



City Health Information

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PREVENTING MISUSE OF PRESCRIPTION OPIOID DRUGS

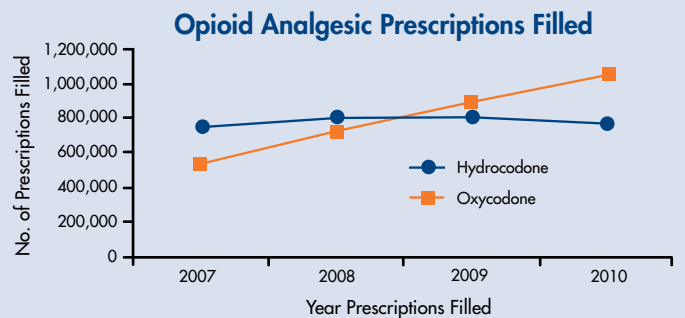
- Physicians and dentists can play a major role in reducing risks associated with opioid analgesics, particularly fatal drug overdose.
- For acute pain:
 - If opioids are warranted, prescribe only short-acting agents.
 - A 3-day supply is usually sufficient.
- For chronic noncancer pain:
 - Avoid prescribing opioids unless other approaches to analgesia have been demonstrated to be ineffective.
 - Avoid whenever possible prescribing opioids in patients taking benzodiazepines because of the risk of fatal respiratory depression.

The use of prescription opioids to manage pain has increased 10-fold over the past 20 years in the United States.¹ Although opioids are indicated and effective in the management of certain types of acute pain and cancer pain, their role in treating chronic noncancer pain is not well established.²

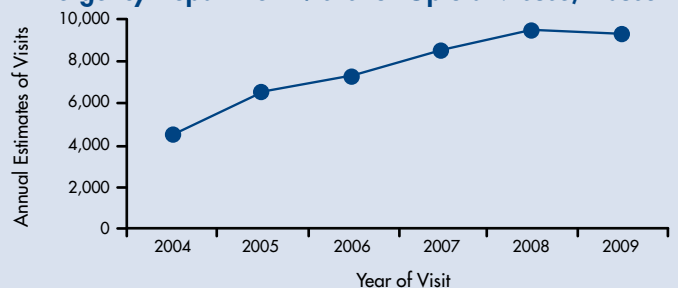
Concomitant with the growth in opioid prescribing, opioid-related health problems have increased. Between 2004 and 2009, the number of emergency department visits for opioid analgesic misuse and abuse in New York City (NYC) more than doubled, rising from approximately 4500 to more than 9000 visits.³ In 2009, 1 in every 4 unintentional drug poisoning (overdose) deaths in NYC involved prescription opioid analgesics, excluding methadone.³ In NYC, one-third of unintentional drug poisoning overdose deaths involve a benzodiazepine^{4,5}; the most common is alprazolam (Xanax®).⁵ Risks of unintentional poisoning may be increased when opioids are taken with benzodiazepines because both cause respiratory depression.⁶

The use of prescription opioids in manners other than prescribed and the use of these medications without prescriptions are serious public health problems.⁷

TRENDS IN OPIOID ANALGESIC USE AND CONSEQUENCES, NEW YORK CITY, 2004-2010

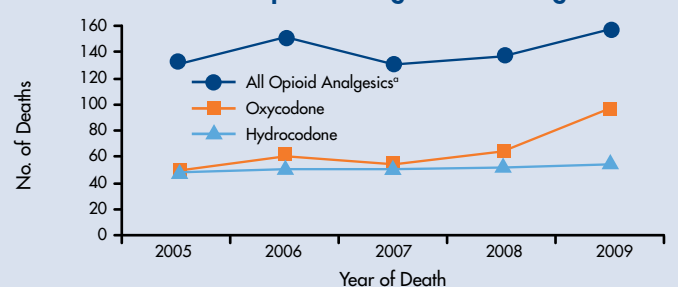


Emergency Department Visits for Opioid Misuse/Abuse



Note: Methadone is included in opioid analgesic emergency department visits.

