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BUPRENORPHINE: AN OFFICE-BASED TREATMENT FOR OPIOID DEPENDENCE

- Opioid dependence is a significant public health problem and is increasing due to growing abuse of opioid pain medication.
- Buprenorphine is an effective treatment for opioid dependence.
- Primary care physicians can initiate and manage opioid-dependence treatment.

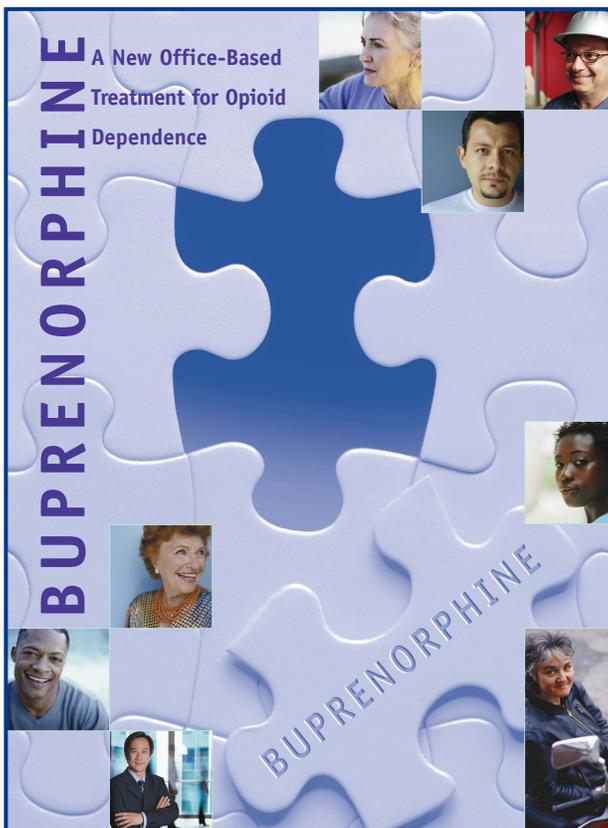
Addiction to narcotic pain relievers and heroin (opioids) is a major health problem in the United States (US). Rates of abuse and dependence for opioid pain relievers such as Vicodin[®] (hydrocodone bitartrate and acetaminophen) and OxyContin[®] (oxycodone HCl controlled-release) have increased during the past several years, and opioids are now second only to marijuana as drugs

of abuse.^{1,2,3} However, fewer than 20% of Americans who are dependent on opioids (narcotic pain relievers and heroin used intravenously and intranasally) are in drug treatment programs.⁴ Drug overdose is one of the leading causes of death in New York City (NYC). In 2006, more than 900 people died of drug overdoses in NYC; heroin and other opioids were involved in the majority of these deaths.⁵

Buprenorphine is the only approved office-based treatment for opioid dependence.⁶ Buprenorphine makes treatment for opioid dependence more readily available, and patients can have their buprenorphine prescriptions filled at a pharmacy. Opioid addiction treatment in a primary care setting also allows for increased clinical attention to other health conditions among opioid-dependent individuals.⁷

PHARMACOLOGY & FORMULATION

Buprenorphine acts as a partial opioid agonist by attaching tightly to the same receptors in the brain as other opioids, such as oxycodone, heroin, or methadone, blocking their effects and preventing withdrawal symptoms (**Figs. 1, 2**).^{8,9} Buprenorphine produces only weak morphine-like effects, without the euphoria triggered by full opioid agonists in opioid-dependent individuals.



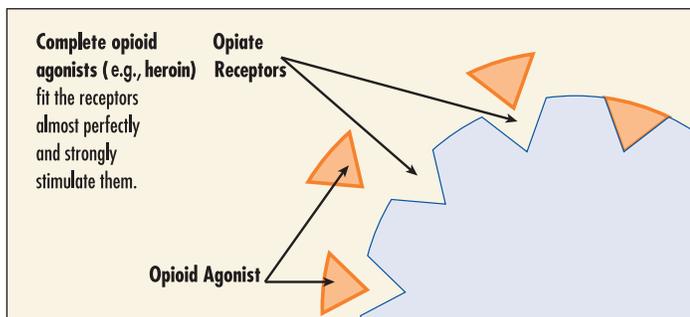


Fig. 1. Opiate receptors with full-agonist opioid (e.g., heroin). Complete opioid agonists fit receptors almost perfectly and strongly stimulate them. Full agonists initially produce a strong euphoric effect. After prolonged use, tolerance and physical dependence can develop, and people continue to abuse opioids to avoid withdrawal symptoms.

