

## Addiction Medicine

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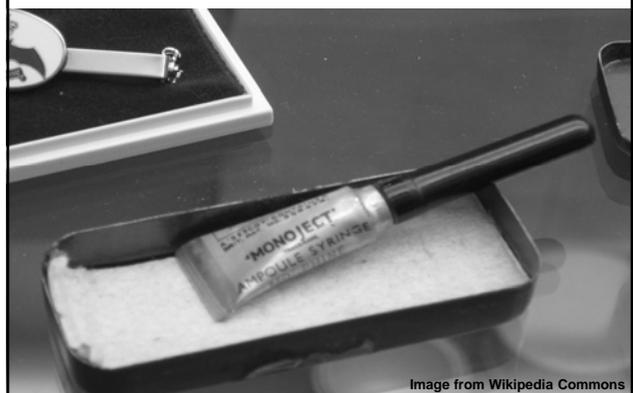
## Objectives

- Describe and discuss tramadol as a novel opioid, including risks and benefits
- Describe and discuss the problem of opioid misuse and abuse.
- Discuss physician strategies for patient encounters influenced by opioid misuse/abuse
- Discuss new and coming legislation and regulation related to prescription opioids.

## Tramadol

- Centrally acting weak mu opioid receptor agonist
- Also blocks reuptake of serotonin and norepinephrine (not fully reversible with naloxone)
- Useful in neuropathic pain
- Not a controlled substance
- Seizure risk
- Risk of serotonin syndrome with SSRIs or TCAs
- Renal clearance

## Opioids



## Terminology

- Opioid – chemical that binds to opioid receptors
- Opiate – technically refers to a natural alkaloid of the opium poppy (opiates are opioids).
- Narcotic – a historically varied word with negative legal and social connotations.

<http://www.justice.gov/dea/concern/narcotics.html>
Louise Joly, one half of AtelierJoly

## Opioid Use

- Americans make up 4.6% of the world's population yet use 80% of the global opioid supply, 99% of the global hydrocodone supply, and 2/3 of the world's illegal drugs.
- Patients on long-term opioid use have been shown to increase the overall cost of healthcare, disability, rates of surgery, and late opioid use.

Manchikanti and Singh Pain Physician 2008; Opioid Special Issue: 11:S63-S88.

## Misuse and Abuse

**MORPHINE** **PAINLESS—PERMANENT**  
We will send anyone addicted to OPIUM, MORPHINE, LAUDANUM, or other drug habit, a Trial Treatment, Free of Charge, of the most remarkable remedy ever discovered. Contains Great Vital Principle heretofore unknown. Refractory Cases solicited. Confidential correspondence invited from all, especially Physicians. ST. JAMES SOCIETY, 115 BROADWAY, NEW YORK.

**EASY HOME CURE**

Opioids have been misused and abused for as long as they have been used to treat pain.

## Opioid Abuse

- Use, misuse, and abuse of prescription opioid analgesia has increased markedly since 1990.
- In 1997, the American Society of Anaesthesiologists, the American Academy of Pain Medicine, and the American Pain Society all advocated for expanded opioid use in the management of chronic pain *when other treatments are inadequate after careful patient evaluation and counseling.*

Anaesthesiology, 1997; 87:995-1004

## Increased Use mg/person 1997-2006

- |               |         |
|---------------|---------|
| • Morphine    | • 184%  |
| • Methadone   | • 1129% |
| • Oxycodone   | • 899%  |
| • Hydrocodone | • 231%  |
| • Fentanyl    | • 450%  |

Manchikanti and Singh Pain Physician 2008; Opioid Special Issue: 11:S63-S88.

## Euphoria

- The degree of euphoria produced by a given medication is likely related to ability to cross the blood brain barrier.
- Euphoria *may* be related to relative mu receptor subtype stimulation.
- Euphoria tolerance *may* be related to overdose potential.



