

## Science Communication Track – Fentanyl Facts

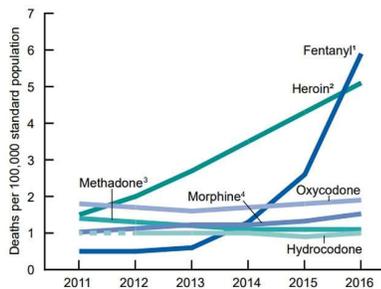
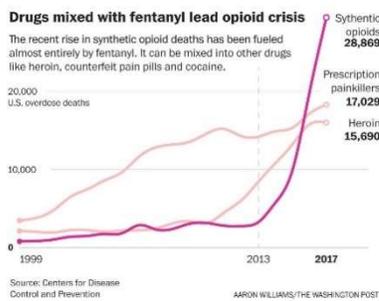
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Fentanyl has, over the past few years, become increasingly prevalent across the nation, as well as in Washington State. This project was developed to rectify the equity disparity occurring in our community in relation to this dangerous new drug. According to WTN data, teenagers in King County are at the highest risk of having access to drugs and alcohol, including fentanyl. King County has subsequently had one of the largest increases in fentanyl overdoses in the last few years, in comparison to other Washington counties. This drug has had a profound impact on our communities and our schools.

Fentanyl is classified as a highly addictive synthetic opioid. In fact, the drug is 50 times more potent than heroin and 100 times more potent than morphine. Fentanyl is so potent that even as little as two milligrams of the drug can be fatal. For this reason, it is rarely prescribed by health professionals and is typically only used to treat severe pain, such as in the case of some serious cancers. Fentanyl offers the “high” sought by non-prescribed users by quickly getting chemicals into the brain, where the drug attaches to receptors in the central nervous system (in the brain and the spinal cord) that control pain perception, emotions, and reward hormones. In doing this, the drug often induces feelings of euphoric happiness. However, this “high” often comes with deadly side effects. The chemicals delivered by fentanyl can quickly shut off the body’s reflex to breathe, resulting in suffocation. This can occur even in a conscious person. The former Eastlake High School (Sammamish, WA) drug counselor, shared with us that when somebody overdoses, “They look like they’re almost sleeping, very shallow, slow breaths. Their lips get blue because of the lack of oxygen, just unresponsive... everything slows down”. In another interview we conducted, a Lieutenant of the Sammamish-Eastside Fire and Rescue shared, “...fentanyl is one of the most dangerous things you can put in your body.”

Fentanyl has made its way into our communities, and the outcome has been devastating. In 2019, two 16-year-old boys, Tom Beatty and Lucas Beirer, both eleventh grade students at Skyline High School in Issaquah, Washington, overdosed after taking counterfeit oxycodone tablets laced with fentanyl; the two deaths came only seven weeks apart. On August 11, 2019, Beatty passed away from a fatal fentanyl overdose, and on September 30, 2019, Beirer passed away in a similar manner. “We’ve heard kids say they are chasing a new high” former King County Sheriff Mitzi Johanknecht said, “what they’re chasing is death.” According to data from the Washington State Department of Health, King County had the most recorded drug overdoses in 2018, totaling 332 overdoses. Between June and mid-September of 2019, 141 people in King County passed away due to suspected or confirmed drug overdoses involving fentanyl, according to Brad Finegood, a strategic advisor and drug expert for the Seattle-King County Public Health. This is in comparison to 193 synthetic opioid deaths *statewide* in 2018 (WA DOH). This shocking statistic demonstrates how fentanyl prevalence has skyrocketed in recent years – it shows that a single county’s death toll from one year nearly

matched the entire state’s toll from the year prior. In addition, in all of 2019, seven King County teenagers died from fentanyl-related overdoses in comparison to only one death each in both 2017 and 2018. This demonstrates a steep incline in the prevalence of the drug and overdose deaths because of the drug in our community from year to year. According to addictiongroup.org, In 2017, fentanyl caused 59.8 percent of opioid-related deaths. This is further corroborated below, where the graphs show that synthetic opioids surpassed prescription painkillers and heroin at the leading cause of overdose deaths, with 28,869 recorded deaths in the U.S. in 2017. The second graph shows the growth in fentanyl deaths specifically, which exceeded heroin, oxycodone, morphine, hydrocodone, and methadone related deaths by 2016. The former Eastlake High School Resource Officer shared with us that “the usage [of fentanyl] has increased because the opportunity and the supply has increased.” The increase in fentanyl’s prevalence in our community is due to the smuggling of illegal fentanyl from overseas into the U.S., which has become an increasingly cheap option for drug dealers, since they are then able to cut other more expensive drugs, like oxycodone, with cheap fentanyl to induce a more extreme high. The majority of this fentanyl is coming from China. Poor mail regulations both in the U.S. and in China have led international mailing of fentanyl to spike, and from 2016-2017, a shocking 97% of fentanyl shipped into the U.S. came from China.