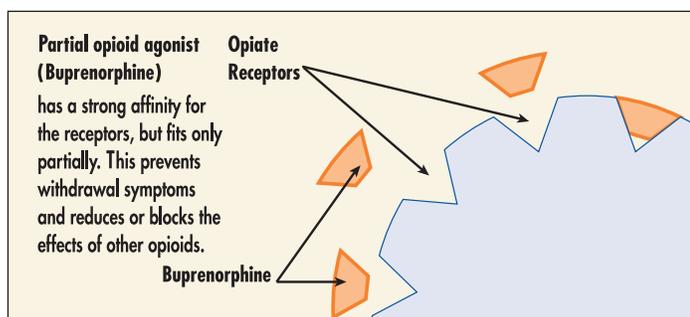


Fig. 2. Opiate receptors with partial-agonist opioid (buprenorphine). Buprenorphine has a strong affinity for the receptors but fits only partially, so it stimulates the receptors to a lesser degree while effectively blocking other opioids from attaching. Buprenorphine stops withdrawal without causing intense euphoria.

Because buprenorphine is not easily displaced from opiate receptors, it is long-acting and blocks the effects of any opioids taken after its administration. Buprenorphine is administered sublingually; tablets are available in two formulations

- Subutex®—contains only buprenorphine.
- Suboxone®—contains buprenorphine and naloxone, an opioid antagonist.

Naloxone is used to discourage the nonmedical intravenous use of buprenorphine; it reduces the euphoria that buprenorphine produces if injected. The buprenorphine/naloxone combination is preferable in all cases except when the patient is hypersensitive to naloxone or pregnant. (See **Safety Considerations**, p. 28.)

At low doses, buprenorphine produces a sufficient agonist effect to enable individuals with opioid dependence to discontinue their misuse of opioids without experiencing withdrawal symptoms. This agonist effect increases with dose but plateaus at a moderate dosage, which is termed the “ceiling effect.” As a result,

buprenorphine carries a lower risk of abuse, dependence, and overdose compared to full opioid agonists.¹⁰ However, a fatal overdose is still possible if patients combine buprenorphine with other central nervous system (CNS) depressants, such as sedative-hypnotics (e.g., benzodiazepines) or alcohol.

EFFECTIVENESS OF BUPRENORPHINE OFFICE-BASED TREATMENT

A 2006 evaluation of buprenorphine office-based treatment showed it to be effective. Most physicians surveyed (74%) found one or more months of buprenorphine treatment to be effective for their patients, with 60% of patients abstaining from all drugs and 84% from opioids (except buprenorphine) after a one-month period.¹¹ Slightly more than half the physicians (53%) had no previous experience with medication-assisted treatment (MAT) for opioids. (MAT is the use of medications, in combination with counseling and behavioral therapies, to treat substance-use disorders.¹²) At a six-month follow-up, 81% of patients said they had abstained from opioids, and 59% said they had abstained from all drugs.¹¹

RECOGNIZING OPIOID ABUSE AND DEPENDENCE

Clinicians should be alert to potential signs of substance abuse during routine and urgent visits, or while taking the patient history (**Table 1**). Asking nonjudgmental, open-ended questions about a patient’s functioning with his or her family, at work or school, and in social situations may reveal a drug problem. It is important to avoid stigmatization. Primary care physicians can use screening tools such as the CAGE-AID (**Table 2**), which are effective in identifying substance abuse problems. If the substance abuse screen is positive, be aware of signs associated with opioid intoxication such as drowsiness, slurred speech, memory impairment, and pupillary constriction.¹³

After a thorough assessment, a formal diagnosis of either opioid dependence or abuse should be made. Substance dependence or abuse is based on a cluster of behaviors and physiological effects occurring within a specific time frame. The diagnosis of dependence is more severe and therefore supersedes one of abuse if the person meets the criteria for both abuse and dependence listed in the *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision (DSM-IV-TR)* (**Table 3**).

