

# Trends in Over-the-Counter (OTC) Drug Abuse

{ *A little imagination, a little Internet networking,  
your drugs nearly for free, such a deal!*

# Most Commonly Abused OTC's

- ⌘ Cough suppressants and expectorants
- ⌘ Cold & flu preparations
- ⌘ Allergy potions
- ⌘ Caffeine products
- ⌘ Smoking control (nicotine replacement) medications.

# General Observations

- ⌘ OTC medications are not deemed safe just because they're available without prescriptions.
- ⌘ Many of these drugs are derivatives of prescribed medications that have serious side effects and addictive potentials.
- ⌘ Any drug, no matter how safe has a toxic level that results in poisoning. For some, poisoning is synonymous with intoxication.
- ⌘ These drugs are generally not capable of causing dependence; they are capable of causing tolerance and in some cases, addiction.

# More Observations

- ⌘ These drugs are abused by the young and old, the media plays up the adolescent angle however.
- ⌘ There is no established system for tracking the sales and abuse of these drugs.
- ⌘ There are no criminal laws on the books for abuse of these substances.
- ⌘ Few drug screening systems pay attention to these substances.
- ⌘ Few treatment/rehab organizations are sensitive to these abuseable drugs.
- ⌘ The Internet fuels trends; worldwide networks facilitate abuse.



# OTC Agents Can Kill



- ▶ With the advent of widespread drug testing and better management of drug use by parents, schools and the criminal justice system, violators are turning more to the abuse of legal over the counter drugs.

# OTC and Internet Make a Great Couple

- ▶ Dextromethorphan abuse has skyrocketed. Many pharmacies now keep their DM products behind the counter and they restrict the sale to two bottles per customer.
- ▶ Phenergan is widely available over the Internet and is mixed with alcohol and Vicodin as a means of creating a special high that is better than either of the two alone.



# Dextromethorphan Abuse



- & Called “robo-tripping”
- & Nicknames: “DM,” “DMX,” “Skittles,” “Crazy” and “Nighttime.”
- & Just about any preparation with DM in it can be abused.
- & Standard clinical dose is 20 mg,
- & Abuse dosage range is 100mg to 700 mg; fatal doses recorded as low as 400mg.

# DM Pharmacology

- ⌘ NMDA receptor antagonist.
- ⌘ Failed opiate, but has some level of opioid activity sufficient to reduce cough.
- ⌘ Is also used in pain management to potentiate opioids.
- ⌘ Tolerance develops rapidly; physical dependence does not occur.
- ⌘ Symptoms are hallucinogenic.





# “Skittles”

- ⌘ Popular with adolescents.
- ⌘ Will take the drug before school starts or during lunch.
- ⌘ 4 tablets make up a dose.
- ⌘ Will mix with alcohol.
- ⌘ Often times develop nosebleeds.
- ⌘ Quiet students become loud; loud students become quiet.



# Dextromethorphan

## Symptoms

- ⌘ Dilated pupils (reaction to light is normal)
- ⌘ Synesthesia
- ⌘ Piloerection
- ⌘ Hot, dry skin
- ⌘ Inappropriate emotions
- ⌘ Sudden crying or laughing
- ⌘ Increased vital signs
- ⌘ Hyperactivity

# NyQuil Preparations



- & Contains a variety of drugs that include dextromethorphan, bropheneramine, caffeine, ethyl alcohol and acetaminophen.
- & May contain sufficient alcohol to stifle alcohol DT's.



# “Slugging” your NyQuil

- ⌘ One bottle, one dose.
- ⌘ Generally, it takes 2-3 bottles for symptoms to become evident.
- ⌘ Physical symptoms alternate between hallucinogen and depressant.



# Diphenhydramine



- & Benadryl and other allergy compounds all contain this antihistamine.
- & Diphenhydramine is a sedative at lower doses; often used to induce sleep.
- & Can be a stimulant as doses increase.

# Other Antihistamine Preps

- ⌘ Bropheneramine is the active ingredient.
- ⌘ Has less of a sedative profile than diphenhydramine.
- ⌘ Long acting.
- ⌘ Abuse of these drugs will cause a very dry mouth, lack of tearing and nosebleeds.



# Hydoxyzine: Vistaril and Atarax

- ⌘ Available over the Internet; OTC in Mexico and Canada.
- ⌘ Used as an antihistamine to treat poison ivy, hives etc.
- ⌘ Has a benzodiazepine like sedative effect.
- ⌘ Is most abuseable of all the antihistamines.





