

Depressants

What do these three famous people have in common?



Depressants

Sedatives

- Relieve anxiety,
- relaxation,
- mild depression

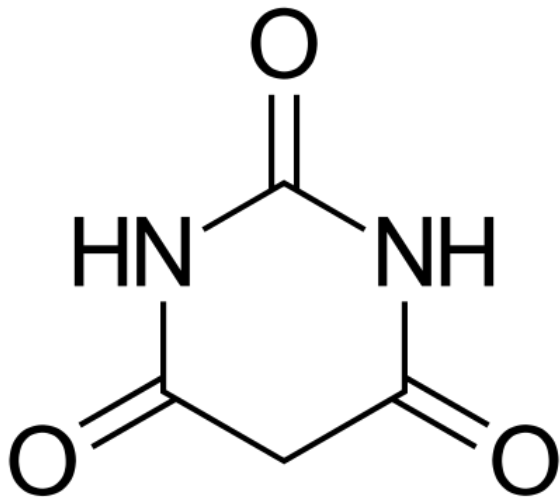
Hypnotics

- Drowsiness
- Sleep

Types of Depressants

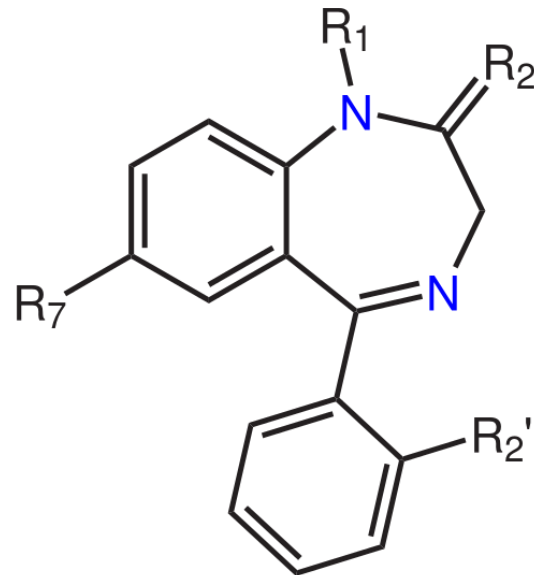
Barbiturates

- Anesthesia
- Seizure Disorder



Benzodiazepines

- Muscle relaxants
- Anxiety Reduction



Sedatives & Hypnotics

Prescription Application

Psychological

- Anxiety
- Panic Disorder
- Social Anxiety Disorder
- PTSD
- Psychological Trauma

Physiological

- Muscle relaxant
- Anticonvulsant
- Sedative (pre-operation)

Historical Context

- Up until 1970s
- Librium top-selling prescription drug



more accessible and communicative

That is the way Librium-treated patients are often described in the growing literature today, as psychiatrists delineate the value of this agent in helping patients gain more from psychotherapy. With Librium you can reduce anxiety, agitation and tension in patients with mild, moderate, or even severe emotional disorders and thereby make them more amenable to your therapeutic regimen.

Consult literature and dosage information, available on request, before prescribing.

LIBRIUM

LIBRIUM® Hydrochloride—
brand of chlorazepate

 **ROCHE** Division of Hoffmann-La Roche Inc.
Nutley, N. J.

Historical Context

- Up until 1970s
- Librium top-selling prescription drug



1973

- Valium top-selling Rx drug



Benzodiazepines

- Viewed as safe
- Free from addiction, tolerance, & withdrawal

why resumption of interrupted sleep is important to all your patients



12:45 a.m. Sleeping Easily



1:00 a.m. Interrupted



1:30 a.m. Rapid Resumption

Certainly Quaalude has special advantages for the patient whose sleep is interrupted. Investigators report that patients on Quaalude can be easily awakened, and that resumption of sleep is prompt and spontaneous.^{1,2} But what do these observations mean for your patients whose sleep is not interrupted? They mean that when you give Quaalude your patients will not be "drugged", will not have a "doped" feeling, will not suffer from morning "hangover". Rather, awakening will be easy, with a real feeling of alertness and refreshment.^{1,2}

These qualities of resumption and refreshment set Quaalude apart from the drugs you may be using now. Quaalude induces a natural, physiologic sleep of 6 to 8 hours. And isn't that what you want for *all* your patients who need your help to a good night's sleep?

The secondary pharmacological actions of Quaalude—antitussive⁴ and antispasmodic⁵—suggest that it may be especially useful in insomnias complicated by cough or gastrointestinal distress.

Consult product literature for complete information.

Quaalude™
(methaqualone)

"Mother's Little Helper"

**You can't set her free.
But you can help her
feel less anxious.**

You know this woman.

She's anxious, tense, irritable. She's felt this way for months.

Beaten by the seemingly insurmountable problems of raising a young family, and confined to the home most of the time, her symptoms reflect a sense of inadequacy and isolation. Your reassurance and guidance may have helped some, but not enough. SERAX (oxazepam) cannot change her environment, of course. But it can help relieve anxiety, tension, agitation and irritability, thus strengthening her ability to cope with day-to-day problems. Eventually—as she regains confidence and composure—your counsel may be all the support she needs.

Indicated in anxiety, tension, agitation, irritability, and anxiety associated with depression.

May be used in a broad range of patients, generally with considerable dosage flexibility.

Contraindications: History of previous hypersensitivity to oxazepam. Oxazepam is not indicated in psychoses.

Precautions: Hypotensive reactions are rare, but use with caution where complications could ensue from a fall in blood pressure, especially in the elderly. One patient exhibiting drug dependency by taking a chronic, excessive dose and amount developed upon cessation questionable withdrawal symptoms. Carefully supervise dose and amount prescribed, especially for patients prone to overuse; excessive prolonged use in susceptible patients (alcoholics, ex-addicts, etc.) may result in dependence or habituation. Reduce dosage gradually after prolonged excessive dosage to avoid possible withdrawal seizures. Caution patients against driving or operating machinery until absence of drowsiness or dizziness is ascertained. Warn patients of possible reduction in alcohol tolerance. Safety for use in pregnancy has not been established. Not indicated in children under 6 years; absolute dosage for 6 to 12 year-olds not established.

