Health Services
LOS ANGELES COUNTY

Expected Practices

Specialty: Addiction Medicine

Subject: Treatment of Smoking and Tobacco-Related Product Use

Date: March 26, 2019

Purpose: To assist patients' smoking cessation efforts.

Target Audience: Primary and Specialty Care Providers

Expected Practice:
All patients who use tobacco products should be offered a referral to the California Smoker's Helpline. The California Smoker's Helpline offers participants self-help material, telephone counseling, electronic resources and referrals to local programs.

☐ Providers select "Community Resource Linkage" from the e-Consult Specialty Type dropdown menu then select "Smokers' Helpline" under Specialty. Alternatively, patients may wish to call the California Smoker's Helpline directly:

English: 1-800-NO-BUTTS (1-800-662-8887)
Chinese: 1-800-838-8917
Korean: 1-800-556-5564
Spanish: 1-800-45-NO-FUME (1-800-456-6386)
Vietnamese: 1-800-778-8440
Tobacco Chewers: 1-800-844-CHEW (1-800-844-2439)
https://www.nobutts.org/

There are currently three FDA-approved types of medication treatments, which should be offered to all patients with tobacco use disorder, even if they do not contact the California Smoker's Helpline.

- Nicotine-replacement therapy (NRT)
- Bupropion SR
- Varenicline

See http://www.aafp.org/dam/AAFP/documents/patient_care/tobacco/pharmacologic-guide.pdf for a comprehensive list of FDA-approved medications for smoking cessation. It is important to note that when patients reduce or eliminate smoking tobacco, the metabolism of a number of medications may change and therefore may require adjustment. See http://www.health.nsw.gov.au/tobacco/Publications/tool-14-medication-intera.pdf for a list of these interactions.

This *Expected Practice* was developed by a DHS Specialty-Primary Care Work Group to fulfill the DHS mission to ensure access to high-quality, patient-centered, and cost-effective health care. SPC Work Groups, composed of specialist and primary care provider representatives from across LA County DHS, are guided by 1) real-life practice conditions at our facilities, 2) available clinical evidence, and 3) the principle that we must provide equitable care for the entire population that LA County DHS is responsible for, not just those that appear in front of us. It is recognized that in individual situations a provider's clinical judgment may vary from this *Expected Practice*, but in such cases compelling documentation for the exception should be provided in the medical record.

Medications for Tobacco Use Disorder:
The selection medications is largely based on patient preference, previous response, medication side effects, and safety profiles. It is best to offer combinations of smoking cessation medications to daily tobacco users to maximize the chance of remission. Start with offering either the nicotine patch or, if the patient declines the patch, varenicline. If the patient declines both, offer prn nicotine gums or lozenges. Also, if a patient accepts a nicotine patch or varenicline, also offer to add prn nicotine gums or lozenges (in addition to the patch or varenicline). Regardless of whether the patient accepts nicotine replacement therapy, can also offer bupropion unless there are contraindication to its use (see **Appendix A**). Nicotine replacement therapy should be dosed to match or exceed the patient's current nicotine intake to avoid undertreatment. There is 1mg of nicotine in each conventional tobacco cigarette. Vapes (electronic cigarettes), chews, cigars, and pipes deliver stronger nicotine content than conventional cigarettes.

See **Appendix A and B** for a review of these pharmacotherapies and a quick reference chart. Recommended taper schedules for each of these medications are reviewed in **Appendix B**, but medication treatment should be individualized, and providers may consider using longer-term (>24 weeks of) therapy in patients who require longer durations of smoking cessation medication treatment to sustain remission from tobacco use disorder. Do not recommend the use of e-cigarettes as smoking cessation tools given the lack of safety and efficacy data, however e-cigarettes are likely less harmful than conventional cigarettes.

<u>Non-Daily tobacco product user - offer prn nicotine replacement therapy</u>

If 2 or fewer cigarettes or equivalents used during a typical smoking episode: ☐ Nicotine Gum or Lozenge 2mg, take up to 5x/d prn smoking urge	If 3 or more cigarettes or equivalents used during a typical smoking episode: ☐ Nicotine Gum or Lozenge 4mg, take up to 5x/d prn smoking urge

<u>Daily tobacco product user – offer combination pharmacotherapy</u>

- Smoking ~1/4 ppd (corresponds to 8 or fewer nicotine cigarettes or equivalents daily):

Start with:	Offer to combine with:	If patient interested in an additional agent that can help treat depression and mitigate weight gain, offer to add:
☐ Nicotine Patch 7mg / 24 hour, apply to bare skin in the morning and take off at bedtime	☐ Nicotine Gum or Lozenge 2mg, take up to 5x/d prn smoking urge	☐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:		
☐Varenicline 1mg, take ½ tab daily x3d, then ½ tab BID x4d, then 1 tab BID thereafter	☐ Nicotine Gum or Lozenge 2mg, take up to 5x/d prn smoking urge	☐Bupropion XL 150mg daily for three days, then 300mg daily thereafter