# Huffing Inhalants

## Aerosols

The most commonly abused aerosols are:



vegetable frying pan lubricants, whipped cream dispensers, hair sprays, Freon, glass chillers, insecticides and deodorants

The hydrocarbon gases in these substances are what cause the drug effect



# New Age/Teenage

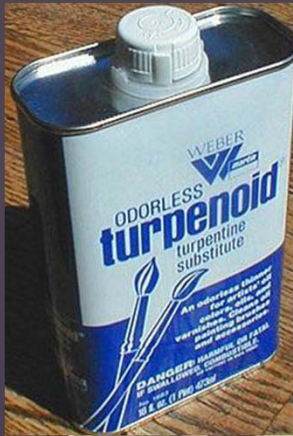
- ▶ Inhaled agents include: nitrous oxide, computer parts cleaners, hair spray, acetone, gasoline, floor waxer, propane and butane.
- ▶ These drugs are asphyxiants and deny the brain O<sub>2</sub> that it needs to stay conscious.



# Huffing Inhalants

## Volatile Solvents

Volatile solvents are easy to obtain since most people have them in their  
**households**



Plastic cement ranks as one of the most popular in this sub-class of solvents





# Hyper Caffeinated Beverages

- & Red Bull products;  
Rock Star.
- & Beer spiked with  
caffeine.
- & Caffeine  
preparations.
- & Mix of stimulant  
with alcohol is a  
“speedball” like  
concoction.



# Pseudoephedrine Products



- ⌘ Have stimulant effects that are not unlike 100mg-200mg of caffeine.
- ⌘ At 100 mg, a very uncomfortable edginess occurs that makes it uncomfortable experience.

# Poor Man's Speed



- ⌘ 200-300 mg of caffeine is the upper range of what seems tolerable.
- ⌘ Sometimes taken to offset the sedative effects of alcohol or marijuana.
- ⌘ Sometimes mixed with antihistamines.

# OTC Speed?

- ⌘ Word on the street is that Theraflu contains the CNS stimulant, Ritalin.
- ⌘ Daytime preps contain a great deal of caffeine and may “amp” the abuser.
- ⌘ Stomach upset is common with the use of this product.



# Nicotine Products are Popular

- ⌘ If it weren't for the high price of these preparations, there'd be a lot more of it on the street.
- ⌘ Abusers may get a headache and upset stomach to start.
- ⌘ Highs progress just like that for smokers.





# Phenylpropanolamine Products



- ⌘ Now banned in the U.S.
- ⌘ Available on the Internet.
- ⌘ Is the compound regularly found in “mini-bennies” that are sold on the street.
- ⌘ Toxic substance that can produce sudden cardiac arrhythmia.

# 1,4 Butanediol (BD)

- ⌘ Precursor to GHB and GBL
- ⌘ Oily consistency
- ⌘ Usually found colored green with a spearmint type of odor.
- ⌘ Converted by the body into GBL
- ⌘ Found in everything from plasticizers to fertilizers.





# GHB



- & Gamma Hydroxy Butyrate is a powerful CNS depressant that has dichotomous actions that result in stimulation and euphoria.
- & Metabolic pathway is not unlike alcohol. Has strong effects in the limbic system.

# GHB & GBL



- ⌘ Precursors of one another.
- ⌘ Compounds with GHB in it are rapidly metabolized into GBL.
- ⌘ Concoctions containing GBL rapidly get changed to GHB.
- ⌘ Both drugs can cause horrible addictions and dependencies.

# The Internet Fuels the Growth of What Were Niche/Cult Drugs

- ⌘ Salvia divinorum is the most commonly found Internet commodity on the street.
- ⌘ Morning Glory seeds coming from the Morning Glory plant is sold and shipped via the Internet.
- ⌘ Offshore pharmacies spur the RX trade.



# Signs and Symptoms

- ⌘ Sudden change in habits or behaviors
- ⌘ Sudden change in friends, bad ones.
- ⌘ School work decline
- ⌘ Sleeping habits change
- ⌘ Disinterest in hobbies
- ⌘ Asking for money (more than usual)
- ⌘ Defiant; frequent lies.