Mechanisms of opioid overdose 967

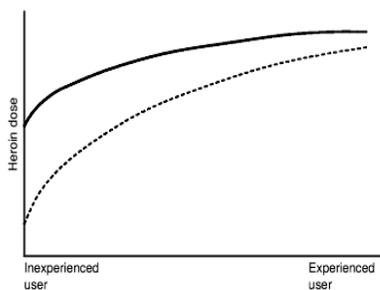
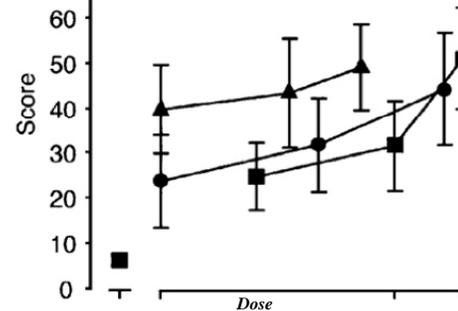


Figure 2. Hypothetical model of tolerance to intoxicating and lethal effects of opioids following repeated administration. The doses required to produce the respective effects increase with experience, but at different rates. Adapted from Smith et al. (1970).  
—, Lethal dose, ---, intoxicating dose.

White and Irvine, *Addiction*, 1999; 94(7), 961-972.

## "How HIGH Are You?"

circle=oxycodone 10, 20, 40 mg  
square=hydrocodone 15, 30, 45 mg  
triangle=hydromorphone 10, 17.5, 25 mg



Walsh et al. / *Drug and Alcohol Dependence* 98 (2008) 191-202.

## Addicts and Prescription Opioids

- In a Toronto study from 2003, 82% of patients presenting for enrollment in methadone maintenance programs admitted prescription opioid use.
- 61% of those using prescription opioids reported obtaining them from a physician.
- 24% used prescription opioids only.
- 35% used heroin first and then prescription opioids.
- 24% used prescription opioids first and heroin later.
- The majority of patients using prescription opioids starting to use them for pain control (86% of those only using prescription opioids and 62% of those who started with prescription opioids).

Brands, et al. Drug and Alcohol Dependence, 2004, 73:199-207.

## Informed Patients

Opioid abuse has entered the digital age.

Numerous forums are related to usage patterns for prescription opioids.

[forum.opiophile.org](http://forum.opiophile.org)

[www.bluelight.ru](http://www.bluelight.ru)

### Pharmaceuticals

Topics concerning opiate-based pharmaceuticals should be posted here. General questions unrelated to specific pharmaceuticals should be posted in the main forum. Pain Management questions should be posted in the Pain Management Forum.

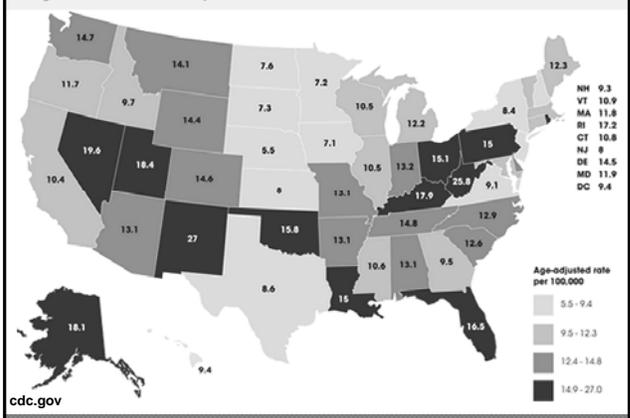
**Sub-Forums:** Oxycodone, Hydrocodone, Hydromorphone, Fentanyl, Oxymorphone, Codeine, Tramadol, Other Pharmaceutical Opiates