Side Effects: Therapy-interrupting side effects are rare. Transient mild drowsiness is common initially; if persistent, reduce dosage. Dizziness, vertigo and headache have also occurred infrequently; syncope, rarely. Mild paradoxical reactions (excitement, stimulation of affect) are reported in psychiatric patients. Minor diffuse rashes (morbilliform, urticarial and maculopapular) are rare. Nausea, lathargy, edema, slurred speech, tremor and altered libido are rare and generally controllable by dosage reduction. Although rare, leukopenia and hepatic dysfunction including jaundice have been reported during therapy. Periodic blood counts and liver function tests are advised. Abuse, reported rarely, does not appear related to dose or age.

These side reactions, noted with related compounds, are not yet reported: paradoxical excitation with severe rage reactions, hallucinations, menstrual irregularities, change in EEG pattern, blood dyscrasias, including agranulocytosis, blurred vision, diplopia, incontinence, stupor, disorientation, fever, euphoria and dysmetria.

Availability: Capsules of 10, 15 and 30 mg. oxazepam.

To help you relieve anxiety and tension

Serax[®]
(oxazepam)



Wyeth Laboratories
Philadelphia, Pa.

now
she can
cope...

thanks to

Butisol[®]
(SODIUM BUTABARBITAL)^{SODIUM}

"daytime sedative" for
everyday situational stress

When stress is situational—environmental pressure, worry over illness—the treatment often calls for an anxiety-allaying agent which has a prompt and predictable calming action and is remarkably well tolerated. BUTISOL SODIUM (sodium butabarbital) meets this therapeutic need.

After 30 years of clinical use . . . still a first choice among many physicians for dependability and economy in mild to moderate anxiety.

Contraindications: Porphyrria or sensitivity to barbiturates.

Precautions: Exercise caution in moderate to severe hepatic disease. Elderly or debilitated patients may react with marked excitement or depression.

Adverse Reactions: Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and systemic disturbances are seldom seen.

Warning: May be habit forming.

Usual Adult Dosage: As a daytime sedative, 15 mg. (¼ gr.) to 30 mg. (½ gr.) t.i.d. or q.i.d.

Available for daytime sedation: Tablets, 15 mg. (¼ gr.), 30 mg. (½ gr.); Elixir, 30 mg. per 5 cc. (alcohol 7½%).

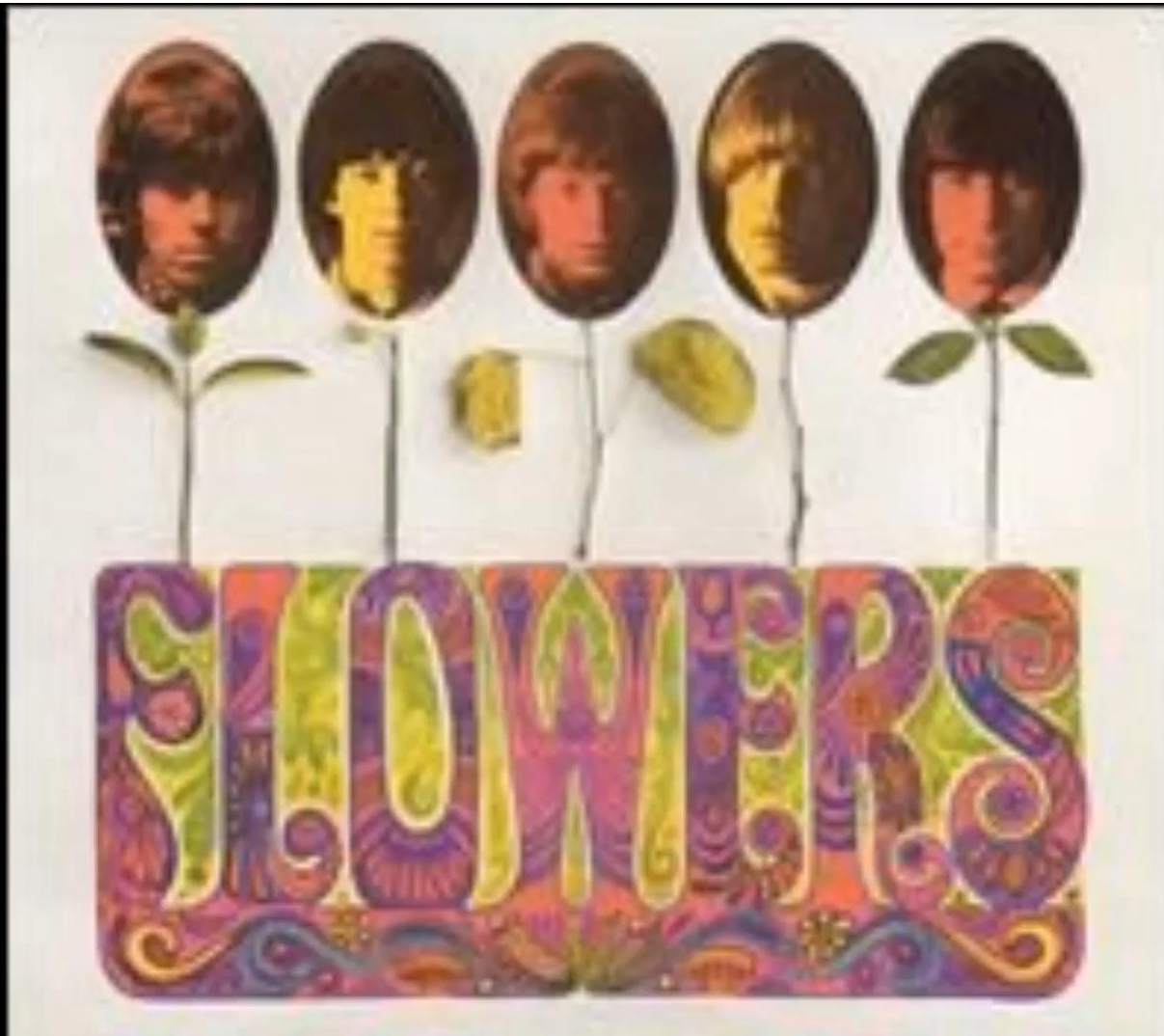
BUTICAPS[®] [Capsules BUTISOL SODIUM (sodium butabarbital)] 15 mg. (¼ gr.), 30 mg. (½ gr.).

