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# Addiction Medicine: The Good, the Bad and the Ugly

De Visuom Hope Trust Serenity Courage Wisdom Hope T

- Still over \$200,000 in debt from medical school
- This talk is sponsored by no one



## **Objectives**

- Introduce the emerging field of addiction medicine
- Relieve you of the misconception that opioids are necessary for chronic pain management
- Understand the backdrop to the opioid epidemic and how we can get out of it
- Understand that heroin use is the natural consequence of the gross over-prescribing of opiates
- Make you more comfortable treating patients with opioid use disorder



#### THE GOOD—AN EMERGING SPECIALITY





### Formal Board Recognition

- ASAM certification offered in 1995
- ABAM started in 2008
- Over 3,000 diplomats currently
- Addiction Medicine is now recognized as a medical specialty by the ABMS
- April 12, 2016, AOA followed suit



#### **Addiction Medicine Fellowships**

- There are 40 accredited addiction medicine fellowships.
  - Goal is to have 65 by 2020 and 125 by 2025.
- Addiction Fellowships are sprouting all over the country





### **Buprenorphine Prescribing Limit**

- DATA 2000 amended as of August 8, 2016
- New Limit is 275 patients
  - Physician must possess a current waiver to treat up to 100 patients
  - must have maintained that waiver without interruption for at least one year
  - and meet one of the following requirements
    - Board Certified in Addiction Medicine or Addiction Psychiatry
    - Practice in a "qualified practice setting



### What is a "Qualified Setting"?

- Provides coverage for patient medical emergencies during hours when the practitioner's practice is closed
- Provides access to case-management services for patients including referral and follow-up services for programs that provide, or financially support, the provision of services such as medical, behavioral, social, housing, employment, educational, or other related services
- Uses electronic health records to store, share, and analyze health information
- Is registered for their State prescription drug monitoring program (PDMP)
- Accepts third-party payment for costs in providing health services



#### CDC Issues New Guidelines March 16, 2016

- Opioids are not first-line or routine therapy
- Establish and measure goals for pain and function
- Check PDMP
- Use UDS's
- Avoid concurrent benzo & opioid prescribing
- Arrange treatment for opioid use and disorder if needed.

www.cdc.gov/drugoverdose/prescribing/guideline.html



### CDC Suggestions to Reduce Overdose Deaths

- Limit initiation into opioid misuse and addiction through education of healthcare providers;
- Expand access to evidence-based treatment of substance use disorder, including medication-assisted treatment, for people with opioid use disorder;
- Protect people who have opioid use disorder by expanding access to and use of naloxone;
- Get state and local public health agencies, medical examiners and coroners, and law enforcement agencies to work together to improve detection of and response to illicit opioid overdose outbreaks.

Source: http://www.cdc.gov/media/releases/2015/p1218-drug-overdose.html



### NARCAN



- FDA approved to treat opioid overdose
- Voice activated
- Analogous to epinephrine pen
- Need to link patients given Narcan to treatment programs



### 2014 Survey of Primary Care Physicians

- 580 primary doctors surveyed in 2014
- 85% "say they believe that opioids are overused in clinical practice."
- "Surprisingly, despite concerns about overprescribing, nearly all physicians surveyed (88 percent) expressed confidence in their own ability to prescribe opioids appropriately."
- "Prior studies have shown that most doctors believe their colleagues' prescribing decisions are swayed by pharmaceutical marketing and promotion, yet they themselves are immune to such effects."



Brandeis University, the University of North Florida and Johns Hopkins University Study 12/29/2014

- "I think we have overestimated the benefits of prescription opioids and underestimated their risks"
- "Although opioids have many risks, their addictive potential is of especially great concern."
  - Caleb Alexander, MD

Opioid and heroin crisis triggered by doctors overprescribing painkillers - Science Daily 2014 http://www.annualreviews.org/doi/pdf/10.1146/annurev-publhealth-031914-122957



### AAN Position Paper "Opioids for chronic non-cancer pain"

"Whereas there is evidence for significant short-term pain relief, there is no substantial evidence for maintenance of pain relief or improved function over long periods of time without incurring serious risk of overdose, dependence, or addiction."

