Experience
Some review
Actually - Few Chemicals are Addictive

~ 30,000,000 chemical compounds are known
   (Chemical Abstracts substance count)

~ 100 are addictive

Nicotine
Alcohol
Psychostimulants (cocaine, amphetamines)

Opiates
Cannabinoids
Barbiturates
Benzodiazepines
NON-NARCOTIC ANALGESICS:

- Relieve pain without producing *narcosis
  - *Numbness or sedation
- Non-Mood Altering
  - *Not psychoactive
- Rarely Abused

<table>
<thead>
<tr>
<th>Product</th>
<th>Active Ingredient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirin</td>
<td>Acetylsalicylic Acid</td>
</tr>
<tr>
<td>Tylenol</td>
<td>Acetaminophen</td>
</tr>
<tr>
<td>Motrin</td>
<td>Ibuprofen</td>
</tr>
<tr>
<td>Aleve</td>
<td>Naproxen Sodium</td>
</tr>
<tr>
<td>Others</td>
<td></td>
</tr>
</tbody>
</table>

**NSAIDs** (nonsteroidal anti-inflammatory drugs).
#1 Abused Prescription Pain Med
- Derivative of codeine
- Used for pain & coughs
- U.S. uses 99% of global supply
* 2005 INCB report
#1 Abused Prescription Pain Med

## Hydrocodone

**Trade Names:**

- Vicodin®
- Lortab®
- Lorcet®
- Hycodan®
- Anexsia®
- *Tramadol®
- Tylox®
- Zydone®
- Hycomine®
- Vicoprofen®
- Tussionex®

**Street Names:**

- Vikes
- Viko
- Hydro
- Norco

May 25, 2010 – FDA changes Warning (Ultram/Tramadol) section emphasizing the risk of suicide for patients who are addiction-prone.
Avoiding Acetaminophen Liver Damage

- No more than 1 gram (1,000mg) at once
- No more than 4 grams (4,000mg) in 24 hours
- Avoid multiple meds containing acetaminophen

  • Some experts believe that taking it for several days in a row may cause a dangerous build-up
Dose limits for Acetaminophen Products

- Over next three years, FDA mandates that the acetaminophen component of combination products be limited to no more than 325 mg
- Goal is to reduce potential toxicity of cumulative dose of acetaminophen exceeding 4 grams per day

<table>
<thead>
<tr>
<th>Product</th>
<th>Acetaminophen dose</th>
<th>Max doses per day before exceeding 4 grams acetaminophen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vicodin ES</td>
<td>750 mg</td>
<td>5 tablets</td>
</tr>
<tr>
<td>Vicodin HP</td>
<td>660 mg</td>
<td>6 tablets</td>
</tr>
<tr>
<td>Vicodin, Tylox</td>
<td>500 mg</td>
<td>8 tablets</td>
</tr>
<tr>
<td>Percocet</td>
<td>650 mg</td>
<td>6 tablets</td>
</tr>
</tbody>
</table>
Oxycontin®  Roxicodone®  Oxyfast®  Endocodone®
Percolone®  ETH-Oxydose®  Dazidox®  OxyIR®

**in Combo with Acetaminophen**

Percocet®  Roxicet®  Tylox®
Endocet®  Lynox®  Taxadone®
Magnacet®  Perloxx®  Narvox®
Primlev®  Xolox®

**in Combo with Ibuprofen**
Combunox®

**in Combo with Aspirin**
Percodan®  Endodan®
Roxiprin®
Approximately 50\% of the tablet consists of sugars and time-release ingredients.

Ox, Oxys, Oxycotton, Kicker, Oxy 80s, Blue, Jammed – under the influence of OxyContin
Purdue Pharma, Executives Plead Guilty To Misbranding OxyContin, Fined $634.5 Million

15 May 2007

Marketing Techniques

- Direct to consumer advertising
- Paid medical courses for doctors
- Glamorizing as Quick fix
- Funding “scientific” studies
- All expense paid conferences
  - Focused on aggressively prescribing

"We accept responsibility for those past misstatements and regret that they were made."
Coating rinsed/rubbed off and tablet smoked
Oxycontin Reformulation

PHARMACY

NO OXYCONTIN HERE ANYMORE SORRY
Oxycontin Reformulation

- Harder shell
- Chunkier when crushed
- Submitted to FDA
  - as reformulation
  - not as “abuse resistant”
    - helps extend patient

*Purdue Pharma required to conduct post-marketing analysis on how - or if - the new formula reduces abuse of the drug.*
Newton's Laws

(choose a law to begin)

<table>
<thead>
<tr>
<th>First Law</th>
<th>Second Law</th>
<th>Third Law</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="" /></td>
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</tr>
</tbody>
</table>

- First Law
- Second Law
- Third Law

- MR. FREEZE
- Super Soaker
- Fast Bake Oven
Officials Say Reformulation of OxyContin Has Increased Interest in Abuse of Other Narcotics

June 16, 2011

Street Names: Gummies, Jellynose
FDA approves painkiller Acurox/Oxecta

- Pfizer and Acura Pharmaceuticals Inc.

- "OxyContin + Niacin

- When crushed, releases niacin
  - irritates nose
  - uncomfortable flushing reaction
Abuse Resistant Formulations

Embeda

- Sustained release morphine beads
- Beads also contain naloxone pellets
- When Embeda is crushed or chewed, pellets are opened releasing naloxone which counteracts effects of morphine and other narcotics
pure oxycodone pills
30-milligram dose
“Perc 30s” or “Roxies”

Three Characteristics Common to All Narcotic Analgesics

1. Relieve pain
2. Produce withdrawal signs and symptoms
3. Suppress the withdrawal signs and symptoms of chronic narcotic analgesic administration
Opana
Oxymorphone

Stronger than Oxycontin
can be crushed

Oxymorphine is also a metabolite of oxycodone

High concentration of oxycodone = lower amount of oxymorphone in tox

Remember- It’s the impairment that counts
One More BIG One

UNINTENDED CONSEQUENCES

HEROIN
I'm sure you'll be able to handle it.