McNEIL

McNeil Laboratories, Inc., Fort Washington, Pa.



“Mother’s Little Helper”

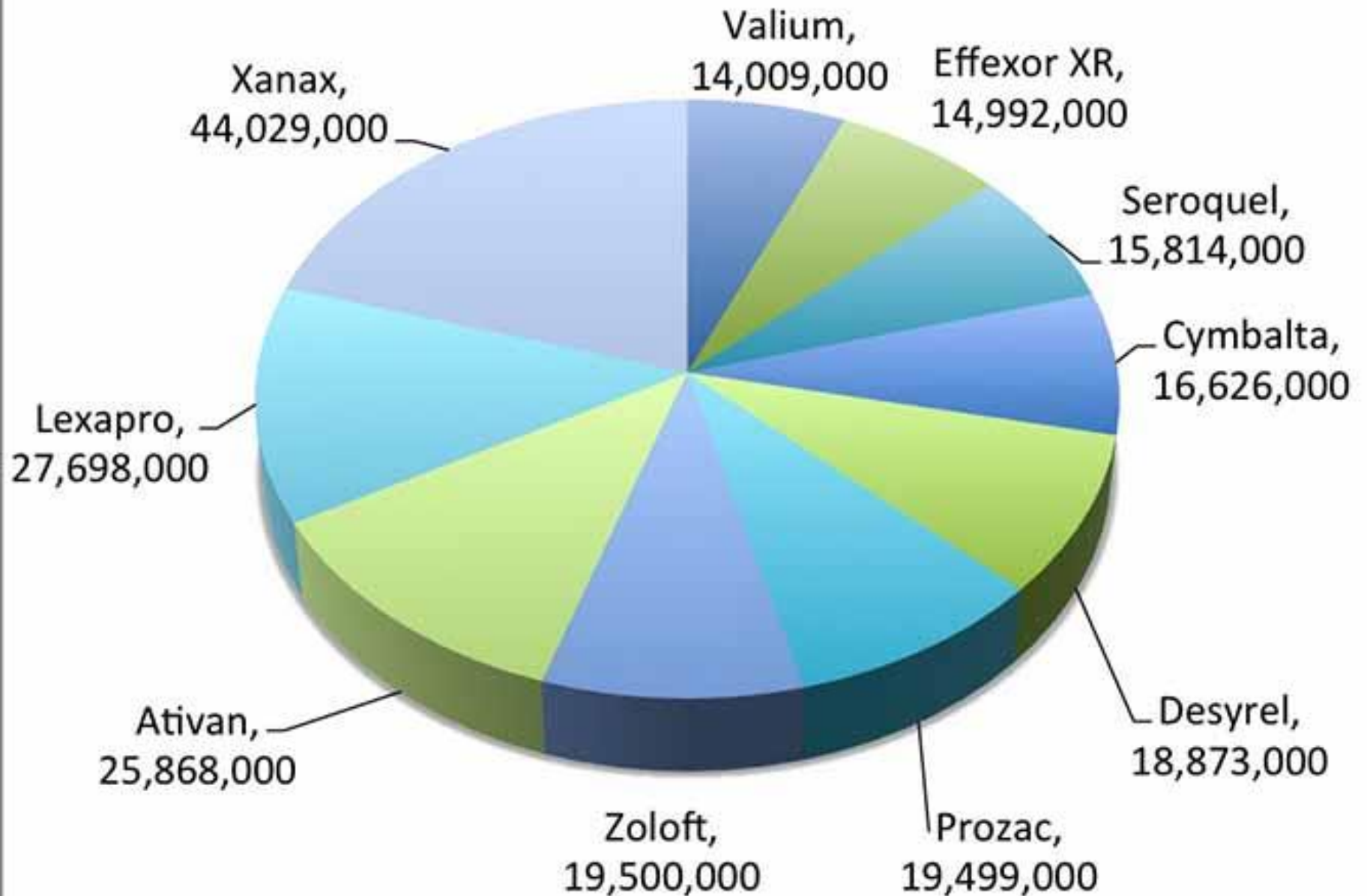


Benzodiazepines

- Valium (Diazepam)
- Xanax (Alprazolam)
- Ativan (Lorazepam)
- Versed (Midazolam)



10 most prescribed psychiatric drugs in the U.S.