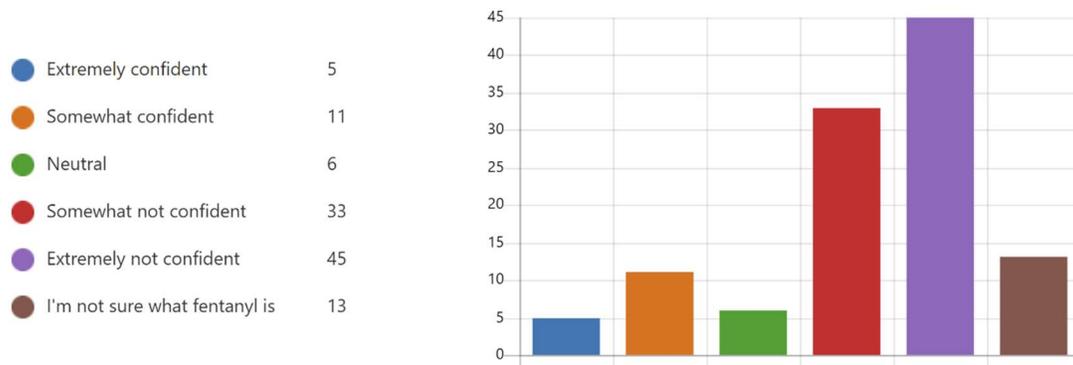


Much of the community losses we are seeing due to Fentanyl come from a severe lack of information and knowledge about the drug in our community. We conducted a voluntary anonymous survey among students at Eastlake High School in Sammamish, WA to gather data regarding the extent of current knowledge to better determine where our public service announcement (PSA) efforts should be focused. Data was collected over a five-day period from Monday, March 14<sup>th</sup>, to Friday, March 18<sup>th</sup>, 2022. Survey links were shared by Eastlake teachers of various subjects to a random sample of students from all grade levels in their classes. At the end of the five-day period, we received a total of 113 responses from Eastlake students. The results were frightening. Although 84.1% of respondents reported knowing what fentanyl is, only 13.2% of respondents shared that they are confident they could identify the drug (responded either somewhat confident or extremely confident – see data below), indicating that while there is information circulating about the drug, there is minimal content focused on identification, and thus prevention. A large percentage of respondents (42.5%) responded that drugs in general sense, (including alcohol, excluding prescription or over-the-counter drugs) are somewhat accessible in our community. Considering that these responses come from a group

of students ages 14-18, this level of perceived accessibility is concerning. This accessibility is further supported with 51.3% of the underage survey-takers reporting that either they themselves, or somebody they know have used drugs (see data below). The majority of students (37.2%) responded that current education about drugs at school is neither effective nor ineffective, thus indicating that current education falls short in minimizing drug use at Eastlake High School. The subject of fentanyl was chosen for this project as a result of these overwhelming losses to our community and these recorded statistics. Action must be taken to educate the public to prevent further overdoses in our community.

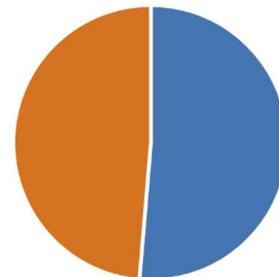
2. How confident are you that you would be able to identify fentanyl?

[More Details](#)



4. Have you, or anybody you know, used drugs?

[More Details](#)



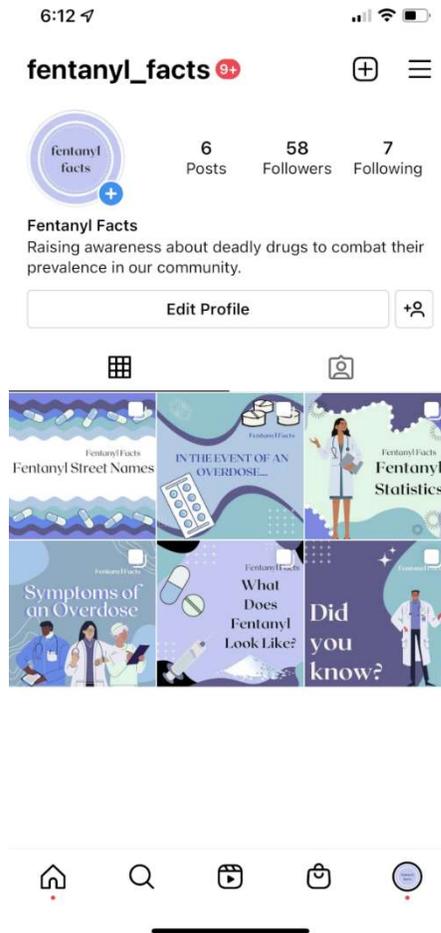
The lack of knowledge and understanding regarding fentanyl, especially in teenage students, was addressed using a combination of methods that centered around education. As the Lieutenant said, “The only way to stop kids from taking fentanyl is education and awareness.” The first method of outreach was an Instagram page (displayed at the bottom of this document), titled “Fentanyl Facts”, that was created and used as a platform for a social media campaign to raise awareness about the drug. Posts on this page covered topics from identifying the drug (which our survey indicated the need for), to responding to an overdose. Graphics were used to add visual appeal to these posts, and cool-toned colors, like blues,