TABLE 1. COMMON PSYCHOSOCIAL MANIFESTATIONS OF MILD TO MODERATE DRUG DISORDERS

Psychological/Behavioral

Agitation, irritability, dysphoria, difficulty in coping, mood swings, hostility, violence, psychosomatic symptoms, hyperventilation, generalized anxiety, panic attacks, depression, and psychosis.

Family

Chronic family dysfunction, marital problems, behavioral problems and decline in school performance in patient's children, anxiety and depression in family members, divorce, abuse, and violence.

Social

Alienation and loss of old friends, gravitation toward others with a similar lifestyle.

Work/School

Decline in performance, frequent job changes, frequent absences (especially on Mondays), requests for work excuses, initial preservation of work or school function among highly motivated groups such as professionals in practice or training.

Legal

Arrests for disturbing the peace or driving while intoxicated, stealing, drug dealing.

Financial

Borrowing or owing money, selling personal or family possessions.

Adapted from Brown RL. Identification and office management of alcohol and drug disorders. In: Fleming MF, Barry KL, eds. *Addictive Disorders*. St. Louis: Mosby Year Book; 1992. The National Institute on Drug Abuse (NIDA) is part of the National Institutes of Health (NIH). Last updated on February 1, 2005. Accessed March 12, 2008. www.nida.nih.gov/Diagnosis-Treatment/diagnosis5.html#common.

TABLE 2. CAGE-AID (Adapted to Include Drugs)

CAGE-AID can be used to screen for both alcohol and drug-related problems

Have you ever:

Thought you should... **C**ut down on your drinking or drug use?

Become... **A**nnoyed when people criticized your drinking or drug use?

Felt bad or... **G**uilty about your drinking or drug use?

Needed an... **E**ye-opener drink or used a drug to feel better in the morning?

YES to 1 or 2 questions = Possible alcohol/drug use problem

YES to 3 or 4 questions = Probable alcohol/drug dependence

Source: Brown RL, Rounds LA. Conjoint screening questionnaires for alcohol and other drug abuse: criterion validity in a primary care practice. *Wis Med J*. 1995;94:135–140.

TREATMENT OBJECTIVES

The main objectives of buprenorphine therapy are to:

- Block the euphoric effects of opioids, whether legal or illegal, and thereby reduce their use.
- Alleviate physical withdrawal symptoms.
- Reduce psychological cravings.
- Help engage patients in psychosocial treatment services, such as counseling.

Clinicians should consider employing a treatment agreement in order to establish mutual trust, and to clarify expectations of patient cooperation and involvement in buprenorphine treatment.¹³

(See Resources.)

TABLE 3. DSM-IV-TR CRITERIA FOR SUBSTANCE DEPENDENCE AND ABUSE

Dependence 3 or more symptoms in a 12-month period	Abuse 1 or more symptoms in a 12-month period <i>(Individual has never met criteria for dependence)</i>
<ul style="list-style-type: none"> • Tolerance (marked increase in amount; marked decrease in effect). • Characteristic withdrawal symptoms; substance taken to relieve withdrawal. • Substance taken in larger amount and for longer period than intended. • Persistent desire or repeated unsuccessful attempt to quit. • Much time/activity to obtain, use, or recover from use. • Important social, occupational, or recreational activities given up or reduced. • Use continues despite knowledge of adverse consequences (e.g., failure to fulfill role obligation, use when physically hazardous). 	<ul style="list-style-type: none"> • Recurrent use resulting in failure to fulfill major role obligation at work, home, or school. • Recurrent use in physically hazardous situations. • Recurrent substance-related legal problems. • Continued use despite persistent or recurrent social or interpersonal problems caused or exacerbated by substance.

In using the DSM-IV criteria, one should specify whether substance dependence is with physiologic dependence (i.e., there is evidence of tolerance or withdrawal) or without physiologic dependence (i.e., no evidence of tolerance or withdrawal). In addition, patients may be classified as currently manifesting a pattern of abuse or dependence, or as in remission. Those in remission can be divided into four subtypes—early full, early partial, sustained full, and sustained partial—on the basis of whether any of the criteria for abuse or dependence have been met and over what time frame. The remission category can also be used for patients receiving agonist therapy (e.g., methadone maintenance) or for those living in a controlled drug-free environment.