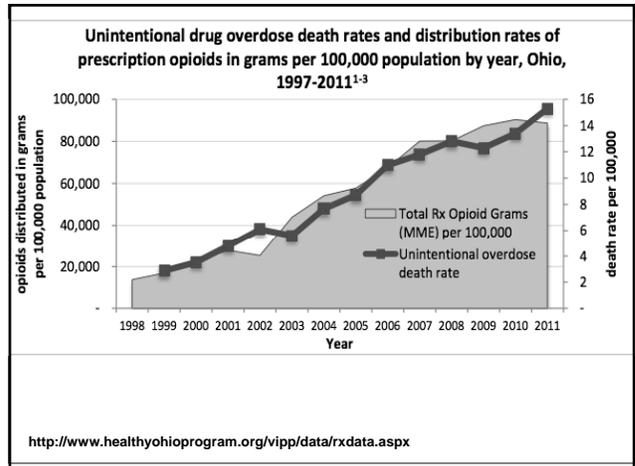
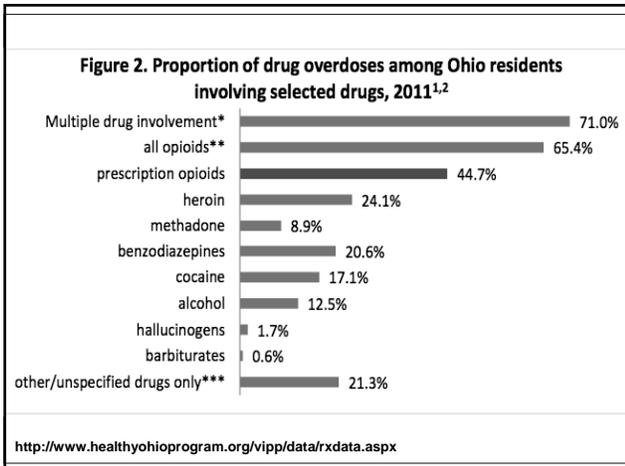
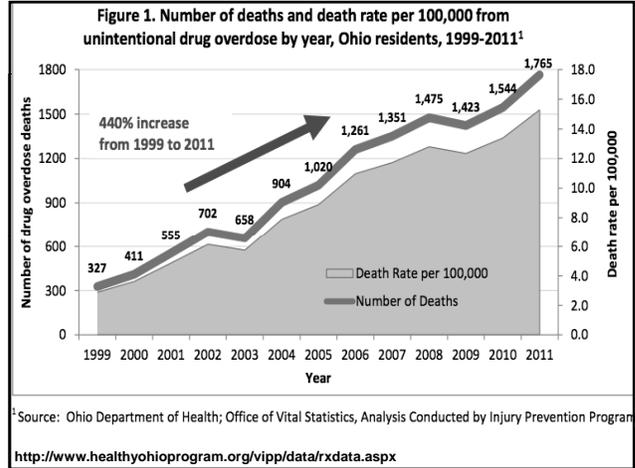
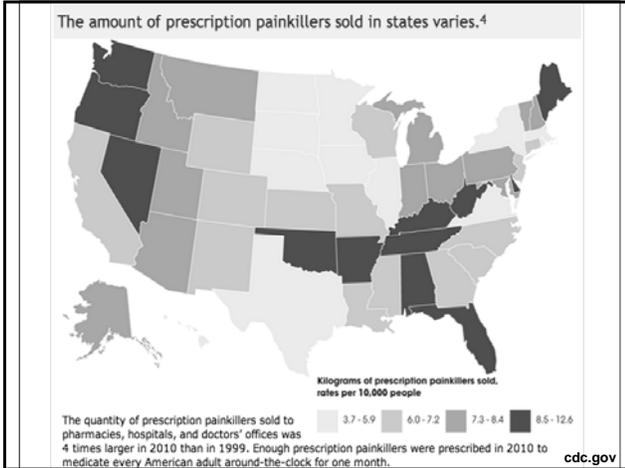
3,545 65,392

## A Sampling of Forum Thread Titles

- “Finding a quack doctor...”
- “IF YOU HAD YER(sic) OWN RX PAD...”
- “Opiate Dosage Converter Program”
- “Surviving Acetaminophen (Tylenol) Poisoning”
- “State Prescription Drug Monitoring Programs”
- “Cant(sic) feel 20mg dilaudid shot, help?”

Drug Overdose Rates by State, 2008<sup>4</sup>





## Health Care Provider Obligations

- “HCPs are obligated to act in the best interests of their patients.”
- “This action *may* include the addition of opioid medication to the treatment plan of patients whose symptoms include pain.”
- “It is...a medical judgment that must be made by a HCP in the context of the provider-patient relationship based on knowledge of the patient, awareness of the patient's medical and psychiatric conditions and on observation of the patient's response to treatment.”

A consensus document from the American Academy of Pain Medicine, the American Pain Society, and the American Society of Addiction Medicine. <http://ampainsoc.org/advocacy/pdf/rights.pdf>

## Keeping Patients Safe

- If the gut works, use it!
  - Use oral medications if the patient is able to take oral intake.
  - Appropriate for long and short acting agents.
- Safety checks for the rooms of patients suspected of altering the route of administration of the medication or surreptitiously taking other home medications
- Use urine drug screening on *all* chronic pain patients, patients admitted from the ED for “uncontrollable pain” without a diagnosis, and outpatients in accordance with their pain contracts.