Unintentional Opioid Analgesic Poisoning Deaths



*Excluding methadone.

Note: Deaths may involve more than 1 opioid and be counted in more than 1 group. Source: NYC Office of the Chief Medical Examiner and Office of Vital Statistics, New York State Prescription Drug Monitoring Program, Drug Abuse Warning Network (DAWN).

Nearly three-quarters (71%) of people aged 12 years and older who have used opioid analgesics for nonmedical purposes reported obtaining them for free or buying them from family or friends. In 80% of cases where opioid analgesics were obtained for free, the friend or relative had received the drugs from just one doctor.⁸

BOX 1. HEALTH RISKS ASSOCIATED WITH PRESCRIPTION OPIOIDS

- Fractures from falls in patients aged 60 years and older⁹
- Fatal overdose from respiratory depression.⁶ Opioids suppress respiratory drive and decrease respiratory rate.¹⁰ Respiratory depression is more common with use of alcohol, benzodiazepines, antihistamines, and barbiturates.^{6,7}
- Tolerance, physical dependence, withdrawal, and opioid dependence (addiction)¹¹
- Drowsiness¹¹
- Increased pain sensitivity (hyperalgesia)¹²
- Sexual dysfunction and other endocrine effects¹³
- Constipation¹⁴
- Nausea/vomiting⁶
- Chronic dry mouth¹⁵
- Dry skin/itching/pruritus⁶

BOX 2. TOLERANCE, DEPENDENCE, AND ADDICTION

- **Tolerance** is a reduction in sensitivity to effects of opioids following repeated administration, requiring increased doses to produce the same magnitude of effect.²
- **Physical dependence**, which may occur even with ≤ 7 days of treatment,¹⁶ is defined as occurrence of withdrawal symptoms when the opioid is abruptly discontinued or rapidly reduced.¹⁷
 - Symptoms of withdrawal include agitation, insomnia, diarrhea, sweating, rapid heartbeat, and runny nose.^{2,11}

Physical dependence is sometimes referred to as simply *dependence*,² but it is distinct from opioid dependence as defined by DSM-IV criteria.

- **Opioid dependence** is a maladaptive pattern of use leading to significant impairment or distress. The condition is diagnosed when 3 or more of the following DSM-IV criteria have occurred in the preceding 12 months: tolerance; withdrawal; inability to control use; unsuccessful attempts to decrease or discontinue use; time lost in obtaining substance, using substance, or recovering from using; giving up important activities; and continued use despite physical or psychological problems.¹⁸ Maladaptive use of prescription opioids marked by impaired control is sometimes referred to as *addiction*.¹⁷

Providers should prescribe opioids only very cautiously, and clearly communicate the risks of opioid treatment to their patients (see **Boxes 1** and **2**). The guidance given here applies only to management of acute pain and chronic noncancer pain. See separate guidelines for management of pain due to cancer.¹⁹

CHOOSING PAIN MANAGEMENT THERAPY

There are many methods of managing pain. Generally, opioids should only be used if other measures to relieve pain are not likely to be effective (see **Box 3**). Evaluate all patients reporting pain with a physical examination and a detailed history that includes medication history and onset, location, quality, duration, and intensity of the pain. A thorough evaluation will help determine the cause and mechanism of the pain (neuropathic, inflammatory, muscle, or mechanical/compressive), and choose the appropriate therapy.^{20,21} For neuropathic pain, effective agents include certain antidepressants and anticonvulsants and transdermal lidocaine.²² A meta-analysis of randomized trials of opioids for chronic noncancer pain did not find that opioids produce better functional outcomes than nonopioid drugs; one study found that nonopioid drugs produced better functional outcomes than opioids.²³

A medication history will identify potentially harmful drug interactions, for example, an increased risk of respiratory depression if a patient is taking benzodiazepines with an opioid. Validated pain scales (eg, 3-item PEG²⁴ or visual analog pain scale) may be helpful in initial pain assessment and with monitoring response to therapy¹¹ (**Resources—Assessment and Monitoring Tools**).