Franklin GM. "Opioids for chronic noncancer pain: A position paper of the American Academy of Neurology". Neurology. 2014 Sep 30;83(14):1277-84



### National Safety Council White Paper Evidence for the Efficacy of Pain Medications

NNT for one person to get 50% pain relief post-operatively



Teater, Donald. (2014, October 6) "Evidence for the efficacy of Pain Medications." [White Paper]. National Safety Council. Retrieved October 10, 2014

National Safety Council White Paper Evidence for the Efficacy of Pain Medications

- NO EVIDENCE of Benefit for Opioids used
  >4mo
- No evidence of decreased suffering- No overall improvement in back & neck pain disability
- Denmark Study- COT users higher pain, lower QOL, less functional

Teater, Donald. (2014, October 6) "Evidence for the efficacy of Pain Medications." [White Paper]. National Safety Council. Retrieved October 10, 2014

#### Long-Acting Opioids Increase Mortality in Patients With Chronic Non-cancer Pain

- Retrospective cohort study between 1999 and 2012 of Tennessee Medicaid patients with chronic non-cancer pain and no evidence of palliative or end-of-life care
- Prescription of long-acting opioids for chronic non-cancer pain, compared with anticonvulsants or cyclic antidepressants, was associated with a significantly increased risk of all-cause mortality, including deaths from causes other than overdose
- Risk was 1.64 times greater than that for matched patients starting an analgesic anticonvulsant or a low-dose cyclic antidepressant, corresponding to 69 excess deaths per 10 000 person-years of therapy.

• JAMA. 2016;315(22):2415-2423. doi:10.1001/jama.2016.7789



### How did we get here?





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#### THE BAD—OPIOIDS AND CHRONIC PAIN





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- A perception which begins with a stimulus and is subject to physical and psychological influence
- May be inhibited if fear for survival is strong enough
- May be magnified if psychological need for pain is great enough



- Beecher attempted to define and quantify pain (1957)
- Exhaustive Review
- Cited 850 references
- Conclusion:

• BEECHER, H. K. The measurement of pain. Pharm. Rev., 1957, 9, 59-209



## "because pain is subjective it cannot be described so that it is meaningful to another person"



- Acute Pain
- Chronic Pain
  - Pain of Malignant Origin
  - Pain of Benign or Non Malignant Origin





#### NEUROPHYSIOLOGIC

#### **PSYCHIATRIC**



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## ACUTE PAIN

- Response to tissue damage
- Important biological function
- Treatment directed to Etiology Rest, Analgesics (1-3 weeks)
- Opioids are effective



## OPIOIDS

- Indicated for Acute Pain Only
- Every Pharmacokinetic Study: based on acute pain model based on noxious stimulus



# Chronic Pain (Benign Origin)

- Tissue Damage at Onset
- Becomes chronic at 6 month mark
- Persists due to:
  - Tissue not returning to normal function
  - Psychological and/or Pharmacological factors
- Treatment: Rehabilitation

As with any other disability



## Chronic Pain (Malignant Origin)

- Tissue damage due to malignancy
- Tissue damage due to treatment
- Combination of recurring Acute Pain and Chronic Pain factors
- Treatment
  - Pharmacologic
  - Escalate opioids in response to tolerance
  - Parenteral/intrathecal administration
  - Physical and psychological rehab



### CHRONIC PAIN SYNDROME (>6 month duration)

### Factors that <u>Worsen</u> Pain:

- Opioids & other Narcotics (Long, 1975, Gildenberg, 1996)
- Depression
- Physical Regression
- Psychological Regression
- Intolerance to Stress



## OPIOIDS

- Negative Effects with Chronic Use:
  - Tolerance eliminates analgesia
  - Withdrawal increases pain
  - Suppress endorphins
  - Suppress testosterone, estradiol
  - Worsen depression
  - ADDICTION
- Pain Improves with Detox





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### Benzodiazepines

- Tolerance & Withdrawal
- Increase Pain
- Disrupt Normal Sleep
- Accidental Overdose with Opioids
- ALMOST NEVER INDICATED
- ALMOST ALWAYS PRESCRIBED