# More Symptoms

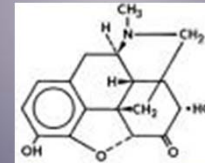
- ⌘ Change in the appearance of the eyes; bloodshot or change in pupil size.
- ⌘ Carries Vazine.
- ⌘ Fast or sluggish speech.
- ⌘ Fast or sluggish mannerisms.
- ⌘ Can't sit still; can't be motivated.
- ⌘ Strange odors in hair and on clothes.
- ⌘ Changes in appetite

# Trends in Prescription Drug Abuse

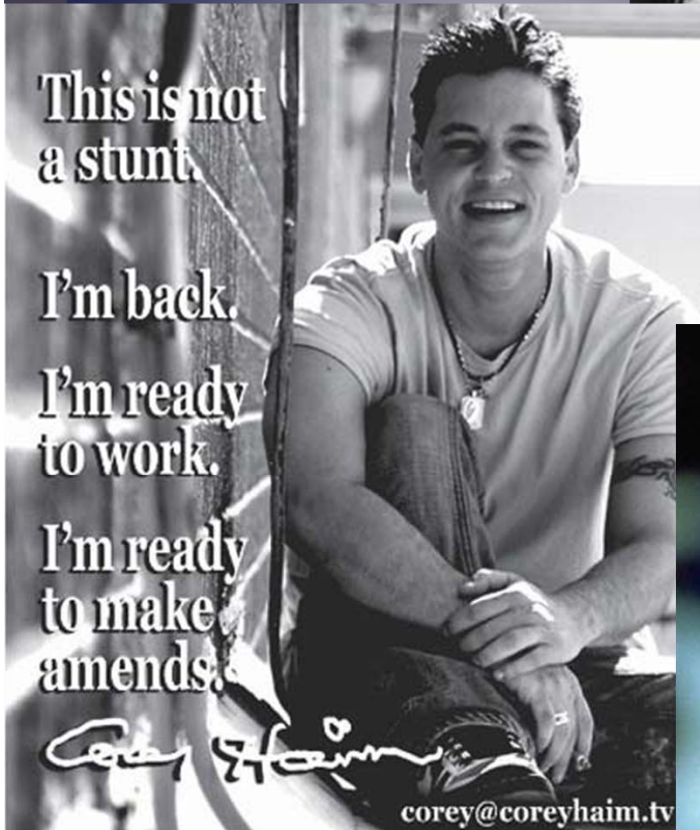
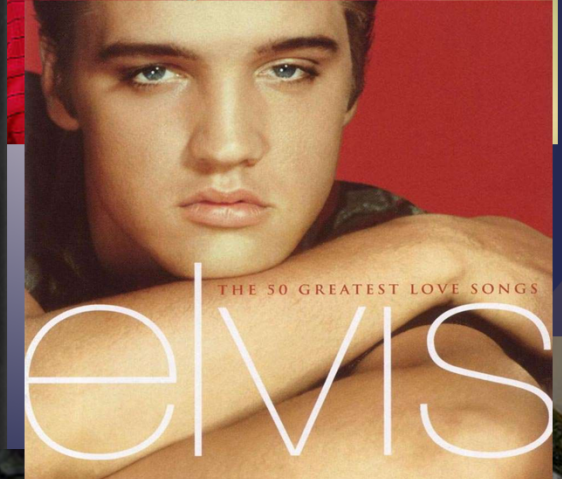
{ *Understanding the factors that contribute to the continuing problem with improper use of prescribed medications.*



# Prescription Drug Abuse Cuts Across all Demographic and Social Lines







# A National Perspective

A Recent study showed there are over 15.1 million Americans abusing controlled prescription drugs exceeded the combined number abusing:

- ∅ Cocaine (5.9 million),
- ∅ Hallucinogens (4.0 million),
- ∅ Inhalants (2.1 million), and
- ∅ Heroin (.3 million).

Source: *Under the Counter: The Diversion and Abuse of Controlled Prescription Drugs in the U.S.* Published by The National Center on Addiction and Substance Abuse at Columbia University (CASA), July 2005.

# Generation Rx

- ⌘ 19% of teens report abusing prescription medications to get high.
- ⌘ 10% of teens report abusing cough medicine to get high.
- ⌘ 31% of teens believe there is nothing wrong with using prescription medicines without a prescription.
- ⌘ 29% of teens believe prescription pain relievers are not addictive.

