



Module VI: Potentially Addictive Prescription Drugs: Striking a Balance

I. Learning Objectives

At the end of the training, health care professionals will be able to describe:

- Epidemiology of prescription drug misuse and dependence
- Therapeutic use and pharmacology of commonly misused prescription drugs
- Detox and treatment for patients with prescription drug dependence to teach others.

At the end of the training, health care professionals will be able to discuss:

- The concept of balancing benefit and risk in prescribing potentially addictive medicines
- Ways that prescribers and non-prescribers can optimize benefit and reduce abuse, addiction and diversion

II. Chronology

This material is best taught over approximately 2 hour and 20 minutes including teaching case.

A. Module Outline

1. Therapeutic Use and Pharmacology of Misused Prescription Drugs
2. Definitions: Substance Use Patterns
3. Epidemiology of Prescription Drug Misuse and Dependence
4. Detox and Treatment for Prescription Drug Dependence
5. Balancing Benefit and Risk in Prescribing
6. Recommendations for Prescribers and Non-Prescribers
7. Putting It All Together: A Case

B. Optional Presentation Formats

Below is a suggested schedule for lecture and discussion on prescription drug abuse:

Slide #s	Descriptions	Times (min)	All Slides * Time(min)	No Teaching Case * Time(min)	Opioids only * Time(min)	Opioids-No teaching case * Time(min)	One-hour lecture * Time (min)	One-hour w/case * Time (min)
1-4	Title & objectives	2	1 2	1 2	1 2	1 2	1 2	1 2
5-10	Epidemiology	10	1 10	1 10	1 10	1 10	@ 4	@ 4
11-12	Epi-Gender	3	1 3	1 3	1 3	1 3	0 0	0 0
13	Epi-Elderly	2	1 2	1 2	1 2	1 2	0 0	0 0
14-24	Pharm-Opioids&Pain Tx	10	1 10	1 10	1 10	1 10	# 8	# 8
25-28,31	Substance use continuum	7	1 7	1 7	1 7	1 7	1 7	0 0
29-30	Biol basis of addiction	3	1 3	1 3	1 3	1 3	0 0	0 0
32	Pseudoaddiction	2	1 2	1 2	1 2	1 2	0 0	0 0
33-35	Barriers	3	1 3	1 3	1 3	1 3	0 0	0 0
36-38	Pharm-Stimulants	2	1 2	1 2	0 0	0 0	0 0	0 0
39-42	ADD	5	1 5	1 5	0 0	0 0	0 0	0 0
43-44	Stimulants & ADD	2	1 2	1 2	0 0	0 0	0 0	0 0
45-47	Pharm - Sed & Tranq	3	1 3	1 3	0 0	0 0	0 0	0 0
48-53	Anxiety disorders	8	1 8	1 8	0 0	0 0	0 0	0 0
54-55	Benzos and anxiety	2	1 2	1 2	0 0	0 0	0 0	0 0
57	Detox	1	1 1	1 1	1 1	1 1	0 0	0 0
58	Detox-opioids	1	1 1	1 1	1 1	1 1	0 0	0 0
59	Detox-stimulants	1	1 1	1 1	0 0	0 0	0 0	0 0
60-61	Detox-sedatives	1	1 1	1 1	0 0	0 0	0 0	0 0
62-63	Treatment-Rx drug addict.	2	1 2	1 2	1 2	1 2	0 0	0 0
64-106	Teaching Case	40	1 40	0 0	1 40	0 0	0 0	1 40
107-119	Recommendations	30	1 30	1 30	1 30	1 30	1 30	0 0
TOTALS			140	100	116	76	51	54

* 1=yes; 0=no * 1=yes; 0=no * 1=yes; 0=no * 1=yes; 0=no
 @=Slides5&9 ; #= Slides13-23

III. Instructor Materials

- PowerPoint slides
- Narrative (Text)

IV. Participant Materials

- Participant handouts

Module VI: Potentially Addictive Prescription Drugs: Striking a Balance

This handout is organized in the order of the Module VI Slides. Following the number and title of each slide are notes that the presenter can use to educate the participants about each area of the material.

Slide 1: Module VI: Potentially Addictive Prescription Drugs: Striking a Balance

Good morning/afternoon/evening. I'm glad to be here with you to talk about a topic that continues to grab many headlines: prescription drug abuse.

Slide 2: Learning Objectives

In this talk, I'll help you put into perspective how common prescription drug abuse really is. I'll talk about the appropriate uses of prescription drugs that lead to abuse and addiction. I'll also give you a sense of the state of the art in treating individuals with prescription drug abuse and addiction.

Slide 3: Learning Objectives (continued)

Then I'll talk about the double-edged sword of many prescription medicines - how beneficial they can be when prescribed appropriately for particular medical disorders, and how harmful they can be when they lead to abuse, addiction, or diversion. Then I'll spend quite a bit of time talking about how prescribers and non-prescribers can help strike a balance by maximizing the benefits of such prescription drugs with appropriate selection and monitoring of patients who receive them.

Slide 4: 1. Pharmacology and Therapeutic Use of Commonly Misused Prescriptions Drugs.

First I'll talk about the therapeutic use and pharmacology of these medicines - the conditions they are appropriately prescribed for, the benefits, and the possible adverse effects.

Slide 5: Opioids

First I'll talk about opioids. Opioids include naturally occurring opiates and related synthetic derivatives. Sometimes this class of medicines is referred to as narcotics, but this is actually a legal term referring to certain controlled substances, including opioids and other substances. So the preferred term for this class of medicines is opioids.

Opioids are the strongest known analgesics, or painkillers. For acute severe pain, such as pain related to injuries or surgery, opioids are the clear medicines of choice. A larger issue is how to manage chronic pain.

Slide 6: Opioids (continued)

The most commonly prescribed opioid is hydrocodone. Hydrocodone is available in the US only in combination with other non-opioid analgesics, such as acetaminophen and ibuprofen.

Oxycodone is also quite commonly prescribed for pain. Oxycodone is most commonly prescribed in combination with other non-opioid analgesics, but it is also available as a single agent. OxyContin is a sustained-release oxycodone tablet.

Codeine is not as strong a painkiller as oxycodone and hydrocodone. It is typically prescribed for moderate pain or for cough.

Morphine is given orally or by injection, usually for severe pain. Orally, it is available as an immediate release tablet, such as MS-IR, or as an extended release tablet, such as MS Contin, Kadian, and Avinza.

Hydromorphone is given orally or by injection for severe pain. A new preparation, Palladone, is an extended release preparation of hydromorphone.

Meperidine is best known as Demerol. Demerol is usually given by injection for moderate to severe pain. Many hospitals are taking Demerol off their formularies, because, compared to morphine, its duration of action is shorter, and its side effects are more severe. Demerol tablets are available but not recommended, because absorption from the gastrointestinal tract into the bloodstream is poor and unpredictable.

Diphenoxylate, or Lomotil, is given for diarrhea. It is taken orally. It does not get absorbed into the bloodstream from the gastrointestinal tract.

Slide 7: Opioids (continued)

Besides the intended effects of opioids, there can be nausea, drowsiness and cognitive blunting. Fortunately, most individuals will develop at least some tolerance to these side effects. This means that these side effects typically diminish or cease with continued, regular use of opioids. Respiratory depression can occur, particularly if high doses of opioids are taken by non-tolerant individuals. Fortunately for individuals who require high doses of opioids for chronic pain, most develop ample tolerance to the respiratory depressive effects of opioids, even at very high doses, if the dose is advanced slowly enough. For patients with diarrhea, the constipating effect is desirable, but for patients with pain, constipation can be a very bothersome side effect, particularly at high doses. Unfortunately, little tolerance develops for constipation.

A major advantage of opioids, especially if they are prescribed on a long-term basis, is that they cause no irreversible damage to internal organs. In contrast, long-term use of ibuprofen and other similar medications can damage the kidneys, especially in the elderly and individuals with hypertension or diabetes. Long term use or high doses of acetaminophen can damage the liver or kidneys.

Slide 8: Prevalence of Chronic Pain

Now let's take a closer look at a possible indication for opioids - chronic pain. Chronic pain may be continuous or frequently recurrent pain. The most rigorous study of the prevalence of chronic pain was published in 1998 and based on data collected from primary care patients in the Seattle area. In this study, chronic pain was defined as moderate to severe pain that occurred on half or more of days in the previous year, caused interference with physical or social function, and prompted attempts to seek medical care. Of 373 respondents, 9% of men

and 21% of women had chronic pain that fit this definition. That's about one in ten men and one in five women.

Slide 9: Sites of Pain

This slide, taken from the same study, shows that the common sites of pain are the back, head, and joints. Most patients with chronic pain have pain in more than one location.

Slide 10: Opioids for Chronic Pain Effectiveness and Risk of Addiction

Opioids are clearly the most effective analgesics available. There is no controversy in the use of opioids for severe acute pain, post-operative pain, or cancer pain. How effective are opioids for treating chronic pain?

Unfortunately, there have not been long-term randomized controlled trials to assess effectiveness and safety over time. There are, however, several case series studies - studies that have followed large numbers of patients on opioids over time. These studies have found that many patients with chronic pain will improve over time. In these studies, the incidence of opioid abuse and addiction have varied widely, and a history of current or prior drug disorders has been the strongest predictor of opioid addiction. In these studies, most patients have exhibited aberrant medication-related behaviors, such as hoarding medicines, requesting early refills, and use for reasons other than pain. In most instances, these aberrant behaviors have not stemmed from opioid abuse, addiction, or diversion. And in most instances, such aberrant behaviors have been managed successfully by strict limit setting.

Slide 11: Endorsement of Opioids for Treating Chronic Pain

As a result of this literature, and of ample clinical experience by experts, many professional and law enforcement organizations have released statements that acknowledge opioids as a legitimate treatment for chronic pain.

Slide 12: Undertreatment of Pain

Sadly, up to half of patients with chronic pain do not get adequate relief. Many patients with chronic pain report receiving inadequate pain treatment and change physicians. The term "doctor shopper" is often applied to patients with presumed psychiatric issues or questionable motives, but many so-called doctor shoppers are simply seeking better pain care.

Slide 13: Chronic Pain and Addiction

A study published in 2003 illustrates that chronic pain and addiction can co-exist. This study shows that a substantial minority of patients in treatment for drug dependence also have chronic pain. For patients with addiction and chronic pain, appropriate pain management is critical, as uncontrolled pain can lead to relapse.

Slide 14: Clinician Barriers to Effective Opioid Prescribing

There are many barriers to effective pain management. Some barriers involve clinicians.

There is widespread concern that training on pain management is inadequate. The result of inadequate training is inadequate knowledge and skills. One of the manifestations of

inadequate knowledge and skills is inappropriate fear of prescribing opioids, particularly in sufficient doses.

Another barrier is stereotypes. Many clinicians base attributions of pain or requests for opioids on inaccurate presumptions concerning age, gender, race, and ethnicity.

A major area of confusion among clinicians concerns the terminology regarding substance use, so let's discuss this further.

Slide 15: Patient Barriers to Effective Opioid Use

OK, so we've covered some important clinician barriers to effective opioid prescribing. There are also barriers among patients.

Many patients are overly fearful of addiction. They may not understand, for example, the difference between physical dependence and drug dependence.

Patients may fear other adverse effects. For example, some have an exaggerated fear tolerance - that the analgesic effects of opioids will extinguish. If they take opioids now for their pain, will they be able to get relief from opioids in the future? The answer is yes. Even if they develop tolerance to the analgesic effects of opioids, they can be given higher doses if necessary.

Some patients just accept their pain. Others don't want to be seen as complainers. And yet others may want to deny their pain, because worse pain may signify that their underlying disease has worsened.

We often need to uncover patients' perceptions that may hinder our efforts to help patients control their pain.

Slide 16: Health Care Systems Barriers to Effective Opioid Use

And then, of course, there are many systems barriers to effective prescribing. Patients may have difficulty getting to health care providers and pharmacies. Some pharmacies don't stock sufficient supplies of opioids. Some patients cannot afford prescriptions, and various health plans may have limited prescription coverage. Some patients who cannot reliably take medications cannot access adequate supervision at home. Many providers and patients may fear, or find it difficult to comply with, regulatory restrictions on prescriptions. With the substantial publicity around prescription drug abuse and addiction, fear of appropriate prescribing may be greater now than, say, five years ago.

Slide 17: Other Barriers to Pain Treatment

Many patients with chronic pain need help beyond opioids and have difficulty accessing or affording non-pharmacologic pain treatments, treatment for concomitant mental health issues, and specialty care.

So, with all these barriers, it is not surprising that many patients do not get adequate relief for their chronic pain.

Slide 18: Special Case: Dextromethorphan

We'll describe Dextromethorphan as a special case.

Slide 19: Stimulants

Next we'll talk about stimulants.

Slide 20: Stimulants (continued)

Stimulants are one treatment for ADD. Stimulants include Ritalin, Dexedrine, and Meridia. Stimulants can be very helpful for attention deficit disorders, for narcolepsy (a disorder characterized by the sudden and sometimes dangerous onset of sleep at inappropriate times), and for depression that does not respond to other medicines.

Meridia is prescribed solely for weight loss. A review of 29 randomized controlled trials concluded that Meridia results in ten pounds of weight loss over a year. However, the long-term benefits are unknown, since Meridia's effects on cardiovascular and metabolic risk factors for cardiovascular disease are mixed.

Slide 21: Stimulants (continued)

In addition to their clinical benefits, stimulants can cause other short-term changes in cardiovascular dynamics and sleep. Seizures and psychosis can occur at high doses or in susceptible individuals.

There are no known long-term effects of stimulants when they are taken as prescribed for true medical conditions. Stimulants cause no organ damage.

Slide 22: Attention Deficit Disorders

Now let's shift talk more about attention deficit disorders, including attention deficit hyperactivity disorder, the most common indication for stimulants.

About 3 to 5% of children of ages 9 to 17 have an attention deficit disorder. The three principal symptoms are inattention, hyperactivity, and impulsiveness.

Hyperactive children seem to be in constant motion. They seem unable to stay still. Some are fidgety. Older children and adults may report a sense of internal restlessness, always needing to stay busy or doing several tasks at once.

Impulsive children seem to have difficulty thinking before they act. They may blurt out inappropriate comments, show emotions without restraint, and engage in behaviors with immediate payoff without regard to future consequences. They may have engaging in behaviors with only long-term payoff.

Children with inattention have trouble focusing. They can concentrate on things they enjoy, but they have special difficulty with tasks that involve organization or learning. They are often forgetful. They are easily distracted by irrelevant signs and sounds, often pay little attention to details, make many careless mistakes, have difficulty following instructions, and often skip from one uncompleted activity to another.

There are three major subtypes of attention deficit disorders. Children with the subtype where inattentive symptoms predominate are often labeled as “daydreamy” or “spacey.” Children who are predominantly hyperactive and impulsive are labeled as disruptive or problem children. Some children manifest all three symptoms fairly equally.

Slide 23: ADD: Diagnosis in Children

To diagnose an attention deficit disorder, symptoms must occur before age 7 and continue for at least 6 months. The symptoms must occur more often than in normal children. Several other conditions can cause at least some symptoms of an attention deficit and must be considered. To diagnose an attention deficit disorder, the symptoms must cause dysfunction in at least two kinds of environments or areas of life.

Slide 24: ADD: Diagnosis in Adults

Thirty to seventy percent of children with an attention deficit disorder will continue to have symptoms into adulthood. Such symptoms can range from mild to severely disabling. Adult ADD can cause significant impairment at school, work, and home. Sometimes the diagnosis of ADD is missed in children, and patients’ difficulties first come to light when they are adults.

Slide 25: Etiology of ADD

The largest risk factor for ADD is family history, and presumably genetics. Of those without close relatives who have ADD, 5% have ADD. Of those with relatives who have ADD, 25% have ADD. Twin studies also suggest a strong genetic contribution to etiology.

Maternal use of tobacco and alcohol during pregnancy, and lead exposure – most frequently from paint – can increase risk of ADD. A small number of cases of ADD can be linked to traumatic brain injury. However, for most children with ADD, brain injury is not a factor.

At least two studies suggest that sugar does not play a role in ADD. In one study, where children were fed either sugar or an artificial sweetener on alternate days, blinded ratings revealed no differences in behavior or learning. Another study showed that mothers who were told that their children were receiving sugar rated them as more hyperactive, even when their children had instead received a sugar substitute.

Slide 26: Stimulants for ADD

Effectiveness and Risk of Addiction

There is a fairly extensive literature on the effectiveness of stimulants for the treatment of attention deficit disorders. Studies consistently show improved symptoms, improved educational outcomes, and improved social outcomes compared to individuals who do not take stimulants. There is virtually no addiction when stimulants are taken as prescribed for attention deficit disorders. Furthermore, children who take stimulants for attention deficit disorders develop fewer addictions in their teenage years than children who do not take stimulants.

Comparison studies show that stimulants alone are superior to behavioral treatments alone. However, individuals who receive stimulants and behavioral treatments are more likely to be able eventually to decrease their dose of stimulants than individuals who receive stimulants but no behavioral treatment.

Slide 27: Other Medicines for ADD

Although stimulants are very effective for ADD, some patients - chiefly those with prior drug problems - may abuse stimulants or become addicted to them. Also, some patients may divert them - either sell them or trade for other drugs or for sex. Still others may have intolerable adverse effects. For these patients, atomoxetine and bupropion may be good alternatives.

Slide 28: Barriers to Effective Treatment of ADD

Despite ample research on the treatment of attention deficit disorders, many sufferers go without adequate care. Many general pediatricians, family physicians, and other primary care clinicians are not well trained to diagnose these disorders. Symptoms may go unrecognized. When most clinicians recognize that an individual might have a disorder, they refer to a mental health specialist. In many communities, there are inadequate numbers of mental health specialists who diagnose and treat attention deficit disorders, and waiting lists can be long. Many health plans limit reimbursement for such care.

Even when individuals receive appropriate diagnoses and treatment plans, barriers persist. Stimulants are Schedule II substances and therefore require prescriptions to be written monthly. This requirement creates extra paperwork for prescribers, and some patients experience delays between prescriptions.

Slide 29: Sedatives and Tranquilizers

Next let's talk about sedatives and tranquilizers, or central nervous system depressants.

Slide 30: CNS Depressants

Most available central nervous system depressants fall into two pharmacologic categories – benzodiazepines and barbiturates. Benzodiazepines are the most commonly prescribed CNS depressants, because they are as effective as barbiturates but safer, especially with overdose. Benzodiazepines are prescribed typically for anxiety disorders or insomnia. Butalbital is a short-acting barbiturate that is prescribed most commonly in combination products. It is prescribed quite commonly for migraines, despite no evidence of effectiveness and its potential for rebound headaches. Phenobarbital is a long-acting barbiturate used most commonly to treat seizure disorders, such as epilepsy.

Slide 31: CNS Depressants (continued)

In addition to their therapeutic effects on anxiety and sleep, CNS depressants commonly cause awake-time drowsiness and interfere with coordination. In some patients, especially the elderly, this can lead to motor vehicle crashes, falls, and injuries. With regular use over time, physical dependence occurs, and withdrawal from these medicines can be fatal if not treated appropriately. Like opioids and stimulants, these medicines are not toxic to any internal organs.