BOX 3. NONOPIOID APPROACHES TO MANAGING PAIN^{2,6}

Pharmacologic approaches include:

- Acetaminophen
- Selected anticonvulsants
- Selected antidepressants
- Capsaicin (for neuropathic pain)
- Corticosteroids
- Nonsteroidal anti-inflammatory drugs (NSAIDs)
- Transdermal lidocaine

Nonpharmacologic approaches include:

- Behavioral management (eg, assessment for depression/stress, chemical dependency)
- Physical therapy
- Self-management therapies (eg, relaxation, cognitive behavioral therapy)

WHEN TO CONSIDER OPIOIDS

Acute Pain: Short-acting opioids such as codeine, hydrocodone (Vicodin®, Lortab®), immediate-release oxycodone (Percocet® or Percodan®), and hydromorphone (Dilaudid®) may be used to relieve acute pain when the severity of the pain warrants their use and when nonopioid therapies will not provide adequate relief.²⁵ For opioid-naïve patients, always start with the lowest possible effective dose.⁶ Do not prescribe long-acting opioids such as methadone, fentanyl patches, or extended-release opioids such as oxycodone (OxyContin®), oxymorphone, or morphine.¹¹ It is important to note that opioids can be used to treat acute pain in patients maintained on medication-assisted treatment (eg, methadone or buprenorphine) for opioid dependence.²⁶

For most patients with acute pain (eg, post-trauma or surgery), a 3-day supply is sufficient; do not prescribe more than a 7-day supply. Episodic care providers in settings such as emergency departments, walk-in clinics, and dental clinics should not prescribe long-acting opioids.

Chronic Pain: Opioids should not be considered first-line medication for chronic noncancer pain. Opioids should be used for chronic pain only when other physical, behavioral, and nonopioid measures have not resolved the patient’s pain, and only if used with extreme caution.¹¹ There is insufficient evidence that modest pain relief is sustained or that function improves when opioids are prescribed long-term for chronic noncancer pain.²

If opioids are considered for chronic pain, first confirm that other pain management strategies have not resolved the pain, and then carefully evaluate the patient’s risk of opioid misuse (see **Figure**) and adverse events¹¹ (see **Box 1**). A personal or family history of substance abuse is the most strongly predictive factor for misuse; however, patients are often reluctant to disclose such information. Effective screening tools are available to help elicit a substance use history⁶ (**Resources—Assessment and Monitoring Tools; City Health Information**). A history of preadolescent sexual abuse and certain psychiatric conditions (eg, depression) are also risk factors²⁷ (see **Box 4**). Chronic opioid therapy is not absolutely contraindicated for patients at risk for opioid misuse, but extreme caution should be exercised. In such cases, consider consulting a pain management specialist (a physician specifically concerned with the prevention, evaluation, management, and treatment of pain²⁸) or a physician who treats chronic pain, such as a rheumatologist.

Recognize the risk of adverse events, including physical dependence and withdrawal, opioid dependence (addiction), and overdose, and discuss these risks with patients. Explain the potential risk of alcohol and medication interactions. In particular, benzodiazepines and other central nervous system depressants may increase the risk of serious adverse events, especially in older patients.²⁹ This combination should be avoided as much as possible.¹¹ Screen patients for harmful or hazardous alcohol use, and provide brief intervention and referral where indicated (**Resources—City Health Information**).

Note: The use of brand names does not imply endorsement of any product by the New York City Department of Health and Mental Hygiene. Please consult prescribing information for complete safety information, including boxed warnings.