Source: *2005 Partnership Attitude Tracking Study on Teen Drug Abuse*, The Partnership for a Drug-Free America, May 16, 2006.

Cabinet for Health and Family Services



# Generation Rx

- ⌘ 62% of teens say prescription pain relievers are easy to get from parents' medicine cabinets.
- ⌘ 50% of teens say prescription pain relievers are easy to get through other people's prescriptions.
- ⌘ 52% of teens say prescription pain relievers are available "anywhere".

Source: *2005 Partnership Attitude Tracking Study on Teen Drug Abuse*, The Partnership for a Drug-Free America, May 16, 2006.

## “Pharm Parties”

- ⌘ Short for pharmaceutical party, a rapidly increasing problem with teens and young adults.
- ⌘ Bowls and baggies of random prescription drugs called “trail mix”.
- ⌘ Collecting pills from the family medicine cabinet called “pharming”.
- ⌘ Internet chat rooms are used to share “recipes” for getting high with prescription drugs.
  - ⌘ Users sometimes refer to pills by color rather than brand name, content or potency.

Reported by Donna Leinwand, USA Today, June 13, 2006



# Most Commonly Diverted Rx Drugs

## Opioids

- ⌘ **OxyContin** ®
- ⌘ **Percocet** ®, Percodan ®, **OxyIR** ®, Tylox ®
- ⌘ **Vicodin ES** ®, Vicodin ®
- ⌘ **Lorcet** ®, Lortab ®
- ⌘ Actiq ®, Duragesic ®
- ⌘ Tylenol w/Codeine ®
- ⌘ Stadol ® (Butorphanol Tartrate)
- ⌘ Dilaudid ®
- ⌘ Opana ®
- ⌘ Methadone
- ⌘ Demerol ®
- ⌘ MS Contin®
- ⌘ Talacen ®, Talwin Compound ®
- ⌘ Darvocet ®

## Benzodiazapines

- ⌘ **Valium** ®
- ⌘ Xanax ®
- ⌘ Klonopin ®
- ⌘ Ativan ®
- ⌘ Serax ®
- ⌘ Halcion ®
- ⌘ Restoril ®