Slide 32: Panic Disorder

Panic disorder is characterized by recurrent attacks of anxiety and fear. Since chest pain and shortness of breath may be salient symptoms of these attacks, they may be mistaken for heart attacks. These attacks can be triggered by stress, or they can seem to occur at random. When individuals link these attacks to environmental cues, phobias can result. Panic disorder affects women more than men. There is strong genetic inheritance. Panic disorder may respond to medicines or psychotherapy. Patients who receive both do best.

Slide 33: Obsessive-Compulsive Disorder

Individuals with obsessive-compulsive disorder experience persistent unwelcome thoughts or images. These thoughts may prompt ritualistic behaviors that are intended to control the thoughts. These behaviors provide only temporary relief. Obsessive thoughts may involve germs, dirt, counting, order and symmetry, violence, religious beliefs, and fear of hurting oneself or others. Compulsive thoughts may include checking the stove, avoid cracks in sidewalks, and touching various objects. Some of these behaviors occur in individuals without OCD, but in those with OCD, their compulsive behaviors may consume an hour or more each day and interfere with function. OCD responds well to medicines and cognitive behavioral therapy. The most effective medicines are not at all addictive.

Slide 34: Post-Traumatic Stress Disorder

Post-traumatic stress disorder typically develops after one or more terrifying events. Individuals with PTSD frequently relive anxiety-provoking thoughts and memories of the event. They often have difficulty sleeping, feelings of detachment from the world, irritability, loss of ability to experience pleasure, and loss of desire for sex. PTSD is best treated by a combination of medicines and psychotherapy.

Slide 35: Social Anxiety Disorder

People with social anxiety disorder have overwhelming anxiety, excessive self-consciousness, and dread in social situations. This interferes with relationships and work for many people. Fortunately, this condition responds well to psychotherapy and medicines.

Slide 36: Generalized Anxiety Disorder

The main feature of generalized anxiety disorder is worry and tension beyond what would be expected given an individual's stresses. Individuals with generalized anxiety disorder often have multiple physical symptoms. Fortunately, medicines can be very effective, and psychotherapeutic interventions can also help.

Slide 37: Adjustment Disorder

Many patients with anxiety have an adjustment disorder. They do not have a more serious, biologically determined anxiety or mood disorder. Their symptoms are appropriate to the stressful circumstances in their lives. Adjustment disorders can be treated in the short-term with benzodiazepines. Benzodiazepines can help ameliorate symptoms, facilitate sleep, and allow patients to function better. Many patients with only an adjustment disorder are inadvised to be continued on benzodiazepines for the long-term.

Slide 38: Barriers to Effective Treatment of Anxiety

Although most individuals with anxiety disorder will respond well to treatment, many individuals with these disorders do not receive adequate care. Barriers include underrecognition in primary care settings, lack of knowledge by primary care clinicians about treating these disorders, and limited access to mental health specialty services and pharmacotherapy.

An often overlooked issue in diagnosing patients with anxiety is that anxiety can stem from substance use disorders. Anxiety can result from the stressful circumstances that can result from substance abuse, such as strained family relationships and difficulties at work. Anxiety can also occur as a symptom of frank alcohol withdrawal or from subclinical episodes of autonomic hyperreactivity after heavy drinking. If individuals receive potentially addictive medicines for anxiety related to substance use disorders, they may become multiply addicted.

Slide 39: Effectiveness of Benzodiazepines for Anxiety Disorders

Benzodiazepines are clearly effective in the treatment of anxiety disorders. Because of their adverse effects, alternatives to benzodiazepines have been sought. Buspirone (Buspar®) is as effective for anxiety disorders. It does not cause euphoria or dependence, and it has fewer adverse effects. However, it's onset of action is slower than benzodiazepines.

Several antidepressants have been compared directly to a benzodiazepine in randomized controlled trials. They were found to be more effective than benzodiazepines. There is some overlap in the side effect profiles of these medicines and benzodiazepines. However, there is no known abuse or addiction.

Thus, benzodiazepines should not be thought of as first-line agents in the treatment of anxiety disorders. They may be appropriate for patients who cannot take antidepressants or buspirone or for patients who find these medicines ineffective.

Slide 40: Definitions: Substance Use Patterns

How common are problems with prescription medicines?

Slide 41: Substance Use Continuum

Although there is a continuum of substance use from abstinence to severe dependence, it is useful to have five categories in mind.

First is *abstinence* - no substance use.

The next category is *low risk use* - use that research has shown usually does not lead to any negative consequences.

The third category is *at-risk use* - substance use that research shows puts individuals at statistically significantly higher risk for negative consequences than those in the low-risk category. For individuals in this category, if consequences do occur, they are minor and sporadic. Examples would be hangovers that do not materially affect one's life, or minor social embarrassments that do not affect relationships.

Slide 42: At-Risk Substance Use

Research has determined how much alcohol consumption puts the average non-dependent individual at risk for negative consequences. When we discuss alcohol consumption, we speak in terms of standard drinks - the amount of alcoholic beverages that all contain the same amount of pure ethanol - 10 to 12 grams. Examples of standard drinks are 12 ounces of beer, 5 to 6 ounces of wine, and a shot of hard liquor.

Research has shown that the average man who consumes more than 14 standard drinks in a week, or more than 4 drinks in an occasion, experiences significantly increased risk of negative consequences compared to men who drink less. The average woman starts to experience higher risk at lower levels of consumption - more than 7 to 11 standard drinks per week, or more than 3 drinks in an occasion. The cut-offs are lower for women, because the average woman weighs less than the average man, and because women absorb alcohol more quickly and more completely from their stomachs.

A greater percentage of illicit drug users suffer consequences than alcohol users. Any use of illicit drugs, and any misuse of prescription drugs is considered risky. By misuse of prescription drugs, I mean prescription medication use that is not taken as prescribed, is taken for reasons other than it was prescribed, or is taken in excess of how it was prescribed.

Slide 43: At-Risk Substance Use (continued)

Non-medical use of a potentially addictive prescription drug would be considered at-risk substance use.

Non-medical use would include using a prescription drug without a prescription. This would include use of drugs obtained from friends, bought, or traded for other goods and services, such as sex.

Individuals who have prescriptions for their drugs can qualify as non-medical users if they take the medicine for reasons other than why they were prescribed. An example would when patient with pain takes his opioid analgesic for stress or sleep, or when a patient with ADD takes her stimulant to stay awake and get work done at night. Also taking a higher dose or using the medicine more frequently than prescribed would be considered non-medical use.

Finally, obtaining a prescription by exaggerating symptoms or by hiding relevant information from the prescriber would be considered non-medical use.

Slide 44: Substance Use Continuum

The next category of substance use is *abuse*. Abuse is substance use that repeatedly leads to negative consequences. In other words, the substance user continues to use despite repeated adverse consequences.

The most extreme category of substance use is *substance dependence*. This category includes alcohol dependence or alcoholism, and drug dependence or addiction. Dependent individuals often suffer severe and repeated negative consequences of their substance use. They also have some additional symptoms that do not occur in substance abusers.

Slide 45: Additional Symptoms of Substance Dependence

One such symptom is physical dependence. Here's where the terminology can get confusing, because physical dependence can be a symptom of alcohol or drug or substance dependence. Physical dependence means that an individual has used a substance regularly enough in high enough doses that they suffer withdrawal symptoms when they quit or cut down. Scientists have discovered that physical dependence occurs in a different part of the brain from where the rest of addiction occurs. This explains why some individuals with severe alcohol dependence do not suffer withdrawal when they quit drinking. It also explains how some individuals can get addicted to marijuana, which often produces little to no withdrawal symptoms when heavy marijuana users quit.

So, there are other key symptoms that stem from addiction. One is compulsive use. People with compulsive use find it especially difficult to stop using once they start. An example is the alcohol dependent individual who is able to avoid alcohol altogether but inevitably has 6 or 12 or more drinks after having one.

Another key symptom of addiction is preoccupation with thoughts of obtaining alcohol or drugs. An example is a heroin addict who wishes to spend a nice night at home with his family, but on his way home from work he cannot get thoughts of using out of his head.

The most important symptom of addiction is loss of control. This refers to individuals who, try as they might, cannot consistently avoid substance use, or cannot consistently avoid using more than they intend to use. This symptom of addiction is widely misunderstood, because, indeed, any single act of substance use appears voluntary. So what do we mean when we say that substance use is out of someone's control?

Slide 46: Effect of Cocaine on Rat Ventral Tegmentum

A series of studies summarized by Nestler illuminates this concept of loss of control. Addiction scientists have closely studied the physiology of live cells extracted from the ventral tegmental area of the rat brain. These cells are integrally involved in the brain's pleasure-reward system. When these neurons fire, rats - and humans - feel pleasure.

First, these scientists characterized the level of enzyme activity in the cytoplasm of these neurons as they naturally exist. Let's call this baseline level of enzyme activity zero.

Next, scientists injected other rats with cocaine daily for 3 weeks. Then they removed those rats' ventral tegmental neurons and studied their enzyme activity. What do you think they found? Compared to baseline, was this enzyme activity the same, lower, or higher? *[Pause for audience response.]* Yes, it was higher. Presumably the rats were feeling lots of pleasure from cocaine exposure.

Next, scientists injected other rats with cocaine daily for 3 months. What do you think they discovered about the enzyme activity in these rats' ventral tegmental cells? *[Pause for audience response.]* The enzyme activity in these rats was lower than baseline. This is the trap of addiction. When we start to use a potentially addictive substance, it can feel very

good. But in time, tolerance develops, and it takes more substance use to elicit the same euphoria. With further substance use, we can never experience the same euphoria. Eventually we feel worse and worse between episodes of substance use, which we would expect when our baseline ventral tegmental activity is depressed.

Next, scientists inject other rats with cocaine daily for 3 months. Then they kept these rats off cocaine for 3 months. What do you think they found in these rat ventral tegmental cells? *[Pause for audience response.]* The enzyme activity was the same as if the rat had been given cocaine all along. Several months later, the pleasure-reward mechanism has not come back to normal. The rat continues to suffer from low ventral tegmental activity. In human addicts, this continued low ventral tegmental activity is what scientists believes leads to those intrusive, preoccupying thoughts of obtaining and using substances, perhaps even to strong cravings.

Now think, why did nature equip us with this pleasure-reward system? In other words, what is the evolutionary value of this part of our brains? *[Pause for audience response.]* Yes, this is the part of our brains that creates the sensation of pleasure when we have sex, or when we satisfy our hunger by eating.

Slide 47: Loss of Control

So, addiction is basically a hijacking of this pleasure-reward system. In addicted individuals, the machinery that is supposed to create strong drives to eat and have sex is instead driving substance use. This is what leads to a lack of control. Although each episode of substance use involves voluntary behaviors, the hijacking of the pleasure-reward system makes it extremely difficult to continue to avoid substance use, or to engage in limited substance use, over time. This is the pathophysiologic lesion of addiction. This is what makes addiction a true disease.

Is addiction a disease? First, let's define what a disease is. A disease is a constellation of symptoms that is caused by a particular anatomic or physiologic disturbance and leads to interference in the normal function of the organism. So yes, addiction involves a well demonstrated hijacking of the brain's pleasure-reward system causing loss of control over the addictive behavior, compulsive engagement in the behavior, and preoccupation with thoughts of the behavior, and these symptoms lead to dysfunction in many areas of life.

Are there any questions about this before we go on? *[Pause for questions.]*

Slide 48: Addiction vs. Pseudoaddiction

Now we've covered how to think about and apply the substance use continuum to prescription drug users. There's one more important concept to understand - the concept of pseudoaddiction.

When most addicts started on the path to addiction, they use their substances initially for euphoria or mood alteration. As the addiction takes hold, they use to satisfy their cravings and perhaps to stave off withdrawal. These individuals are preoccupied with obtaining and using substances as a symptom of their addiction.

Pseudoaddicts may manifest some of the same behaviors as addicts. The difference is that they are not addicted. They seek and use medicines for symptom control. When their symptom is not controlled - for example, when they have terrible pain and have not been prescribed sufficient medicines for relief, they may seek medicines from various prescribers and seem manipulative. They may seem preoccupied with obtaining opioids, but they are actually and understandably preoccupied with obtaining pain relief. We may create pseudoaddicts when we underprescribe. These individuals can then be labeled as addicts and drug seekers, making it more difficult for them to obtain adequate relief.

Are there any questions about pseudoaddiction? *[Pause.]*

Slide 49: 3. Epidemiology of Prescription Drug Misuse and Dependence

As I said, first I'll be talking about epidemiology. How common are problems with prescription medicines?

Slide 50: New Drug Use: 1965-2002

Data from this slide and several to follow come from the National Survey on Drug Use and Health, formerly known as the National Household Survey on Drug Abuse. The survey is performed by the US Substance Abuse and Mental Health Services Administration using very rigorous methods that maximize confidentiality and accuracy of self-report.

This slide shows the number of Americans who engaged in new or first-time use of a drug in each year from 1965 to 2002. For example, someone who started using a drug in 2000 and continued using it in 2001 counted as a new user in 2000 but not in 2001. Let me emphasize that I'm talking about one or more episodes of use outside of that recommended and prescribed by a health care professional. Such use does not necessarily constitute abuse or dependence. Throughout the rest of the talk, I'll refer to this non-medical use as misuse.

Notice that the y-axis shows thousands of new users. So "1,000" really means "1 million." (Point to the white line.) You can see that new phenycyclinde, or PCP, use peaked in 1976 at around a half million Americans per year, and its use has been quite constant at a low level since the early 1980's.

(Point to the dark blue line.) You can see that new LSD use peaked at about 1 million Americans per year in the early 1970's, peaked again around 1980, fell off through the 1980's, rose slowly through the 1990's, and substantially diminished since 2,000.

(Point to the yellow line.) New ecstasy use started rising substantially in the mid 1990's, peaked in 2001, and dropped off substantially in 2002.

(Point to the green line.) Marijuana has been the most commonly used illicit drug since 1965. New users peaked in the early to mid 1970's, dropped gradually through the 1980's, rose again through the 1990's, and started to come down again in 2001.

(Point to the light blue line.) This line shows new misuse of opioid analgesics, or narcotic painkillers, rose slowly from 1966 to 1993. Since 1995, there was a steady escalation in new analgesic use through 2000. Since then, new analgesic misuse has fallen off only very slightly, while new use of other illicit drugs continues to drop substantially. In 2002, new marijuana users barely outnumbered new non-medical analgesic users. If this trend continues, opioid analgesics will soon be the top category of drugs with regard to new use.

Slide 51: Epidemiology

New Users: 1965 to 2002

This slide takes a closer look at new marijuana users and opioid analgesic misusers by age group. You can see that since the mid 1970's most new users of marijuana have been under 18 years old. In 1985, among new misusers of opioid analgesics, adults clearly outnumbered adolescents. Although adult new analgesic users still outnumber younger new users, the difference has narrowed over the last several years. Opioids have been catching on among our young people, though perhaps new use is leveling off for both adults and teens

Slide 52: Past-Year Non-Medical Prescription Drug Use

This slide shows the percent of youth and young adults who engaged in the non-medical use of all and various groups of prescription drugs in the prior year.

The first pair of bars shows that about 1 in 13 youths, and 1 in 8 young adults, misused a prescription drug in the last years. The most commonly misused prescription drugs were opioid analgesics. Next most common were stimulants, such as amphetamines and methylphenidate (Ritalin). Tranquilizers and sedatives were next.

Slide 53: Past-Year Use of Illicit Drugs: By Past-Year Non-Medical Prescription Drug Use

This slide shows that prescription drug misuse must be considered in the context of other illicit drug use. The height of each bar shows the percentage of individuals who used an illicit drug at least once during the past year. The red bar shows this percentage for individuals who did not misuse a prescription drug in the past year. The green bar shows the prevalence of illicit drug use for individuals who misused a prescription drug at least once in the past year.

For example, nearly 20% of those who did not misuse a prescription drug in the past year used marijuana at least once, and over 60% of those who misused a prescription drug in the past year used marijuana. Prescription drug misusers are much more likely than non-misusers to be using other illicit drugs, such as marijuana, hallucinogens, cocaine (including crack), inhalants, and heroin.

Slide 54: Illicit Drug Disorders among Persons Aged 12 or Older: 2003

Whereas the previous slides focused simply on use or misuse, this slide focuses on drug use disorders, namely abuse and dependence. Although **NEW** use of opioid analgesics may soon surpass NEW use of marijuana, marijuana continues to lead illicit drugs in use, abuse, and dependence. Cocaine, including crack, is second in abuse and dependence. Opioid analgesic abuse and dependence are third and more than seven times as common as abuse and dependence on heroin, an opioid that is not available by prescription.

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Not all abused stimulants, tranquilizers, and sedatives are prescription drugs. However, if we could combine the prescription drugs in the four relevant categories, they would clearly comprise the second most common group of drugs in terms of the prevalence of abuse and dependence.

Slide 55: Substance Use Disorders among Persons Aged 12 or Older: 2002 and 2003

This slide helps us take another step back at the whole picture of substance use disorders. So far, we've only considered prescription and illicit drugs. This slide reminds us that alcohol use disorders are more common than disorders related to illicit and prescription drugs. And many individuals with prescription drug misuse, abuse, or dependence, may also have alcohol problems.

Slide 56: Prescription Drugs: Gender Differences

It's interesting to look at prescription drug issues by gender. Although females receive greater numbers of potentially addictive prescribed medications, misuse of these drugs is equally prevalent between adult men and women. However, adolescent females have higher rates of prescription drug misuse than adolescent males.

Slide 57: Gender Differences

Among individuals who are misusing prescription drugs, rates of addiction are similar for opioid analgesics between males and females, but females more frequently get addicted to sedatives and tranquilizers.

Slide 58: The Elderly

We have focused quite a bit on adolescents and young adults. Another population of interest is the elderly. Prevalence data is limited for this important, growing segment of the US population, but experts believe that prescription drugs may be the most commonly abused drugs among older Americans.

Especially for the elderly, it is important to distinguish between intentional and unintentional misuse. Unintentional misuse is undoubtedly quite common, as many elderly take drugs in ways that are not recommended by their health care providers. Careful, written instructions are imperative. Pill dispensers and supervision may be necessary for some patients.

There is also concern about overprescription of medications in general for the elderly. Among the drugs we are focusing on today, benzodiazepines raise special concern. Several articles document that the dosing and duration of benzodiazepines for many elderly exceed recommendations.

Studies suggest that 1% to 6% of the elderly have alcohol use disorders, and more engage in risky drinking - drinking that research shows put them at risk for adverse health and other outcomes. These alcohol problems can cause symptoms of depression, anxiety, and agitation. Such symptoms may lead to inappropriate diagnoses of dementia and inappropriate, dangerous prescriptions for benzodiazepine.

Whether excessive benzodiazepine use is initiated by patients or professionals, its consequences for the elderly can include memory dysfunction, disorientation, paradoxical agitation, social isolation, falls, and other injuries.

Fink A, Has R, Moore AA, Beck JC. Alcohol-related problems in older persons: determinants, consequences, and screening. *Archives of Internal Medicine* 1996; 156:1150-1156.

