

TEXAS WORKERS' COMPENSATION  
**Education Conference**





# Rx Drug Abuse, Interactions & Side Effects

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# Abuse

- > 70% - Non-compliance (misuse, overuse, non-consumption)
- 2.5M ER visits in 2011 - Drug misuse and abuse
  - 1.4M visits related to non-medical use
  - 501,207 visits related to anti-anxiety & insomnia drugs
  - 420,040 visits related to opioids

# Abuse

- ~ 2,000,000 Americans abuse painkillers
- ~ 500,000 Americans abuse heroin
  
- In 2014 ...
  - **19,000** people died from painkillers (16% > 2013)
  - **10,500** people died from heroin (28% > 2013)

# Heroin use is part of a larger substance abuse problem.

Nearly all people who used heroin also used at least 1 other drug.

Most used at least **3** other drugs.

**Heroin** is a highly addictive opioid drug with a high risk of overdose and **death** for users.

## People who are addicted to...



ALCOHOL

are

**2x**



MARIJUANA

are

**3x**



COCAINE

are

**15x**



Rx OPIOID PAINKILLERS

are

**40x**

**...more likely to be addicted to heroin.**

SOURCE: National Survey on Drug Use and Health (NSDUH), 2011-2013.

# Abuse

- How ... Do they cope with and manage life?
- What ... Are they trying to escape from?
- Why ... Does this person feel the need to check out of life?
- What ... Is happening at home?
- Why ... Does their support system not intervene?
- How ... Will they manage their “pain” without “medication”?
- How ... Can they be motivated to make a life change?
- What ... Was important to them they would like to regain?

# *Drug Interactions*

- **Interaction:** The action of one drug upon the effectiveness or toxicity of another (or others)
  - The effect a drug has on a person may be different than expected because that drug interacts with:
    - Another drug the person is taking (*drug-drug interaction*)
    - Food, beverages, or supplements the person is consuming (*drug-nutrient interaction*)
    - Another disease the person has (*drug-disease interaction*)

# *Drug Interactions*

- Drug to Drug Interactions – Duplication:
  - When two drugs with the same effect are taken, their side effects may be intensified
    - *Example*: One doctor prescribes a sleep aid while another doctor prescribes an antianxiety drug

# *Drug Interactions*

- Drug to Drug Interactions – Opposition:
  - Two drugs with opposing actions can interact, thereby reducing the effectiveness of one or both
    - *Example*: NSAID causes the body to retain salt and fluid and would reduce the effectiveness of a diuretic that helps rid the body of excess salt and fluid

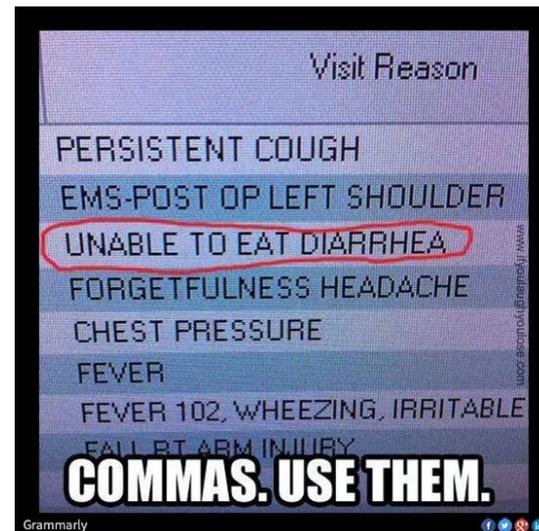
# *Drug Interactions*

- Drug to Drug Interactions – Alteration:
  - One drug may alter how the body absorbs, distributes, metabolizes, or excretes another drug (often involving the liver)
    - *Example*: Phenobarbital causes Warfarin to be metabolized more quickly thus reducing its effectiveness



Do you read the label?

If so, do you understand it?



# *Side Effects*

- **Opioid** on-label uses:
  - Before/during/immediately after surgery
  - Cancer
  - AIDS patients
  - End-of-life care

# *Side Effects*

- OxyContin (oxycodone) - 1.5 MED
  - 77 major drug interactions, 696 moderate, 3 minor
  - Be sure you check if they're also taking ...
    - Ambien (zolpidem), baclofen, Celebrex (celecoxib), clonazepam, Cymbalta (duloxetine), Lyrica (pregabalin), Neurontin (gabapentin), trazodone, Xanax (alprazolam)
  - DO NOT use alcohol or drugs that contain alcohol

# Polypharmacy



Opioid



fentanyl?