## Keeping Patients Safe

- Check an OARRS report (Ohio Automated Rx Reporting System)
  - In the literature, “doctor shopping” is usually defined as opioid prescriptions from 5 or more physicians in a year.
- When to check OARRS
  - “If a patient is exhibiting signs of drug abuse or diversion;
  - When you have a reason to believe the treatment of a patient with the above listed drugs will continue for twelve weeks or more; and
  - At least once a year for patients thereafter for patients receiving treatment with the above listed drugs for twelve weeks or more.”

<http://med.ohio.gov/pdf/rules/4731-11-11%20FAQs.pdf>

## <http://www.ohiopmp.gov>

[Click Here To Register](#)  
 \*Open to Licensed Healthcare Professionals and Law Enforcement  
 \*Please allow at least 15 minutes to complete the Registration and at least 7 days to receive username and password

[Log In](#)  
 \*Request a Prescription History Report  
 \*View previously requested Prescription History Reports  
 \*View requests made by your delegates (Prescribers and Supervisors Only)

[FAQ](#)  
 Have a question? You're probably not the only one. Click here for answers to the most frequently asked questions.

## Keeping Patients Safe

- Addicts, by definition, will be manipulative and deceitful in efforts to obtain their desired drug.
- Doing the “right” thing for the patient does not always mean prescribing opioids.
- Patients should not be permitted to leave the floor while receiving IV opioids.

## Keeping Patients Safe

- Injection drug use often leads to infection. Patients with a documented pattern of opioid abuse or directly observed dangerous behavior should be considered for facility placement for prolonged courses of IV antibiotics via PICC line.
- Keep realistic expectations. Patients with chronic pain are never going to be “pain free”.

## Keeping Patients Safe

- Chronic pain patients treated with chronic opioid therapy with a pain contract should not be prescribed their chronic pain medications at discharge.
  - A quick phone call to the patient’s pain physician will often clarify any questions.
- Quantity prescribed for opioid class medications should be limited (They are likely being prescribed for a limited acute condition).

## Don’t Build a Bridge to Nowhere

- What about the patient that has “chronic pain,” an exceptional inpatient opioid requirement, and no outpatient prescribing physician for their “chronic” opioids?
  - 5-7 day taper
  - Methadone is to be avoided

## Sentencing set for Doctor in Ohio Pill Mill Case

COLUMBUS, Ohio (AP) — A judge has set a sentencing date for a Chicago doctor convicted of running a pill mill in southern Ohio and causing the death of four patients who overdosed.

Dr. Paul Volkman faces 20 years in prison on those four charges at his Feb. 14 sentencing in federal court in Cincinnati.

He also was convicted of eight other distribution counts that prosecutors said resulted in fatal overdoses but did not leave enough evidence to convict him of the deaths.

Volkman was found guilty in May of illegally prescribing Oxycodone, a painkiller that has been blamed for overdose deaths around the country.

Volkman declined to testify at the trial that saw 70 government witnesses, including pharmacists, police investigators, clinic employees and patients who received pills from Volkman.

<http://www.wkbn.com/content/news/ohstate/story/Sentencing-set-for-doctor-in-Ohio-pill-mill-case/pjD6mpYsc0O3TQMRUHEUKQ.csp>

## The Prescription Opioid Problem in the News

The NEW ENGLAND JOURNAL of MEDICINE

Perspective  
NOVEMBER 18, 2010

### A Flood of Opioids, a Rising Tide of Deaths

Susan Okie, M.D.

## The Prescription Opioid Problem in the News

The Columbus  
**Dispatch**  
dispatch.com

Site search Web search by

HOME NEWS LOCAL POLITICS OPINION DATA CENTER OSU SPORTS MORE SPORTS  
METRO/STATE US/WORLD OBITUARIES POLITICS INSIGHT SCIENCE FACTS

