicotine polacrilex formulation
  - Delivers ~25% more nicotine than equivalent gum dose
- Sugar-free mint, cherry flavors
- Contains buffering agents to enhance buccal absorption of nicotine
- Available: 2 mg, 4 mg

NICOTINE GUM & LOZENGE: 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

NICOTINE GUM & LOZENGE: DOSING (cont'd)

Recommended Usage Schedule		
Weeks 1–6	**Weeks 7–9**	**Weeks 10–12**
1 piece q 1–2 h	**1 piece q 2–4 h**	**1 piece q 4–8 h**

Do not use more than 24 pieces of GUM or 20 LOZENGES per day.

NICOTINE GUM: DIRECTIONS FOR USE

NICOTINE LOZENGE: DIRECTIONS for USE

- Place in mouth and allow to dissolve slowly (nicotine release may cause warm, tingling sensation)
- Do not chew or swallow
- Occasionally rotate to different areas of the mouth
- Lozenges will dissolve completely in about 20–30 minutes

NICOTINE GUM/LOZENGE: ADDITIONAL PATIENT EDUCATION

- To improve chances of quitting, use at least nine pieces daily during the first 6 weeks
- The gum/lozenge will *not* provide the same rapid satisfaction that smoking provides
- The effectiveness of the nicotine gum/lozenge may be reduced by some foods and beverages:
  - Coffee
  - Wine
  - Juices
  - Soft drinks

Do NOT eat or drink for 15 minutes BEFORE or while using the nicotine gum or lozenge.

NICOTINE GUM/LOZENGE: ADD'L PATIENT EDUCATION (cont'd)

- Chewing the lozenge or using incorrect gum chewing technique can cause excessive and rapid release of nicotine, resulting in:
  - Lightheadedness/dizziness
  - Nausea and vomiting
  - Hiccups
  - Irritation of throat and mouth

NICOTINE GUM/LOZENGE: ADD'L PATIENT EDUCATION (cont'd)

- Adverse effects of nicotine gum and lozenge:
  - Mouth and throat irritation
  - Hiccups
  - Gastrointestinal complaints (dyspepsia, nausea)
- Adverse effects associated with nicotine gum:
  - Jaw muscle ache
  - May stick to dental work

NICOTINE GUM/LOZENGE: SUMMARY

ADVANTAGES

- Might serve as an oral substitute for tobacco
- Might delay weight gain
- Can be titrated to manage withdrawal symptoms
- Can be used in combination with other agents to manage situational urges
- Relatively inexpensive

DISADVANTAGES

- Need for frequent dosing can compromise adherence
- Gastrointestinal adverse effects (nausea, hiccups, and dyspepsia) may be bothersome
- Specific to nicotine gum:
  - Might be problematic for patients with significant dental work
  - Proper chewing technique is necessary for effectiveness and to minimize adverse effects
  - Chewing might not be acceptable or desirable for some patients

TRANSDERMAL NICOTINE PATCH

NicoDerm CQ; generic

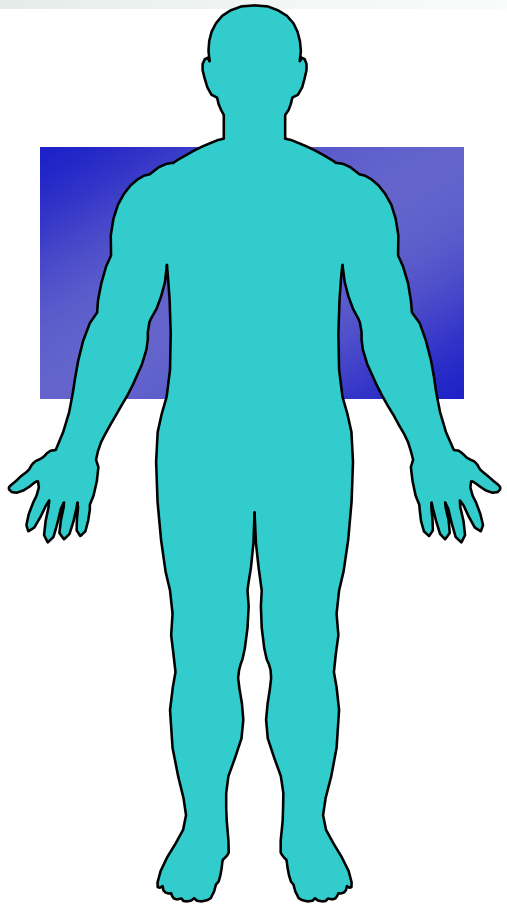
- Continuous (24-hour) nicotine delivery system
- Nicotine is well absorbed across the skin
- Transdermal delivery to systemic circulation avoids hepatic first-pass metabolism
- Plasma nicotine levels are lower and fluctuate less than with smoking