Longo LP, Johnson B. Addiction: Part I. Benzodiazepines--side effects, abuse risk and alternatives. *American Family Physician* 2000; 61:2121-2128.

Sorg MH, Mugford JG, Gressit S. Maine Benzodiazepine Study Group Annual Report - 2003. Bangor, Maine: Northeast Occupational Exchange, 2003.
<http://www.noemaine.org/benzo/benzo.htm>

Valenstein M, Taylor KK, Austin K, Kales HC, McCarthy JF, Blow FC. Benzodiazepine use among depressed patients treated in mental health settings. *American Journal of Psychiatry* 2004; 161:654-661.

Slide 59: Health Care Professionals

Finally, I have to mention health care professionals as a high risk group for prescription drug disorders. Many health care professionals have especially easy access to such drugs. Opioids are often used as anesthetics. Despite regulatory safeguards, many anesthesiologists and hospital-based nurses have been able to divert opioids. Every year, some die in hospital rest rooms of overdoses. Veterinarians have access to very large supplies of opioids used for animal surgeries. Pharmacists have been caught miscounting pills for opioid prescriptions, and diverting for self-use.

Health care professional impairment is often difficult to identify, because the workplace is often the last place where career-driven individuals allow symptoms of addiction to become apparent. However, in many instances of health professional impairment, colleagues have known about the difficulties but have not acted on their concerns, leaving those health professionals and their patients at tremendous risk. Much has been written on the signs and symptoms of health professional impairment and the many resources available for individuals who are concerned about their colleagues yet are afraid to act on their concerns.

Slide 60: 4. Detox and Treatment for Prescription Drug Dependence

Now I'd like to say a few things about treating individuals who are addicted to prescription medicines.

Slide 61: Detoxification

Regular and prolonged use of opioid analgesics, stimulants, and sedatives can cause physical dependence. Physical dependence means that sudden cessation or diminution of use can lead to stereotypical psychophysiologic withdrawal syndromes. Before treatment for addiction, or as treatment is starting, we need to anticipate and address symptoms of withdrawal.

Slide 62: Opioid Detoxification

Physical dependence on opioids can result with regular use within two weeks. Patients with coronary artery disease who withdraw from opioids can suffer myocardial infarctions. Patients with diabetes can suffer diabetic ketoacidosis or coma. However, for otherwise healthy patients, opioid withdrawal can be very uncomfortable but rarely dangerous.

The most comfortable detox is provided by decreasing doses of methadone, a long-acting opioid. Prescribers without special DEA certification to prescribe methadone for opioid addicts can provide a combination of non-opioids to ease opioid withdrawal symptoms. Clonidine can help for autonomic symptoms, non-steroidal anti-inflammatories for joint and muscle pain, Lomotil for diarrhea, and non-addicting hypnotics for sleep.

Slide 63: Stimulant Detoxification

Stimulant withdrawal is never dangerous except for the occasional precipitation of a suicide attempt. The withdrawal symptoms consist solely of depressive symptoms for which there is, as yet, no known effective treatment.

Slide 64: Sedative Detoxification

Unlike opioid and stimulant withdrawal, sedative withdrawal can be fatal. Symptoms and signs include anxiety, agitation, rapid heart beat, high blood pressure, sweating, disorientation, and potentially fatal seizures. The anxiety and agitation that patients experience during withdrawal put them at risk for resuming their sedative use. Patients with significant physical dependence on sedatives must be treated with tapering doses of long acting sedatives, sometimes for several weeks. Clonazepam or Phenobarbital can be used.

Slide 65: Sedative Detoxification (continued)

Because benzodiazepine detoxification requires a lengthy, gradual taper, it is usually accomplished in the outpatient setting. Anxiety and agitation during the taper can occur because the patient's anxiety disorder may flare, a rebound anxiety syndrome may occur, or withdrawal itself can cause these symptoms. Difficulties arising from these symptoms include many patient complaints and acquisition of sedatives from other sources. Such anxiety and agitation may be mitigated by a very slow taper, frequent visits for reassurance and support, cognitive-behavioral therapy, and use of anxiolytic medicines besides sedatives, such as antidepressants.

Slide 66: Treatment

There has been little research on the treatment of prescription drug abuse and addiction. The treatment field has generally applied the lessons of research on the treatment of other drug problems. Behavioral treatments are key. Individual, group, family, and lay-administered treatments are used.

Slide 67: Treatment (continued)

Research on the treatment of heroin addiction shows clearly that a combination of effective behavioral and pharmacologic treatments yields the best results. Experts assume that the same is true for treating addiction to other opioids.

Opioid agonists, such as methadone, are highly effective in treating opioid addiction. Taken once a day, methadone maintains the physical dependence on opioids, but reduces cravings, reduces euphoria if other opioids are taken, decreases other opioid use, and improves function. For individuals involved with the criminal justice system, methadone reduces criminal recidivism. Methadone may be given for opioid addiction only by physicians with special certification by the US Drug Enforcement Administration.

A mixed opioid agonist and antagonist, buprenorphine, was approved by the FDA in 2002 for treatment of opioid addiction. For most patients, buprenorphine is given as a combination tablet with naloxone, an opioid antagonist, or blocker, that is not absorbed from the gastrointestinal tract. However, if the combination tablet is crushed and injected, the naloxone will block the effect of buprenorphine and will precipitate severe withdrawal by opioid addicts. Thus, the combination buprenorphine/naloxone tablet presents low risk for abuse, addiction, and diversion.

With 8 hours of training and certification, physicians can prescribe buprenorphine for up to 30 patients in office settings. Many communities have insufficient numbers of physicians with buprenorphine certification. This is especially concerning in light of the increasing demand for treatment for opioid analgesic dependence.

Unfortunately, there are no medicines known to aid in the treatment of stimulant and sedative addiction.

Slide 68: 5. Balancing Benefit and Risk in Prescribing

Now that we've covered the basics of epidemiology and pharmacology for common prescribed, potentially addictive medicines, we're ready to talk about how these medicines can be prescribed in ways that maximize benefit and minimize the risk of substance abuse, addiction, and diversion.

I'm going to use a real case to help bring to light some important concepts. The case focuses on pain and opioids, but as you'll hear afterwards, most of the principles that apply to opioid prescribing are relevant to prescribing stimulants and central nervous system depressants. If you are a licensed prescriber, as we discuss this case consider whether and how you would prescribe opioids for the patient. If you are not able to prescribe, consider initially whether you would suggest to Jean that she see a professional who might be inclined to prescribe opioids for her.

As we go through the case, I'm going to ask you to consider some questions and be ready to vote on your response. Don't worry if you don't get the right answers. This is just to keep you thinking and to make this more fun.

Slide 69: Jean - Initial Presentation

The case concerns Jean, a 33-year-old, divorced truck company dispatcher. Some of the details of the case were changed to protect a real patient's identity, but otherwise the case is genuine.

Imagine that you are seeing Jean for the first time today. She has terrible back pain today.

The first time she had back pain was after a motor vehicle crash four years ago. The pain was located in her lower back - in the spine and the immediately adjacent muscles. The pain did not radiate into the buttocks or the legs. X-rays and an MRI scan of the back were negative. Jean was diagnosed with a muscle strain. She was treated with various physical modalities. Chiropractic helped initially but then became ineffective. Jean tried several non-steroidal agents and found ibuprofen most effective; she took 600 mg three times a day. She was also given 8 oxycodone/acetaminophen tablets. The medical record notes that it was hard to taper her off the opioids, but she stopped the medicines and returned to work 3 months later after the crash.

Slide 70: Jean – Last 3 Years

Over the last 3 years, Jean has had fairly constant baseline pain which usually responds fairly well to ibuprofen. For unclear reasons, she had two exacerbations of pain, much like that she had with the car crash. Her physician was able to detect spasm of the paraspinal muscles - the muscles immediately adjacent to the spine. Each time she was treated with physical therapy and the same 8 tablets of oxycodone and acetaminophen per day. Each time she returned to work in a month, and the physician noted that it was difficult to taper her off the opioids.

Slide 71: Jean – Today

Today, Jean is in the midst of her worst exacerbation ever. The exacerbation began 10 weeks ago and has not abated. Her description of the pain and her physical exam are the same as in the past with other exacerbations. Her physician had prescribed oxycodone/acetaminophen tablets like last time. After 8 weeks without improvement, the physician decided the medicine was not helping, so he stopped it. Jean experienced some diarrhea, agitation, and difficulty sleeping, as we might expect from opioid withdrawal. When she was taking the opioids, her pain was at a level of 5 to 8 out of 10. Off the opioids, the pain has been at a level of 7 to 9. Jean said that she would have to apply for disability if her back pain continued.

Studies show that patients with chronic pain who continue working have significantly better quality of life than those who don't. Therefore, it seemed especially important to find a way to give Jean some relief.

Slide 72: Jean - Substance Use and Psychiatric History

Before prescribing opioids for chronic non-cancer pain, it is important to take a substance use and psychiatric history. Jean admitted to drinking heavily leading up to her car crash 4 years ago. She received a citation for drinking and driving. She completed outpatient treatment as required by the court. Shortly thereafter, she resumed drinking 4 beers on Friday and Saturday nights. From there, she gradually increased her drinking to a couple of weekdays. Since coming off the oxycodone 2 weeks ago, she has been drinking daily, at least three beers a day, at least in part to help with the pain. Jean smokes marijuana once or twice a month. She tried cocaine once many years ago. There is no additional psychiatric history.

Slide 73: Discussion Question 1

Before we think about Jeanne's problems and how we might start addressing them, let's first put ourselves in Jeanne's shoes. How might she be feeling as she seeks care once again for her pain?

Slide 74: The Patient's/Client's Perspective

Some patients and clients may be angry or frustrated. They may have these feelings about their condition. "Why me!" they may say. Some may have unresolved anger toward those who contributed to an injury or to clinicians who they feel have not taken their concerns seriously or provided them with relief. Clinicians they have never met before may become the lightning rod for such anger and frustration.

Some patients and clients may be very sad for all that their chronic pain has forced them to give up in life. Many patients with chronic pain carry at least passive suicidality.

Some patients and clients may feel helpless and hopeless about getting well. They may be disappointed at the results of previous treatments. On the other side of the coin, some patients and clients may be overly optimistic. They may still hold out hope that there will be a particular surgical procedure or medicine that will permanently relieve all their symptoms. Such individuals are likely to become angry and sad if such expectations are not met. Some patients or clients may feel ashamed of their condition. Shame may stem from their dependency on others and from feelings of being forsaken or punished by their god.

Some individuals may be scared - scared that a new clinician will judge them, dismiss their concerns, or otherwise reject them. And some may fear that they are destined to live a life of pain, disability, and misery.

Some individuals may be stoic about their pain. Some stoicism may be helpful and adaptive, allowing individuals to continue to function despite pain. Some stoicism may be maladaptive in the long run, hindering individuals from getting help that could relieve their symptoms and give them fuller and more satisfying lives.

Still others may come to accept their situation and make the best of it. Understandably few patients attain total acceptance, but many patients will quietly exhibit heroism in how they adapt and what they accomplish despite terrible chronic pain.

So, clearly, different patients and clients will have different reactions to chronic pain. What factors might contribute to the patient's or client's perspective about their chronic pain?

Slide 75: The Patient's/Client's Perspective Determinants

To some extent, patients' and clients' perspectives will depend on the severity of their symptoms. However, many other factors affect their perspectives.

Perspectives can be affected by past experience with this or other illnesses, with the health care system, and with others who have had similar symptoms.

Personality factors affect perspective. An individual with dependent personality features may be only too happy to rely on others. Stubbornly independent individuals may have great difficulty leaning on individuals who can help.

Influential family members and friends can alter patients' and clients' perspectives. Such individuals can help or hinder therapeutic efforts.

Other life stresses can make chronic pain much more burdensome, whereas burdens can be eased by emotional support and instrumental support - having others who can help with housekeeping, shopping, and other tasks.

Financial means can facilitate health care, transportation, child care, and other aspects of life that chronic pain can make more difficult.

Religion and spirituality can be a support for some. For others, the sense that beliefs and connections have been damaged can add greatly to the pain.

If we think of culture as the invisible filters through which individuals interpret all life experience, cultural determinants can include gender, race, ethnicity, socioeconomic status, and membership in other groups, such as extended families, workforces, political organizations, religious organizations, and clubs. Shared goals and values among these groups can greatly affect an individual's perspectives about their chronic pain.

Slide 76: Role of Clinicians

What does this remind us about the role of clinicians in treating patients and clients with chronic pain?

Whether you are a prescriber or not, you can help patients and clients just by listening, by acknowledging that their pain is real, by drawing out and legitimizing their feelings, and by instilling genuine hope for a better life.

Clinicians must be secure enough that they will not be ruffled - and not become defensive - when patients or clients direct anger at them.

Clinicians who cannot provide direct care for pain can be critically important by advocating for patients and clients, by honoring any feelings that they have not received appropriate care, and by directing them to clinicians who are more likely to help. Even for clinicians who cannot prescribe or directly provide medical treatment modalities, the more you know about the medical management of pain, the better you can steer your patients and clients to appropriate care.

Even the best-intended referrals can be seen by patients and clients as signs that this is yet another clinician who has no answers and doesn't really care. A caring referral always includes a plan for follow-up, to assess whether the referral was effective, and to brainstorm and problem-solve until the patient or client is satisfied.

Slide 77: Question 2 - Opioid Diagnosis

Now for our second question. Jean's recent opioid withdrawal and the difficulty discontinuing her opioids suggest a DSM-IV diagnosis of:

- Opioid abuse

- Opioid dependence, or
- Neither

[Poll the audience.]

Slide 78: Question 2 - Opioid Diagnosis (continued)

The correct response is Neither.

Slide 79: Substance Use Continuum

As best we know, Jean took her opioids as prescribed, since there was no mention of a need for early refills in the chart. There is no evidence of loss of control over drug use. In the past, the difficulty tapering opioids was likely due to pain. There is also no evidence of any negative consequences of her opioid use. Physical dependence on prescribed medicine is not sufficient for a diagnosis of addiction. This would make Jean a low risk user of prescribed opioids.

Slide 80: Jean and Substance Use

I would be more concerned about her alcohol use. With Jean's alcohol-related motor vehicle crash four years ago, Jean has a likely past diagnosis of alcohol abuse. Perhaps she was diagnosed as dependent; we don't know. Lately, she is at least exceeding the low-risk alcohol consumption levels for women.

Slide 81: Question 3 Indications for Opioids

Now let's think about what might qualify a patient with chronic non-cancer pain for opioids. Here are five choices.

Choice 1 means that we could consider ALL patients with moderate to severe chronic pain possible candidates for opioids.

Choice 2 means only those patients with moderate to severe chronic pain who have tried and not responded well to other treatments.

Choice 3 means only those patients from Choice 2 who also have significant functional disability.

Choice 4 means only those patients from Choice 3 who do not presently have an active alcohol or drug use disorder.

Choice 5 means only those patients from Choice 4 who have never had an alcohol or drug problem.

Slide 82: Question 3 - Indications for Opioids (continued)

Here there is no absolute best answer, but most experts are gravitating toward choice 3.

Slide 83: Indications for Opioids

So patients who meet these criteria may be appropriate candidates for opioid therapy for chronic pain. Next I'll discuss how we would assess patients for each criterion.

Slide 84: Pain Assessment - Intensity

In assessing the severity of pain, it's important to use a standard scale. Most practitioners use a 0 to 10 scale for their adults. For children or for adults with communication or other neuropsychological problems, experts typically use a standard scale that shows pictures of a variety of facial expressions. For patients who might inappropriately label their pain 10 or more, it can help to give an example of "ten out of ten" pain, such as pain that someone would experience while being run over by a steam roller.

When we ask patients about the severity of their chronic pain, we have to take their word for it. Clinicians might be adept at gauging patients' acute pain, but all the objective signs of acute pain - the rapid heartbeat, the elevated blood pressure, the sweating, the writhing - all disappear with chronic pain. Patients with severe chronic pain may be sitting down quietly just as you are now.

Slide 85: Acute vs. Chronic Pain

When does acute pain become chronic? An older definition used a cut-off of 6 months. Some experts now use a cut-off of 3 months. Other experts are now using a functional definition. When pain has outlived its usefulness as an alarm, pain becomes a problem in itself and needs to be addressed.

Slide 86: Sources of Pain

So, we take patients' reports of pain as genuine, but we have to keep in mind that pain can come from a variety of sources. Some pain that we might call physical is nociceptive, meaning that it is triggered by general tissue injury or inflammation. Neuropathic pain comes from damaged or inflamed nerves. Neuropathic pain tends to be shooting, electrical, or lancinating. Visceral pain comes from inflamed internal organs in the chest, abdomen, or pelvis. Many patients' pain scores include other kinds of suffering. Stress, depression, and losses can be perceived as painful. When pain interferes with the ability to carry out important activities, the loss of one's importance as, say, a parent, a worker, or a contributor to others can be felt as pain. Chronic pain can challenge one's faith and sever a patient's sense of spiritual well being, and this can contribute to perceptions of pain. We accept patients' reports of their pain, and we assess where the pain may be coming from and ensure that our treatment plan addresses the possible etiologies.

Slide 87: Three Patients with 8/10 Pain

To highlight this point, consider three patients who report 8 out of 10 pain:

Patient A has chronic muscular and ligamentous back pain with a small component of radiculopathy (pinched nerve), and a small emotional component.

Patient B is a construction worker with moderate diabetic neuropathy with some emotional stress. Because of the pain and the danger of injury to his feet, he can no longer work on construction.

boots. He is forced to take a desk job and feels in some ways that he is no longer the man he would like to be.

Patient C had been a psychotherapist. She had a mild irritable bowel syndrome. Her previously well controlled bipolar is much worse after she became intolerant of the medicines that worked best for her. Her pain and emotional liability forced her to give up her practice. She now feels useless to herself and others.

Slide 88: Assessing Function

One of the criteria to consider opioids is significant functional disability. Consider a patient who reports consistent pain at a level of 8 out of 10, yet continues to work full-time, carry out all household and family responsibilities, and enjoy vigorous athletics. Something doesn't add up, right? If someone has severe chronic pain, there ought to be significant functional disability. Also, as a patient's pain decreases, we should expect function to improve.

We can assess function with the many available standardized functional assessment tools, such as one of these two tools. Or we can ask some simple questions:

- How many times a month do you need to go to bed during the day because of your pain?
- How many times a month do you miss work because of your pain?
- How many times a month do you miss other activities because of your pain?

It's also helpful to learn about what patients can still do, or what patients would like to do again if their pain improves a bit.

Pain can be reflected in a patient's general appearance. A patient whose severe pain is responding to treatment may be able to devote more attention to their appearance.

Slide 89: Attempting Other Treatments

The third criterion to assess regarding a patient's suitability for opioids is their response to other treatments. But this criterion needs to be considered in the context of the literature on effectiveness.

The literature for back pain shows that exercise confers the most benefit.

Adjunctive medicines, such as tricyclic antidepressants and anticonvulsants, including gabapentin, can be helpful but will rarely provide sufficient relief for severe chronic pain.