### Strickland vows crackdown on 'pill mills'

Task force will fight prescription-painkiller abuse

Friday, April 2, 2010 11:17 AM

Updated: Friday, April 2, 2010 12:38 PM

BY ALAN JOHNSON  
THE COLUMBUS DISPATCH

## The Prescription Opioid Problem in the News

a division of  
The Columbus  
**Dispatch**  
dispatch.com

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LEGISLATION AND ENFORCEMENT

### Bill takes on 'pill mills,' prescription-drug abuse

WEDNESDAY, FEBRUARY 9, 2011 02:52 AM

BY ALAN JOHNSON  
THE COLUMBUS DISPATCH

## Ohio's New Law(s)

- House Bill 93, Senate Bill 301
- Pain clinics must be physician owned
- Pain clinics must be licensed
- Limits regarding the number of pills that can be directly furnished to the patient
- Pain clinic defined
  - Primarily treating pain
  - Majority of patients receive controlled substances for pain or tramadol

## Using Addiction Psychiatry Principals in Medical Practice

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Addiction Medicine Services  
Department of Psychiatry  
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## Objective

- To understand:
  - screening,
  - management strategies, and
  - referral, for patients with controlled substance prescriptions
- As enlightened by the definition and neurobiology of addiction

## A Substance Related Problem

- She reports severe panic attacks
- On Xanax 2 mg 3 X /day for her anxiety
- Has taken Xanax for 12 years
- On her current dose for 7 years
- Her doctor just retired/she needs a new doctor
- Can't imagine making it without the medication
- Her other medical issues are routine

## Evaluating a new patient

- She can not stop taking the alrazolam
- If you don't give it she will go elsewhere
- You are concerned such a patient may be difficult to manage
- You run the risk of fostering her problems
- Ethical responsibility to prescribe responsibly

**Is she an addict ?**

## Initial Screening

- Ask your patients about their substance use
  - How many alcoholic drinks do you have in a week?
    - Not, "Do you drink?"
  - Tell me about you tobacco use.
    - And second hand smoke
  - What about marijuana?
  - What other drugs do you use?
  - Enquire about prescriptions for opiates and benzodiazepines.
    - How often do you use more than prescribed?
    - Do you give medications to others?

## Screening

- Follow-up on any positive responses
  - CAGE questionnaire; a 4 question screener
  - MAST-Michigan Alcohol Screening Test
  - More numerous and specific detail questions about drugs
  - DAST-Drug Abuse Screening Test
- Tobacco
  - Favorite cigarette of the day?
  - How long until first cigarette of the day?

## **CAGE**

- Only used for ETOH screening
- 2 or more “yes” responses is a positive screen
- C- Have you ever felt you ought to CUT down your drinking?
- A- Have people ANNOYED you by criticizing your drinking?
- G- Have you ever felt GUILTY about your drinking?
- E- Have you ever had a drink first thing in the morning (EYE OPENER) to steady your nerves or get rid of a hangover?

## **Brief MAST Questions**

- Do you feel you are a normal drinker?
- Do friends or relatives think you are a normal drinker?
- Have you ever attended a meeting of AA?
- Have you ever lost friends or girlfriends/boyfriends because of drinking?
- Have you ever gotten into trouble at work because of drinking?

## **Brief Mast Continued**

- Have you ever neglected your obligations, your family, or your work for 2 or more days in a row because you were drinking?
- Have you ever had delirium tremens (DTs) severe shaking, heard voices, or seen things that weren't there after heavy drinking?
- Have you ever gone to anyone for help about your drinking?
- Have you ever been hospitalized because of drinking?
- Have you ever been arrested for driving drunk?

## **Identification of Substance Abuse**

- Warning signs/symptoms
  - Biological
    - Weight loss, liver disease, GI conditions, loss of tooth enamel
  - Psychological
    - Anger, irritability, lethargy, confusion
  - Social
    - Socializing with drug users, isolated from non-using friends, lack of family relationships, loss of job, arrests
  - Spiritual
    - Loss of values, denial of morality

## SCREENING

### Consider utilizing point-of-care testing:

- Breath-alyzer, saliva, or urine testing for alcohol
- Urine (or hair) testing for drugs
- Urine, saliva, or breath testing for tobacco (nicotine)

## Urine toxicology screening

- Random urine toxicology screening is better than routine
- You must understand the limitations of testing
- For example, with opiates:
  - Routine opiate screens do not detect meperidine, oxycodone, fentanyl, tramadol, buprenorphine
  - Heroin is excreted in urine as morphine
  - 6-monoacetyl morphine (6-MAM) detected for 12 hours – evidence of recent heroin use
  - Poppy seeds contain trace amounts of codeine and morphine and even small amounts of poppy seeds can give positive for morphine

