Understanding opioid trajectories: Decision-making and high dosage opioids

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Common Opioid Trajectory

1. Initial Exposure
2. Euphoria
3. Other Benefits
4. Tolerance
5. Maintenance

- Stronger or Illicit Opioids
- Increase Dose or Amount
- Non-Oral Routes
Initiation of prescription opioid use
“I was prescribed Vicodin® for pain associated with a kidney stone when I was 14. It not only took away the pain, but made me feel really good all over. I had smoked pot and drank before but nothing compared to the feeling Vicodin® gave me.”

“It felt like God was petting me.”
Unanticipated benefits of sustained use
Have you ever used opioids to self-treat psychological or psychiatric issues?

73.4% (First exposure, Rx)
67.1% (First exposure, Non-Rx)

Have you ever used opioids as a means of “escaping from life”?

85.1% (First exposure, Rx)
79.0% (First exposure, Non-Rx)

“Finally relief. Not only for the pain of the broken collar bone but, most importantly for my mind. I loved the [feeling] of euphoria. I finally felt comfortable in my own skin. I could talk to anyone. I felt what I thought I was supposed to [feel] like. Extremely happy. I knew I found the secret to my happiness. Well I was wrong it ruined my life.”

“Forget about shame, forget about failures/shortcomings, to get relief from personal burdens/struggles, distract self from lack of inner peace.”

“The escape was from the real pain I had from the back problems, but also it allowed your mind to release and think in comfort, rather than in a stressful way...I have never been as successful or motivated or feel good as when I was on opioids.”

‘Tipping point’ from benefits to maintenance
“If I didn’t have it in my system, I was throwing up, I was extremely sick...if I didn’t have the [oxycodone/hydrochloride] or the [oxycodone] or the methadone, I was dope sick...I thought I was going to have a heart attack. Your heart races, you’re shaking...as long as I had it in my system it was okay.”

“Right before I entered my first treatment program, I was not “getting high” any more, I was purely seeking the drug to stay well. I was tired of being addicted but could not stop using on my own, I would get into the withdraw[al] symptoms and need to use because I would get too sick. I would beg borrow or steal just to be able to get money to get opioids...No one knew I used so I had to be able to function every day.”

“My motivation for using opioids at that point [of entering treatment] was 90% not to be dope sick and 10% to get high. I wouldn’t even worry about feeling high because I just cared about not being dope sick I could just function in day to day activities.”

Route of Administration
Most individuals begin with oral use

Not everyone advances to non-oral routes (even when controlling for length of use)

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<thead>
<tr>
<th>Oral use only</th>
<th>Subsequent Non-oral initiation</th>
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<tr>
<td>Oral initiation (87.5%)</td>
<td>Non-oral initiation (12.5%)</td>
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<td>30.3%</td>
<td>57.2%</td>
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<table>
<thead>
<tr>
<th>Non-oral use only</th>
<th>Subsequent Oral Initiation</th>
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<tr>
<td>8.9%</td>
<td>3.6%</td>
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How do users cope with tolerance?
Option 1: Use of multiple pills
85.4% cited accessibility or availability as driving the decision to swallow multiple pills instead of using fewer pills of a higher dosage.

“Only able to obtain a certain mg without paying higher rates.”

“I didn't want my addiction to be obvious by asking my doctor for a higher dose.”

“I couldn't get a higher dose from the doctors so I improvised and took more pills to get the desired high I was after.”

Top 10 drugs used when ingesting multiple pills

Why not use non-oral routes?
Negative characteristics of non-oral methods (57.5%)

- Fear/discomfort of non-oral methods (45.2%)
  - “I did not want to smoke, snort or inject them because I was afraid of the risk that I would then want to use/try heroin”

- Perception of addiction status (8.2%)
  - “Kept wanting to do it as prescribed even though I may have taken more, I didn’t feel like an addict if I did it this way.”

Negative characteristics of non-oral methods (57.5%)

- Disliked experimentation (6.8%)
  - “I tried snorting them once, did not enjoy that. It was too much once the pill was crushed and caused burning of nasal passage ways. So resumed orally instead.”

- Socially unacceptable (2.7%)
  - “It is more socially acceptable to pop a pill in my mouth, than it is to shoot in my arm.”

Other motivations

• Oral methods sufficient to attain feeling/high (15.1%)
  • “Got the feeling I was looking for orally therefore no need to change method.”

• Lack of desire/want to use non-oral methods (41.1%)
  • “I just never was interested in taking opioids in that manner.”

Option 2: Non-oral routes of administration
Motivations to move from oral to non-oral methods

Impact of non-oral initiation on oral methods

Deciding between oral and non-oral use of prescription opioids
Drug Related Factors

- **Specificity of drug (33.9%)**
  - “If it was hydrocodone I would chew them. If it was something like Percocet I would snort. If it was instant releases like Roxicodone I would sniff or inject, usually inject. Dilaudid would be injected. Morphine and Opana would be orally.”

- **Ability/ease of tampering (22.9%)**
  - “The harder it was to break down to shoot up, the more likely I was to swallow it instead.”

Drug Related Factors

• Fillers (22.0%)
  • “When they didn’t contain acetaminophen I would snort them. When they had acetaminophen I didn’t even consider snorting.”

• Better feeling/high (19.3%)
  • “Certain opioids feel better when taken orally.”

  • “It depended on the bioavailability of the drug. Opana is useless orally but gets you very high using other methods. Oxycodone is one that I feel give a better high if used orally.”

Non-Drug Related Factors

- Better feeling/high (47.5%)
  - “Once I got deeper into addiction and my inhibitions lessened toward injecting, I would choose to inject due to the better quality and more immediate high.”

- Setting (33.3%)
  - “Orally is easier to hide when you’re around family or coworkers”

- Practical factors (23.3%)
  - “Amount I was going to take and how much powder they would break down to. Sometimes it was just too much powder to snort.”

Drivers of prescription opioid selection

Lifetime Use
IR = 98.7%
ER = 91.0%
<table>
<thead>
<tr>
<th>Route of administration</th>
<th>Hydrocodone n = 912</th>
<th>Oxycodone n = 1350</th>
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<tbody>
<tr>
<td>Oral</td>
<td>94.6</td>
<td>68.6</td>
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<tr>
<td>Inhalation</td>
<td>26.6</td>
<td>64.6</td>
</tr>
<tr>
<td>Injection</td>
<td>4.2</td>
<td>21.1</td>
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<thead>
<tr>
<th>Reason for PD selection</th>
<th>Hydrocodone n = 912</th>
<th>Oxycodone n = 1350</th>
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<tbody>
<tr>
<td>Quality of high</td>
<td>19.2</td>
<td>49.4</td>
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<tr>
<td>Easiest to get</td>
<td>56.0</td>
<td>34.0</td>
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<tr>
<td>Safer than other drugs</td>
<td>11.9</td>
<td>7.8</td>
</tr>
<tr>
<td>Only thing available</td>
<td>4.4</td>
<td>4.6</td>
</tr>
<tr>
<td>Cheapest</td>
<td>4.4</td>
<td>2.2</td>
</tr>
<tr>
<td>Other</td>
<td>4.1</td>
<td>2.1</td>
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Conclusions
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• Every drug is unique

• Predictions of abuse potential are guesses at best

• Role of high-dosage opioids are still not well understood
  • In both pain patient and opioid use disorder populations
High dosage opioids

• Advantages
  • Easier pills to take for certain populations such as elderly and cognitively impaired

• Disadvantages
  • Higher dose strength solves the tolerance problems for abusers