Psychiatric disorders and stress must certainly be addressed. Distraction exercises and relaxation exercise can help reduce pain. Enhancing patients' coping skills can help them live fuller and happier lives with their pain.

Transcutaneous or percutaneous electrical nerve stimulation can be helpful for some patients but leave many patients in severe pain.

There is insufficient literature on many complementary and alternative modalities. Chiropractic may be helpful, but the benefits are usually short-lived. There is some evidence that acupuncture can be helpful.

Non-steroidal agents may help somewhat but rarely address severe pain. In general, Cox-2 inhibitors provide no more pain relief than other non-steroidal agents.

So, we would like to see that patients have tried some other treatments, but the evidence on many treatments is not strong enough to insist that patients try them before considering opioids.

We also need to remember that financial and other barriers prevent some patients from accessing some treatments that might be helpful. We wouldn't want to deprive these patients of an opportunity for pain relief with opioids.

Slide 90: Question 4 - Which opioids?

So let's turn our attention back to Jean. Jean has had severe pain for 10 weeks. Her pain has prevented her from working in a job that she apparently would like to get back to. She tried physical therapy three times but was unable to tolerate it. Although her alcohol history and current use is concerning, she may be a candidate for opioids.

Which opioids should we consider for Jean?

- Propoxyphene (Darvon®) and pentazocine (Talwin®)
- Hydrocodone (Vicodin® or Lortab®) and immediate release oxycodone (Percocet® or Roxicet®)
- Extended release morphine (MS-Contin®, Oramorph®, Avinza®, or Kadian®), and transdermal fentanyl (Duragesic®)
- All of the above

Slide 91: Question 4 - Which opioids? (continued)

The correct answer is 3, extended release morphine and the fentanyl patch. To help you understand why this is true, let's go over some basic pharmacology.

Slide 92: Advantages of Long-Acting Opioids

Imagine that you are Jean. The X-axis here shows time over a 24-hour period. Let's say you typically wake up at 8AM and go to sleep at midnight. The y-axis shows the amount of opioid in your bloodstream.

To get optimal pain relief, we want your serum level of opioid to fall in what is called the therapeutic window. Below the therapeutic window, you would get insufficient pain relief. Above it, you would get side effects.

Slide 93: Advantages of Long-Acting Opioids (continued)

Let's say you wake up at 8:00. Your serum opioid level is zero, and you are in severe pain. You take your hydrocodone or oxycodone. At 8:30, you start to feel better. At 9:00, you're feeling quite a bit better. At 10:00 you are starting to feel a bit drowsy. At 10:30 you're

feeling good again. At 11:15, you're in more pain again, but you are supposed to wait until noon before you take some more medicine. This goes on all day long. Short-acting opioids put people on a roller coast of pain, pain relief, and side effects.

You take your pills at midnight at 12:45, you get enough relief to fall asleep. You wake up at 3:30 in pain. You are supposed to wait until 4:00 to take your next dose. Some nights you get back to sleep. Some nights you don't.

Sleep is extremely important to patients with chronic pain. Studies show that patients who get good sleep feel better and function better the next day.

Long-acting opioids are designed to keep patients in the therapeutic window. People with 24-7 pain need 24-7 relief.

Slide 94: Advantages of Long-Acting Opioids (continued)

So, long-acting opioids provide more consistent analgesia. They cause fewer side effects. Also, when the opioid level remains high in the brain, patients develop more tolerance to some side effects, such as nausea and sedation. This allows further increases in dosage as necessary to control pain. Long-acting opioids also provide better sleep and better function the next day.

Another important advantage is that long-acting opioids cause less euphoria than short-acting opioids. Maximal euphoria results when the concentration of the substance in the brain increases rapidly. Long-acting opioids have a more gradual onset of action than short-acting opioids. Therefore, they tend to result in less abuse and addiction. Also, there is less demand for these medicines on the street, so the street price is lower, and there is less diversion.

Exceptions occur when long-acting opioid delivery systems can be circumvented, so that there is more rapid absorption of opioid into the bloodstream. An example is OxyContin®. OxyContin is an excellent long-acting preparation of oxycodone. However, individuals discovered that they could crush it and then either snort or inject the oxycodone.

Slide 95: Opioid Regimen for Chronic Pain

So, for a patient's baseline, chronic pain, we want to emphasize the use of long-acting opioids. Examples are long-acting hydromorphone (Palladone®), extended release morphine, extended-release oxycodone, and transdermal fentanyl, or the fentanyl patch.

Methadone can be used to treat chronic pain. An advantage of methadone is that it is much less expensive than other long-acting opioids. One disadvantage is that it is not as long-acting as the other opioids. Methadone is administered just once a day for the treatment of opioid dependence. For the treatment of chronic pain, it must administered 3 or 4 times a day. Another disadvantage is that the pharmacokinetics of methadone are very complicated. It takes longer for patients to reach a steady state when doses are increased. Especially in the hands of inexperienced prescribers, methadone presents a higher risk for respiratory depression and death than other long-acting opioids.

This is a particular concern in the elderly, who metabolize methadone more slowly than young people, are therefore at special risk for respiratory depression, but often cannot afford more expensive long-acting opioids. When an elderly person has chronic pain, consider trying short-acting opioids first. Since they metabolize opioids more slowly than young people, they may experience a greater duration of action. Sometimes a short-acting opioid at bedtime will allow an elderly person with chronic pain to get a good night's sleep.

In addition to the long-acting opioid we provide for control of baseline pain, we can provide a relatively small supply of short acting opioids for unexpected, breakthrough pain, such as the pain that might result from overexertion or a storm. For most individuals with prior or current drug problems, it is best to avoid prescribing any short-acting opioids. The euphoria from these opioids can trigger addictive behaviors. We need to work closely with these patients to help them find non-opioid and non-pharmacologic ways to manage their breakthrough pain.

Pain experts very rarely if ever prescribe propoxyphene (Darvon®) or pentazocine (Talwin®) or pain. These opioids have about as much analgesic effect as acetaminophen. They elicit substantial euphoria. They have a high street value.

Pain experts almost never prescribe meperidine (Demerol®) for acute or chronic pain. The duration of action of injectable meperidine is less than that for injectable morphine. Also, a metabolite of meperidine, called normeperidine, can cause agitation, which is a very undesirable adverse effect for someone with pain. Many hospitals are appropriately removing meperidine from their formularies.

Slide 96: Question 5 - Maximum dose

We've talked about which opioids to favor in the treatment of chronic pain. Now let's talk about dose. The average opioid-naïve person who has a bad injury or major surgery might require 10 to 15 milligrams of injectable morphine every 4 hours to get good pain relief. The oral equivalent would be 30 to 45 milligrams of morphine every 4 hours, or 180 to 270 milligrams a day.

What should be the maximum daily dose of morphine prescribed to an individual with chronic pain?

Slide 97: Question 5 - Maximum dose (continued)

The answer is as much as is necessary. For the long-acting opioids I mentioned, there is literally no ceiling dose of opioids. Regardless of what dose an individual is receiving, if their pain is not adequately treated, and if they are not having difficulty with side effects, we can raise the dose. A patient with severe neuropathic pain might require as much as 12,000 milligrams of oral morphine a day. This is not usual, but I say this to emphasize that what some prescribers think is a high dose is actually not high relative to what some patients need for adequate pain relief.

Slide 98: Titrating Opioid Dose

How do we safely titrate the dose of opioids?

We start at low doses. At low doses, we can increase the doses of most opioids weekly if side effects are not problematic. At higher doses of opioids, we can continue to increase the dose by 20% per month. At this rate of increase, most patients will develop remarkable tolerance to the respiratory depressive effects of opioids. Remember, though, that the dose must be increased more slowly and carefully with renal or liver failure, with the elderly, and with methadone.

Slide 99: Question 6 - Preventing Addiction

So far we've focused on starting opioids. Now let's focus on some other important issues.

When we treat patients with opioids over a long period of time, addiction is possible, especially for patients with prior or current substance use disorders. Three of these four strategies ARE helpful in preventing addiction. Which strategy would NOT be helpful?

Slide 100: Question 6 - Preventing Addiction (continued)

The strategy that would NOT be helpful is limiting the dose of opioids. Patients with undertreated pain will continue to have poor quality of life and may turn to other sources for opioids that are less safe.

Slide 101: Medication Agreements

Most pain experts use medication agreements for patients who they expect to require opioids for the long-term. Patients must agree to these terms to receive opioids on a long-term basis.

Ideally, there should be only one prescriber. In group practices, where cross-coverage is often necessary, a small number of prescribers should be in excellent communication with each other.

Having the patient receive all prescriptions at one pharmacies makes for easier tracking of medication use.

Patients should not be able to obtain prescription refills after hours. Covering physicians should be alerted not to honor requests for refills, except perhaps in very unusual circumstances. Remember, for otherwise healthy patients, opioid withdrawal is very uncomfortable but causes no lasting damage.

Patients should be made aware of your policy for refilling lost prescriptions. Some prescribers will not fill any lost or stolen prescriptions. Others will limit such refills. Some will only refill stolen prescriptions if patients report incidents to the police.

Most experts perform unannounced, random urine drugs screens for most patients who receive opioids. Drug screens can serve two purposes. They can tell us if patients are taking the opioids they are receiving. Beware though, because various chemical classes of opioids are metabolized differently, and some will not result in positive urine drug screens. When in doubt, call the lab and discuss the situation with the lab's toxicologist. The second purpose is to determine whether patients are using other drugs. Such drug use raises concern about

substance abuse or dependence. It also raises the question whether the patient might be exchanging their prescribed medicines for other drugs.

Medication agreements specify in advance the possible consequences of positive urine drug screens and other violations of the agreement. Possible consequences could be discontinuation of prescribing, a change in medicines (for example, discontinuing short-acting opioids), or a referral for an addiction assessment.

The medication agreement alerts patients that they should not drive or use dangerous machinery when they are drowsy.

The agreement might also specify that patients must receive other appropriate care for their pain to continue receiving opioids. The opioid prescriber is often in the best position to serve as the hub, or the coordinator of care, for a team of professionals that provides comprehensive pain management. Appropriate consent should be obtained so that all team members can communicate freely about the patient's progress.

Slide 102: Jean – Today

Now that we've discussed how to maximize safety and minimize risk in prescribing opioids, let's get back to Jean. Jean's alcohol use history may place her at higher than average risk for opioid addiction. Her marijuana use indicates that she has contact with individuals with whom she might trade or sell drugs. Yes, Jean has severe pain and needs treatment. Without adequate pain treatment, she is at risk for buying opioids from illegal sources and for quitting her job.

Her prescriber agreed to start her on opioids if she agreed to limit her drinking to one beer per day. She readily agreed to do so. Jean was given a prescription for the lowest dose of a reservoir fentanyl patch. This kind of patch is most resistant to tampering. According to the Drug Abuse Warning Network, a federally administered national reporting system, fentanyl is one of the opioids associated with the fewest emergency room visits.

Slide 103: Monitoring Opioid Recipients

How do we monitor opioid recipients? Remember the 4 A's:

Analgesia - Pain relief

Adverse effects - Constipation is most common. Many patients need to be on bowel regimens. If nausea or sedation persists, try switching to another opioid.

Activity - How is the patient functioning?

Adherence - Is the patient sticking to the medication agreement?

Slide 104: Monitoring Opioid Recipients (continued)

When we assess for activity, we are assessing for negative psychosocial consequences. When we determine if prescriptions are lasting as long as intended, we are assessing the patient's control over medication use. Once the patient is appropriately titrated on opioids, functional improvement and adherence to the medication agreement help assure that opioid treatment is safe and effective.

Slide 105: Question 7 - Six days later

Six days later, Jean's pain improved slightly. There were no side effects. Her function is unchanged, and she used the medicine as directed. What would be appropriate management?

Slide 106: Question 7 - Six days later (continued)

Correct management would be increasing the dose.

Slide 107: Indications to Increase Opioid Dose

In fact, no matter what dose of long-acting opioids the patient is taking, if analgesia is inadequate, if there are no problems with side effects, if function is at least no worse, and if adherence is good, the dose of opioids should be increased.

Slide 108: Jean - 6 Days Later

Six days later, Jean is now getting substantial relief. She had some sedation when the dose was increased, but she is becoming tolerant to this side effect. Her function is improving. Her adherence is good. She felt she could now tolerate physical therapy.

Slide 109: Jean – Two Months Later

Two months later, Jean was back at work, feeling much better, and wishing to come off the opioids.

Slide 110: Jean – Tapering Plan

The opioid was tapered. She was given clonidine to help with any symptoms of opioid withdrawal.

Slide 111: Question 8 - Long-Term Treatment

Of course, many patients find that they continue to require opioids for relief. If Jean had continued to require opioids, what would have been appropriate management?

Slide 112: Question 8 - Long-Term Treatment (continued)

Clearly any prescriber must operate in his or her comfort zone, and referring for a consultation would certainly be reasonable. However, clinicians need to develop a sense of comfort continuing to prescribe opioids when patients are clearly doing well according to the 4 A's.

Slide 113: Long-Term Opioids

There is good rationale for prescribing opioids as long as they are needed. Scientists are finding in animal models that chronic pain involves changes in spinal cord pathways. Spinal tracts that are supposed to inhibit pain become involved in a positive feedback loop. Just as patients may receive lifetime treatment for chronic diseases such as diabetes, heart disease, and epilepsy, they may need continuing treatment for chronic pain.

Over the long-term opioids are not harmful to any organs. Most patients do not develop significant tolerance to the analgesic effects. Those who do can be switched back and forth between two opioids as needed.

Slide 114: With Opioids, Consider:

I've talked a lot about opioids in managing pain, but I want to emphasize that opioids should never be the sole treatment. Non-opioid analgesics, such as acetaminophen and ibuprofen, can add pain relief. Adjuvants, such as tricyclic antidepressants and anticonvulsants can help. Exercise, other physical therapies, and psychological interventions are usually helpful. Patients sometimes get further relief with complementary and alternative modalities. And remember to address those blue-box suffering issues.

Slide 115: 5. Recommendations for Prescribers and Non-Prescribers

Although the previous discussion focused on opioids, many of the principles we discussed apply to other potentially addictive prescription medicines.

Slide 116: Optimizing Prescribing

We'll talk about 7 aspects of care where we can maximize benefit and minimize risk.

Slide 117: Optimizing Prescribing (continued)

Obtain a detailed description of symptoms.

Get thorough information on the patient's function.

Find out from the patient and previous records, about the past treatments and their results

Inquire carefully about psychiatric issues, life stresses, and psychosocial supports

Get a detailed substance use history. Ask about quantity and frequency of alcohol and drug use in the past and present. Ask how patients obtained drugs. Use a validated screening instrument, and follow-up on any positive responses. Ask whether anyone has ever recommended substance abuse treatment. If there is concern about an alcohol or drug problem, consider a referral for a substance abuse assessment before prescribing opioids. Inquire about the patients' therapeutic goals. If necessary, help patients develop attainable goals.

Identify patients' resources for obtaining health and mental health care.

Perform a relevant physical examination, checking for signs of substance abuse.

Where available, check databases on prescription medicine use and criminal justice records.

Be objective and thorough.

Use multiple sources of information.

Obtain consultations as needed to gather information and recommendations.

Slide 118: Treatment Planning

In planning treatment, first ascertain the patient's treatment goals. Help adjust any unrealistic expectations.

Be comprehensive in addressing the primary problem and contributing and related conditions.

Medicines are rarely the only indicated treatment. However, be flexible for patients who cannot afford or access other treatments.

When multiple treatments might be helpful, consider whether to initiate them simultaneously or over time. Often patients can benefit more from non-pharmacologic treatments once symptoms are at least partially controlled with medicines.

Assemble a treatment team to provide the indicated treatment modalities. Obtain signed consent forms to allow communication among team members. Have each team member send copies of all reports to all team members. If team meetings are not feasible, consider using e-mail to facilitate communication. To adhere to HIIPAA regulations, do not include any information in e-mail messages that could identify the patient. Set regular follow-up to allow for ongoing reassessment.

Slide 119: Patient Selection for Potentially Addictive Drugs

When deciding whether to prescribe potentially addictive medicines, consider several pieces of information.

Has the patient tried other treatments? How effective were they?

Are there other treatments that should be tried? Can the patient access them?

How severe are the patient's symptoms? How have the symptoms affected the patient's function? How urgent is it to address the symptoms?

What is the level of risk with regard to substance abuse, addiction, and diversion? For high risk patients, how will you be able to monitor function and adherence? Will the patient be able to afford urine drug screens? Are there reliable sources of collateral report?

Will the patient be able to self-administer medications safely? Will the patient be able to keep medicines safe from diversion by others?

Does the patient engage in an occupation or avocation that presents special risk for medication use? Does the patient have sole responsibility for child care, which requires around-the-clock alertness?

Is the patient willing to agree to appropriate safeguards?

Slide 120: Selection of Potentially Addictive Drugs

In selecting which potentially addictive drugs to prescribe, remember that long-acting medicines are usually safer, in that their gradual onset results in less euphoria, abuse, addiction, and diversion.

However, also consider the ease with long-acting agents can be converted to short-acting agents.

Consider current trends in substance abuse.

Consider the extent to which urine drug screens will be able to discern whether the patient is taking the prescribed medicine or other medicines in the same family.

Consider the cost of the various choices and affordability for the patient.

Consider all these factors in light of the patient's risk of substance abuse, addiction, and diversion, and the likelihood that the patient's symptoms and functional impairment can be addressed.

Slide 121: Safer Potentially Addictive Drugs

This slide shows the opioids, sedatives, and stimulants with low, but not zero, risk of substance abuse, addiction, and diversion.

Slide 122: Medication Titration

In titrating medicines, see patients frequently enough to provide upward titration on a timely basis. Advise patients of possible side-effects and how to manage them between visits. When necessary, add other medicines to control side effects. However, attempt to use medicines that allow for the simplest regimens.

Often as medicines begin to work, patients may overzealously engage in activities that aggravate their symptoms. Help patients advance their activities gradually and learn their new limits.

Slide 123: Follow-Up

Since it is difficult to predict how individual patients will respond to medicines, follow-up is key. Regularly reassess symptoms and function. If possible, especially for high risk patients, obtain information from collateral sources. Perform urine drug screens as appropriate to the risk of the patient and the prescribed medicine. If violations of the medication agreement occur, remember that substance use disorders and diversion are only one possible explanation. More common explanations are self-medication for worse symptoms, self-medication for other symptoms, and impulsivity. Perform appropriate investigation, address underlying reasons for aberrant behaviors, and set firm limits. If patients continue to violate the agreement, consider obtaining consultation, changing to safer medicines, or stopping potentially addictive medicines altogether.

Slide 124: Regulatory Scrutiny

Prescribers are understandably concerned about avoiding discipline by their state medical boards. The most common reason for discipline is poor documentation. Prescribers must document a thorough initial assessment and follow-up assessments with attention to symptoms, function, adverse effects, and adherence to medication agreements. When external factors preclude optimal treatment, when patients violate agreements, and when other difficult judgments are called for, document the rationale for these decisions.