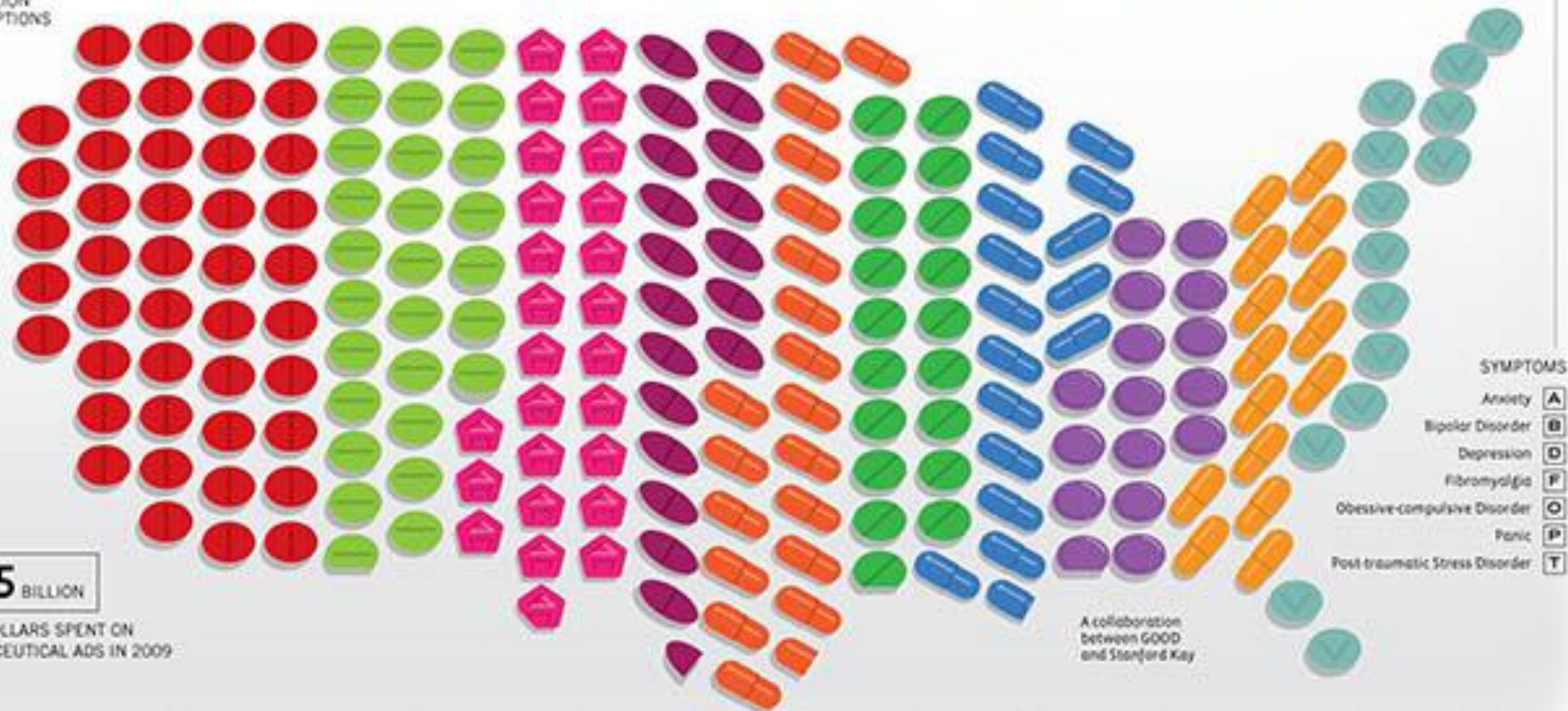
DRUGGED CULTURE

The pharmaceutical industry spends a lot of money marketing their newest psychiatric drugs to Americans. And we take a lot of them. In fact, in 2009 alone, U.S. doctors wrote more psychiatric prescriptions than there are people in this country. This is a look at 2009's 10 most prescribed psychiatric drugs. Don't worry, there's a pill for that.

AMERICA'S MOST PRESCRIBED PSYCHIATRIC DRUGS

In both their brand-name and generic forms

DRUG	Xanax	Lexapro	Ativan	Zoloft	Prozac	Desyrel	Cymbalta	Seroquel	Effexor XR	Valium
SYMPTOMS	A	AD	AP	ADDT	AD	AD	ADF	BD	ADP	AP
ONE PILL = ONE MILLION PRESCRIPTIONS	44	27.7	25.9	19.5	19.5	18.9	16.6	15.8	15	14



\$4.5 BILLION
TOTAL DOLLARS SPENT ON PHARMACEUTICAL ADS IN 2009

- SYMPTOMS
- Anxiety **A**
 - Bipolar Disorder **B**
 - Depression **D**
 - Fibromyalgia **F**
 - Obsessive-compulsive Disorder **O**
 - Panic **P**
 - Post-traumatic Stress Disorder **T**