-The Practice of Neruosurgery Vol. III

Tindall, Cooper, Barrow





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## Depression

- Heightens pain perception
- Consequence of disability (in a motivated patient)
- Intensified by:
  - Family disruption
  - Financial loss
  - Legal problems
  - Bureaucratic stresses
- Pain improves with Anti-depressants

The Practice of Neurosurgery Vol. III - Tindall, Cooper, Barrow





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## **Physical Regression**

- Patient Driven
  - Decreased activity due to pain
- Physician Driven
  - Instructed to decrease activity
- Muscle Weakness
- Pain Increases with Activity


#### **Psychological Regression**

- Decreased recreational, social and adult responsibilities
- Increasingly more dependent on caregivers
- Live centered on pain
- Physical therapy/recreational therapy





#### Stress

- Muscle Tension/Spasm
  - Financial Strain
  - Insurance Companies
  - Legal Proceedings
  - Daily Annoyances
  - Biofeedback/Relaxation Techniques





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#### **Chronic Pain Management**

#### PROBLEM

- Narcotics
- Depression
- Physical/Psychological Regression
- Stress

#### SOLUTION

- Discontinue/Treat Addiction
- Antidepressants and Counseling
- Increase Activity
  - P.T., Exercise, Massage, Yoga, Recreational Therapy, Acupuncture
- Biofeedback, Relaxation
- Guided Imagery



## **Surgical Options**

- Rarely Indicated
- Identifiable Etiology
- Implantable Stimulators
- Dorsal Root Entry Zone Leisoning
  - (brachial plexus avulsion pain, spinal cord pain)
- Cordotomy
  - (malignancy related pain)
- Deep Brain Stimulators
- Sympathetic Block/Sympathectomy
- Epidural Steroids/Facet Block
- Intrathecal Infusion Pumps NEVER!!!



#### OPIOIDS

# If they don't work, why are they so popular?





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Factors Influencing Opioid Use in Chronic Benign Pain

# • "Pain Experts"

- Junk Science
- Pharmaceutical Company Influence
- JCAHO



## PORTENOY

- Internist, NYC, 1980s
- Undertreated pain-cancer patients
- Promotes liberal use of opioids
- Adds non-cancer patients
  - addiction only rare-occurring drawback



#### "Pain is a little science, a lot of intuition and a lot of art"

#### -Russell Portenoy, MD

Now admits the "research" used to promote long acting opioids was pseudoscience. (He is on Purdue Pharmaceutical Payroll)



"the terminology of substance abuse, as discussed elsewhere in this volume, was developed by specialists in addiction, whose frame of reference is the addict, rather than the medical patient receiving opioids for pain. It is necessary to clarify this terminology when applying it to the assessment of medical patients."

-Substance Abuse, Lowinson, et al, 4th edition



#### Factors Influencing Opioid Use in Chronic Benign Pain

- "Pain Experts"
- Junk Science
- Pharmaceutical Company Influence
- JCAHO



#### "Get your facts first, and then you can distort them as much as you please."

#### - Mark Twain





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• PORTER, J., & JICK, H. (1980).

Addiction rare in patients treated with narcotics. New England Journal of Medicine, 302, 123.

- Boston Collaborative Drug Surveillance Project
  - Reviewed 39,946 hospital records
  - 11,882 received narcotics
  - Only 4 documented cases of addiction
    - 2 meperidine, 1 oxycodone, 1 hydromorphone



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#### Vol. 302 No. 2

#### ADDICTION RARE IN PATIENTS TREATED WITH NARCOTICS

To the Editor: Recently, we examined our current files to determine the incidence of narcotic addiction in 39,946 hospitalized medical patients<sup>1</sup> who were monitored consecutively. Although there were 11,882 patients who received at least one narcotic preparation, there were only four cases of reasonably well documented addiction in patients who had no history of addiction. The addiction was considered major in only one instance. The drugs implicated were meperidine in two patients,<sup>2</sup> Percodan in one, and hydromorphone in one. We conclude that despite widespread use of narcotic drugs in hospitals, the development of addiction is rare in medical patients with no history of addiction.