TRANSDERMAL NICOTINE PATCH: DOSING

Product	Light Smoker	Heavy Smoker
NicoDerm CQ	**≤10 cigarettes/day** Step 2 (14 mg x 6 weeks) Step 3 (7 mg x 2 weeks)	**>10 cigarettes/day** Step 1 (21 mg x 6 weeks) Step 2 (14 mg x 2 weeks) Step 3 (7 mg x 2 weeks)
Generic	**≤10 cigarettes/day** Step 2 (14 mg x 6 weeks) Step 3 (7 mg x 2 weeks)	**>10 cigarettes/day** Step 1 (21 mg x 4 weeks) Step 2 (14 mg x 2 weeks) Step 3 (7 mg x 2 weeks)

TRANSDERMAL NICOTINE PATCH: DIRECTIONS for USE

- Choose an area of skin on the upper body or upper outer part of the arm
- Make sure skin is clean, dry, hairless, and not irritated
- Apply patch to different area each day
- Do not use same area again for at least 1 week



TRANSDERMAL NICOTINE PATCH: ADDITIONAL PATIENT EDUCATION

- Water will not harm the nicotine patch if it is applied correctly; patients may bathe, swim, shower, or exercise while wearing the patch
- Do *not* cut patches to adjust dose
  - Can unpredictably effect nicotine delivery
  - Patch may be less effective

- Keep new and used patches out of the reach of children and pets
- Remove patch before MRI procedures

TRANSDERMAL NICOTINE PATCH: ADD'L PATIENT EDUCATION (cont'd)

Common adverse effects include:

- Irritation at the patch application site (generally within the first hour)
  - Mild itching
  - Burning
  - Tingling
- Sleep disturbances
  - Abnormal or vivid dreams
  - Insomnia

TRANSDERMAL NICOTINE PATCH: SUMMARY

ADVANTAGES

- Once-daily dosing associated with fewer adherence problems
- Of all NRT products, its use is least obvious to others
- Can be used in combination with other agents; delivers consistent nicotine levels over 24 hrs
- Relatively inexpensive

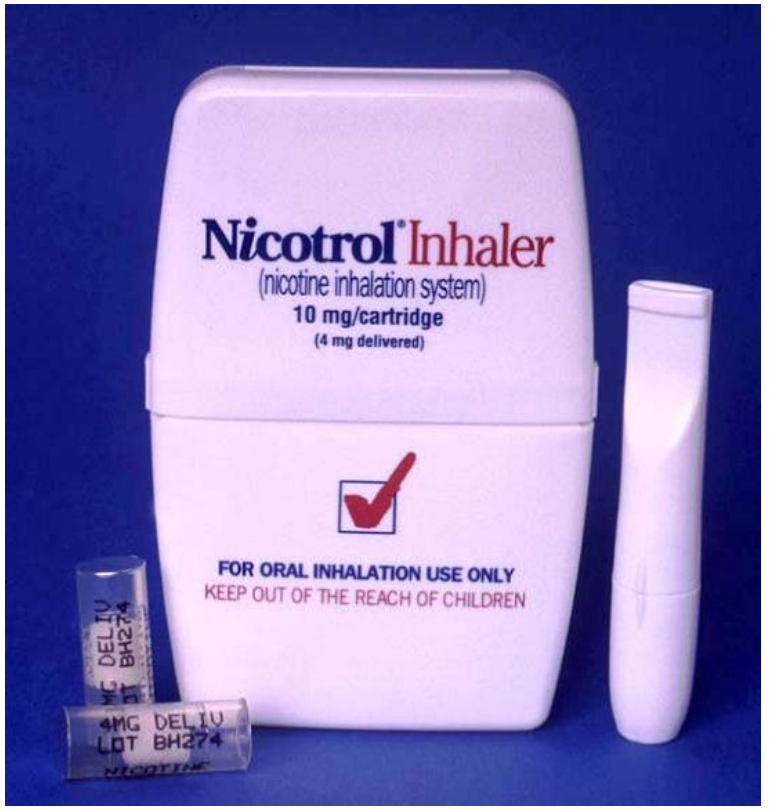
DISADVANTAGES

- When used as monotherapy, cannot be titrated to acutely manage withdrawal symptoms
- Not recommended for use by patients with dermatologic conditions (e.g., psoriasis, eczema, atopic dermatitis)