## Muscle Relaxants

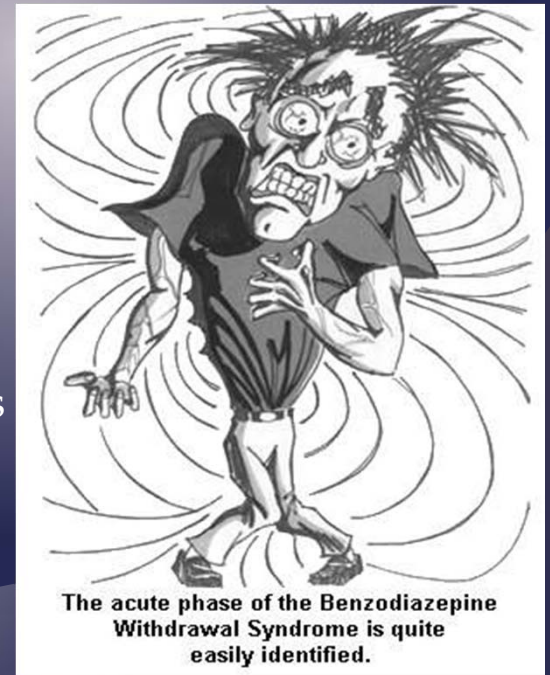
- ⌘ **Soma** ®
- ⌘ Flexeril ®

## Sleep Aids

- ⌘ **Ambien** ®

## Other

- ⌘ Ultram ®

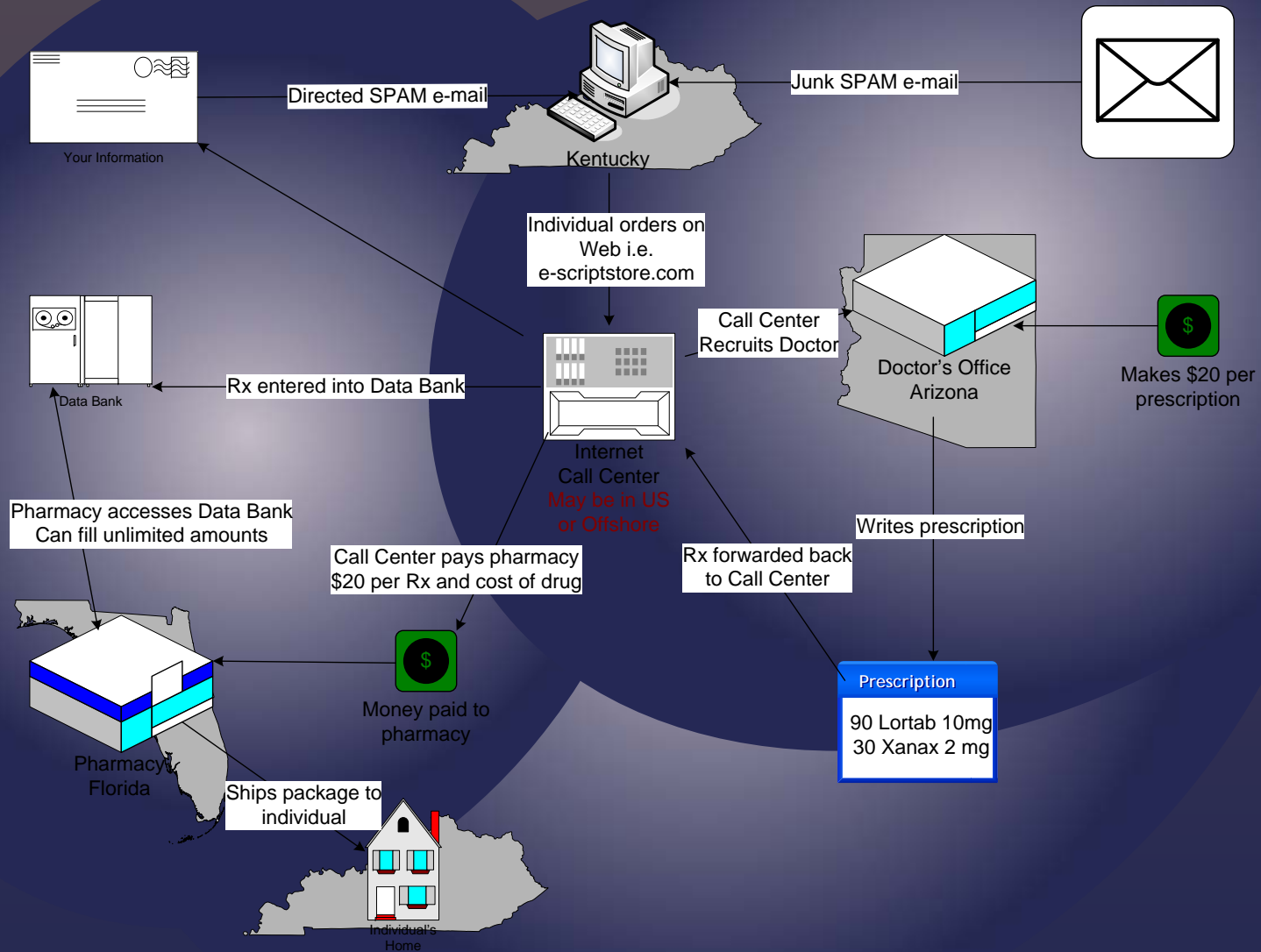


# Popular Street Drugs Abused By Pharmaceutical Diverters



- & Alcohol
- & Methamphetamine
- & Marijuana
- & Cocaine
- & Ecstasy (MDMA)
- & GHB
- & Heroin
- & Ketamine

# Internet Pharmacies



## Federal Prescription Drug Disposal Guidelines

- ⌘ Take unused, unneeded or expired prescription drugs out of their original containers.
- ⌘ Mix the prescription drugs with an undesirable substance, like used coffee grounds or kitty litter, and put them in impermeable, non-descript containers, such as empty cans or sealable bags. Further ensuring that the drugs are not diverted or accidentally ingested by children or pets.
- ⌘ Throw these containers in the *trash*.
- ⌘ Flush prescription drugs down the toilet *only* if the accompanying patient information specifically instructs it is safe to do so.

# Trends

- ⌘ ER admission rates for non-medical use of opiates increased from 43% to 59% out of all ER drug abuse cases.
- ⌘ 11 million people 12 yrs or older report the non-medical use of oxycodone in their lifetime.
- ⌘ Of those abusing oxycodone, 16% also report use of heroin in the preceding 12 months.
- ⌘ Rx stimulant abuse has remained steady with 28% of the overall user population. Usually Ritalin (Concerta).