A collaboration between GOOD and Stanford Key

CHANGE IN RANK FOR TOTAL FILLED U.S. PRESCRIPTIONS	2009	1	2	3	4	5	6	7	8	9	10
2008		1	3	5	2	4	NA	16	13	6	9

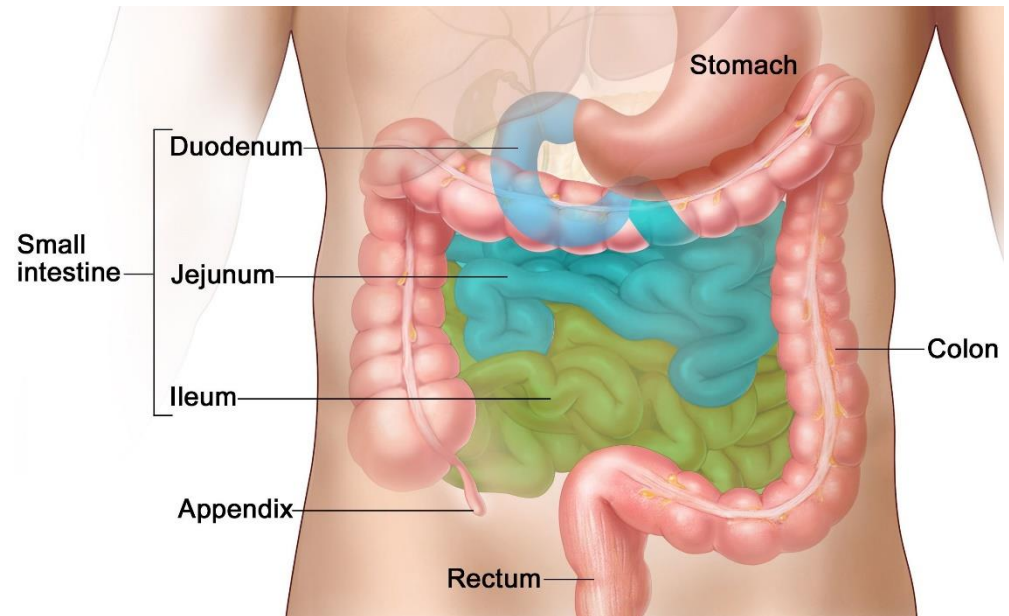
Xanax Nation

- <https://www.youtube.com/watch?v=5glfMclZUds>



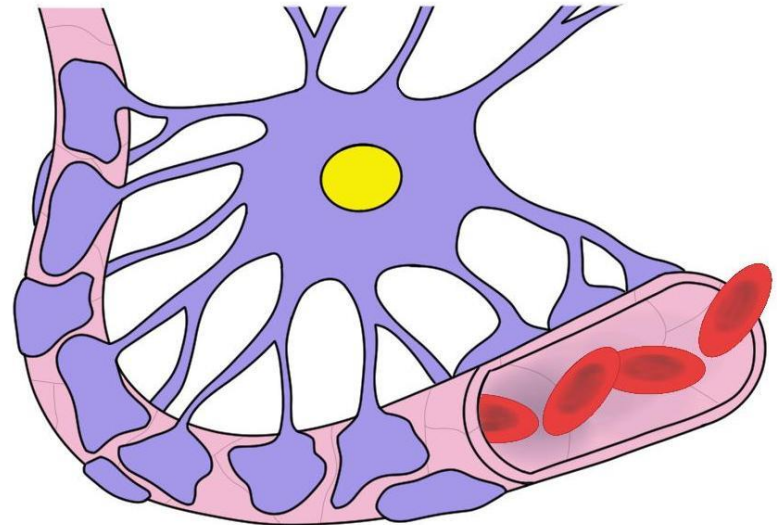
Benzodiazepines

- Oral
- Absorbed in small intestines = slow release



Benzodiazepines

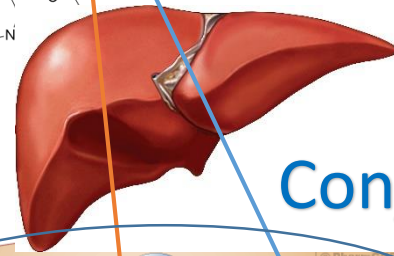
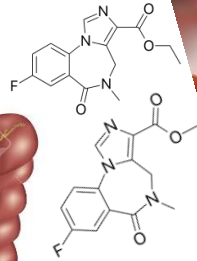
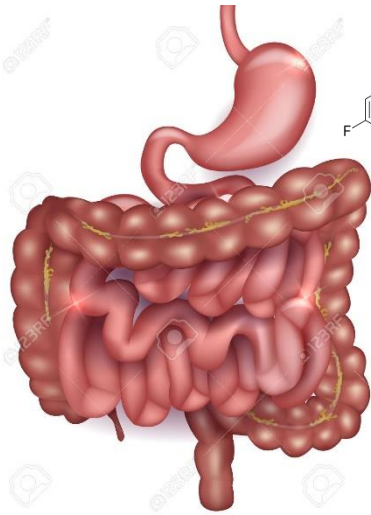
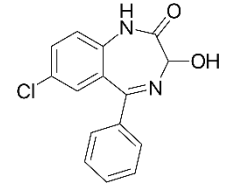
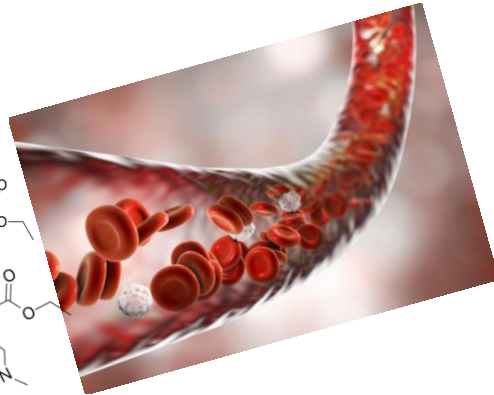
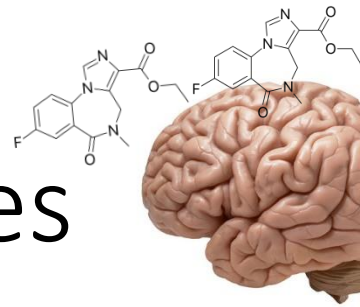
- Oral
- Absorbed in small intestines = slow release
- Less lipid soluble (longer lasting)



Benzodiazepines

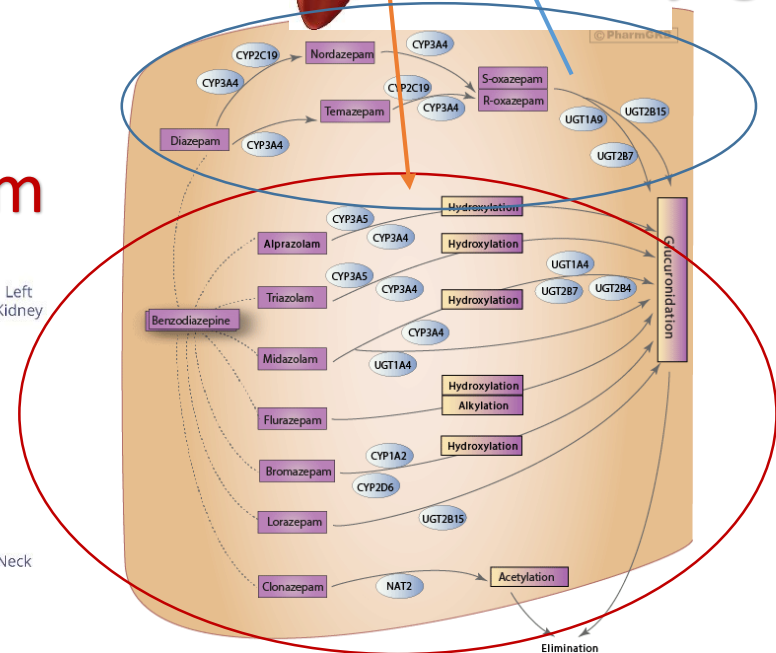
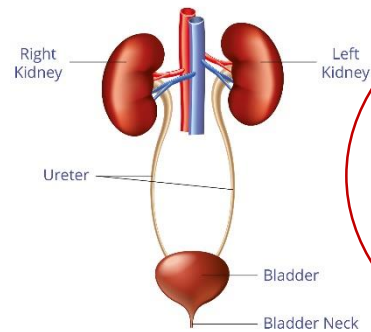
- Oral
- Absorbed in small intestines = slow release
- Less lipid soluble (longer lasting)
- Metabolism
 - Oxidation
 - Conjugation
- Metabolites prolong action