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

Start with:	Offer to combine with:	If patient interested in an additional agent that can help treat depression and mitigate weight gain, offer to add:
☐ Nicotine Patch 14mg / 24 hour, apply to bare skin in the morning and take off at bedtime	☐ Nicotine Gum or Lozenge 2mg or 4mg, take up to 5x/d prn smoking urge	☐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:		
☐Varenicline 1mg, take ½ tab daily x3d, then ½ tab BID x4d, then 1 tab BID thereafter	☐ Nicotine Gum or Lozenge 2mg or 4mg, take up to 5x/d prn smoking urge	☐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:	Offer to combine with:	If patient interested in an additional agent that can help treat depression and mitigate weight gain, offer to add:
☐ Nicotine Patch 21mg / 24 hour, apply to bare skin in the morning and take off at bedtime	☐ Nicotine Gum or Lozenge 4mg, take up to 5x/d prn smoking urge	☐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:		
☐Varenicline 1mg, take ½ tab daily x3d, then ½ tab BID x4d, then 1 tab BID thereafter	☐ Nicotine Gum or Lozenge 4mg, take up to 5x/d prn smoking urge	☐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 using 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.

When to submit eConsult:

- An eConsult to the California Smokers' Helpline eConsult portal will lead to additional support and outreach for all patients with tobacco use disorder.

References:

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Appendix A:
Smoking Cessation Pharmacotherapy Review

1. Nicotine Replacement Therapy (NRT)
NRT mitigates nicotine withdrawal. The best practice is to use a combination of sustained delivery method (nicotine patch) and a short-release (transmucosal) medication, such as nicotine gum or lozenge. The currently available delivery systems available at DHS pharmacies include:

- Nicotine transdermal patch applied daily – delivers a steady, basal dose of nicotine
- Nicotine gum – used on a PRN basis for cravings and withdrawals
- Nicotine lozenge – used on a PRN basis for craving and withdrawals

Patients should select a quit-date that occurs 1 week after initiating NRT. Dosing is based on the patient's typical tobacco product consumption. NRT is bundled in packets to simplify prescribing (see attached Appendix B for dosing details). Treatment is usually administered over a 12-week period, but can be extended for patients who are continuing to smoke or with ongoing smoking urges. For these patients, a packet may not be adequate as it is best to match or exceed the patient's current nicotine intake to avoid undertreatment. In general, 1mg of nicotine is absorbed for each cigarette smoked so for a patient smoking two packs of cigarettes daily, two 21mg nicotine patches may be used. Alternatively, for a patient who smokes only 4 cigarettes daily, the patch would not be appropriate and 2mg gum or lozenge on a prn basis would be sufficient.

Common side effects of the transmucosal NRTs include mouth and jaw soreness, hiccups and dyspepsia. The patch may cause local skin irritation. Nicotine can also cause nightmares and patients may take off the patch before bedtime if this happens. There are no absolute contraindications and dose adjustments are not necessary when using NRTs during pregnancy or peri-operatively.

2. Bupropion (Zyban)
Bupropion mimics the effects of nicotine by inducing the release and inhibiting the reuptake of dopamine and norepinephrine. Its effects on smoking cessation are independent of comorbid depression but some evidence shows particular benefit in these patients. It is a good option for patients who are concerned about post-cessation weight gain.

Bupropion XL (24h extended-release form) is started 1 week before target quit date. Dosing is 150mg daily for 1 week, followed by 300mg daily thereafter to complete a 7-12 week course. Evidence does not support that combining Bupropion and NRT improves successful quit rates, but bupropion is a helpful antidepressant and can mitigate post-cessation weight gain.

Common side effects include insomnia (30-40%) and dry mouth (10%). Contraindications include seizure disorder, bulimia or anorexia, concurrent MAO use and use along with simultaneous abrupt discontinuation of alcohol or benzodiazepines as this can potentiate withdrawal symptoms. Care should be taken in patients with hepatic impairment. It is considered a pregnancy category C drug. The black box warning for Bupropion use was removed in 2016 after studies did not show an increased risk of neuropsychiatric side effects.

3. Varenicline (Chantix)
Varenicline is a selective nicotinic receptor partial agonist. It is the most efficacious single medication currently available allowing patients to achieve successful long-term quit-rates almost double those achievable with NRT or Bupropion. It is currently on the DHS formulary and restricted to patients for

whom nicotine replacement therapy hasn't been successful, wasn't tolerated, or was declined by the patient. Varenicline can be combined with prn nicotine replacement therapy (not nicotine patches).