Waltham, MA 02154

JANE PORTER HERSHEL JICK, M.D. Boston Collaborative Drug Surveillance Program Boston University Medical Center

 Jick H, Miettinen OS, Shapiro S, Lewis GP, Siskind Y, Slone D. Comprehensive drug surveillance. JAMA. 1970; 213:1455-60.

 Miller RR, Jick H. Clinical effects of meperidine in hospitalized medical patients. J Clin Pharmacol. 1978; 18:180-8. 17,000 U per square me remissions (except for the tral-nervous-system therap trathecal injections of m both). During complete rem ine (70 mg per square meter meter each week), and cou three to four months.

Results are shown in T tion by Dr. Bitran that in T-cell leukemia has a poo ever, because of the limite up, the present data are f this point is needed. The id lymphoblastic anemia in a induction therapy but als lished poor prognosis cou plantation during the first the time being it may be lished criteria, such as age

40138 Bologna, Italy

#### CORRESPONDENCE

#### "There are three kinds of lies: Lies, Damn Lies, and Statistics."



#### - Mark Twain



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- Portenoy and Foley, 1986, *Pain* 
  - 5% addiction with chronic opioid treatment



- Fishbein, et al, 1992, *Clincal Journal of Pain*
  - Review article, upper limit of addiction rates at 19%



# Cleveland Clinic (2010)

#### >30% of patients in the Chronic Pain Rehabilitation Program have an active Substance Use Disorder.



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- Martell, et al (2007) Systematic Review: Opioid Treatment for Chronic Back Pain: Prevalence, Efficacy and Association with Addiction, Annals of Internal Medicine. 2007; 146:116-127
- Meta-analysis of 38 studies
- Prevalence of SUD in chronic back pain patients receiving opioids with a lifetime prevalence as high as 54%



Drug Misuse in Chronic Pain

- 100 Consecutive patients admitted to Johns Hopkins Pain Treatment Program in the mid 1970s
- Addicted to Narcotics 90%
  Misusing/Abusing Narcotics 90%
  Misusing/Abusing Psychotropics 80%
  Prescriptions from multiple physicians >50%
  Withdrawal symptoms 90%
  Inappropriate combinations of drugs or inappropriate ingestion 97%



## **Opioids for Chronic Pain**

- No study demonstrating long term functional improvement
- No study demonstrating long term analgesia



## **Opioid Induced Hyperalgesia**

 Methadone maintenance patients have lower pain thresholds than controls, cocaine addicts and former heroin users not on methadone

Source: Cold-pressor pain intolerance in opiate and cocaine abusers: correlates of drug type and user status. Journal of Pain and Symptom Management. 1994: 9:462-473



Factors Influencing Opioid Use in Chronic Benign Pain

- "Pain Experts"
- Junk Science

# Pharmaceutical Company Influence

JCAHO





- Developed as a less addictive alternative to opium
- Civil War vets treated
- "Soldiers Disease"
  - Civil War Vet Addicts
- Named after Morpheus
  - (god of dreams)300,000 addicts in 1900



## Heroin

- Developed in 1898
- Bayer
- Less addictive alternative to Morphine





#### Dilaudid

- Developed in 1930
- Touted as less addictive



#### Percodan

- Developed in 1950 by Endo
- 1963 Attorney General of California states Percodan responsible for ¼ of all addiction statewide
- Endo's Response
  - Percodan has little or no addictive potential



## OxyContin

- Developed in 1996 Purdue Pharma
- FDA Examiner, Curtis Wright, MD okayed this label

"Delayed absorption as provided by OxyContin tablets is believed to reduce the abuse liability of the drug"

- Curtis Scores Big Job at Purdue!!
- "Medical Newsletter" widely distributed to Physicians reports a "study" reveals ONE in every household is suffering from undertreated pain – 2 weeks later OxyContin is introduced



#### Oxycontin

- David Haddox, MD, DDS Emory/Atlanta, Psychiatry/Addiction coined term
  - "pseudo-addiction"
  - Now the VP, Health Policy at Purdue Pharma
  - Does damage control
    - Incidence of Addiction <1%</li>
- "We do <u>not</u> want to niche OxyContin just for cancer pain," a marketing executive explained to employees planning the drug's debut, according to minutes of the 1995 meeting.