Benzodiazepines



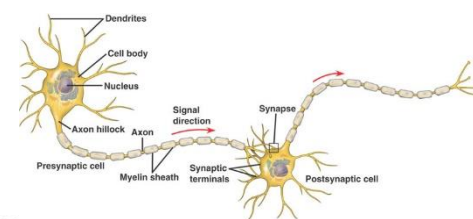
Conjugation

Metabolism



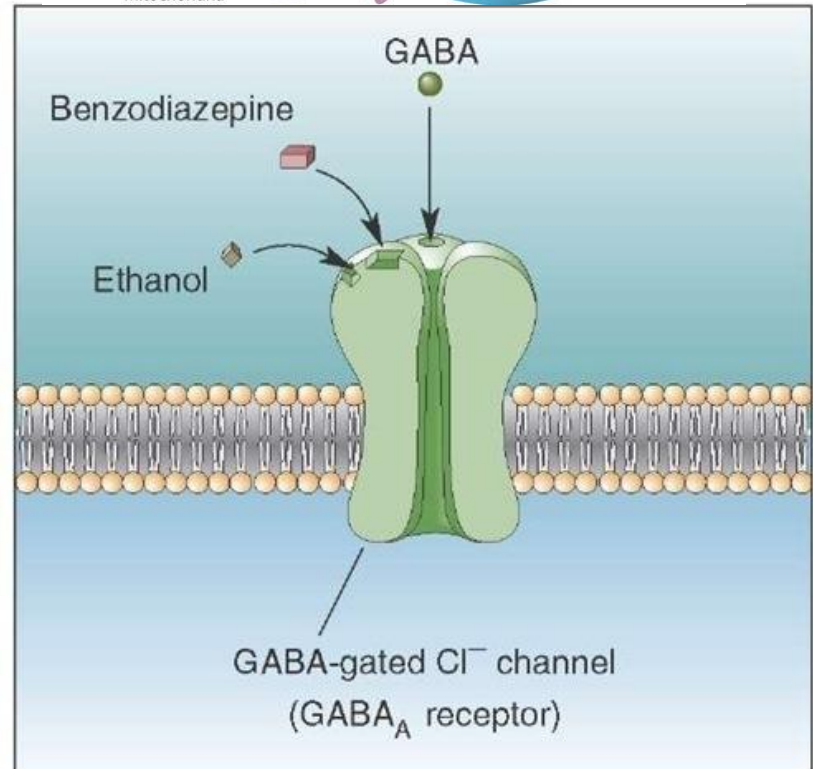
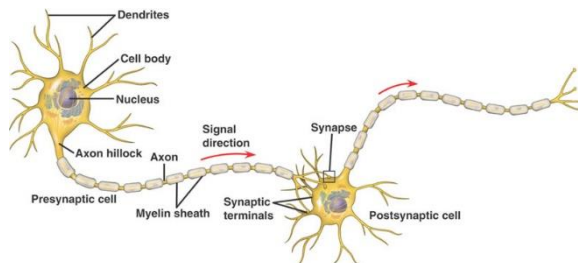
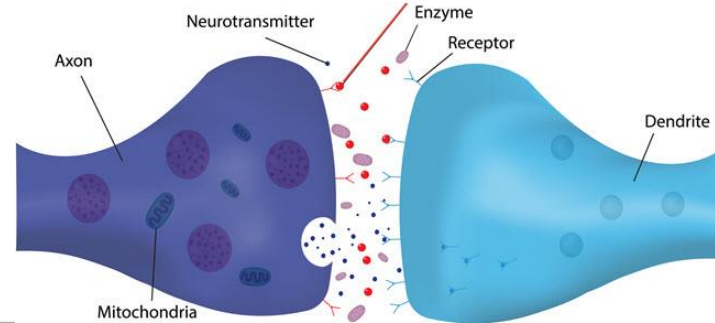
Benzodiazepines

- GABA inhibitory neurotransmitter
- Deactivate GABA receptors – maintains an open ion channel
- Inhibit action potentials – nerve transmissions



Benzodiazepines

Benzodiazepines bind to receptors to inhibit neurotransmitter release



Signal



Neuron



Action



GABA

Neuron

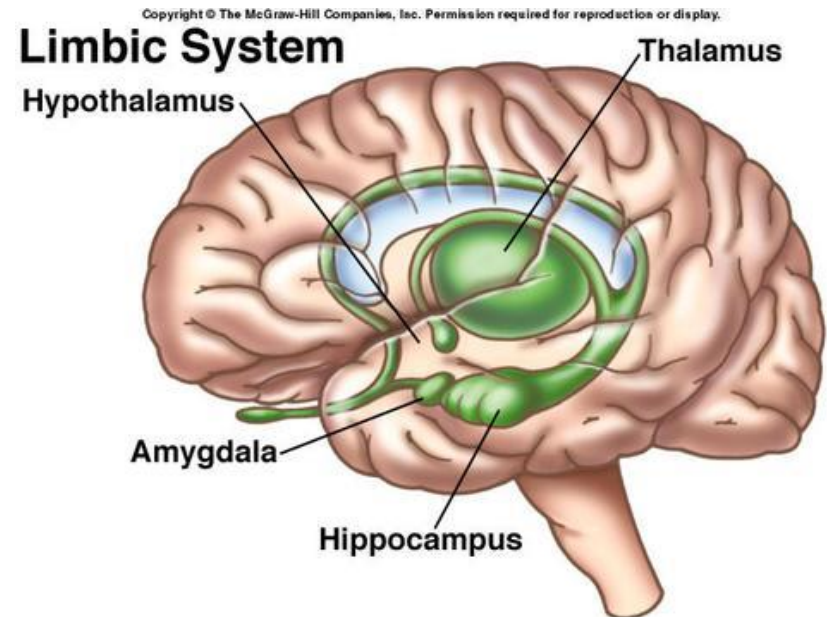
Inactive



Benzodiazepines

- Target >30 GABA receptors
- **Limbic System**
- Reticular Activating System
- Cortex
- Not in respiratory centers