NICOTINE INHALER

Nicotrol Inhaler

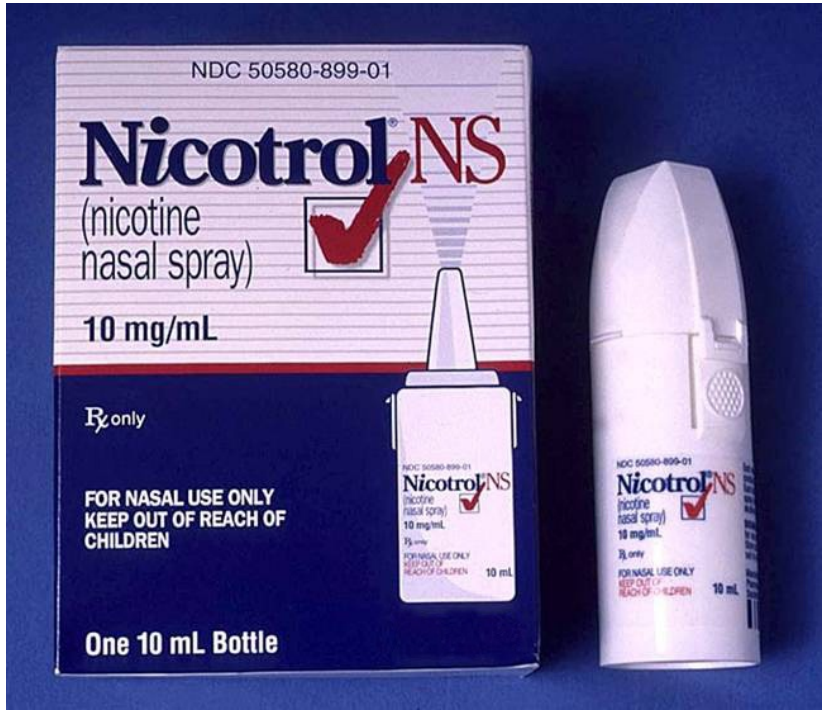
- Nicotine inhalation system consists of:
  - Mouthpiece
  - Cartridge with porous plug containing 10 mg nicotine and 1 mg menthol
- Delivers 4 mg nicotine vapor, absorbed across buccal mucosa



NICOTINE NASAL SPRAY

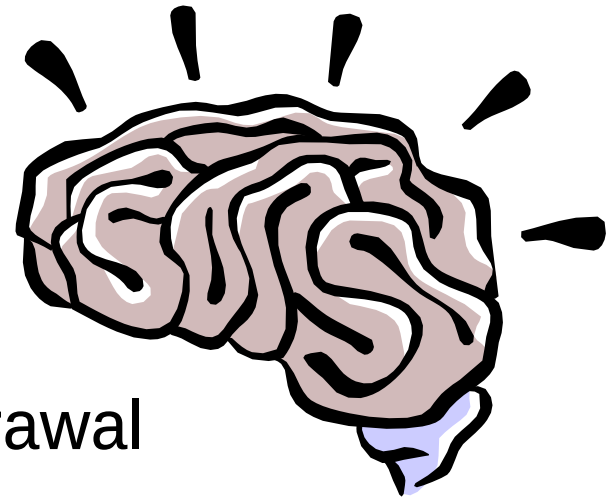
Nicotrol NS

- Aqueous solution of nicotine in a 10-ml spray bottle
- Each metered dose actuation delivers
  - 50 mcL spray
  - 0.5 mg nicotine
- ~100 doses/bottle
- Rapid absorption across nasal mucosa



BUPROPION SR: Zyban; generics

- Non-nicotine cessation aid
- Mechanism of action: atypical antidepressant
  - Dopamine
  - Norepinephrine
- Clinical effects
  - ↓ craving for cigarettes
  - ↓ symptoms of nicotine withdrawal
- Contraindication: Seizure disorder



BUPROPION: WARNINGS and PRECAUTIONS (cont'd)

- Neuropsychiatric symptoms and suicide risk
  - Changes in mood (including depression and mania)
  - Psychosis/hallucinations/paranoia/delusions
  - Homicidal ideation
  - Aggression/hostility/anxiety/panic
  - Suicidal ideation, suicide attempt, completed suicide

FDA boxed warning removed Dec 2016

Advise patients to stop taking bupropion SR and contact a health care provider immediately if symptoms such as agitation, depressed mood, or changes in behavior or thinking that are not typical are observed or if the patient develops suicidal ideation or suicidal behavior.