Slide 125: Regulatory Scrutiny (continued)

Another common reason for discipline is failure to respond adequately when patients violate medication agreements or manifest other poor outcomes. Be sure to document your concern about these situations and your attempts to investigate and address them. When substance abuse or addiction are possible, refer for an addiction assessment, and ensure that patients follow any recommendations. If they do not, or if they continue to manifest poor outcomes and aberrant behaviors, you must stop prescribing potentially addictive medicines.

There is no need to discharge patients when stopping their medicines. Instead, try to work with patients to address their symptoms with non-opioid and non-pharmacologic approaches. If patients object, they are free to seek care elsewhere.

Slide 126: Non-Prescribers

Most members of the treatment team will not be prescribing potentially addictive medicines. These individuals may be other medical specialists, mental health professionals, physical or occupational therapists, vocational rehabilitation counselors, social workers, pharmacists who fill prescriptions, teachers, family members, and others. These individuals can contribute to effective care by sharing their observations with the prescriber, contributing to problem solving when unanticipated outcomes or events occur, and identifying other therapeutic resources. When informed non-prescribers are concerned about prescribing, it's imperative that they communicate with the prescriber. Patients often present themselves to prescribers in the best light possible. Non-prescribers may witness behaviors that some patients do not reveal to prescribers. Therefore, an appropriate prescriber will welcome input from other concerned individuals.

If prescribers seem not to respond adequately to concerns, try sending the prescriber an appropriate, authoritative, relevant piece of literature. Speak again with the prescriber to express further concern. Ask the prescriber to refer the patient for a second opinion.

If the prescriber continues to engage in what may be inappropriate prescribing, remember, our first ethical obligation is to the patient. Reports to medical boards may result in suspension or loss of prescribing privileges or licensure. However, many state boards simply require education and monitoring, which allows physicians to continue practicing, improves the quality of their care, and appropriately protect patients and the public from the dangers of potentially addictive medications.

Slide 127: Summary

In summary, prescription misuse, abuse, and addiction are increasing. Treatment of prescription medicine abuse and addiction is similar to that for other substance use disorders. Potentially addictive medicines have a well-defined role in treating conditions that cause much suffering. When prescribers and non-prescribers work together and ensure that appropriate assessments, treatments, and follow-up are provided, we can reduce suffering, bolster function, and enhance quality of life while minimizing the risk of substance abuse, addiction, and diversion.

Slide 128: 7. Putting It All Together: A Case

Now that we've covered a lot of background information and concepts, let's see how you as a group would manage someone with chronic pain.

Optional: Even though [some of] you are not prescribers, I'd like you to put yourself in the role of a clinician who is conducting the clinical assessment for patient with chronic pain and ultimately making prescribing decisions.

You're seeing Joe, who is referred to you by an orthopedic surgeon for management of his chronic back, neck, shoulder, and head pain. The orthopedist calls him "quite a drug-seeker."

Slide 129: Discussion Question

The first thing to think about is why Joe might be “drug seeking.” What are some possibilities?

[Take audience responses.]

Slide 130: Discussion Question (continued)

Yes, Joe could have an opioid use disorder. He might be selling or trading opioids. Or he simply might have severe, undertreated pain. This is why the term “drug seeking” is not a useful clinical term.

Slide 131: Information Gathering

So, imagine that Joe is here with us now. Tell me what you’d like to ask him, and I’ll show you his response.

Note to instructor - When the participants request certain information below, press the corresponding button IN SLIDESHOW MODE. Then press the button at the bottom of the slide to return to this slide. As the discussion continues, give the learners hints as needed so they collect complete information. Eventually show them the information did not request and explain why the information should be collected.

- 1 - Origin of Pain - how and when it started
- 2 - Severity
- 3 - Other Medical/Surgical History
- 4 - Medicines
- 5 - Allergies
- 6 - Function
- 7 - Social Life
- 8 - Sleep
- 9 - Family and Living Situation
- 10 - Finances
- 11 - Substance Use
- 12 - CAGE Questions
- 13 - Alcohol or Drug Treatment
- 14 - Psychiatric History
- 15 - Vegetative Signs of Depression
- 16 - Suicidal Thoughts
- 17 - Sex
- 18 - Previous Therapies
- 19 - Medicines
- 20 - BLANK
- 21 - FINISHED ASKING QUESTIONS - DO A PHYSICAL EXAM

Slide 132: Origin of Pain – 1 of 2

Before 7 years ago, I never had trouble with pain. It all started after an accident at the warehouse where I worked. My buddy and I were taking down a 300-pound off an overhead

palette. My buddy stumbled, leaving me carrying the whole load. I feel backwards, and the load landed on the right side of my face, shoulder, and back. ...

Slide 133: Origin of Pain – 2 of 2

... I had several surgeries to repair muscle tears in my shoulder. They had to fix fractures in my skull, face, and upper spine. I've been hurting real bad ever since. Then six months ago I was rear-ended. I was just sitting at a traffic light, and this guy plows into me. I got bad whiplash. That really set me back. After the car accident, it has never felt like my teeth fit together the same as before.

Slide 134: Severity of Pain

My pain bothers me a lot. It starts behind my right ear and goes down into the right side of my neck and my right shoulder.

On normal days, it's a 7 out of 10. Occasionally it gets down to a 4 or 5. But I have many bad days where it's 8 or 9. And if I try to do too much, it can get to a 10 the next day.

Slide 135: Other Medical/Surgical History

Aside from my accidents, I've been very healthy.

I had my appendix out when I was 15. There were no problems after that.

Slide 136: Medicines

Vicodin (hydrocodone/acetaminophen) is my main pain medicine. I take about 8 a day. I also take over-the-counter ibuprofen, usually 3 or 4 at a time, 3 times a day.

Slide 137: Allergies

No, I don't have any allergies.

Slide 138: Function

There's really not too much I can do. Most of the time, I hang out and watch TV. I can do dishes and vacuum slowly. I can't do any scrubbing without paying for it the next day. I can do my own shopping, but I have to rest for a half hour between bringing each bag in from my car. One thing I feel really bad about is that I can't even throw a ball back and forth with my son. Also, I have to stick with soft foods, because chewing hard things can make it hurt worse.

Slide 139: Social

I get together with old buddies from high school and work. We play cards and have fun. Sometimes I'll go hunting or fishing with them. I can't hunt or fish myself, but I enjoy hanging out with them.

Slide 140: Sleep

Most nights I toss and turn a lot. When I turn the wrong way, the pain wakes me. I haven't had a good night sleep in years,

For the last couple of months, my sleep is even worse. Even when my pain isn't so bad, I have a hard time falling asleep, and sometimes I wake up for no good reason and can't fall asleep again.

Slide 141: Family and Living Situation

I got married when I was 22. I got divorced 6 years later, one year after my work accident. My ex-wife, Kathy, and I were already having trouble before my accident, but accident sealed our fate. But we've done pretty well since we split up. We live around the corner from each other.

We had two kids together - Joe Junior, who's 12, and Franny, who's 10. They're the main bright spot in my life. Since Kathy works full-time, I see them quite a bit. I go to their games and help them with their homework. They're great kids.

Slide 142: Finances

At first my medical expenses were covered by workers comp, but I've been on SSDI for the past four years. It's not a luxurious life, but I have a decent apartment and get by OK. But I can't afford to go to the dentist.

Slide 143: Substance Use

I drink maybe 4 or 5 days a week, usually two 12-ounce beers a day. On Friday or Saturday nights, if my kids aren't around, I may have a six-pack with my buddies.

I smoked pot quite a bit when I was in my teens and early 20's. I tried it again after my work accident, but it didn't help the pain.

I've tried cocaine, LSD, mushrooms, and speed in my late teens but never got into that. I haven't used any street drugs for about 5 years.

Slide 144: CAGE Questions

I cut back on beer in my early 20's at one point. I had to learn the hard way that I couldn't party like I used to and keep a job. I almost got fired early on, but I straightened myself out. ... Back then Kathy didn't like my drinking but nobody else complained. ... Yeah, I felt guilty when I realized my drinking was interfering with work, and that's when I just decided I couldn't party like that any more. ... No, I never drank in the morning.

Slide 145: Alcohol and Drug Treatment

No, I never needed any alcohol or drug treatment. No, nobody ever recommended it to me.

Slide 146: Psychiatric History

Several months after my work accident, I was really down. I got put on some medicine for depression - fluoxetine. They also gave me trazodone at bedtime to help me sleep, and I started seeing a counselor. Two years later, I was able to come off the medicine. Lately though, I'm getting down again. It's been really hard since my car accident.

Slide 147: Vegetative Signs

For the past 6 weeks, my sleep is really bad, even if my pain isn't so bad. My appetite is definitely off, and I've lost a few pounds. I've had a hard time concentrating on things. I

have less energy than usual. I'm not as interested in sex as usual. I'm pretty down about the future. I don't see any chance of getting back to a normal life.

Slide 148: Suicidal Thoughts

In the past few weeks I've found myself wishing I were dead at times, but there's no way I'd kill myself. My kids are too important to me.

Slide 149: Sex

I've had a few girlfriends since my divorce. I have to be real careful not to hurt myself when I have sex. I've been in my current relationship for two years. Things were going well up until my car accident 6 months ago. Sue's been very understanding, but lately I think she's getting fed up with me.

Slide 150: Therapies

After my work accident and surgeries, I had about a year of physical therapy. It helped quite a bit, but then I was able just to continue doing exercises at home. Then after my car accident I got some more physical therapy. As far as PT goes, I think I'm about as good as I'm going to get.

Slide 151: Medicines

My surgeon was giving me 4 Vicodins a day for a while. Then after my accident, he was giving me up to 8 a day. I still had real bad pain and asked for more, and he suddenly seemed to think I was a druggie or something. So about a month ago he said he was giving my me last prescription. I'll be out of Vicodin tomorrow. I don't know what I'm going to do if I can't get a refill.

Slide 152: Physical Examination

- ◆ Traumatic and surgical scars consistent with the history
- ◆ ® TMJ tenderness
- ◆ Neck ROM - 50% to 75%
- ◆ ® paracervical & periscapular musculature - tender, palpable spasm
- ◆ ® shoulder abduction - 75%, weak
- ◆ Normal neurologic exam of upper extremities
- ◆ Significant leftward mandibular deviation when opening mouth

Slide 153: Joe Requests Vicodin - Now What?

What would you do in real life at this point for Joe?

- 1 - Referral for addiction assessment
- 2 - Referral to dentist for TMJ evaluation
- 3 - Referral to physical therapist
- 4 - Referral to psychiatrist
- 5 - Referral to psychotherapist
- 6 - Prescribe antidepressants
- 7 - Prescribe a long-acting opioid
- 8 - Prescribe a short-acting opioid
- 9 - Call Joe's pharmacist

10 - Call Joe's orthopedic surgeon

11 - BLANK

12 - FINISHED - ADVANCE TO NEXT SECTION

Note: If the group does not select #9 or #10, select #10 for them. If they still don't select #9, then select #9 for them.

Note: Keep track of the referrals the group makes, because you'll have to select slides later to reveal the consultant's report.

Slide 154: Referral - Addiction Assessment

If there's any concern that Joe could be addicted to Vicodin, an addiction assessment is a good idea. Even if you are fairly sure that Joe is not addicted, having any expert opinion to this effect in the medical record can help insulate you against future regulatory scrutiny.

Slide 155: Referral - Dentist

Yes, it's a good idea to send Joe to an expert to assess his TMJ pain.

Slide 156: Referral – Physical Therapist

Yes, it's a good idea to see if any physical modalities might help Joe's pain.

Slide 157: Referral – Psychiatrist

If you don't feel comfortable treating Joe's major depression yourself, then yes, it's a good idea to refer him for psychiatric care.

Slide 158: Referral - Psychotherapist

Good idea. Studies show that the best treatment for major depression is a combination of pharmacotherapy and psychotherapy. Also, a psychotherapist who is knowledgeable about chronic pain can help by teaching distraction exercise, relaxation exercises, and coping skills.

Slide 159: Rx - Antidepressants

Good, yes, to address Joe's pain, we will need to treat his depression. It makes good sense to treat him with medications that were effective and well-tolerated in the past.

Slide 160: Rx – Long-Acting Opioid

Yes, it's certainly appropriate to start Joe on a long-acting opioid. His pain is severe and longstanding enough that it's unlikely to respond to lesser measures.

Methadone is by far the least expensive long-acting opioid. Disadvantages are more frequent dosing and higher probability of respiratory depression.

Slide 161: Rx – Short-Acting Opioid

- ❖ Joe requests to continue on his current Vicodin prescription
- ❖ He reviews and signs the medication agreement

Slide 162: Telephone Call - Pharmacist

This is a terrific idea, and you can see why. Pharmacists are an important part of the team in treating chronic pain.

You now return to talk to Joe about this. (Next slide)

Slide 163: Discussion with Joe

Do you believe Joe? What might be going on? (Next slide)

Slide 164: Possible Explanations

Yes, there could be an opioid use disorder, diversion, or inadequately treated pain. How might you sort this out?

Slide 165: Telephone Call – Surgeon

Calling the previous prescriber is absolutely necessary. Sometimes you learn important things that the patient does not tell you. Unfortunately, it doesn't help in this case.

Slide 166: It's Two Weeks Later

Push the button to display reports of consultants to whom they referred Joe.

Slide 167: Referral – Addiction Medicine

According to Joe's pharmacist, he was obtaining up to 16 Vicodin per day from 3 physicians. However, there is no evidence of current abuse, addiction, or diversion. There is a remote diagnosis of alcohol abuse and recent risky drinking. Joe's aberrant behavior regarding Vicodin may be related to frustration with severe chronic pain, which may be exacerbated by depression. If he requires opioids for his pain, long-acting opioids would pose less risk of abuse, addiction, and diversion than Vicodin.

Slide 168: Referral – Dentist

❖ Joe has bite malocclusion which is likely contributing to his right-sided facial and head pain.

Slide 169: Referral – Physical Therapist

- ❖ Joe has cervical and periscapular muscle spasm and weakness due to deconditioning.
- ❖ He is tolerating gentle stretches, hot and cold treatments, and ultrasound.
- ❖ We will continue the present treatments and, when appropriate, begin strengthening exercises.

Slide 170: Referral - Psychiatrist

Joe has had a major depressive episode for the past 6 weeks. There is mild, passive suicidality, but Joe states he would never kill himself because of his children. Joe's previous major depressive episode responded well to fluoxetine and trazodone. Therefore, I started him on fluoxetine 20 mg daily and trazodone 50 mg at bedtime. I will see him again in two weeks.

Slide 171: Referral – Psychotherapist

Joe has a major depressive episode. Contributing factors include severe chronic pain and major role loss. He denies feelings of anger and frustration, which are likely turned inward, contributing to muscle tension, pain, and depression. He agrees to work on releasing anger, learning relaxation and distraction exercises, and other coping skills.

Slide 172: Call – Surgeon – 1 of 2

Joe has been tough. I'm not at all surprised that he continues to have a lot of pain. His initial work injury involved severe crush injury to his cervical and upper back muscles, plus he had a skull fracture and a ruptured cervical disk.

Poor guy took a tailspin after his car accident 6 months ago. I gave him more Vicodin then, but he kept wanting more and more ...

Slide 173: Call – Surgeon – 2 of 2

Then a pharmacist called and told me that he was getting Vicodin from two other docs. He was taking up to 16 a day. I told him that I just couldn't prescribe any more. I called those other doctors, and they agreed that they wouldn't prescribe, either. I feel bad. I may have helped him get addicted to Vicodin.

Slide 174: Discussion with Joe

Note: Skip this slide if it was already shown. Show it now if it hasn't been shown yet.

I'm so embarrassed. Yes, I realized I shouldn't be getting pain medicine from other doctors. I was at the end of my rope with pain. I just didn't know what else to do. I promise you, I've never sold or given away my medicines. Yes, they do give me a slight buzz when they start to work, but I don't care about that. I've just needed pain relief.

Slide 175: Referral – Addiction Medicine

You refer him for an addiction consultation. It's reassuring that the addiction expert could not find any evidence of opioid abuse, addiction, or diversion.

Slide 176: Acetaminophen Toxicity

Did anyone catch that Joe's excessive use of Vicodin entailed excessive use of acetaminophen? If Joe was taking 16 Vicodin tablets, each of which contained 500 mg of acetaminophen, he was taking 8 grams a day. We need to make sure his liver is OK, and fortunately it is. Other patients may not be so lucky ; some would require liver transplantation.

Slide 177: Skills Demonstration

Note to Instructor:

This and the next slide are intended to lead into a skills demonstration, where the instructor interacts with a learner who plays the role of Joe. The instructor should attempt to demonstrate the skills on the next slide.

In addition or instead, a learner could play the role of clinician, and the instructor could stop the interview frequently to get feedback from other learners on what the interviewer is doing well and what he or she might try to do differently.

Before the demonstration, lead a discussion on how to manage Joe's aberrant behavior and what limits to set. Appropriate management would be:

- Continue Joe on his current dose: 10mg 4 times a day for 2 weeks. There's no reason to "punish" him by reducing the dose.
- Advise him to call if he starts to feel sedated, as this could lead to respiratory depression and death
- Advise him that he can no longer advance the dose without your permission, because it is too dangerous.
- He must continue to prove to you that he can take the medicine as directed. Inability to control medicine use can be a sign of addiction, which might prompt you to send him to the addiction specialist and/or stop his medicine.
- Reassure Joe and emphasize your commitment to continue helping him with his pain: if he takes the medicine as directed, adheres to the medication agreement, continues improving his function as his pain improves, receives other recommended treatments, tolerates the medicine well, and continues to be in pain, you will continue to advance the dose.

Slide 178: Key Skills – Responding to Aberrant Medication-Related Behaviors

Note to instructor:

This slide shows the principles of responding to aberrant behaviors. Show this slide at some point during the discussion of how to respond to Joe's aberrant behavior. Refer back to the slide as you debrief the skills demonstration.