# How do Rx Drugs Get Diverted?

- ⌘ Thefts and robberies from pharmacies; hijackings of drug carrying big rigs.
- ⌘ Diversion by pharmacy employees; forged script/fraudulent phone script.
- ⌘ Diverted by patients, some legitimate, some not.
- ⌘ Stolen from parents.
- ⌘ Internet
- ⌘ Cross-border

# Prices on the Street Today

- ⌘ **Oxycontin:** \$25-\$50 depending on dose
- ⌘ **Percocet (oxycodone):** 10mg =\$10
- ⌘ **Darvocet-N-100:** 300 mg=\$25
- ⌘ **Hycomine cough syrup:** \$100 for 6 oz bottle.
- ⌘ **Valium (diazepam):** 10 mg = \$5
- ⌘ **Ativan (lorazepam):** 2 mg = \$5-\$7
- ⌘ **Fiorinal (butalbital):** 50mg=\$5-\$7
- ⌘ **Soma (carisoprodol):** 350mg=\$7-\$10

# What's Up with Opiates?

- ⌘ Heroin consolidates around tar. More brown Afghani heroin shows up, especially on the east coast.
- ⌘ Smoking of a heroin becomes more popular with younger violators. Juvenile abusers on the west coast and east coast believe that they won't get addicted if they don't shoot up.
- ⌘ Prescription opiates have become a significant concern of federal and state drug enforcement agencies.
- ⌘ Opiate cough syrups surge in some ethnic groups.