BUPROPION: ADVERSE EFFECTS

Common adverse effects include the following:

- Insomnia (avoid bedtime dosing)
- Dry mouth
- Nausea

Less common but reported effects:

- Anxiety/difficulty concentrating
- Constipation
- Tremor
- Skin rash

BUPROPION SR: SUMMARY

ADVANTAGES

- Oral dosing is simple and associated with fewer adherence problems
- Might delay weight gain
- Bupropion might be beneficial in patients with depression
- Can be used in combination with NRT agents
- Relatively inexpensive (generic formulations)

DISADVANTAGES

- Seizure risk is increased
- Several contraindications and precautions preclude use in some patients
- Patients should be monitored for neuropsychiatric symptoms

VARENICLINE
Chantix

- Nonnicotine cessation aid
- Partial nicotinic receptor agonist
- Oral formulation

VARENICLINE: MECHANISM of ACTION

- Binds with high affinity and selectivity at $\alpha_4\beta_2$ neuronal nicotinic acetylcholine receptors
  - Stimulates low-level agonist activity
  - Competitively inhibits binding of nicotine
- Clinical effects
  - ↓ symptoms of nicotine withdrawal
  - Blocks dopaminergic stimulation responsible for reinforcement & reward associated with smoking

VARENICLINE: WARNINGS and PRECAUTIONS

- Neuropsychiatric symptoms and suicide risk
  - Changes in mood (including depression and mania)
  - Psychosis/hallucinations/paranoia/delusions
  - Homicidal ideation
  - Aggression/hostility/anxiety/panic
  - Suicidal ideation, suicide attempt, completed suicide

FDA boxed warning removed Dec 2016

Advise patients to stop taking varenicline and contact a health care provider immediately if symptoms such as agitation, depressed mood, or changes in behavior or thinking that are not typical are observed or if the patient develops suicidal ideation or suicidal behavior.

VARENICLINE: STANDARD DOSING

Patients should begin therapy 1 week PRIOR to their quit date. The dose is gradually increased to minimize treatment-related nausea and insomnia.

	Treatment Day	Dose
Initial dose titration	Day 1 to day 3 	0.5 mg qd
	Day 4 to day 7 	0.5 mg bid
	Day 8 to end of treatment* 	1 mg bid

* Up to 12 weeks

VARENICLINE: ADVERSE EFFECTS

Common adverse effects include the following:

- Nausea
- Insomnia
- Abnormal dreams
- Headache

Less common adverse effects:

- Gastrointestinal (flatulence, constipation)
- Taste alteration

VARENICLINE: ADDITIONAL PATIENT EDUCATION

- Doses should be taken after eating, with a full glass of water
- Nausea and insomnia are usually temporary side effects
  - If symptoms persist, notify your health care provider
- May experience vivid, unusual or strange dreams during treatment
- Use caution driving, drinking alcohol, and operating machinery until effects of quitting smoking with varenicline are known

VARENICLINE: SUMMARY

ADVANTAGES

- Oral dosing is simple and associated with fewer adherence problems
- Offers a different mechanism of action for persons who have failed other agents
- Most effective agent for cessation when used as monotherapy

DISADVANTAGES

- Cost of treatment
- Patients should be monitored for potential neuropsychiatric symptoms

COMBINATION PHARMACOTHERAPY

Regimens with enough evidence to be 'recommended' first-line

- **Combination NRT**

  Long-acting formulation (patch)

  - Produces relatively constant levels of nicotine

  PLUS

  Short-acting formulation (gum, inhaler, lozenge, nasal spray)

  - Allows for acute dose titration as needed for nicotine withdrawal symptoms

- **Bupropion SR + Nicotine Patch**

COMBINATION NRT: TREATMENT REGIMENS

- **Nicotine patch**
  Dose: 21 mg/day x 4–6 wks → 14 mg/day x 2 wks → 7 mg/day x 2 wks

PLUS

- **Nicotine gum or lozenge** (2 mg/4 mg; based on TTFC)
  Dose: Use 1 piece q 1–2 hours as needed (use at least 4-5/day)

OR

- **Nicotine inhaler** (10 mg cartridge; delivers 4 mg nicotine vapor)
  Dose: Use 1 cartridge q 1–2 hours as needed

OR

- **Nicotine nasal spray** (0.5 mg/spray)
  Dose: Use 1 spray in each nostril q 1–2 hours as needed

“Drugs don’t work…

…in patients who don’t take them.”

C. Everett Koop, M.D., former U.S. Surgeon General

Medication adherence should be addressed at each encounter.

SUMMARY

- To maximize success, interventions should include behavioral counseling and one or more medications
- Encourage the use of effective medications by all patients attempting to quit smoking
  - Exceptions include medical contraindications or specific populations for which there is insufficient evidence of effectiveness
- First-line medications that reliably increase long-term smoking cessation rates include:
  - Bupropion SR
  - Nicotine replacement therapy (as monotherapy or combination therapy)
  - Varenicline
- Varenicline and combination NRT approaches demonstrate the highest level of efficacy

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References

- Motivational Interviewing: Preparing People for Change William R. Miller and Stephen Rollnick, The Guilford Press 2002

- Motivational Interviewing in HealthCare William R. Miller/Stephen Rollnick Guilford Press 2008

- https://rxforchange.ucsf.edu/

Comments and Questions?

Thank you for joining us!

Please be sure to complete the brief post-webinar evaluation.

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