*Source: American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision*. Washington, DC: American Psychiatric Association; 2000.

BUPRENORPHINE THERAPY

1. Indications

A number of factors may prompt the use of buprenorphine to treat opioid addiction:

- Patient has mild to moderate dependence on opioids (oral, intranasal, or intravenous).^{14,15}
- Patient can be expected to be reasonably adherent to the treatment plan.
- Patient has been educated about the risks and benefits of buprenorphine treatment. (**See Resources.**)
- Patient is willing to follow safety precautions for buprenorphine treatment.
- Patient has agreed to buprenorphine treatment after a review of treatment options.¹³

2. Safety Considerations (Table 4)

Clinicians should keep in mind safety considerations when considering whether to prescribe buprenorphine. These include:

- **Hypersensitivity** – Suboxone[®] and Subutex should not be given to those who are hypersensitive to buprenorphine or naloxone (Subutex only). The most common adverse effects include rashes, hives, and pruritus. Cases of bronchospasm, angioneurotic edema, and anaphylactic shock have also been reported.¹⁶
- **Pregnancy** – For opioid-dependent patients who are pregnant, methadone currently remains the standard of care in the US due to limited experience with buprenorphine in pregnancy.^{17,18,19}
- **Suicidal ideation** – Buprenorphine treatment should not be initiated if a patient has current suicidal or homicidal ideation, or a history of serious suicide attempts.

3. Initiating therapy

When starting buprenorphine therapy, patients must exhibit mild withdrawal symptoms, or they risk more serious withdrawal. See **Figure 3** for signs and symptoms of opioid withdrawal. Buprenorphine-certified physicians can also use the standardized Clinical Opiate Withdrawal Scale (COWS) score to make this determination.²⁰ (**See Resources.**) Guidelines suggest that buprenorphine treatment begin in the physician's office; however, physicians are increasingly allowing carefully selected patients to start the medication at home.^{14,21}

TABLE 4. BUPRENORPHINE IN SPECIAL POPULATIONS

Population	Recommendation	Rationale
Pregnancy*	Not Recommended	Limited data; case reports and small clinical series indicate safe and effective use, but manufacturer advises against use of buprenorphine (Class C: Risk cannot be ruled out) or naloxone (Class B: No evidence of risk in humans) in pregnancy. ^{17,18,19,22} At this time, methadone remains the standard of care.
Lactation	Use Clinical Judgment	Limited literature; poor oral bioavailability of buprenorphine suggests that use by lactating women may be safe. However, the safety of naloxone in lactating women is not known. ^{13,22}
HIV/AIDS	Use Clinical Judgment	Because it is metabolized by the cytochrome P450 system, buprenorphine should be used with caution in patients concurrently treated with protease inhibitors or nucleoside reverse transcriptase inhibitors. Nonetheless, there may be significantly fewer drug interactions between buprenorphine and anti-retroviral medications than occur with methadone and anti-retrovirals. ^{23,24}
Hepatic Impairment	Use Clinical Judgment	Use with caution in patients with hepatic impairment, as buprenorphine is primarily metabolized in the liver. ^{13,22}
Renal Impairment	Recommended	Available data do not indicate adverse effects in this population. ^{13,22}
Geriatric Patients	Use Clinical Judgment	Lower doses may be indicated in elderly patients; however, experience in this population is very limited. ^{13,22}
Pain	Not Recommended	Sublingual buprenorphine is not FDA-approved for the treatment of pain. Since buprenorphine will also block opioid pain medications, whenever possible treat pain with non-opioid medications in patients taking buprenorphine. Administering buprenorphine after a patient has been given an opioid medication for pain could precipitate withdrawal.

*Data on the safety and efficacy of buprenorphine in pregnant women are limited. Case reports and small clinical series have indicated safe and effective use. However, there have also been reports of neonatal abstinence syndrome in infants born to mothers using buprenorphine. Physicians must carefully weigh the risks and benefits of this drug compared with continued opioid use or with referral for methadone treatment (the standard of care in pregnancy).²⁵

FIGURE 3. STAGING AND GRADING SYSTEM OF OPIOID WITHDRAWAL

Stage	Grade	Physical Signs/Symptoms
Early withdrawal (8–24 hours after last use)	Grade 1	Lacrimation and/or rhinorrhea, diaphoresis, yawning, restlessness, insomnia
	Grade 2	Dilated pupils, piloerection, muscle twitching, myalgia, arthralgia, abdominal pain
Fully developed withdrawal (1–3 days after last use)	Grade 3	Tachycardia, hypertension, tachypnea, fever, anorexia or nausea, extreme restlessness
	Grade 4	Diarrhea and/or vomiting, dehydration, hyperglycemia, hypotension, curled-up position

Source: US Dept. of Health and Human Services, DHHS Publication SMA 04-3939.