Module VI Potentially Addictive Prescription Drugs: Striking a Balance



Project MAINSTREAM

Revised 10/05

1

Learning Objectives

Health Care Professionals will be able to describe:

- ◆ Therapeutic use and pharmacology of commonly misused prescription drugs
- ◆ Definitions of substance use patterns
- ◆ Epidemiology of prescription drug misuse and dependence

2

Learning Objectives (continued)

Health Care Professionals will be able to describe:

- ◆ Detox and treatment for patients with prescription drug dependence
- ◆ Preventing prescription drug use disorders:
 - The concept of balancing benefit and risk in prescribing potentially addictive medicines
 - Ways that prescribers and non-prescribers can optimize benefit and reduce abuse, addiction, and diversion

3

1. Pharmacology and Therapeutic Use of Commonly Misused Prescription Drugs

- ◆ Categories of Drugs
Opioids • Stimulants • Benzodiazepines
- ◆ Information
 - Indications
 - Benefits
 - Adverse effects

4

Opioids



5

Opioids

(continued)



- ◆ Examples:
 - Hydrocodone (Vicodin, Lortab)
 - Oxycodone (Percocet, Roxicet, OxyContin)
 - Codeine (Tylenol #3, Robitussin AC - available OTC)
 - Morphine (MS-IR, MS Contin)
 - Hydromorphone (Dilaudid, Palladone)
 - Tramadol (Ultram, Ultracet)
 - Meperidine (Demerol)
 - Diphenoxylate (Lomotil)
- ◆ Indications: pain, cough, diarrhea

6

Opioids

(continued)



- ◆ **Short-term effects:**
analgesia, cough suppression, constipation, nausea, drowsiness, cognitive blunting, respiratory depression
- ◆ **Long-term effects:**
no organ damage

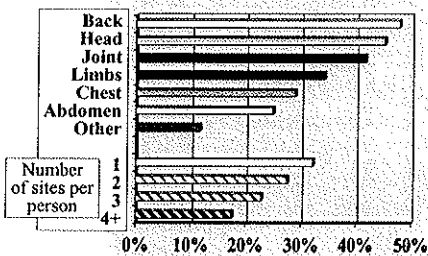
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Prevalence of Chronic Pain

- ◆ Definition of chronic pain
 - Moderate to severe pain on ≥ 180 days/yr
 - Functional interference
 - Sought medical care
- ◆ Surveyed consecutive primary care patients
- ◆ Response rate = 96%
- ◆ N = 373
- ◆ Prevalence = 9.4% in men, 21.2% in women

(Gureje, JAMA, 1998)

Sites of Pain



(Gureje, JAMA, 1998)

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Opioids for Chronic Pain Effectiveness and Risk of Addiction

- ◆ No long-term randomized trials
- ◆ Several case series studies suggest effectiveness
- ◆ Rates of opioid disorders vary from 2% to 45%
- ◆ Prior substance use disorders are the major risk factor for abuse and addiction
- ◆ Aberrant medication-related behaviors are common and often are not associated with abuse, addiction, and diversion

(Passik SD, *Pain Medicine*, 2003; Vallerand AH, NCNA, 2003)

10

Endorsement of Opioids for Treating Chronic Pain

- ◆ American Pain Society
- ◆ American Society of Addiction Medicine
- ◆ Federation of State Medical Boards
- ◆ US Drug Enforcement Agency
- ◆ Wisconsin Medical Society

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Undertreatment of Pain


- ◆ 40% to 50% of patients with chronic pain do not attain sufficient relief
- ◆ 50% of patients change physicians to seek more relief. Reasons include:
 - Failure to take the pain seriously
 - Insufficiently aggressive treatment
 - Apparent lack of knowledge

(Glajchon, *J Am Bd Fam Prac*, 2001)


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Chronic Pain and Addiction

<p>Patients of 13 New York State Inpatient Treatment Centers (N = 531)</p>	<p>Patients of 2 New York State Methadone Clinics (N = 390)</p>
--	---



24% have
chronic pain



37% have
chronic pain

(Rosentblum et al, JAMA, 2003) 13

Clinician Barriers to Effective Opioid Prescribing

- ◆ Limited training, knowledge, and skills
- ◆ Fear of prescribing opioids
- ◆ Fear of prescribing sufficient doses
- ◆ Demographic stereotypes
- ◆ Misunderstanding of addiction-related terminology and issues

(Glajchen, J Am Bd Fam Prac, 2001) 14

Patient Barriers to Effective Opioid Use

- ◆ Fear of addiction
- ◆ Fear of other adverse effects
- ◆ Fatalism regarding their pain
- ◆ Desire to please clinicians
- ◆ Denial (↑ pain = worse disease)

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Health Care Systems Barriers to Effective Opioid Use

- ◆ Transportation to health care providers and pharmacies
- ◆ Limited stocking of opioids by pharmacies
- ◆ Limited reimbursement for medications
- ◆ Lack of home supervision of medication administration
- ◆ Regulatory restrictions on prescriptions

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Other Barriers to Pain Treatment

- ◆ Lack of access to:
 - Physical therapies and providers
 - Treatment services for comorbid mental health disorders
 - Specialty care and medications for various underlying conditions

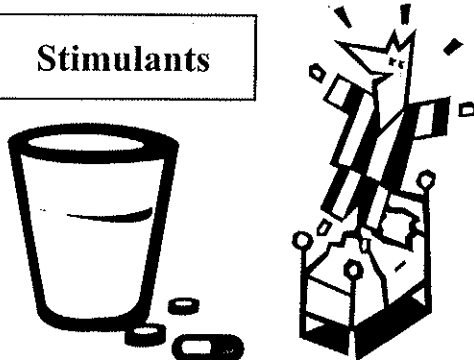
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Special Case: Dextromethorphan

- ◆ Over-the-counter (OTC) opioid cough suppressant, as effective as codeine
- ◆ Key ingredient in "DM" cough medicines, such as Robitussin-DM
- ◆ In large doses, has effects like phencyclidine (PCP)
- ◆ Increasingly misused by teens
- ◆ Some states are restricting (OTC) access

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Stimulants

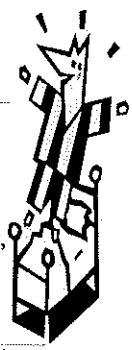


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Stimulants (continued)

- ◆ Examples:
methylphenidate (Ritalin)
dextroamphetamine (Dexedrine), sibutramine (Meridia)
- ◆ Indications: ADD, ADHD, narcolepsy, recalcitrant depression, obesity

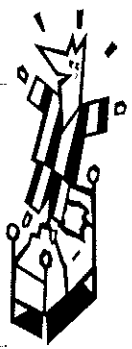
(Arterburn et al, Archives of Internal Medicine, 2004; 164:994.)



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Stimulants (continued)

- ◆ Short-term effects – elevated blood pressure, increased heart rate, decrease in appetite, sleep interference, cardiac arrhythmias, hyperpyrexia, seizures, paranoia
- ◆ Long-term effects
no organ damage



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Attention Deficit Disorders

- ◆ Prevalence of ADD/ADHD: 3% - 5%
- ◆ Principal symptoms:
Inattention • Hyperactivity • Impulsiveness
- ◆ Subtypes
 - Predominantly inattentive
 - Predominantly hyperactive and impulsive
 - Combined

(Strock, 2003)

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ADD: Diagnosis in Children

- ◆ Symptoms
 - Appear before age 7
 - Continue for ≥ 6 months
 - Are pervasive
 - Are not related to: situational disturbance, seizures, hearing disorder, learning disability, anxiety, depression
- ◆ Dysfunction in ≥ 2 areas: school, play, home, community, social settings

(Strock, 2003)

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ADD: Diagnosis in Adults

- ◆ 30% to 70% of children with ADD have symptoms in adulthood
- ◆ Symptoms include difficulty with organization, punctuality, concentration, school or work function, safe driving

(Strock, 2003)

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Etiology of ADD

- ◆ Largest risk factor is genetics: having close relatives with ADD confers a 5-fold risk
- ◆ Other factors may include:
 - Fetal exposure to cigarettes and alcohol
 - Lead exposure
 - Brain injury (uncommon)
- ◆ Sugar is not a factor

(Strock, 2003)

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Stimulants for ADD Effectiveness and Risk of Addiction

- ◆ Stimulants result in:
 - Improved symptoms
 - Improved educational performance
 - Improved social outcomes
- ◆ No addiction when taken as prescribed¹
- ◆ Less addiction when ADD is treated with stimulants²
- ◆ Concomitant behavioral therapies may allow dose reductions

(Biederman et al, Pediatrics 1999; 104:e20.)

Other Medicines for ADD

- ◆ Atomoxetine (Strattera[®]) improves symptoms of ADHD and opposition defiant disorder, psychosocial functioning, and health-related quality of life

(Newcorn, 2005; Perwien, 2004)

- ◆ Buspirone (Buspar[®]) may be effective

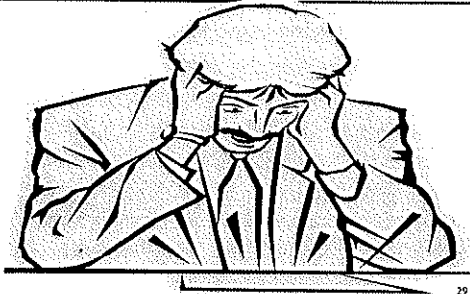
(Malhotra, 1998; Niederhofer, 2003)

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Barriers to Effective Treatment of ADD

- ◆ Most generalists are not trained to diagnosis ADD
- ◆ Providers with expertise are lacking in many communities
- ◆ Reimbursement for mental health care is limited
- ◆ Regulations make prescribing unwieldy
- ◆ Many prescribers misunderstand regulations

Sedatives and Tranquilizers



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CNS Depressants



- ◆ **Benzodiazepines:** diazepam (Valium), alprazolam (Xanax), triazolam (Halcion), estazolam (ProSom), lorazepam (Ativan), oxazepam (Serax), chlordiazepoxide (Librium, Librax), clonazepam (Klonopin)
- ◆ **Barbiturates:** butalbital (Esgic, Fiorinal), *phenobarbital
- ◆ **Indications:** anxiety disorders (GAD, panic disorder), sleep disorder, seizure disorder*

CNS Depressants (continued)



- ◆ **Short-term effects:**
drowsiness
poor coordination
- ◆ **Long-term effects:**
no organ damage

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Panic Disorder

- ◆ Sudden attacks of anxiety with chest discomfort, palpitations, dizziness, weakness, air hunger, and fear of impending doom; often confused with MI's
- ◆ Repeated attacks may progress to phobias
- ◆ Affects women more than men
- ◆ Strong genetic predisposition
- ◆ Responds best to meds and therapy (APA, 1994)

Obsessive-Compulsive Disorder

- ◆ Uncontrollable recurrent thoughts
- ◆ Repetitive, ritualistic behaviors often consume ≥ 1 hour per day
- ◆ Interference with daily function
- ◆ Responds well to medicines and cognitive behavioral therapy
- ◆ SSRI's, clomipramine, fluvoxamine

(APA, 1994)

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Post-Traumatic Stress Disorder

- ◆ Initiated by a terrifying event
- ◆ Persistent frightening thoughts and memories; flashbacks; nightmares
- ◆ Sleep problems, sense of detachment, irritability, anhedonia, loss of libido
- ◆ Responds to medicines and therapy

(APA, 1994)

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Social Anxiety Disorder

- ◆ Overwhelming anxiety and excessive self-consciousness in social situations
- ◆ Dread before social situations
- ◆ Interference with daily function
- ◆ Responds to therapy and medicines

(APA, 1994)

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Generalized Anxiety Disorder

- ◆ Excessive worry and tension
- ◆ Fatigue, headaches, muscle aches and tension, difficulty swallowing, irritability, nausea, sweating, easy startle, sleep difficulty
- ◆ Medicines are effective

(APA, 1994)

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Adjustment Disorder

- ◆ Symptoms of anxiety or depression
- ◆ Symptoms are not related to another anxiety or mood disorder
- ◆ Symptoms are appropriate to life circumstances
- ◆ Benzodiazepines may be prescribed short-term to reduce symptoms and facilitate sleep

(APA, 1994)

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Barriers to Effective Treatment of Anxiety

- ◆ Anxiety disorders are underrecognized in primary care settings
- ◆ Many primary care clinicians are not well trained to treat anxiety disorders
- ◆ Many patients have poor access to mental health specialty services
- ◆ Many clinicians fail to recognize anxiety as a common symptom of substance use disorders
- ◆ Inappropriate medicines may be prescribed for individuals with substance use disorders

Effectiveness of Benzodiazepines for Anxiety Disorders

- ◆ Benefits include improved symptoms, function, sleep, and relationships
- ◆ Buspirone has slower onset of action but less adverse effects
- ◆ Antidepressants (imipramine, trazodone, venlafaxine, paroxetine) are more effective than benzodiazepines
- ◆ Antidepressants may cause sedation, confusion, and falls but not dependence.

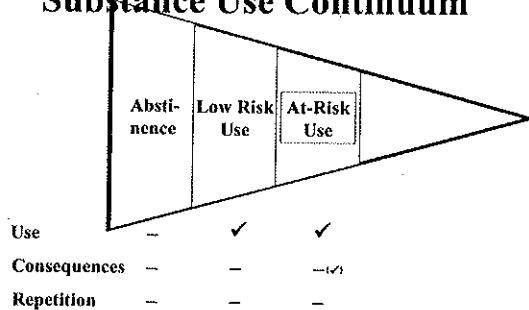
(Gale C, *BMJ*, 2000.)

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2. Definitions: Substance Use Patterns

40

Substance Use Continuum



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At-Risk Substance Use

Alcohol	Per Week	Any Occ
Men	>14	>4
Women	>7 to 11	>3
≥65yo	>7	>1

12 oz beer = 5-6 oz wine = 1-1.5 oz liquor

Illicit Drugs - any use

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At-Risk Substance Use

(continued)

Non-medical use of prescriptions drugs:

Use without a valid prescription

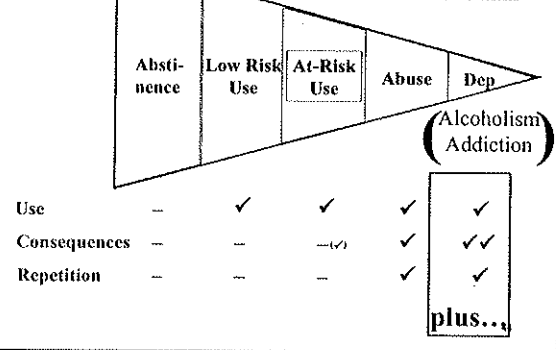
Use with a prescription but:

- For a reason other than why it was prescribed
- At a higher dose than prescribed
- More frequently than prescribed

Obtaining a prescription deceitfully

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Substance Use Continuum



Additional Symptoms of Substance Dependence

- ◆ Loss of control
- ◆ Preoccupation with obtaining the substance
- ◆ Compulsive use

- ◆ Physical dependence (±)

45

Effect of Cocaine on Rat Ventral Tegmentum

	Cytoplasmic Enzyme Activity	DNA Transcription
Baseline	0	0
3 wk +	↑	0
3 mo +	↓	X
3 mo +; 3 mo -	↓	X

(Nestler E.J.)

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Loss of Control

- ◆ A hijacking of the pleasure/reward machinery of the brain
- ◆ Drives to eat and procreate instead become drives to obtain and use substances
- ◆ It is extremely difficult to resist these drives consistently over time

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Addiction vs. Pseudoaddiction

Addicts

- ◆ Use substances initially to alter mood
- ◆ Later, for cravings and physical dep.
- ◆ Preoccupied with obtaining drugs

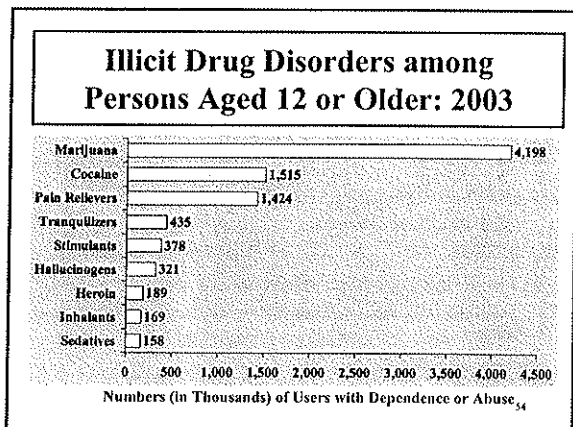
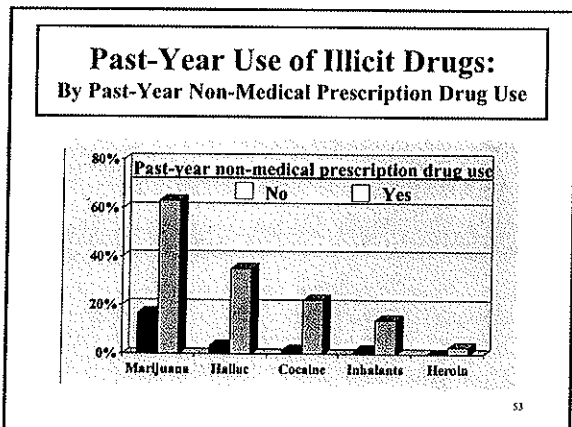
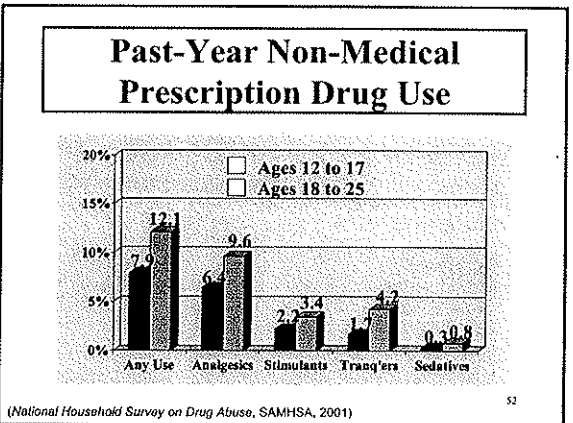
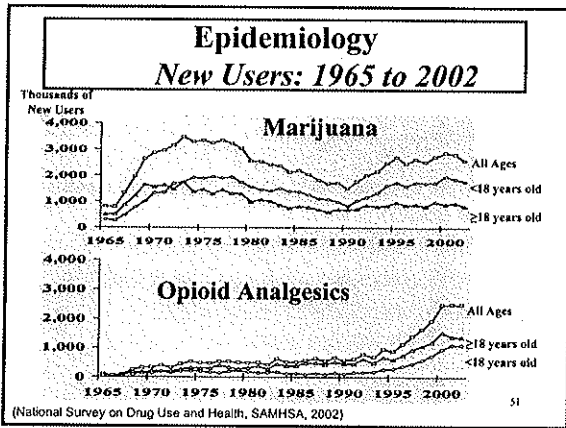
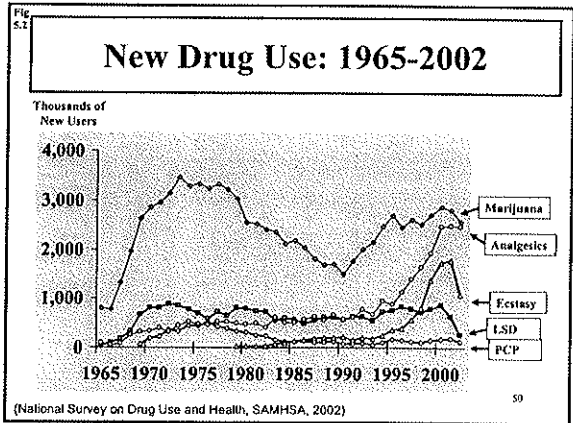
Pseudoaddicts

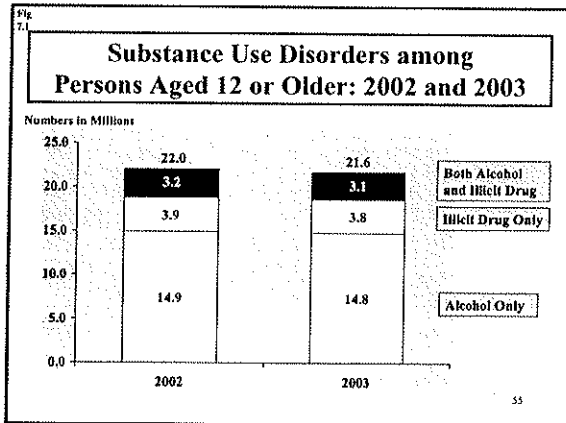
- ◆ Use solely for symptom control
- ◆ Doctor-shop, manipulate, hoard, etc., because of undertreatment