## Thebaine

- From Poppy Plant
- Used to Produce Oxycodone
- Thebaine rich poppy grown in Tasmania
- Production and export to U.S. after OxyContin release increases so much it draws the attention of the International Narcotics Control Board



# PAIN KILLER

A "WONDER" DRUG'S TRAIL OF ADDICTION AND DEATH

BARRY MEIER

#### FUND :



- "Pain Experts"
- Junk Science
- Pharmaceutical Company Influence

## • JCAHO


- Include pain treatment in patient Bill of Rights
- Screen all patients for pain on admission and regularly thereafter
- Ensure competency of staff and physicians in pain assessment and management
- 5<sup>th</sup> Vital Sign



 Ask every patient on admission: "Do you have pain now?" If yes, obtain additional data (Initial Pain Assessment Tool).

Standardize the use of pain scales



#### The UGLY—OUR PATIENTS ARE DYING





## "There are 50 million people in this country who are undertreated for pain"

### -Howard Heit, MD

2009 ASAM Annual Conference New Orleans, LA



#### Data from N.C. Controlled Substance Reporting System (6 month review 2007)

Controlled Substances		No. Scripts	Controlled Substances	No. Scripts
1.	Hydrocodones	2,014,652	11. Adderall	148,416
2.	Oxycodones	935,394	12. Concerta	144,143
3.	Alprazolam	712,680	13. Temazepam	111,520
4.	Zolpidem TZ	430,623	14. Phenteramine	108,851
5.	Clonzepam	421,155	15. Lunesta	102,874
6.	Propoxyphene	401,674	16. Amphetamine Saks	80,047
7.	Lorazepam	364,569	17. Fentanyl	77,252
8.	Diazepam	247,763	18. Methadone	70,284
9.	Lyrica	162,604	19 Morphine Sulfates	68,296
10.	Ambien	151,317	20. Codeine Compounds	45,545

Preliminary data, The Controlled Substances Reporting System, March 2008 (20)

North Carolina Population in 2007: 9,061,032



## **CDC** Statistics



Source: http://www.cdc.gov/drugoverdose/data/prescribing.html



#### Medication numbers in prescriptions 2010 (in millions)

1.	Hydrocodone/Acetaminophen	Drug of abuse	131.8
2.	Simvastatin		94.1
3.	Lisinopril		87.4
4.	Levothyroxine sodium		70.5
5.	Amlodipine		57.2
6.	Omeprazole		53.4
7.	Azithromycin		52.6
8.	Amoxicillin		52.3
9.	Metformin		48.3
10.	Hydrochlorothiazide		47.8
11.	Alprazolam	Drug of abuse	46.3
12.	Lipitor		45.3
13.	Furosemide		43.4
14.	Metoprolol tartrate		38.9
15.	Zolpidem tartate	Drug of abuse	38
21.	Oxycodone/Acetaminophen	Drug of abuse	31.9



## Some states have more painkiller prescriptions per person than others.



SOURCE: IMS, National Prescription Audit (NPA™), 2012.

http://www.cdc.gov/vitalsigns/opioid-prescribing



The use of therapeutic opioids-natural opiates and synthetic versions-increased 347% between 1997 and 2006, according to this U.S. Drug Enforcement data

#### OPIOIDS THE DARK SIDE Broward County, Florida

# 117 "pain clinics" (pill mills)70 McDonald's RestaurantsOrlando Sentinel, Feb. 2011



- Between 1999 and 2002
  - Oxycodone prescriptions increased 50% to 29 million
  - Fentanyl prescriptions increased 150% to 4.6 million
    - 80% Fentanyl patches prescribed for nonmalignant pain-approved only for cancer pain
  - Morphine prescriptions increased 60% to 3.8 million



Pharmaceutical drug distribution: 1997-equivalent 96mg morphine/person 2007-equivalent 700mg morphine/person >600% increase