## Collateral/other information

- Concerned family members
- Other physicians who are or have treated the patient
- Pharmacists who fill their prescriptions
- Your office staff
- Electronic pharmacy records

## OARRS

- Ohio Automated Rx Reporting System (OARRS)
  - Online tool to assist giving better treatment for while identifying illicit drug seeking behaviors
  - It lists prescriptions and prescribers for last 12 months
    - May not show prescriptions written in last 1-2 weeks
    - May show multiple prescribers, in different cities, similar or identical medications, often physicians in emergency departments

## Substance Abuse

Maladaptive pattern of substance use, characterized by 1 or more of following symptoms in a 12 month period:

- Recurrent substance use resulting in failure to fulfill major role obligations
- Recurrent substance use in situations in which it is physically hazardous
- Recurrent substance-related legal problems
- Continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance

*\* The symptoms have never met criteria for Substance Dependence for this class of substance*

## Substance Dependence (Addiction)

- A maladaptive pattern of use leading to clinically significant impairment or distress, characterized by at least 3 of 7 criteria within a one year period

## DSM 4 Criteria for Substance Dependence

### Tolerance

- Need for more or diminished effect

### Withdrawal

- Or taking the substance to avoid withdrawal symptoms

Substance taken in larger amounts or over a longer period than intended

Persistent desire or unsuccessful efforts to cut down or control use

Great deal of time spent obtaining, using, or recovering from effects

Important social, occupational, or recreational activities are given up or reduced

Substance use continued despite knowledge of having persistent or recurrent physical or psychological problems due to use

## Addiction

Addiction = “Substance Dependence”

“Addiction” is a non-specific term frequently used to refer to a variety of substance-related problems

- Addiction is not just physical dependence
  - Physical dependence and a syndrome of substance dependence (DSM-IV) are importantly different

## Why Does Addiction Occur?

- Drugs of abuse can release 5 to 10 times the amount of dopamine as natural rewards
- In some cases, this occurs almost immediately (as when drugs are smoked or injected), and the effects can last much longer than those produced by natural rewards
- This creates a much stronger effect on the brain's reward circuit than those produced naturally (e.g., food, sex)
- The effect of such a powerful reward strongly motivates people to take drugs again and again

## Effects of Chronic Drug Use

- With repeated use, drugs cause profound changes in neurons and brain circuitry
- These changes are associated with “tolerance”
- Decreased dopamine transporters result in depression-like symptoms
- Drugs are needed to “return to baseline”
- Induces chronic changes & brain damage

## Imaging Studies

### Patients who abuse substances

#### Structural abnormalities (MRI/MRS):

- Frontal cortex, prefrontal cortex, basal ganglia, and amygdala

#### Functional abnormalities (fMRI, PET, SPECT):

- Caudate nucleus, cingulate, and prefrontal cortex become activated during a drug “rush”
- Nucleus accumbens becomes activated during periods of craving
- Striatal dopamine spike associated with the pleasurable drug-related “high”

If the patient is an addict:

**REFERRAL IS THE BEST COURSE,  
PARTICULARLY IF THE CASE IS  
COMPLEX.**

On the other hand:

**ADDICTION EXISTS ON A CONTINUUM OF SEVERITY & YOU MIGHT DECIDE TO TAKE ON A MORE MANAGEABLE CASE**

## **REFERRAL TO TREATMENT**

- **Be familiar with options for treatment**
  - Be able to provide information on AA/NA Meetings, smoking cessation options, etc.
  - Offer referral to outpatient addiction treatment clinic
  - Suggest inpatient detoxification and/or long-term residential treatment, if indicated
- **There continues to be a large “treatment gap”**
  - In 2010, an estimated 23.1 million Americans (9.1 percent) needed treatment for a problem related to drugs or alcohol, but only about 2.6 million (1 percent) received treatment

## **Not an addict; you decide to treat her. Principals of treatment**

- **Treatment contract**
- **Switch med?**
- **Taper/long term treatment**
- **Dealing with lost prescriptions**
- **Check pharmacy record**

## **In Conclusion**

- **Addiction is a serious, common, and treatable condition that will be present in the patients you treat**
- **As physicians**
  - **Fulfill ethical responsibility to patients by prescribing responsibly**
  - **Recognize and intervene with patients who have addiction, not just the physiological symptoms that may result from chronic substance use**