FIGURE. OPIOID RISK TOOL

		Mark each box that applies	Item score if female	Item score if male
1. Family history of substance abuse	• Alcohol	<input type="checkbox"/>	1	3
	• Illegal drugs	<input type="checkbox"/>	2	3
	• Prescription drugs	<input type="checkbox"/>	4	4
2. Personal history of substance abuse	• Alcohol	<input type="checkbox"/>	3	3
	• Illegal drugs	<input type="checkbox"/>	4	4
	• Prescription drugs	<input type="checkbox"/>	5	5
3. Age (mark box if 16-45)		<input type="checkbox"/>	1	1
4. History of preadolescent sexual abuse		<input type="checkbox"/>	3	0
5. Psychological disease	• Attention-deficit disorder, obsessive-compulsive disorder, bipolar disorder, schizophrenia	<input type="checkbox"/>	2	2
	• Depression	<input type="checkbox"/>	1	1

Total Score _____ Risk Category _____

Low Risk: 0 to 3

Moderate Risk: 4 to 7

High Risk: 8 and above

Source: Webster LR, Webster R. Predicting aberrant behaviors in opioid-treated patients: Preliminary validation of the opioid risk tool. *Pain Med.* 2005;6(6):432.

BOX 4. PAIN AND MENTAL HEALTH

Identification and management of psychological comorbidities are integral to treatment of chronic pain.³⁰

Depression and anxiety often coexist with chronic pain³⁰ and may increase the risk of opioid use and misuse.^{6,31,32}

The relationship is dynamic, as psychological factors may both influence pain and in turn be influenced by the level of pain.³¹ Many patients with undiagnosed depression initially present to their providers with a primary complaint of pain (eg, headache, back pain).³³

Use the Patient Health Questionnaire (PHQ-2) to assess for depression (**Resources—Depression CHI**).

A trial of opioid therapy should only be considered when the potential benefits are likely to outweigh potential harm⁶ and the clinician is willing to commit to continued monitoring of the effects of treatment, including a plan to discontinue opioid therapy if necessary.¹¹ If you prescribe opioid therapy, register with the New York State (NYS) Health Commerce System to access the NYS Controlled Substance Information (CSI) on Dispensed Prescriptions Program so you can verify whether your patient has received controlled substance prescriptions from 2 or more prescribers and filled them at 2 or more pharmacies/dispensers during the previous calendar month (**Resources**).³⁴

In addition to opioid therapy, the treatment plan for a patient with chronic pain should include appropriate nonopioid adjuvant therapies to relieve pain and help the patient cope with the condition. Coordinate care with the patient's other providers whenever possible.⁶

A written pain treatment agreement explaining the doctor's and patient's responsibilities in opioid therapy (eg, filling prescriptions at only one pharmacy) can be a valuable element of the pain treatment program⁶ (**Resources**).

DOSING AND MONITORING

Avoid oversupplying patients with opioids to prevent misuse and diversion. Dosing and titration of opioids for chronic pain should be tailored according to the patient's previous response to opioid therapy, response to treatment, and potential or observed adverse events.⁶

Start opioid-naïve patients and patients at increased risk of adverse events at the lowest possible effective dose and titrate slowly (see **Boxes 1, 5, and 6**), as higher doses increase the risk of adverse events such as overdose.^{6,35,36}

All conversions between opioids are estimates generally based on equianalgesic dosing (ED). For patients taking more than one opioid, the morphine-equivalent doses (MED) of the different opioids must be added together to determine the cumulative dose (see **Box 5**). Because of the large patient variability in response to these EDs,

it is recommended that the calculated conversion dose be reduced by 25% to 50% to assure patient safety.¹¹

An opioid dose calculator is available at www.agencymeddirectors.wa.gov/Files/DosingCalc.xls. However, this calculator should not be used for converting a patient from one opioid to another. This is especially important in conversion to methadone, where additional caution is needed given the high potency and long and variable half-life of methadone.⁶

Furthermore, a recent study published in *JAMA* found that among patients receiving opioid prescriptions for pain, overdose rates increased with increasing doses of prescribed opioids.³⁶ Use the lowest possible effective dose of opioids. If dosing reaches 100 MED per day, thoroughly reassess the patient's pain status and treatment plan and reconsider other approaches to pain management.