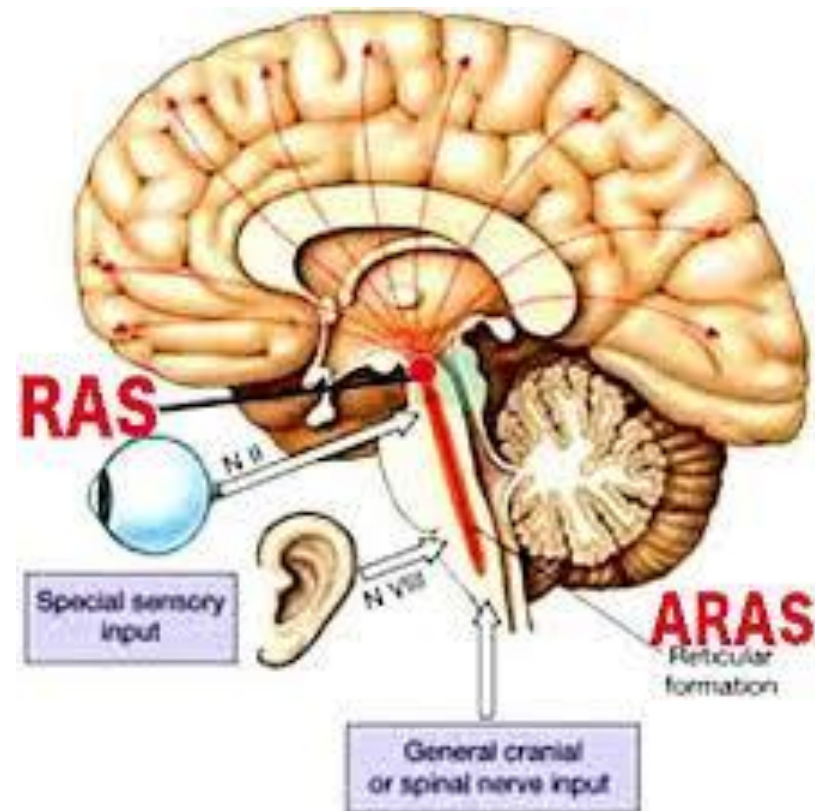
Emotion
Memories
Arousal



Benzodiazepines

- Target >30 GABA receptors
- Limbic System
- **Reticular Activating System**
- Cortex
- Not in respiratory centers

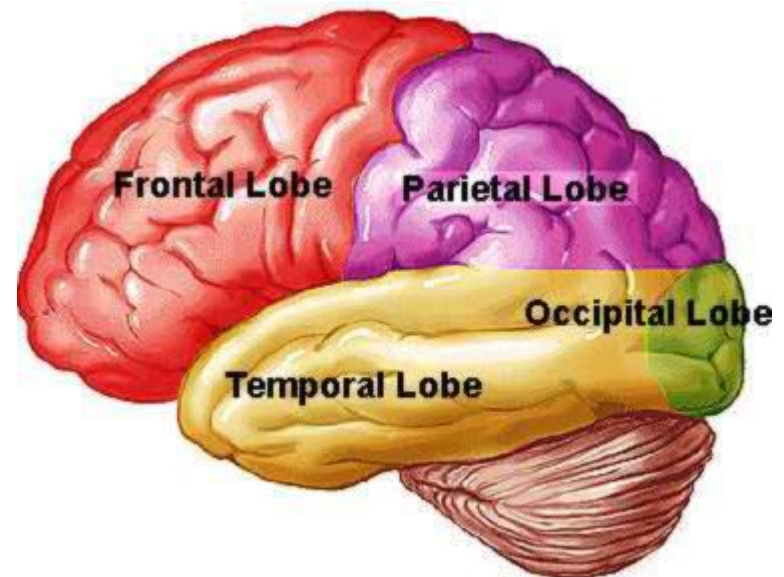
Sleep/Wake Cycle
Sensory Regulation



Benzodiazepines

- Target >30 GABA receptors
- Limbic System
- Reticular Activating System
- **Cortex**
- Not in respiratory centers

Perceptions
Thinking
Information processing
Understanding



Benzodiazepines

- Low dose → Drowsiness, muscle relaxation
- Moderate dose → Disinhibition, euphoria, sedation, “sleep”
- High dose → unconsciousness, death