4. Cautions

Buprenorphine is metabolized in the liver by the cytochrome P450 3A4 system. The use of medications or foods that inhibit the 3A4 enzyme (e.g., azole antifungal agents, macrolide antibiotics, protease inhibitors, and nucleoside reverse transcriptase inhibitors) may lead to increased plasma levels of buprenorphine. Exposure to substances that induce the 3A4 system, such as phenobarbital, may have the opposite effect.²⁶

Buprenorphine has a favorable safety profile; however, it is important for physicians to be aware of a patient's concomitant use of other sedatives/hypnotics, such as benzodiazepines.²⁷ If the use of benzodiazepines or other CNS depressants is deemed medically appropriate, monitor for side effects, particularly sedation and respiratory depression. Fatalities have occurred when buprenorphine was used intravenously, particularly along with central nervous system (CNS) depressants, such as intravenous benzodiazepines.^{28,29} However,

When buprenorphine is combined with benzodiazepines

- Educate patients about potential drug interactions.
- Monitor to ensure that the daily dose of buprenorphine is sufficient.
- Monitor for central nervous system (CNS) depressant side effects.

Source: Reckitt Benckiser Health Care. *Suboxone: Medical Advisory & Best Practice Update*. Richmond, VA: Reckitt Benckiser Pharmaceuticals Inc.; 2006.

patients are less likely to suffer fatal overdoses with buprenorphine than with methadone.³⁰

Patients who are opioid dependent often use other illicit substances. Patients can continue to receive buprenorphine treatment even if they use other drugs of abuse. There have been no documented adverse interactions between buprenorphine and cocaine³¹ or marijuana³²; information on buprenorphine and alcohol use is limited.

Referral to a higher level of care, such as a substance abuse treatment or rehabilitation program, may be useful for some patients using multiple substances; others may benefit from continued management with buprenorphine in the general medical setting. Continuity of care is especially important when the clinician is providing other facets of primary care. There is no medical rationale for discontinuing buprenorphine for most patients who continue to use other drugs.

5. Optimizing Dosage

Correct dosage is important to the success of treatment.

- Dosage that is too low can result in craving and withdrawal symptoms, which may cause your patient to drop out of treatment.
- Dosage that is too high can lead to sedation.

Considerable evidence suggests that the average daily Suboxone dosage is 16 mg/day. Few patients require dosages higher than 24 mg/day. Adverse effects are usually mild and might include symptoms associated with other opioids, such as constipation, nausea, and vomiting. It is difficult to overdose on buprenorphine alone because of its ceiling effect. Buprenorphine is generally administered once daily sublingually; the tablets completely dissolve within 5 to 10 minutes.

HOW TO BECOME A BUPRENORPHINE PROVIDER

To qualify to prescribe buprenorphine, a licensed physician (MD or DO) must meet the following criteria:

1) Any of the following:

- Complete at least 8 hours of a specific CME training (online or in person) on prescribing buprenorphine from an approved organization. **(See Resources.)**
- Subspecialty board certification related to addiction; or
- Investigator in one or more clinical trials leading to FDA approval of a narcotic for drug maintenance or detoxification.

2) The prescribing physician must have the capacity to refer patients to counseling:

- In NYC, providers can obtain referral resources by calling 1-800-LIFENET, or 311.

Source: http://buprenorphine.samhsa.gov/waiver_qualifications.html.

Patients wishing to switch from methadone to buprenorphine will need to be tapered first to 30 mg to 60 mg of methadone or risk precipitated withdrawal symptoms when they take their first dose of buprenorphine. Switching from methadone to buprenorphine is possible; however, the physician must monitor the patient for approximately two weeks while therapy is initiated and the adequate buprenorphine dose is determined. The risk of relapse during the taper period should be weighed against the benefits of buprenorphine.