BOX 5. CALCULATING CUMULATIVE MORPHINE-EQUIVALENT DOSES (MED)

Approximate equivalent doses for 30 mg morphine¹¹:

Hydrocodone: 30 mg

Oxycodone: 20 mg

If a patient takes 6 hydrocodone 5 mg/acetaminophen 500 mg and 2 oxycodone 20-mg extended-release tablets per day, the cumulative dose is calculated as:

Hydrocodone 5 mg x 6 tablets/day = 30 mg/day
= 30 mg MED/day

Oxycodone 20 mg x 2 tablets/day = 40 mg/day
= 60 mg MED/day

**Cumulative dose = 30 mg MED/day + 60 mg MED/day
= 90 mg MED/day**

BOX 6. CONSIDERATIONS FOR OPIOID DOSING

- **Acetaminophen warning with combination products.** Liver damage can result from prolonged use or doses in excess of the recommended maximum total daily dose of acetaminophen, including over-the-counter products¹¹:
 - Short-term use (<10 days): 4000 mg/day
 - Long-term use: 2500 mg/day
- **For long-acting opioids.** Monitor for adequate pain relief and for breakthrough pain at least until the long-acting opioid dose is stabilized. When calculating the starting dosage, be sure to include any short-acting opioids; consult with a pain management specialist for guidance.¹¹
- **Dosing caution.** Doses ≥100 mg MED per day are associated with higher risks of overdose; the lowest possible effective dose should be prescribed at all times. If dosing reaches 100 MED per day, thoroughly reassess the patient's pain status and treatment plan and reconsider other approaches to pain management.

Always monitor for adverse effects (respiratory depression, nausea, constipation, oversedation, itching, etc).¹¹

To ensure that the goals of pain management are met, carefully monitor patients receiving chronic opioid therapy:

- Follow up on a regular basis and document each assessment.⁶
- Assessment should include clinical observations of the patient's level of pain and physical functioning, as well as any adverse events.¹¹
- Consider urine drug testing on all patients to monitor prescription drug adherence and nonprescribed drug use (see **Box 7**).¹¹
- Closer and more frequent monitoring is required for patients at increased risk for adverse events or misuse.¹¹
- If a patient does not experience significant improvement in physical function or pain status or if dosing reaches

BOX 7. URINE DRUG TESTING (UDT) FOR CHRONIC OPIOID THERAPY

- Urine drug testing and behavioral assessment can identify inappropriate drug use.³⁷
- Inform the patient of the reason for UDT, its frequency, and its consequences.¹¹
- Repeat randomly, depending on risk level (yearly for low risk to every 3 months for high risk).¹¹
- If the patient demonstrates aberrant behavior, test at visit.¹¹
- UDT can detect presence or absence of drug(s) but not how much of a drug was used.¹¹
- Urine drug testing results should be interpreted in the context of information from patient interviews, physical examination, patient behavior such as requests for early refills, and confirmatory testing.³⁸
- The following results should be viewed as red flags¹¹:
 - Negative for opioids prescribed (might indicate diversion);
 - Positive for drugs you did NOT prescribe (benzodiazepines, other opioids) or for cocaine, amphetamine, or methamphetamine.
- If confirmatory testing and other information substantiate a red flag and the result is¹¹:
 - Negative for prescribed opioids—consider stopping opioid therapy, particularly if diversion is suspected.
 - Positive for drugs you did not prescribe—consider referral to an addiction specialist or drug treatment program.

^a Important: Immunoassays can cross-react with other drugs and vary in sensitivity and specificity. Unexpected immunoassay results should be interpreted with caution and verified by confirmatory testing using gas chromatography/mass spectrometry or liquid chromatography/tandem mass spectrometry to identify a drug or confirm an immunoassay result. Interpretation of results of confirmatory testing is complicated; consult with the laboratory before making a clinical decision.¹¹

An algorithm giving detailed guidance on UDT in chronic opioid therapy is available in Appendix D of the Washington State Agency Medical Directors' Group, Interagency Guideline on Opioid Dosing for Chronic Non-cancer Pain (2010) at: www.agencymeddirectors.wa.gov/guidelines.asp.

