

**ECHO IDAHO**

Opioids, Pain, and Substance Use  
Disorders

# Narcan in the Era of Fentanyl

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# Narcan in the Era of Fentanyl

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# Disclosures

None

# Lecture Objectives

Discuss the pharmacokinetic properties of opioids and naloxone

Discuss xylazine and how it relates to fentanyl

Discuss whether naran resistant fentanyl is a thing

Determine if there is such a thing as too much naran





# Narcan pharmacokinetics

- Pure opioid antagonist
- Onset of action: 3-17min intranasal
- Duration of action: 30-120 minutes depending on administration





# Pharmacokinetics of different opioids

- Fentanyl: IV administration half life is 2-4 hours
- Oxycodone: half life 3-4 hours for IR formulations
- Morphine: half life 3-5 hours
- Methadone: 8-59 hours





# Fentanyl overdose

- Pinpoint pupils
- Depressed mental status
- Severe respiratory depression
- Wooden chest syndrome?





# What's the deal with xylazine????

Is becoming a bit more common in fentanyl mixtures

Toxidrome looks quite similar

Alpha 2 receptor agonist





# Xylazine toxidrome

- CNS depression
- Ataxia, dysarthria, hyporeflexia, pinpoint pupils
- Has some respiratory depressant effects





# Narcan resistant fentanyl???

Not necessarily a thing at least as far as the literature is showing

There is a study looking at increased narcan use prehospital settings. This did not appear to look into additional data such as toxicology reports etc.

There are certainly some studies which also show higher doses of naloxone required to reverse synthetic opioid overdoses.

<https://www.medpagetoday.com/emergencymedicine/emergencymedicine/1048>  
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# Too much narcan?

- We know there is such thing as too little narcan, but is there such thing as too much narcan?
  - Perhaps
    - Pulmonary edema
    - Too aggressive with opioid reversal
- The goldilocks principle





# But my patient didn't respond to narcan!

- Did they truly not respond or did they just not respond as expected
- There can certainly be too much of a good thing



# Sources

- Utrilla, M. G., Chesney, E., Neale, J., Metrebian, N., Kalk, N., Skulberg, A. K., Dietze, P., Smith, M., & Strang, J. (2025). Naloxone dosing in the era of synthetic opioids: Applying the Goldilocks principle. *Addiction*, 120(11), 2165–2172.  
<https://doi.org/10.1111/add.70060>
- Lynn, R. R., Galinkin, J., McClain, M., & Alfieri, T. (2025). Use of multiple naloxone administrations in the Emergency Department: A Retrospective Claims-Based Analysis. *Journal of Emergency Medicine*, 79, 111–122.  
<https://doi.org/10.1016/j.jemermed.2025.04.022>
- Moss, R. B., & Carlo, D. J. (2019). Higher doses of naloxone are needed in the synthetic opioid era. *Substance Abuse Treatment Prevention and Policy*, 14(1), 6. <https://doi.org/10.1186/s13011-019-0195-4>
- Rosal, Nathaniel R.; Thelmo, Franklin L.; Tzarnas, Stephanie; DiCalvo, Lauren; Tariq, Shafaq; and Grossman, Craig, "Wooden Chest Syndrome: A Case Report of Fentanyl-Induced Chest Wall Rigidity." (2021). Abington Jefferson Health Papers. Paper 63. <https://jdc.jefferson.edu/abingtonfp/63>
- <https://www.medpagetoday.com/emergencymedicine/emergencymedicine/104824>