6. Reducing Dosage and Discontinuing Treatment

The goal of treatment is to lead a functional life, free of dependence on illicit substances. The decision to discontinue buprenorphine should be made as part of a comprehensive treatment plan in partnership with the patient. The best method of discontinuing treatment has not been determined. Evidence suggests that patients may be more able to discontinue treatment if the dosage is gradually reduced.³³ Long-term opioid-dependent individuals with a history of relapse will require longer treatment. People who have been opioid dependent for short periods of time may be able to discontinue buprenorphine therapy in as little as 12 months.¹³ Although some patients may have the

goal of becoming medication-free, many will relapse and need to return to care. Clinicians should be prepared to reinstate treatment when necessary.

ADDITIONAL INTERVENTIONS

Patients who are drug dependent often need additional support for treatment to be effective. This may include psychiatric care, counseling, family and couples therapy, and 12-step programs. These interventions help patients who are substance dependent manage psychological or psychosocial problems that can interfere with treatment gains. Mood, anxiety, and personality disorders, as well as social and occupational problems, should also be addressed.³⁴

HOW TO QUALIFY TO PRESCRIBE

To become licensed to prescribe buprenorphine, physicians must qualify for a Drug Enforcement Administration waiver. Physicians must notify the Center for Substance Abuse Treatment (CSAT) of their intent to begin dispensing or prescribing buprenorphine in order to receive a waiver. The Notification of Intent must be submitted to CSAT before dispensing or prescribing opioid therapy. The Notification must also contain information on the physician's qualifying credentials. **(See Resources.)**

Once qualified, an individual physician may have a maximum of 30 patients on opioid therapy at any one time during the first year. One year after submitting the initial notification, the physician may submit a second notification to treat up to 100 patients.

FINDING A QUALIFIED BUPRENORPHINE PROVIDER

Qualified physicians who accept referrals for buprenorphine treatment can be found on the Buprenorphine Physician Locator Web site, www.buprenorphine.samhsa.gov, or by calling 1-866-BUP-CSAT/1-866-287-2728. Services to link providers with patients in their area are provided by the National Alliance of Advocates for Buprenorphine Treatment (www.naabt.org). LIFENET (1-800-LIFENET) can also be called to find providers who offer buprenorphine treatment in NYC. The Health Department facilitates physician mentoring for doctors wishing to expand their buprenorphine practice. For further information, or to provide or receive mentoring through the physician mentoring program, physicians should contact the Buprenorphine Physician Mentoring Program at: askbnpmd@health.nyc.gov. ♦

RESOURCES

For Clinicians

Suboxone

- 1-877-SUBOXONE/1-877-782-6966
www.suboxone.com

Buprenorphine Waiver Process and Forms

- <http://buprenorphine.samhsa.gov/howto.html>

Physician Information—Frequently Asked Questions

- www.fda.gov/cder/foi/label/2002/20732mdinfo.pdf

Buprenorphine Training Courses

- Substance Abuse and Mental Health Service Administration (SAMHSA)
1-866-BUP-CSAT/1-866-287-2728
<http://buprenorphine.samhsa.gov/training.html>

American Academy of Addiction Psychiatry

- www.aacap.org

American Osteopathic Academy of Addiction Medicine

- www.aoaam.org

American Psychiatric Association

- www.psych.org

American Society of Addiction Medicine

- www.asam.org

Physician Clinical Support System

- www.PCSSmentor.org

Clinical Opiate Withdrawal Scale (COWS)

- www.naabt.org/documents/COWS_induction_flow_sheet.pdf

Society of General Internal Medicine

- www.sjim.org

Resource listings are provided for informational purposes only and do not imply endorsement by the NYC DOHMH.

For Patients

Buprenorphine Physician Locator

- 1-866-BUP-CSAT/1-866-287-2728
www.buprenorphine.samhsa.gov

National Alliance of Advocates for Buprenorphine Treatment (NAABT), Inc.