100 MED per day, thoroughly reassess the patient's pain status and treatment plan and reconsider other approaches to pain management.

Discontinuing opioid treatment should be managed carefully; there are several protocols for safely tapering opioids. The simplest and safest taper is a dose reduction of 10% each day, 20% every 3 to 5 days, or 25% each week.³⁹

TALKING TO PATIENTS ABOUT OPIOIDS

Clearly communicate with patients about opioid therapy (see **Box 8**) and state the goals of pain management. For acute pain, opioids are short-term therapy for the specific condition.^{6,11} Explain that the pain should resolve before the medication supply runs out, but if pain is still present at scheduled follow-up, you will reevaluate.

For chronic pain, be explicit and realistic about the kind of relief opioids can provide. Opioids may be just one part of a multimodal treatment plan to reduce chronic pain intensity and improve quality of life, particularly functional capacity.⁶ The treatment plan should also address the risks, benefits, and goals of opioid therapy, such as increased activity levels, improved quality of life, and reduced pain.²

Be sure that patients know they should keep their prescription in a safe, locked cabinet and that—unlike other medications—unused opioids should be flushed down the toilet.⁴⁰

BOX 8. WHAT YOU SHOULD TELL YOUR PATIENTS ABOUT OPIOIDS

- Fill your prescriptions at only one pharmacy.⁶
- Keep the medication in a secure location, preferably locked.⁴¹
- Your body may become used to the drug (physical dependence) and stopping the drug may make you miss it or feel sick.¹¹
- You may develop tolerance and need more medication to get the same effect.¹¹
- There is a risk of opioid dependence (addiction) when taking this medicine.¹⁶
- Take the medication exactly as shown on the label—and not more frequently or less frequently.⁴¹
- An overdose of this medicine can slow or stop your breathing and even lead to death. You may experience side effects such as confusion, drowsiness, slowed breathing, nausea, vomiting, constipation, and dry mouth.^{6,15}
- Avoid alcohol and other drugs that are not part of the treatment plan that we've discussed (eg, benzodiazepines) because they may worsen side effects and increase risk of overdose.⁷ Be careful when driving or operating heavy machinery. Opioids may slow your reaction time.⁶
- Do not share medication with anyone.²⁹
- Flush unused medication down the toilet.⁴⁰

SIGNS OF PRESCRIPTION DRUG MISUSE

Protect your patients' safety by being alert to signs of misuse, but also be aware that all patients will develop a physical dependence if they are taking opioids daily for an extended period of time (days or weeks).¹⁶ Some patients may display an overwhelming focus on opioid issues, demonstrate a pattern of early refills, or make multiple telephone calls or office visits to request more opioids.² Patients who misuse opioids may have a pattern of prescription problems that includes lost, spilled, or stolen medications, or escalating drug use in the absence of a physician's direction to do so.² If a urine screen reveals illicit or licit drugs that were not disclosed, is repeatedly negative for drugs prescribed, or if you learn that the patient has obtained opioids from multiple providers when checking the NYS CSI on Dispensed Prescriptions Program (**Resources**),² you should consider the possibility of opioid misuse.⁶ Patients should understand that screening for misuse is a normal part of the pain management process.² If the patient demonstrates signs of misuse, discuss the need to improve

compliance by reviewing the treatment agreement, emphasizing your concern for the patient. If signs of misuse continue, strongly consider discontinuing opioids. If you suspect your patient meets DSM-IV criteria (**Box 2**) for the diagnosis of opioid dependence and you are not already a buprenorphine prescriber, explain the option of buprenorphine detoxification and maintenance (**Resources—City Health Information**) and refer the patient to an addiction specialist, buprenorphine provider, or methadone maintenance treatment program. If opioids are discontinued, patients should be tapered as described above.