# This is enough for everyone in the U.S. to take 5mg hydrocodone Q 4hr for 3 weeks -JAMA, 2-22/29-2012



- For the past 5 years (2001-2006) the most prescribed medication of any category in the US has been:
  - Hydrocodone/Acetaminophen over 100 million prescriptions in 2005
- In 2004, the United States used 99% of the world's supply of hydrocodone
  - JAMA, 1-17-2007



#### **Opioid Prescriptions Drop for First Time in Two Decades**

- Opioid prescriptions have fallen in 49 states since 2013
  - Sorry North Dakota
- Hydrocodone has been the largest decline
- Fatal overdoses from opioids have continued to rise, taking more than 28,000 lives in 2014

- <u>http://www.nytimes.com/2016/05/21/health/opioid-prescriptions-drop-for-first-time-in-two-decades.html?\_r=0</u>
- New York Times, May 20<sup>th</sup>, 2016



- The number of adults using a benzodiazepine increased from 8.1 million prescriptions in 1996 to 13.5 million prescriptions in 2013.
- There has been a 5 fold increase in the overdose death rate associated with benzodiazepine use during this time.
- Most commonly prescribed for anxiety and insomnia
- Involved in 31% of fatal prescription drug overdose deaths



AJPH April 2016, Vol 6, No. 4 Bachluber

**Supplemental Figure A.** Percentage of adults filling a benzodiazepine prescription, quantity filled, and overdose mortality involving benzodiazepines by age, sex, and race/ethnicity in the United States, 1996-2013



Legend: Points represent raw data; lines represent modeled trends via joinpoint regression



Source: National Center for Health Statistics, CDC Wonder

 As we have been more reluctant to prescribe high dose opiates to patients, the heroin market has taken off







Source: National Center for Health Statistics, CDC Wonder

### **2014 CDC Statistics**

#### Deaths from Prescription Opioid Pain Relievers



#### Number of Deaths Benzodiazepines



## Who Is Today's Average Heroin User?

32 Years Old<br/>Average<br/>AgeWhite<br/>79%Male<br/>56%Small Urban or<br/>Rural Region<br/>75%0000

Source:

Cicero TJ, Ellis MS, Surratt HL, Kurtz SP. The Changing Face of Heroin Use in the United States: A Retrospective Analysis of the Past 50 Years. JAMA Psychiatry. 2014;71(7):821-826. doi:10.1001/jamapsychiatry.2014.366.

#### MVA vs. Poisoning Deaths Nationally



NCHS Data Brief, December, 2011. Updated with 2009 and 2010 mortality data

#### Unintentional Poisoning and Motor Vehicle Traffic Death Rates, Age-Adjusted, Indiana, 2005 – 2009



Source: Centers for Disease Control and Prevention, WISQARS Database

- Accidental Overdose Rx Painkillers
  4,000 in 1999
  20,000 in 2004
  27,000 in 2007
- MORE common than MVA deaths
- For every fatal overdose there are 7 nonfatal overdose
- \$72.5b direct health care costs/yr

- JAMA, 5-26-2010 & 2-22/29-2012



- North Carolina MB/PHP 2011
- 3 deaths/day
  - Accidental Rx drug overdose
  - Highest percentage of deaths:

#### Pts on high daily doses of opioids Rx'd by their own Family MD

Forum North Carolina Medical Board Winter 2012



## "I've seen the needle and the damage done a little part of it in everyone but every junkie's like a setting sun..."

The needle and the damage done Neil Young



#### Heroin Bindles (\$15 to \$25 will buy you 1/10 gram)







# Indianapolis Heroin Balloons \$10 each 10% to 50% Pure



#### Philadelphia Marketing Stephen Curry \$25 each





#### Imodium





## SOLUTIONS

# "for every complex problem there is a solution that is simple, neat and wrong." H.L. Mencken



## SOLUTIONS

- Education
- Medical/Dental School, providers, public
- Pharmaceutical Industry
- Regulate/provide addiction treatment
- Prescription monitoring
- DEA



#### SOLUTIONS Prescribing for Chronic Pain

- Evaluation
- Treatment Plan
- Informed Consent
- Periodic Review
- Consultation

68 cases public discipline 2010 NCMB "improper prescribing"



#### Questions?