- 1-860-269-4390
www.naabt.org

LIFENET (24 hours a day and 7 days a week)

- In English: 1-800-LIFENET/1-800-543-3638
- In Spanish: 1-877-AYUDESE/1-877-298-3373
- In Chinese: ASIAN LIFENET/1-877-990-8585
- For other languages, call 1-800-LIFENET and ask for an interpreter. TYY hard of hearing, call 1-212-982-5284
<http://mhaofnyc.org/2lifenet.html>

Patient Information—Patient Information Leaflet

- www.fda.gov/cder/foi/label/2002/20732lppi.pdf

Physician—Patient Sample Treatment Contract

- www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat5.section.73127

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Continuing Education Activity

Buprenorphine: An Office-Based Treatment For Opioid Dependence

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CITY HEALTH INFORMATION

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Objectives

At the conclusion of this activity, participants should:

1. Be familiar with office-based treatment of opioid addiction with buprenorphine.
2. Understand how to become certified to prescribe buprenorphine.
3. Understand how to refer patients to physicians certified to prescribe buprenorphine.
4. Understand how to assess patients for substance use disorders.

Accreditation

New York City Department of Health and Mental Hygiene (NYC DOHMH) is accredited by the Medical Society of the State of New York to sponsor continuing medical education for physicians. The NYC DOHMH designates this continuing medical education activity for a maximum of 1.00 AMA PRA Category 1 credit(s)[™]. Each physician should only claim credit commensurate with the extent of his/her participation in the activity.

Participants are required to submit name, address, and professional degree. This information will be maintained in the Department's CME program database. If you request, the CME Program will verify your participation and whether you passed the exam.

We will *not* share information with other organizations without your permission, except in certain emergencies when communication with health care providers is deemed by the public health agencies to be essential or when required by law. Participants who provide e-mail addresses may receive electronic announcements from the Department about future continuing education activities as well as other public health information.

Participants must submit the accompanying exam by April 30, 2009.

CME Faculty:

Myla Harrison, MD, MPH
Andrew Kolodny, MD

All faculty are affiliated with the NYC DOHMH. The faculty does not have any financial arrangements or affiliations with any commercial entities whose products, research, or services may be discussed in this issue.

CME Activity Buprenorphine: An Office-Based Treatment For Opioid Dependence

1. All of the following statements are true EXCEPT:

- A. Opioid pain medications are among the most commonly abused drugs in the United States.
- B. Most people who are addicted to opioids do not receive treatment.
- C. Buprenorphine is an effective treatment for opioid addiction.
- D. Buprenorphine can only be dispensed from a methadone clinic.

2. All of the following statements are true EXCEPT:

- A. Buprenorphine is a partial agonist at the opiate receptors.
- B. Buprenorphine binds very tightly to the opiate receptors.
- C. Methadone and buprenorphine both exhibit a "ceiling effect."
- D. Naloxone is included in the Suboxone formulation (buprenorphine/naloxone) to prevent injection misuse.

3. All of the following statements are true EXCEPT:

- A. Patients who receive buprenorphine treatment report diminished cravings for opioids.
- B. Withdrawal symptoms are usually eliminated in patients who receive buprenorphine treatment.
- C. Patients who receive buprenorphine treatment should be cautious when using alcohol or other sedatives.
- D. Patients who receive high doses of methadone can be easily switched to buprenorphine.

4. All of the following statements are true EXCEPT:

- A. Physicians who complete an 8-hour certification course are eligible to prescribe buprenorphine.
- B. Sublingual buprenorphine is FDA-approved for both pain and opioid addiction.
- C. Patients who are physically dependent on opioids must exhibit mild withdrawal symptoms before taking their first dose of buprenorphine.
- D. Physicians who are certified to prescribe buprenorphine can be found on the Buprenorphine Physician Locator.

5. How well did this continuing education activity achieve its educational objectives?

- A. Very well B. Adequately C. Poorly

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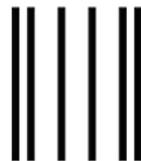
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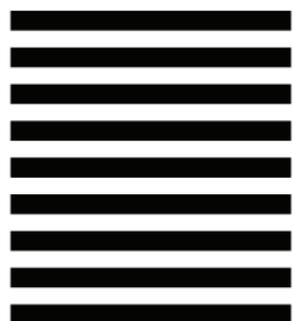
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Instructions

Read this issue of *City Health Information* for the correct answers to questions. To receive continuing education credit, you must answer 3 of the first 4 questions correctly.

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