# Narcotic Analgesics “The Opiates”

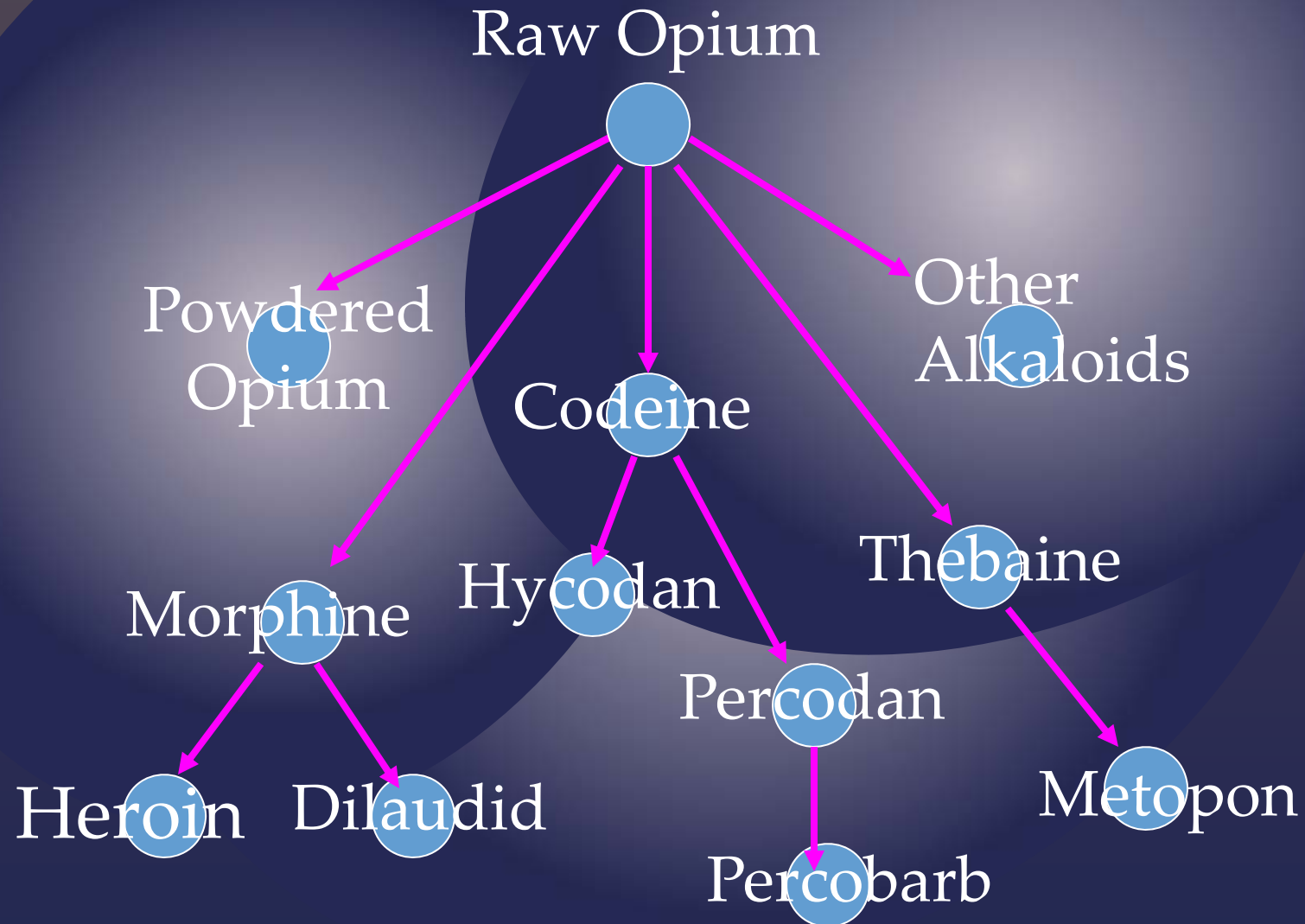
## The Opiates

The *Opiates* are drugs that either contain or are derived from **Opium**:



The Natural alkaloids and the Opium Derivatives all come from Opium, which is sap from the seed pods of a particular type of poppy

# Commonly-Abused Opiates & Their Derivation From Opium



# Oxycodone Products

- & Oxycontin: controlled release oxycodone for use in chronic pain.
- & Percocet is an instant release oxycodone preparation that's often mixed with Tylenol or aspirin.
- & Drugs can be smoked, snorted or injected.





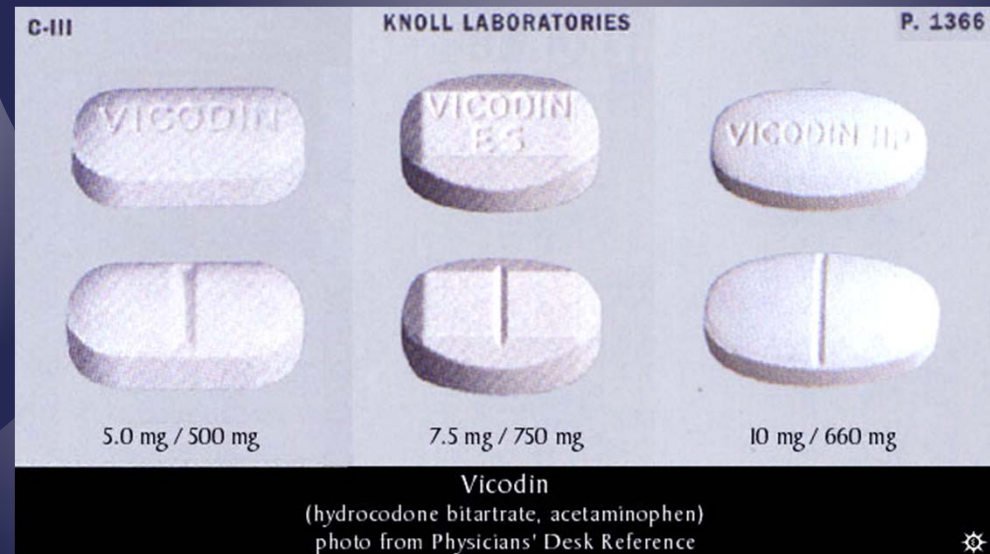
# Narcotic Analgesics “The Opiates”

## Commonly Abused Opiates

### Vicodin

*Vicodin* Hydrocodone-Acetaminophen is a commonly prescribed pain reliever containing Hydrocodone and **Acetaminophen**

Sometimes abused by addicts who are unable to obtain Morphine or Heroin



# Narcotic Analgesics “The Opiates”

Commonly Abused Opiates

Percodan

*Percodan* (Oxycodone) is a  
derivative of Codeine



Percodan is one of the most **commonly** prescribed  
Narcotic Analgesics

# Hydrocodone Products



- & Vicodin contains hydrocodone and Tylenol.
- & Lorcet and Norco are also popular on the streets.
- & Danger from these drugs is the poisoning that one experiences from the Tylenol
- & 100-250 mg of hydrocodone a day is not unusual for some addicts.