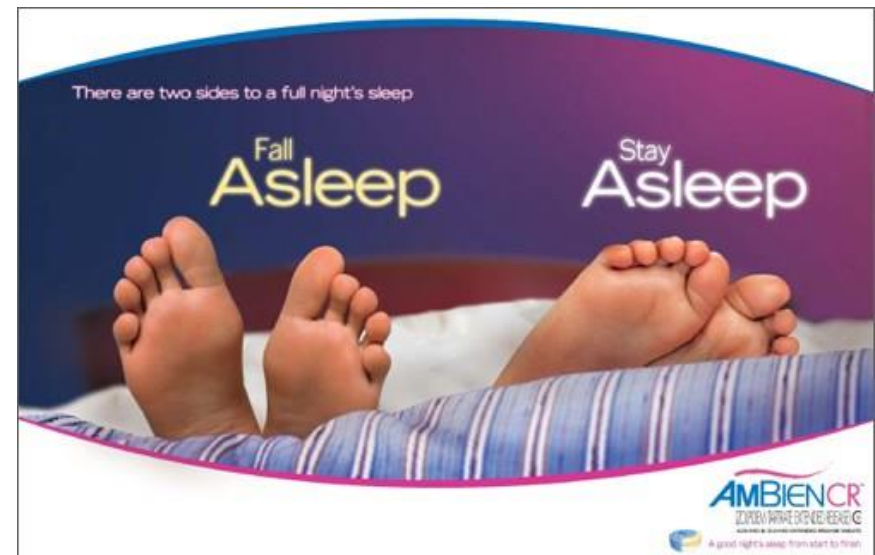
Benzodiazepines

- Increase “sleep” time
- Decreases REM sleep
- Less restful, less restorative



Withdrawal

- vivid dreams
- Insomnia



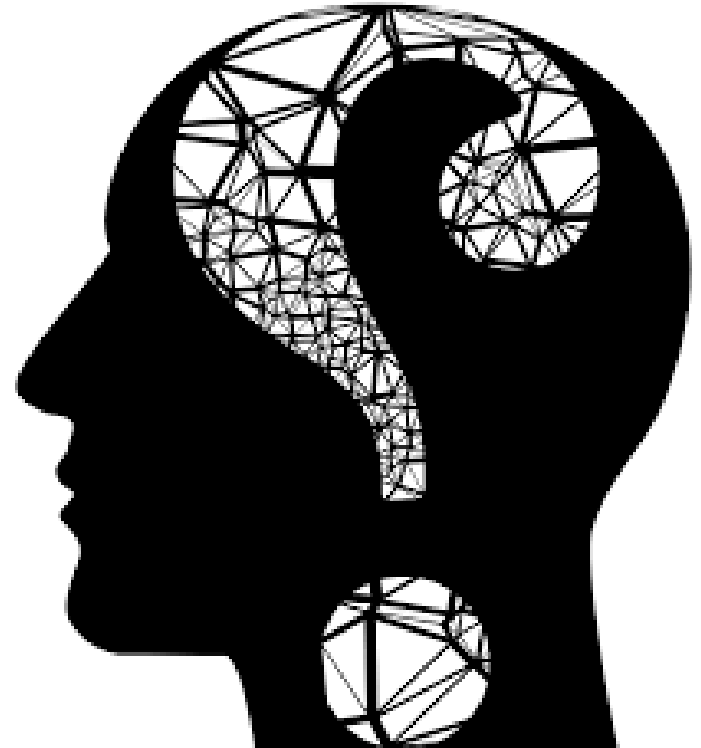
Emergency Department Visits Involving Zolpidem (Ambien)

- <https://www.samhsa.gov/data/sites/default/files/DAWN079/DAWN079/sr079-Zolpidem.htm>



Sedative & Hypnotic Side Effects

- Memory problems, confusion, hallucinations
- Seizures
- Reduced coordination
- Skin rash
- Yellowing of eyes & teeth



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Sedatives & Hypnotics

Benzodiazepines

- Less lipid soluble
- Slow & long acting
- GABA receptor inhibitor

Barbiturates

- **More lipid soluble**
- **Fast & short acting**
- **CNS depressant**

Drug Interaction

- Opioids
- Alcohol
- Amphetamines
- Cocaine

= Lethal combo

- Synergistic effect

- $6 \times 6 = 36$

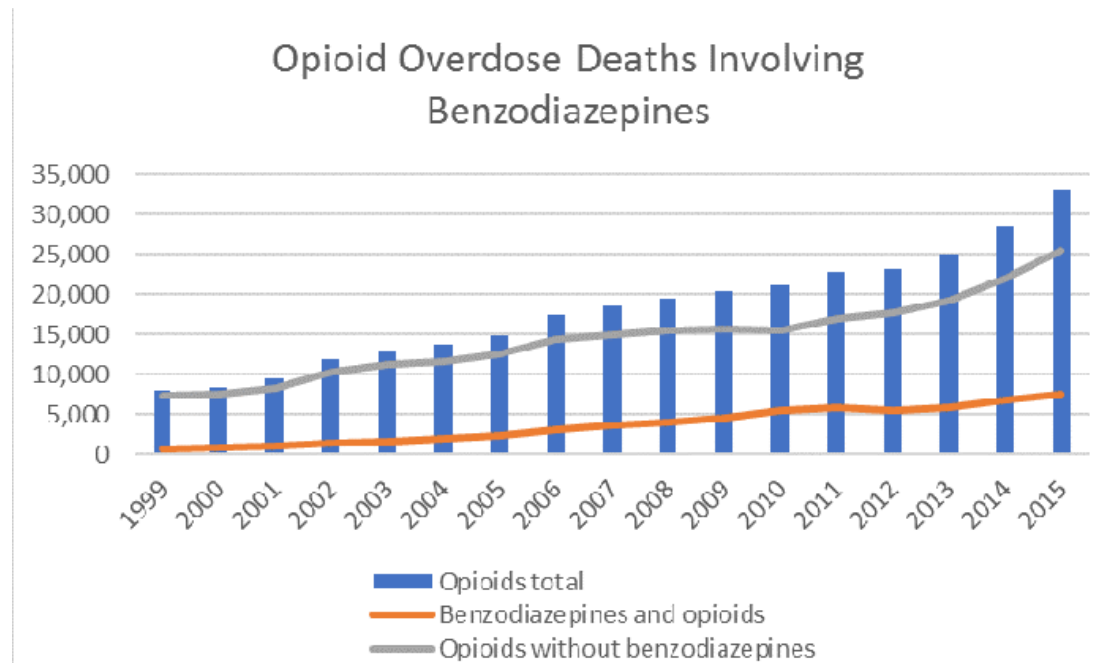
vs

- $6 + 6 = 12$

- $6 - 6 = 0$

Drug Interaction

- Opioids
 - Alcohol
 - Amphetamines
 - Cocaine
- = Lethal combo
- Synergistic effect
 - $6 \times 6 = 36$
- vs
- $6 + 6 = 12$
 - $6 - 6 = 0$



Drug Interaction

- Opioids
 - Alcohol
 - Amphetamines
 - Cocaine
 - Lethal combo
 - Synergistic effect
 - $6 \times 6 = 36$
- vs
- $6 + 6 = 12$
 - $6 - 6 = 0$

- Paradoxical effect



Xanax Misuse



Rohypnol

- “Date Rape” Drug
- 10x stronger than Valium
- Colorless, odorless, tasteless
- 15 – 20 min onset
- 4 – 6 hour effect
- Sedative
- Amnesia



Rohypnol, GHB, Quaaludes

- GABA inhibitors
- CNS depressants
- Sedation
- [1996 Drug-Induced Rape Prevention Punishment Act](#)
- up to 20 yrs in prison