When starting varenicline, it is typically initiated one week before the patient's target quit date, although it can also be prescribed to patients who are interested in reducing their smoking without a set quit date. It is dosed as 0.5mg PO q day x 3 days then, 0.5mg PO BID x 4 days then, mg PO BID x 11 weeks for a total of 12 weeks. This duration can be extended for patients who are continuing to smoke or with ongoing smoking urges.

Like bupropion, varenicline no longer carries a black box warning related to the neuropsychiatric effects of depression, suicidal ideation, or suicidal behaviors. In patients with known cardiovascular disease, the benefits of smoking cessation likely outweigh the possible CV risks of varenicline and should inform a patient-centered discussion of the risks/benefits. Common side effects include nausea and vomiting as well as sleep disturbances. The dose should be adjusted in renal impairment and care should be taken in severe renal impairment. It is considered a pregnancy category C drug. There are no absolute contraindications to its use.

Appendix B:
Smoking Cessation Pharmacotherapy Reference Chart

DHS Pharmacotherapy Options	Recommended Dose		Adverse Effects	Duration
NICOTINE REPLACEMENT THERAPY (NRT)				
Nicotine Transdermal Patch *Can be safely combined with nicotine gum & lozenges and bupropion. Do not combine nicotine patches and varenicline.*	**Heavy Smoker:** Smoking history > 10 cigarettes/day	One 21 mg patch/day for 4-6 weeks, then One 14 mg patch/day for 2 weeks, then One 7 mg patch/day for 2 weeks	Local skin reaction Sleep disturbance	Up to 10 weeks
	Light Smoker: Smoking history ≤ 10 cigarettes/day	One 14 mg patch/day for 6 weeks, then One 7 mg patch/day for 2 weeks		
Nicotine Polacrilex Gum *The nicotine gum or lozenge should be offered in addition to the nicotine patch or varenicline, and can also be used in patients who decline nicotine patches or varenicline. Nicotine replacement medications can also be safely combined with bupropion.*	**Heavy Smoker:** Smokes first cigarette ≤ 30 minutes after waking	1 piece of 4 mg gum every 1-2 hr prn cravings for weeks 1-6, 1 piece of 4 mg gum every 2-4 hr prn cravings for weeks 7-9, 1 piece of 4 mg gum every 4-8 hr prn cravings for weeks 10-12	Mouth soreness Dyspepsia	Up to 12 weeks Maximum 24 pieces per day
	Light Smoker: Smokes first cigarette >30 minutes after waking	1 piece of 2 mg gum every 1-2 hr prn cravings for weeks 1-6, 1 piece of 2 mg gum every 2-4 hr prn cravings for weeks 7-9, 1 piece of 2 mg gum every 4-8 hr prn cravings for weeks 10-12		
Nicotine Polacrilex Lozenge *The nicotine gum or lozenge should be offered in addition to the nicotine patch or varenicline, and can also be used in patients who decline nicotine patches or varenicline. Nicotine replacement medications can also be safely combined with bupropion.*	**Heavy Smoker:** Smokes first cigarette ≤ 30 minutes after waking	1 piece of 4 mg lozenge every 1-2 hr prn cravings for weeks 1-6, 1 piece of 4 mg lozenge every 2-4 hr prn cravings for weeks 7-9, 1 piece of 4 mg lozenge every 4-8 hr prn cravings for weeks 10-12 *Use at least 9 lozenges/day for the first 6 weeks	Nausea Hiccups Heartburn Insomnia	Up to 12 weeks Maximum 20 pieces per day
	Light Smoker: Smokes first cigarette >30 minutes after waking	1 piece of 2 mg lozenge every 1-2 hr prn cravings for weeks 1-6, 1 piece of 2 mg lozenge every 2-4 hr prn cravings for weeks 7-9, 1 piece of 2 mg lozenge every 4-8 hr prn cravings for weeks 10-12		
Special Circumstances: 1. patients who smoke only a few cigarettes daily: consider Gum or Lozenge only 2. Combination of Nicotine Patch with either Gum or Lozenge has been shown to improve outcomes 3. Clinicians may consider using longer-term (>24 weeks) therapy in patients who require longer term smoking cessation medication maintenance to sustain remission from tobacco use disorder.				
Bupropion XL				
Bupropion extended release oral tablet *Can be safely combined with nicotine medication or varenicline.*	150 mg orally q AM for 3 days, then increase to 300 mg orally daily for total 7-12 weeks Begin one week before the patient stops smoking		Insomnia Dry mouth	7 to 12 weeks Maintenance may be required up to 6 months
Varenicline				
Varenicline oral tablet – *Restricted to patients for whom NRT hasn't been successful, wasn't tolerated, or was declined by the patient. Do not use with nicotine patches, but can be safely combined with nicotine gum/lozenges and/or bupropion.*	.5 mg orally daily for days 1-3, then 0.5 mg orally BID for days 4-7, then 1 mg BID for 11 weeks		Nausea Sleep disturbances	12 weeks Maintenance may be required up to 6 months