# Darvocet-N-100

- ⌘ Propoxyphene is the generic version of this drug.
- ⌘ Relative of methadone.
- ⌘ Can be toxic in high amounts. The 650 mg of Tylenol poses the biggest problems to users.



# Other Opioid Analgesics



- ⌘ Hydromorphone is used as a “break-thru” pain drug.
- ⌘ Pallodone was withdrawn from the market.
- ⌘ Dolophine is methadone. It’s a popular drug for it’s long lasting capabilities in pain management.



# Cough Syrups and Cough Suppressants

- ⌘ Hycomine contains hydrocodone, caffeine and dextromethorphan.
- ⌘ Cough syrup preparations generally contain the same ingredients.



# Benzodiazepines



- ⌘ The drugs in the class all emerge out of the molecular frame of Valium.
- ⌘ These drugs are effective muscle relaxants and sedatives,
- ⌘ Medical biases have changed towards more liberal use of these drugs.

# Rx Stimulant Abuse

- ⌘ Adderall and other amphetamine salt derivatives are in high demand due to popularity of methamphetamine.
- ⌘ Ritalin is just as good as Adderall; seems to be less “tweaky” than amphetamine based drugs.
- ⌘ Often diverted from children’s medicine cabinets; fraudulent adult ADD patients contribute.



# Non-Benzodiazepine Drugs



- ⌘ Thought to be a non-abuseable drug for use in battling insomnia, there is now a growing cult fascination with this drug.
- ⌘ Lunesta is another drug in the non-benzo genre that is frequently prescribed.

# Other Muscle Relaxants

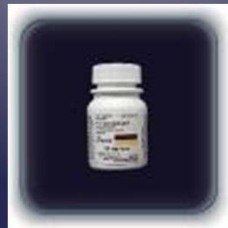


& Meprobamate liquid.

& Flexeril  
(cyclobenzepriene)

& Robaxin

& Tizanidine  
(Zanaflex): this drug  
is experiencing a  
huge surge in use.





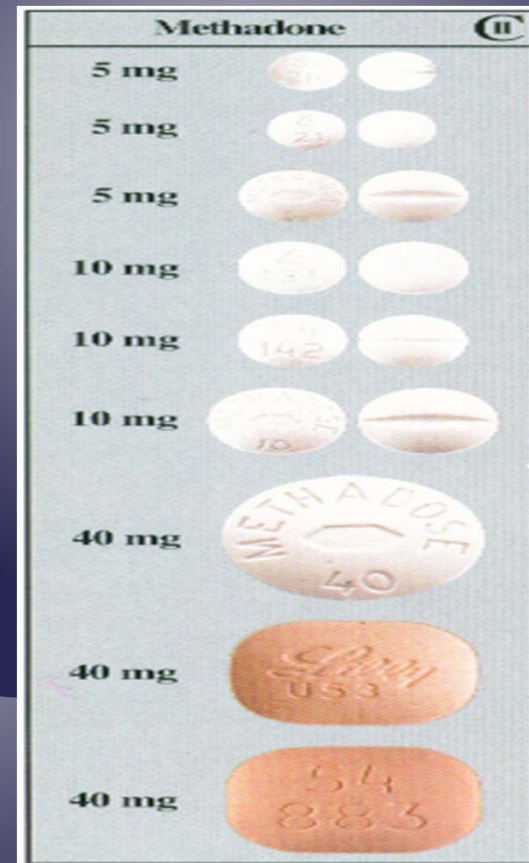
# Fiorinal and Fiorinal with Codeine

- ⌘ Butalbital is a barbituric acid derivative that has been used for years to treat cluster headache.
- ⌘ Also mixed with codeine to couple a sedative effect with analgesia.
- ⌘ Significant withdrawal can occur in long time users.



# Methadone Abuse

- ⌘ Long acting opiate used primarily in detoxification and harm reduction of heroin use.
- ⌘ Experienced significant increases in uses as a pain management narcotic.
- ⌘ Reputation as a detox agent has caused adolescents to believe it is safe. They get addicted and are naïve to what's happened to them.



# Buprenorphine (Suboxone)

- ⌘ Newest therapy to be used in the detoxification of the heroin addict.
- ⌘ Usually requires movement from heroin over to morphine. From morphine to Suboxone next. Titrate off the Suboxone to finish.
- ⌘ Methadone won't go away as a result of Suboxone, it should experience significant reductions in use as a maintenance medication.



# GHB



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# GHB & GBL



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