(Weissman, 1989)

3. Epidemiology of Prescription Drug Misuse and Dependence

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Prescription Drugs: Gender Differences

- ◆ Females are more frequently prescribed potentially addictive drugs
- ◆ Adult men and women have similar rates of prescription drug misuse
- ◆ Adolescent females have higher rates of prescription drug misuse than adolescent males

Gender Differences

Rates of addiction among drug users

Analgesics	♀ = ♂
Sedatives	♀ > ♂
Tranquilizers	♀ > ♂


The Elderly

- ◆ Prescription drugs may be the most commonly abused drugs
- ◆ The elderly often take drugs incorrectly
- ◆ Benzodiazepines are often prescribed unsafely
- ◆ Sedatives/tranquilizers are especially dangerous for alcohol users

Health Care Professionals

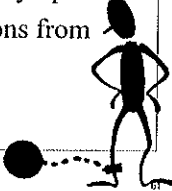
- ◆ Have easier access to prescription medicines
- ◆ Anesthesiologists, nurses, veterinarians, and pharmacists have especially easy access
- ◆ Have same rates of addiction as general population, but less involvement with illicit drugs and more with prescription drugs

4. Detox and Treatment for Prescription Drug Dependence




Detoxification

- ◆ Precedes addiction treatment
- ◆ Relieves withdrawal symptoms
- ◆ Prevents complications from withdrawal

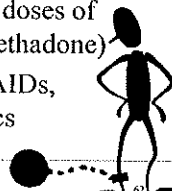


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Opioid Detoxification

- ◆ Not life-threatening
- ◆ Can be very uncomfortable
- ◆ May treat with tapering doses of a long-acting opioid (methadone)
- ◆ May use clonidine, NSAIDs, anti-diarrheals, hypnotics

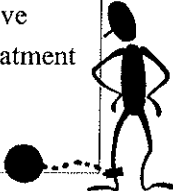


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Stimulant Detoxification

- ◆ Is never fatal
- ◆ Symptoms are depressive
- ◆ No known effective treatment

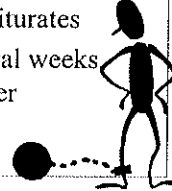


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Sedative Detoxification

- ◆ May cause fatal seizures
- ◆ May be treated with long-acting benzodiazepines or barbiturates
- ◆ Detox may require several weeks of a CNS depressant taper



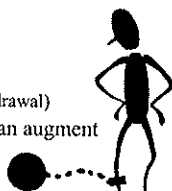
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Sedative Detoxification (continued)


- ◆ Benzodiazepine detoxification may be complicated by:
 - Reactivation of a prior anxiety disorder
 - Rebound anxiety
 - Discontinuation syndrome (withdrawal)
- ◆ Cognitive-behavioral therapy can augment coping during detox

(Chouinard, J Clin Psychiatry, 2004)



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Treatment



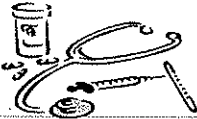
- ◆ Behavioral treatments are the mainstay
 - Individual counseling
 - Cognitive-behavioral therapy
 - Relapse prevention
 - Psychoeducation
 - Group counseling
 - Family counseling
 - Self-help groups

(NIDA, 2001)

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Treatment

(continued)



- ◆ When available, pharmacologic treatment can help
- ◆ A combination of behavioral and pharmacologic treatment is best
- ◆ Methadone or buprenorphine is effective for opioid analgesic dependence

(NIDA, 2001)

5. Balancing Benefit and Risk in Prescribing



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Jean - Initial Presentation

- ◆ 33-year-old divorced truck company dispatcher
- ◆ Back pain since MVA 4 years ago
 - Bilateral L/S spine and paralumbar areas, non-rad.
 - Negative X-rays and MRI scan
- ◆ Initial treatment
 - PT - ultrasound, heat/cold, exercises
 - Chiropractic - helped initially, then ineffective
 - Ibuprofen 600mg tid (3 other NSAIDs were no better)
 - 8 oxycodone 5mg/acet 325mg per day - hard to taper
- ◆ Returned to work 3 months after MVA

Jean - Last 3 years

- ◆ Baseline pain - 2 to 3 on 0-to-10 scale
- ◆ Continues on ibuprofen 600 mg qd to tid
- ◆ Two exacerbations; no apparent cause
 - Tender lumbosacral spine
 - Paralumbar tenderness and palpable spasm
 - No radiation, normal neurologic exam
 - Treated with PT, oxycodone/acetaminophen 5mg/325mg qid, again hard to taper
 - Returned to work in 4 weeks

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Jean - Today

- ◆ Exacerbation x 10 weeks, same hx/PE
- ◆ Tried PT 3 times - too painful
- ◆ Had been taking 8 oxycodone/acet. per day
- ◆ Opioids discontinued 2 weeks ago - diarrhea, agitation, sleeplessness
- ◆ Pain had been 5 to 8, now 7 to 9
- ◆ "I'd really want to go back to work, but if I can't get some relief I'm going to have to go on disability."

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Jean - Substance Use and Psychiatric History

- ◆ Drank heavily until MVA/DWI 4 years ago
- ◆ Completed mandated intensive outpatient tx.
- ◆ Usually 4 twelve-ounce beers on Fri & Sat + 2 beers twice a week; now 3/day due to pain
- ◆ Used marijuana regularly until age 25; now once or twice a month
- ◆ Tried cocaine once - "That was way too good; I definitely could have gotten hooked on that."
- ◆ No psychiatric history

Discussion Question 1

How might Jeanne be feeling as she seeks care for her pain?

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The Patient's/Client's Perspective

- ◆ Anger and frustration
- ◆ Sad
- ◆ Despair
- ◆ Overly optimistic
- ◆ Ashamed
- ◆ Fear
- ◆ Stoicism
- ◆ Acceptance

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The Patient's/Client's Perspective: Determinants

- ◆ Symptom severity
- ◆ Past experience
- ◆ Personality factors
- ◆ Outlooks of family members and friends
- ◆ Stresses
- ◆ Social support
- ◆ Material resources
- ◆ Religion/spirituality
- ◆ Other aspects of culture

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Role of Clinicians

- ◆ Listen
- ◆ Acknowledge
- ◆ Draw out and legitimize feelings
- ◆ Instill realistic hope
- ◆ Avoid defensiveness
- ◆ Advocate
- ◆ Follow-up

76

Question 2 - Opioid Diagnosis

Jean's recent opioid withdrawal and the difficulty discontinuing opioids suggest a DSM-IV diagnosis of:

1. Opioid abuse
2. Opioid dependence
3. Neither

77

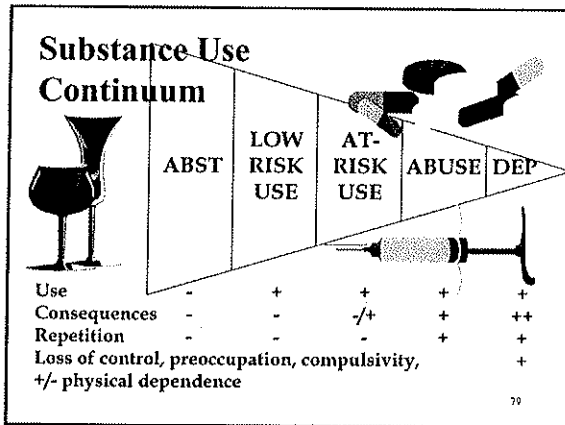
Question 2 - Opioid Diagnosis

(continued)

Jean's recent opioid withdrawal and the difficulty discontinuing opioids suggest a diagnosis of:

1. Opioid abuse
2. Opioid dependence
3. Neither

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Jean and Substance Use

Opioids

- ◆ Recent physical dependence
- ◆ No neg. consequences or loss of control
- ◆ Difficulty in tapering due to pain

Alcohol

- ◆ Prior alcohol abuse, ? dependence
- ◆ Current - at least risky use

80

Question 3

Indications for Opioids

Opioids should be considered for patients with chronic pain who have:

1. Moderate to severe pain
2. 1 + inadequate response to other treatments
3. 1 + 2 + significant functional disability
4. 1 + 2 + 3 + no active substance abuse/dep
5. 1 + 2 + 3 + 4 + no prior substance abuse/dep

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Question 3

Indications for Opioids

(continued)

Opioids should be considered for patients with chronic pain who have:

1. Moderate to severe pain
2. 1 + inadequate response to other treatments
3. 1 + 2 + significant functional disability
4. 1 + 2 + 3 + no active substance abuse/dep
5. 1 + 2 + 3 + 4 + no prior substance abuse/dep

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Indications for Opioids

- ◆ Chronic pain of moderate to severe intensity
- ◆ Significant functional disability
- ◆ Inadequate response to other treatments

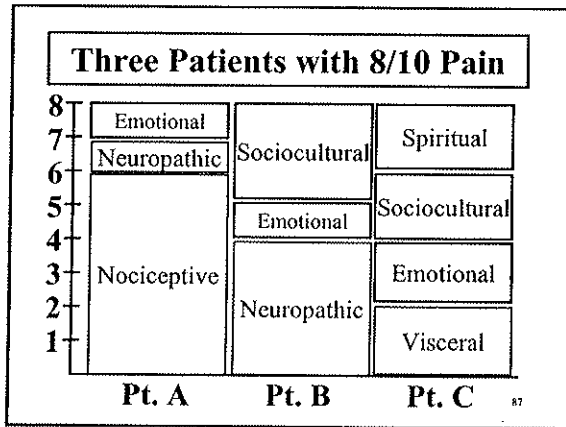
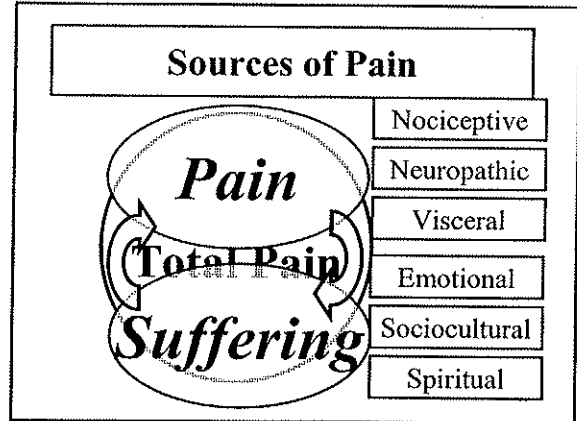
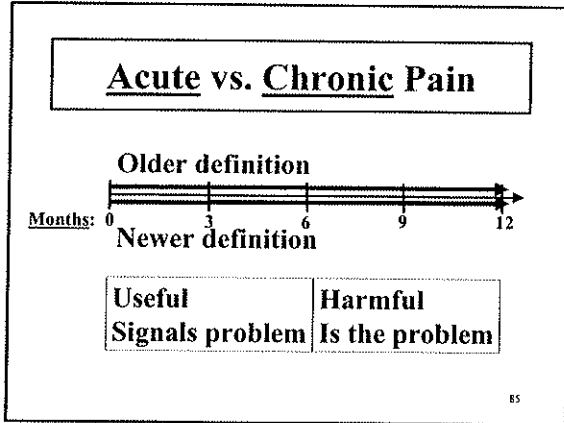
83

Pain Assessment - Intensity

- ◆ Use standard scale such as 0 to 10 scale
 - 0 = no pain
 - 10 = worst pain imaginable such as ...

- ◆ Accept patients' reports
- ◆ Objective signs of acute pain are extinguished with chronic pain

84



- ### Assessing Function
- ◆ Validated functional assessment tools
 - Chronic Pain Grade
(VonKorff M et al. Pain 50:133-49,1992.)
 - Quebec Back Pain Disability Scale
(Kopeck JA et al. J Clin Epidemiology 49:151-61,1996.)
 - ◆ Questions
 - Bed days, missed work, curtailed activities
 - Activities patient can do / misses
 - ◆ Appearance: dress, grooming, affect
- 88

- ### Attempting Other Treatments
- ◆ The treatment with most evidence of effectiveness for CLBP is exercise
 - ◆ Adjunctive meds may be helpful
 - ◆ Treat for psychiatric disorders, stress
 - ◆ Distraction, relaxation, coping skills
 - ◆ TENS/PENS
 - ◆ Invasive interventions
 - ◆ CAM may be useful: massage, chiropractic, acupuncture, others
 - ◆ NSAID's do not relieve severe pain
 - ◆ COX-2 inhibitors are no more effective than other NSAIDs

- ### Question 4 - Which Opioids?
- The safest and most effective opioids for treating chronic pain include:
1. Propoxyphene and pentazocine
 2. Hydrocodone and immediate release oxycodone
 3. Morphine sulfate-extended release tablets and transdermal fentanyl
 4. All of the above
- 90

Question 4 - Which Opioids?

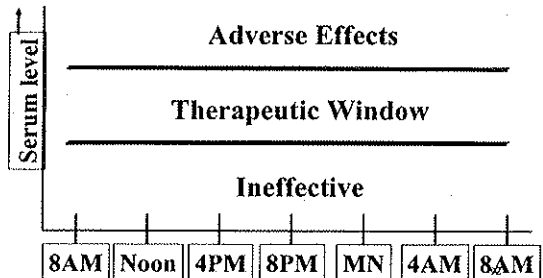
(continued)

The safest and most effective opioids for treating chronic pain include:

1. Propoxyphene and pentazocine
2. Hydrocodone and oxycodone
3. Morphine sulfate-extended release tablets and transdermal fentanyl
4. All of the above

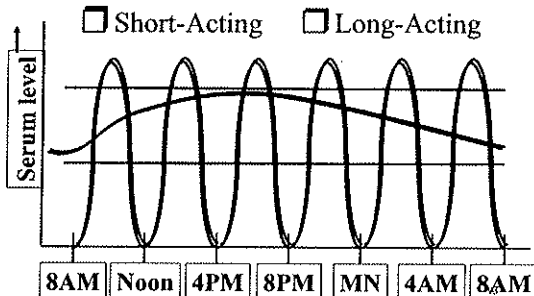
91

Advantages of Long-Acting Opioids



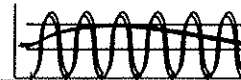
Advantages of Long-Acting Opioids

(continued)



Advantages of Long-Acting Opioids

(continued)



- ◆ More consistent analgesia
- ◆ Fewer adverse effects
- ◆ More tolerance to adverse effects
- ◆ Better sleep → better daytime function
- ◆ Less euphoria, addiction, diversion

Opioid Regimen for Chronic Pain

- ◆ Long-acting opioid for baseline pain:
 - Hydromorphone-ERT • Oxycodone-ERT
 - Morphine-ERT • Transdermal fentanyl
 - Methadone • Oxycodone
- ◆ Short-acting opioid for breakthrough pain:
 - Hydrocodone • Oxycodone
- ◆ Avoid:
 - Partial agonists: Pentazocine & Propoxyphene
 - Meperidine (Demerol®)

95

Question 5 - Maximum Dose

What is the maximum recommended daily dose of opioid for chronic non-cancer pain?

1. 200 mg oral morphine or equivalent
2. 600 mg oral morphine or equivalent
3. 1200 mg oral morphine or equivalent
4. 2400 mg oral morphine or equivalent
5. As much as is necessary to control pain

Question 5 - Maximum Dose (continued)

What is the maximum recommended daily dose of opioid for chronic non-cancer pain?

1. 200 mg oral morphine or equivalent
2. 600 mg oral morphine or equivalent
3. 1200 mg oral morphine or equivalent
4. 2400 mg oral morphine or equivalent
5. As much as is necessary to control pain

97

Titrating Opioid Dose

- ◆ Start at 50% to 100% of the recommended dose for acute or cancer pain
- ◆ At low doses, reassess weekly until titrated
- ◆ At higher doses (morphine equivalent ≥ 300 mg), increase by $\leq 20\%$ per month
- ◆ Start lower and increase more slowly with:
 - Impaired renal or hepatic function
 - Methadone
 - Elderly patients

98

Question 6 - Preventing Addiction

When treating chronic pain with opioids, the LEAST helpful strategy for preventing opioid addiction is:

1. Prescribing only long-acting opioids
2. Limiting the dose of opioids
3. Ensuring that opioids improve function
4. Using and enforcing written medication agreements (sometimes called contracts)

99

Question 6 - Preventing Addiction (continued)

When treating chronic pain with opioids, the LEAST helpful strategy for preventing opioid addiction is:

1. Prescribing only long-acting opioids
2. Limiting the dose of opioids
3. Ensuring that opioids improve function
4. Using and enforcing written medication agreements (sometimes called contracts)

100

Medication Agreements

- ◆ One prescriber and one pharmacy
- ◆ Prescriptions must last as intended
- ◆ No after-hours refill requests
- ◆ Lost prescription policy
- ◆ Random urine drug screens
- ◆ Possible responses to violations
- ◆ Safe activities when drowsy
- ◆ Additional required care

101

Jean - Today

- ◆ Agreed to limit drinking - 1 beer/day
- ◆ Rx: transdermal fentanyl 25 μ g/hr, Apply 1 every 3 days, #2 patches
- ◆ Transdermal fentanyl has:
 - Long duration of action - usually 3 days
 - Favorable impact on sleep
 - Low tamperability and diversion
 - Low incidence of constipation

102

Monitoring Opioid Recipients

Analgesia
Adverse Effects
Activity
Adherence

(Passik, 2002) 103

Monitoring Opioid Recipients (continued)

Analgesia **CRITERIA FOR ADDICTION**
Adverse Effects
Activity (function)
Adherence (control)

104

Question 7 - Six days later

Six days later, Jean's pain has decreased to 5 to 7 out of 10. There have been no adverse effects. Her function is unchanged. She used the medicine as directed. At this time, you would:

1. Discontinue fentanyl
2. Continue fentanyl 25µg/hr
3. Increase fentanyl to 50µg/hr
4. Change to another long-acting opioid
5. Change to oxycodone/acetaminophen

Question 7 - Six days later (continued)

Six days later, Jean's pain has decreased to 5 to 7 out of 10. There have been no adverse effects. Her function is unchanged. She used the medicine as directed. At this time, you would:

1. Discontinue fentanyl
2. Continue fentanyl 25µg/hr
3. Increase fentanyl to 50µg/hr
4. Change to another long-acting opioid
5. Change to oxycodone/acetaminophen

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Indications to Increase Opioid Dose

Analgesia	Inadequate
Adverse Effects	Tolerable
Activity	Better or no worse
Adherence	Good

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Jean - 6 days later

Analgesia	Pain ratings are 3 to 5
Adverse Effects	Mild sedation, resolving
Activity	Doing more housework
Adherence	Good

Asks to retry physical therapy

108

Jean - Two Months Later

Analgesia Pain ratings are 0 to 3

Adverse Effects None

Activity Back to work x 1 mo,
doing well in PT

Adherence Good

Wishes to discontinue fentanyl

109

Jean - Tapering Plan

- ◆ Transdermal fentanyl 25 µg/hr, #2, then discontinue
- ◆ Clonidine .1 mg, 1 to 2 tabs qid pm