SUMMARY

Pain relief poses treatment challenges that physicians must consider. While opioids are effective for certain types of pain, their increased use has contributed to increases in overdose deaths and opioid misuse.⁴² Physicians and patients should be aware of the risks of opioid therapy, including overdose, misuse, diversion, and opioid dependence (addiction). ♦

RESOURCES

Assessment and Monitoring Tools

- Roland Morris Disability Questionnaire: www.chirogeek.com/001_Roland-Morris-Questionnaire.htm
- Pain, Enjoyment and General Activity (PEG): www.ncbi.nlm.nih.gov/pmc/articles/PMC2686775
- Graded Chronic Pain Scale (Washington State Guidelines): www.agencymeddirectors.wa.gov/Files/OpioidGdline.pdf
- Brief Pain Inventory: medicine.iupui.edu/RHEU/Physicians/bpif.pdf
- Physical Functional Ability Questionnaire: www.cdc.gov/nchs/data/nhanes/nhanes_09_10/pfq_f.pdf
- Bieri Pain Scale: www.healthcare.uiowa.edu/igec/tools/pain/faces.pdf
- Visual Analog Scale: www.partnersagainstpain.com/printouts/A7012AS1.pdf
- Pain Management Resource Directory (includes assessment tools): www.compassionandsupport.org/index.php/for_professionals/pain_management
- AUDIT Alcohol Consumption Questions: www.ewashtenaw.org/government/departments/wcho/ch_auditc.pdf
- CRAFFT Adolescent Substance Abuse Screening Tool: www.childrenshospital.org/views/february09/images/CRAFFT.pdf
- Patient Health Questionnaire-2 for Depression Assessment: www.cqaimh.org/pdf/tool_phq2.pdf
- Sample Pain Treatment Agreements: <http://hrsa.dshs.wa.gov/pharmacy/ChronicPainAgreement.pdf>
www.painmed.org/library/sample_agreements/controlled-substances-agrmt110803.pdf
www.dopl.utah.gov/licensing/forms/OpioidGuidelines_summary.pdf

US and NYS Resources

- New York State (NYS) Controlled Substance Information (CSI) on Dispensed Prescriptions Program: www.nyhealth.gov/professionals/narcotic/practitioners/online_notification_program/
- NYS Department of Health Commerce System: <https://commerce.health.state.ny.us/hcsportal/appmanager/hcs/home>
Password required. Please call the Commerce Accounts Management Unit at 1-800-529-1890 for assistance.
- Emergency Department Care Coordination. Provides guidelines for patients with chronic pain who recurrently use the emergency department: www.consistentcare.com
- Office of National Drug Control Policy: www.whitehousedrugpolicy.gov/drugfact/prescr_drg_abuse.html
- US Department of Justice Drug Enforcement Agency. Questions and Answers: State Prescription Drug Monitoring Programs: www.deadiversion.usdoj.gov/faq/rx_monitor.htm
- US Food and Drug Administration. Disposal by Flushing of Certain Unused Medications: What You Should Know: www.fda.gov/Drugs/ResourcesForYou/Consumers/BuyingUsingMedicineSafely/EnsuringSafeUseofMedicine/SafeDisposalofMedicines/ucm186187.htm
- NYS Department of Health Opioid Overdose Prevention: www.health.state.ny.us/diseases/aids/harm_reduction/opioidprevention/index.htm
- Physicians for Responsible Opioid Prescribing: www.responsibleopioidprescribing.org

New York City Department of Health and Mental Hygiene. **City Health Information:**

- Buprenorphine: An Office-based Treatment for Opioid Dependence: www.nyc.gov/html/doh/downloads/pdf/chi/chi27-4.pdf
- Improving the Health of People Who Use Drugs: www.nyc.gov/html/doh/downloads/pdf/chi/chi28-3.pdf
- Detecting and Treating Depression in Adults: www.nyc.gov/html/doh/downloads/pdf/chi/chi26-9.pdf
- Brief Intervention for Excessive Drinking: www.nyc.gov/html/doh/downloads/pdf/chi/chi30-1.pdf

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