- Insomnia → zolpidem
- Lethargy → modafinil
- Atrophy → carisoprodol
- Depression → duloxetine
- Sexual dysfunction → sildenafil
- Constipation → stool softener
- Addiction → buprenorphine



*All of this makes the pain harder to identify and treat*



# *Side Effects*

- **NSAID** on-label uses:
  - Acute musculoskeletal pain conditions
  - Rheumatoid and osteoarthritis

# *Side Effects*

- Celebrex (celecoxib)
  - 31 major, 558 moderate, 5 minor
  - Be sure you check if they're also taking ...
    - Aspirin, Cymbalta (duloxetine), Lisinopril, OxyContin (oxycodone), prednisone, tramadol, trazodone

# *Side Effects*

- **Benzodiazepine** on-label uses:
  - Anxiety and seizure disorders
  - Insomnia
  - Anesthesia
  - Muscle relaxation
  - Alcohol withdrawal

# *Side Effects*

- Xanax (Alprazolam)
  - 17 major, 728 moderate, 102 minor
  - Among potentially major interactions:
    - Anything with buprenorphine or naloxone, Darvocet, Darvon
  - Potentially moderate interactions:
    - Cymbalta (duloxetine), gabapentin, Lexapro (escitalopram), tramadol, trazodone
  - DO NOT use alcohol or drugs that contain alcohol

# *Side Effects*

- **Muscle relaxant** on-label uses:
  - For spasticity (multiple sclerosis, spinal cord injury, traumatic brain injury, cerebral palsy, and post-stroke syndrome)
  - For muscle spasms (fibromyalgia, tension headaches, myofascial pain syndrome, and mechanical low back pain or neck pain)

# *Side Effects*

- Soma (Carisoprodol)
  - 7 major, 676 moderate, 1 minor, alcohol
  - Among potentially major interactions:
    - Suboxone/Subutex/Buprenex (buprenorphine / naloxone)
  - Central respiratory depression may occur, particularly at high doses
  - DO NOT use alcohol or drugs that contain alcohol

# *Side Effects*

- **Anti-depressant** on-label uses:
  - Diagnosis of depression or anxiety

# *Side Effects*

- Cymbalta (duloxetine)
  - 218 major, 759 moderate, 62 minor
  - Potentially major interactions:
    - Flexeril (cyclobenzaprine), tramadol, trazodone
  - Potentially moderate interactions:
    - Ambien (zolpidem), aspirin, Klonopin (clonazepam), Lyrica (pregabalin), Neurontin (gabapentin), oxycodone, Xanax (alprazolam)
  - Moderate concerns:
    - Alcohol and caffeine

# *Reducing the Risks*

- Learn about the purpose and actions of all drugs prescribed
- Learn about the possible side effects of the drugs
- Learn how to take the drugs, what time of day they should be taken, and whether they can be taken during the same time period as other drugs

## *Reducing the Risks*

- Review the use of over-the-counter drugs with the pharmacist; discuss any disorders present and any prescription drugs being taken
- Take drugs as instructed
- If seeing more than one doctor, make sure each doctor knows all the drugs being taken

# Do Your Homework

http://www.accessdata.fda.gov/scripts/cder/drugsatfda

The screenshot displays the FDA Drugs@FDA website interface. At the top, there is a search bar and navigation links. The main content area shows search results for 'celebrex'. The 'Overview' section lists the drug name as CELEBREX, the active ingredient as CELECOXIB, and the forms as CAPSULE-ORAL; 100MG; 200MG; 400MG; 50MG. Below this, there is a table with drug details:

Label Info	Dosage Form/Route	Strength	Marketing Status	Company
Label Available	CAPSULE-ORAL	Multiple Strengths	Prescription	GD SEARLE
Label Available	CAPSULE-ORAL	Multiple Strengths	Prescription	GD SEARLE LLC

Additional sections visible include 'ADVERSE REACTIONS', 'DRUG INTERACTIONS', and 'USE IN SPECIFIC POPULATIONS'. The bottom of the page shows a taskbar with the time 10:31 PM.

# Do Your Homework

https://www.drugs.com/

The screenshot shows a web browser window displaying the search results for "oxycontin" on the Drugs.com website. The browser's address bar shows the URL "www.drugs.com/search.php?searchterm=oxycontin&sources[]=". The Drugs.com logo is visible in the top left corner, along with the tagline "Know more. Be sure." and a search bar containing the term "oxycontin". Navigation options include "All", "A-Z", "Pill ID", "Interactions", and "More...", along with a "Sign In" button.

A banner advertisement for a Dodge Charger is displayed at the top of the page with the text "IF THEY EVER STOOD STILL LONG ENOUGH".

On the left side, there are social media icons for Facebook, Twitter, Google+, and Email, and a "Hide" button.

The main content area shows search results for "oxycontin". It includes a "Sponsored Links" section with a "Percocet Coupon" and a link to "Info About Oxycodone - Uses, Side Effects & Precautions". Below this is a section titled "Oxycontin Uses, Side Effects & Warnings Consumer Information" with a sub-heading "Consumer Information (Drugs.com)". The text states: "OxyContin (oxycodone) is an opioid pain medication. An opioid is sometimes called a narcotic. OxyContin is used to treat moderate to severe pain that is expected to last for an extended period of time. OxyContin is used for around-the-clock treatment of pain. It is not to be used on an 'as-needed' basis."

On the right side, there is an advertisement for Cancer Treatment Centers of America featuring a man and the text "The power of integrative care lives here." with a "LEARN MORE" button. Below that is an advertisement for the "New! iOS and Android App" for the Drugs.com Medication Guide, with a "Go to www.drugs.com/apps on your mobile" link.

At the bottom of the page, there is a blue banner for "FDA CONSUMER UPDATES".