Additional options:

OTC anti-diarrheal
OTC NSAID for muscle/joint pain
Sleeping aid

110

Question 8 Long-Term Treatment

If Jean had continued to require a long-acting opioid for adequate pain relief and return to work, you would have:

1. Insisted on a taper in 3 months
2. Insisted on a taper in 6 to 12 months
3. Referred Jean for to an addiction or pain specialist
4. Continued the opioid indefinitely

111

Question 8 Long-Term Treatment (continued)

If Jean had continued to require a long-acting opioid for adequate pain relief and return to work, you would have:

1. Insisted on a taper in 3 months
2. Insisted on a taper in 6 to 12 months
3. Referred Jean to an addiction or pain specialist
4. Continued the opioid indefinitely

112

Long-Term Opioids

- ◆ Chronic pain is a chronic disease requiring ongoing treatment
- ◆ No tissue toxicity or documented harm with long-term opioids
- ◆ Most patients have no problem with tolerance to the analgesic effects
- ◆ For tolerance, consider opioid rotation

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With Opioids, Consider:

- ◆ Non-opioid analgesics
- ◆ TCA's, anti-convulsants
- ◆ Exercise and other physical therapies
- ◆ Relaxation and distraction exercises
- ◆ Complementary/alternative modalities
- ◆ Treatments for emotional, sociocultural, and spiritual suffering

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6. Recommendations for Prescribers and Non-Prescribers



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Optimizing Prescribing

- ◆ Assessment
- ◆ Treatment planning
- ◆ Patient selection for potentially addictive medications
- ◆ Medication selection for patients
- ◆ Medication titration
- ◆ Patient monitoring / Follow-up
- ◆ Documentation

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Optimizing Prescribing (continued)

- ◆ Symptoms
- ◆ Function - physical, psychosocial
- ◆ Past treatments and results
- ◆ Other past history
- ◆ Psychiatric history, stresses, supports
- ◆ Substance use - current and prior
- ◆ Health care resources
- ◆ Physical examination
- ◆ Criminal justice and prescribing databases, where available

Treatment Planning

- ◆ Negotiate appropriate treatment goals
- ◆ Address the primary problem and related conditions
- ◆ Consider multiple treatment modalities serially or in parallel
- ◆ Assemble treatment team
- ◆ Ensure communication among treatment providers
- ◆ Set follow-up

118

Patient Selection for Potentially Addictive Drugs

- ◆ Failure of non-addictive drugs and non-pharmacologic modalities
- ◆ Access to non-pharmacologic modalities
- ◆ Severity of symptoms
- ◆ Severity of functional impact
- ◆ Urgency of addressing symptoms
- ◆ Substance use history
- ◆ Potential for safe self-administration
- ◆ Safety-sensitive occupations/child care
- ◆ Willingness to adhere to medication agreement

Selection of Potentially Addictive Drugs

- ◆ Consider emphasizing slow-onset, long-acting, medicines for baseline symptoms
- ◆ Consider the security of the delivery system
- ◆ Consider epidemiology of substance use
- ◆ Consider ease of monitoring
- ◆ Consider affordability
- ◆ Weigh considerations in light of risks and benefits

120

Safer Potentially Addictive Drugs

- ◆ **Opioids for Chronic Pain:**
Fentanyl patch (Duragesic)
Extended-release morphine
(MS-Contin, Oramorph, Avinza, Kadian)
Methadone
- ◆ **Sedatives for Anxiety:** clonazepam (Klonopin),
clorazepate (Tranxene)
- ◆ **Stimulants for ADD:** Ritalin-SR, Adderal-SR

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Medication Titration



- ◆ Increase dose as needed on a timely basis
- ◆ Anticipate and manage side effects
- ◆ Try other medicines as needed
- ◆ Manage advance in activities

122

Follow-up



- ◆ Assess symptoms
- ◆ Assess function
- ◆ When possible, obtain confirmatory information from multiple sources
- ◆ Perform urine drug screens as appropriate
- ◆ Identify and manage aberrant behaviors

123

Regulatory Scrutiny



Poor documentation is the most common reason for discipline

Document:

- ◆ Thorough initial assessment
- ◆ Follow-up assessments - outcomes regarding symptoms and function
- ◆ Barriers that preclude optimal treatment

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Regulatory Scrutiny

(continued)



Another common reason for discipline is continued prescribing despite poor outcomes and violations of medication agreements.

- ◆ Document aberrant behaviors and management
- ◆ When abuse or addiction are possible, refer for substance abuse assessment
- ◆ Discontinue potentially addictive medicines for continued poor outcomes and aberrant behaviors

Non-Prescribers



- ◆ Most treatment team members are non-prescribers
- ◆ Help by:
 - Sharing observations
 - Contributing to problem-solving
 - Identifying other helpful resources
- ◆ For concerns about prescribing:
 - Speak with prescriber
 - Share current literature
 - Speak again with prescriber and request a referral
 - Consider report to medical board

Summary

- ◆ Prescription drug misuse, abuse, and dependence are increasing
- ◆ Treatments are similar to those for other substance use disorders
- ◆ Potentially addictive medicines are legitimate, effective treatments
- ◆ For those who need such treatments, measures can be taken to minimize addiction, abuse, and diversion

127

7. Putting It All Together: A Case

A primary care clinician receives the following voice-mail message from an orthopedic surgeon:

"I'm sending you Joe, a 32-year-old man with chronic back, neck, shoulder, and head pain. I have nothing more to offer him. He's become quite a drug-seeker. Good luck."

128

Discussion Question

What might be the reasons for Joe's "drug seeking?"

129

Discussion Question (continued)

What might be the reasons for Joe's "drug seeking?"

Opioid abuse or addiction

Diversion

Undertreated pain

"Drug seeking" is not a useful clinical term

130

Information Gathering

You're seeing Joe now. What do you ask?

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21

131

Origin of Pain - 1 of 2

Before 7 years ago, I never had trouble with pain. It all started after an accident at the warehouse where I worked. My buddy and I were taking down a 300-pound off an overhead palette. My buddy stumbled, leaving me carrying the whole load. I feel backwards, and the load landed on the right side of my face, shoulder, and back. ...

132

Origin of Pain - 2 of 2

... I had several surgeries to repair muscle tears in my shoulder. They had to fix fractures in my skull, face, and upper spine. I've been hurting real bad ever since.

Then six months ago I was rear-ended. I was just sitting at a traffic light, and this guy plows into me. I got bad whiplash. That really set me back.

After the car accident, it has never felt like my teeth fit together the same as before.

133

Severity of Pain

My pain bothers me a lot. It starts behind my right ear and goes down into the right side of my neck and my right shoulder.

On normal days, it's a 7 out of 10. Occasionally it gets down to a 4 or 5. But I have many bad days where it's 8 or 9. And if I try to do too much, it can get to a 10 the next day.

Other Medical/Surgical History

Aside from my accidents, I've been very healthy.

I had my appendix out when I was 15. There were no problems after that.

Medicines

Vicodin (hydrocodone/acetaminophen) is my main pain medicine. I take about 8 a day. I also take over-the-counter ibuprofen, usually 3 or 4 at a time, 3 times a day.

136

Allergies

No, I don't have any allergies.

137

Function

There's really not too much I can do. Most of the time, I hang out and watch TV. I can do dishes and vacuum slowly. I can't do any scrubbing without paying for it the next day. I can do my own shopping, but I have to rest for a half hour between bringing each bag in from my car. One thing I feel really bad about is that I can't even throw a ball back and forth with my son. Also, I have to stick with soft foods, because chewing hard things can make it hurt worse.

138

Social

I get together with old buddies from high school and work. We play cards and have fun. Sometimes I'll go hunting or fishing with them. I can't hunt or fish myself, but I enjoy hanging out with them.

139

Sleep

Most nights I toss and turn a lot. When I turn the wrong way, the pain wakes me. I haven't had a good night sleep in years,

For the last couple of months, my sleep is even worse. Even when my pain isn't so bad, I have a hard time falling asleep, and sometimes I wake up for no good reason and can't fall asleep again.

Family and Living Situation

I got married when I was 22. I got divorced 6 years later, one year after my work accident. My ex-wife, Kathy, and I were already having trouble before my accident, but accident sealed our fate. But we've done pretty well since we split up. We live around the corner from each other.

We had two kids together - Joe Junior, who's 12, and Franny, who's 10. They're the main bright spot in my life. Since Kathy works full-time, I see them quite a bit. I go to their games and help them with their homework. They're great kids.

142

Finances

At first my medical expenses were covered by workers comp, but I've been on SSDI for the past four years. It's not a luxurious life, but I have a decent apartment and get by OK. But I can't afford to go to the dentist.

Substance Use

I drink maybe 4 or 5 days a week, usually two 12-ounce beers a day. On Friday or Saturday nights, if my kids aren't around, I may have a six-pack with my buddies.

I smoked pot quite a bit when I was in my teens and early 20's. I tried it again after my work accident, but it didn't help the pain.

I've tried cocaine, LSD, mushrooms, and speed in my late teens but never got into that. I haven't used any street drugs for about 5 years.

143

CAGE Questions

I cut back on beer in my early 20's at one point. I had to learn the hard way that I couldn't party like I used to and keep a job. I almost got fired early on, but I straightened myself out. ... Back then Kathy didn't like my drinking but nobody else complained. ... Yeah, I felt guilty when I realized my drinking was interfering with work, and that's when I just decided I couldn't party like that any more. ... No, I never drank in the morning.

Alcohol or Drug Treatment

No, I never needed any alcohol or drug treatment. No, nobody ever recommended it to me.

145

Psychiatric History

Several months after my work accident, I was really down. I got put on some medicine for depression - fluoxetine. They also gave me trazodone at bedtime to help me sleep, and I started seeing a counselor. Two years later, I was able to come off the medicine. Lately though, I'm getting down again. It's been really hard since my car accident.

Vegetative Signs

For the past 6 weeks, my sleep is really bad, even if my pain isn't so bad. My appetite is definitely off, and I've lost a few pounds. I've had a hard time concentrating on things. I have less energy than usual. I'm not as interested in sex as usual. I'm pretty down about the future. I don't see any chance of getting back to a normal life.

148

Suicidal Thoughts

In the past few weeks I've found myself wishing I were dead at times, but there's no way I'd kill myself. My kids are too important to me.

Sex

I've had a few girlfriends since my divorce. I have to be real careful not to hurt myself when I have sex. I've been in my current relationship for two years. Things were going well up until my car accident 6 months ago. Sue's been very understanding, but lately I think she's getting fed up with me.

149

Therapies

After my work accident and surgeries, I had about a year of physical therapy. It helped quite a bit, but then I was able just to continue doing exercises at home. Then after my car accident I got some more physical therapy. As far as PT goes, I think I'm about as good as I'm going to get.

150

Medicines

My surgeon was giving me 4 Vicodins a day for a while. Then after my accident, he was giving me up to 8 a day. I still had real bad pain and asked for more, and he suddenly seemed to think I was a druggie or something. So about a month ago he said he was giving me my last prescription. I'll be out of Vicodin tomorrow. I don't know what I'm going to do if I can't get a refill.

Physical Examination

- ◆ Traumatic and surgical scars consistent with the history
- ◆ @ TMJ tenderness
- ◆ Neck ROM - 50% to 75%
- ◆ @ paracervical & periscapular musculature - tender, palpable spasm
- ◆ @ shoulder abduction - 75%, weak
- ◆ Normal neurologic exam of upper extremities
- ◆ Significant leftward mandibular deviation when opening mouth

Joe requests Vicodin.

Now what?

1	2	3	4	5	6
7	8	9	10	11	12

Referral - Addiction Assessment

- ◆ You explain to Joe that you will be glad to help him with his pain and prescribe strong painkillers, but you need an expert to make sure there are no concerns about addiction
- ◆ Your office staff helps Joe get an appointment
- ◆ Joe will be seen in 1 week

Referral - Dentist

- ◆ You explain to Joe that some of his pain may be coming from his jaw and malocclusion of his bite
- ◆ He agrees to schedule an appointment with a dentist
- ◆ His appointment is scheduled in 10 days

Referral - Physical Therapist

- ◆ Joe is glad to be referred to a physical therapist.
- ◆ His first appointment is in 1 week.

Referral - Psychiatrist

- ◆ Joe readily accepts a referral to a psychiatrist. He agrees that he needs help for depression
- ◆ He gets an appointment next week.

157

Referral - Psychotherapist

- ◆ Joe readily accepts a referral for psychotherapy. He agrees to call the therapist who helped him 6 years ago.
- ◆ He gets an appointment in 10 days.

158

Rx - Antidepressants

- ◆ Joe is glad to start back on antidepressants
- ◆ You prescribe:
 - Fluoxetine 20 mg every morning
 - Trazodone 50 mg every night at bedtime

159

Rx - Long-Acting Opioid

- ◆ Joe states that he is glad to try a long-acting opioid, because his Vicodin wears off very quickly
- ◆ He reviews and signs a medication agreement
- ◆ He requests that the medicine be as inexpensive as possible
- ◆ You start methadone 5mg three times daily
- ◆ He agrees to see you weekly for dosage titration

160

Rx - Short-Acting Opioid

- ◆ Joe requests to continue on his current Vicodin prescription
- ◆ He reviews and signs the medication agreement

161

Telephone Call - Pharmacist

- ◆ The pharmacist reports that Joe has been receiving Vicodin from 3 physicians - his orthopedic surgeon, a family physician, and a general internist
- ◆ His prescriptions over the past month would allow him 16 Vicodin tablets per day
- ◆ When the pharmacist reported this to the surgeon, the surgeon called the other physicians, and all stopped prescribing opioids

162

Discussion with Joe

I'm so embarrassed. Yes, I realized I shouldn't be getting pain medicine from other doctors. I was at the end of my rope with pain. I just didn't know what else to do. I promise you, I've never sold or given away my medicines. Yes, they do give me a slight buzz when they start to work, but I don't care about that. I've just need pain relief.

163

Possible explanations?

- ◆ Opioid abuse
- ◆ Opioid addiction
- ◆ Diversion
- ◆ Inadequate pain treatment

164

Telephone Call - Surgeon

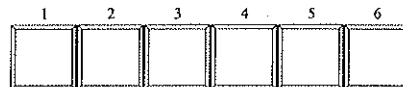
Joe signs consent for you to receive his records and discuss his case with his surgeon.

The surgeon and his staff are on vacation for 2 weeks. They cannot be reached.

You leave a message asking the surgeon to call you.

It's two weeks later ...

Reports from consultants have arrived



166

Referral - Addiction Medicine

According to Joe's pharmacist, he was obtaining up to 16 Vicodin per day from 3 physicians. However, there is no evidence of current abuse, addiction, or diversion. There is a remote diagnosis of alcohol abuse and recent risky drinking. Joe's aberrant behavior regarding Vicodin may be related to frustration with severe chronic pain, which may be exacerbated by depression. If he requires opioids for his pain, long-acting opioids would pose less risk of abuse, addiction, and diversion than Vicodin.

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Referral - Dentist

- ◆ Joe has bite malocclusion which is likely contributing to his right-sided facial and head pain.

168

Referral - Physical Therapy

- ◆ Joe has cervical and periscapular muscle spasm and weakness due to deconditioning.
- ◆ He is tolerating gentle stretches, hot and cold treatments, and ultrasound.
- ◆ We will continue the present treatments and, when appropriate, begin strengthening exercises.

169

Referral - Psychiatrist

Joe has had a major depressive episode for the past 6 weeks. There is mild, passive suicidality, but Joe states he would never kill himself because of his children. Joe's previous major depressive episode responded well to fluoxetine and trazodone. Therefore, I started him on fluoxetine 20 mg daily and trazodone 50 mg at bedtime. I will see him again in two weeks.

170

Referral - Psychotherapist

Joe has a major depressive episode. Contributing factors include severe chronic pain and major role loss. He denies feelings of anger and frustration, which are likely turned inward, contributing to muscle tension, pain, and depression. He agrees to work on releasing anger, learning relaxation and distraction exercises, and other coping skills.

171

Phone Call - Surgeon - 1 of 2

Joe has been tough. I'm not at all surprised that he continues to have a lot of pain. His initial work injury involved severe crush injury to his cervical and upper back muscles, plus he had a skull fracture and a ruptured cervical disk.

Poor guy took a tailspin after his car accident 6 months ago. I gave him more Vicodin then, but he kept wanting more and more ...

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Phone Call - Surgeon - 2 of 2

Then a pharmacist called and told me that he was getting Vicodin from two other docs. He was taking up to 16 a day. I told him that I just couldn't prescribe any more. I called those other doctors, and they agreed that they wouldn't prescribe, either. I feel bad. I may have helped him get addicted to Vicodin.

173

Discussion with Joe

I'm so embarrassed. Yes, I realized I shouldn't be getting pain medicine from other doctors. I was at the end of my rope with pain. I just didn't know what else to do. I promise you, I've never sold or given away my medicines. Yes, they do give me a slight buzz when they start to work, but I don't care about that. I've just needed pain relief.

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Referral - Addiction Medicine

Although Joe was obtaining Vicodin from 3 physicians, I could not elicit any evidence of current opioid abuse, addiction, or diversion. There is a remote diagnosis of alcohol abuse and recent risky drinking. Joe's aberrant behavior regarding Vicodin may be related to frustration with severe chronic pain, which may be exacerbated by depression. If he requires opioids for his pain, long-acting opioids would pose less risk of abuse, addiction, and diversion than Vicodin.

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Acetaminophen Toxicity

- ◆ Maximum daily dose should be 4,000 mg - eight 500 mg tabs, or twelve 325 mg tabs
- ◆ Patients with prior hepatic damage may need to avoid acetaminophen altogether
- ◆ Joe has blood drawn for liver function tests (LFTs)
- ◆ Tomorrow the lab reports normal LFT's

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Skills Demonstration

- ◆ Joe was returning every other Monday for rechecks as you've been titrating his dose
- ◆ After a few more visits, Joe has been taking methadone 10 mg 3 times per day, as prescribed
- ◆ He calls on a Friday afternoon, 3 days before his next appointment
 - He took extra methadone through most of the last week because he had worst pain from overexertion
 - He will run out on Saturday
 - He requests 8 additional methadone tablets

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Key Skills - Responding to Aberrant Medication-Related Behaviors

Affective Domain

- ◆ Do not take personal offense at patients' aberrant behaviors

Cognitive Domain - Clinical Judgment

- ◆ Decide on appropriate limits and actions given:
 - Patients' risk of substance abuse, addiction, & diversion
 - Your prior experience with the patient
 - Your medicolegal climate

Interpersonal Communication Domain

- ◆ Set and reinforce limits clearly
- ◆ Set and reinforce new limits in response to the patient's actions
- ◆ Maintain a therapeutic stance; avoid personal reactions

Management Plan

- ◆ Continue care from dentist, physical therapist, psychiatrist, and psychotherapist
- ◆ Reinforce the medication agreement
- ◆ Plan random urine drug screens to rule out continuing hydrocodone use
- ◆ Continue titrating methadone
- ◆ Follow and document 4 A's: analgesia, adverse effects, activities, and adherence

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