purples, and greens were used to reflect some of the color that Fentanyl comes in. These colors were also chosen for psychological reasons. For example, the color blue is often associated with stability, reliability, and trust, which makes our content seem more valid to viewers, thus prompting them to pay closer attention to it. Similarly, purple/violet shades are believed to encourage empathy, which is way to prompt viewers to better connect with the sensitive content being shown. Finally, green induces feelings of growth, so it was chosen to prompt the viewer to absorb new information and learn from it. We chose Instagram as the platform for our social media campaign due to its popularity among teenagers, our target audience. We believe that this platform would have the most widespread reach, and that it would allow our campaign to reach the largest number of teenagers.

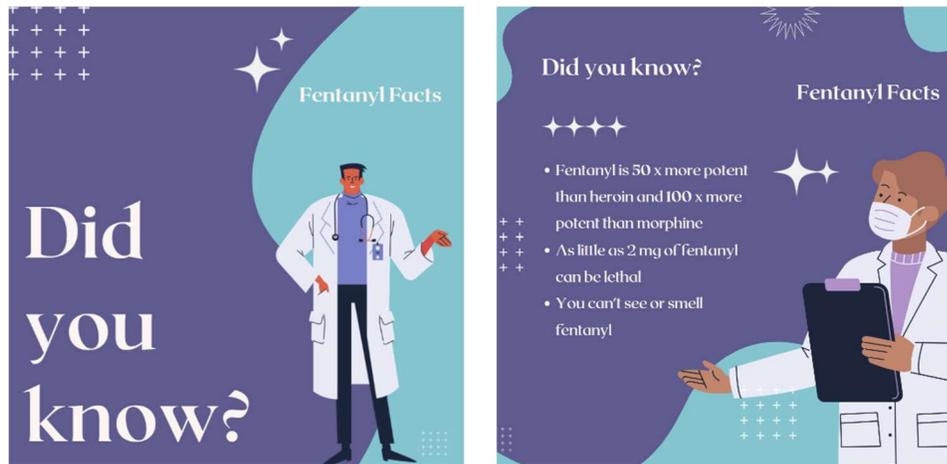
Our second method of increasing awareness is through a series of presentations in Eastlake High School's mandatory 9<sup>th</sup> Grade Health and Fitness classes that we are planning. By choosing these classes, we will be able to reach nearly all freshman students at Eastlake. This group was targeted to receive the presentations, as teenage students are extremely susceptible to the drug due to misinformation or a general lack of knowledge, perhaps more so than adults who are more aware of the danger of drugs, and than younger children who are likely not yet exposed to drugs. The presentations include both a PowerPoint presentation, as well as interactive aspects to keep students engaged. The presentation will begin with a four corners game, with corners of the classroom declared to be "Yes," "Maybe," "No," and "I don't know." Students will then be asked a series of questions where they rank their familiarity with Fentanyl (see PowerPoint presentation slides for example questions). This will begin the class with a simple and fun activity that gets students out of their seats and moving around the classroom, which will increase interest and involvement in the presentation from the start. This activity will be followed by a series of slides where we introduce students to information regarding the drug. The second interactive activity will be following the "What does Fentanyl Look Like" slide. In this activity, we will explain the use of Fentanyl test strips, and their role as the most reliable method of identifying Fentanyl when it may be mixed in other drugs. Students will be given small Dixie cups filled with a small layer of water, and crushed chalkboard chalk to mimic an unknown drug. They will also each be provided with a Fentanyl test strip. In this activity, students will be taught how to properly use Fentanyl test strips in the event that they are in a situation where unknown drugs are present. While it is difficult to deter those who would like to use drugs from doing so, we hope this activity will provide students with the tools to be safer while using them by teaching them to identify deadly drugs that may be mixed in. The rest of the presentation will be completed and followed by an anonymous Q&A session. We will maintain anonymity by passing out notecards for students to write questions on, and then by collecting them and answering any questions in order to allow students to share potentially sensitive questions. Creating two separate methods of PSAs were chosen in order to have reach the maximum number of people, as our primary goal was to educate the greatest number of people possible to have the most significant impact in our community we could.

Many resources were used in the creation of this project. First and foremost, the WA DOH statistics on opioids set the foundation for this project. Additionally online resources were used to gain deeper insight and discover many of the statistics we employed. Additionally, we had the privilege of working with the former Eastlake High School Drug Counselor, the former Eastlake High School Resource Officer, and a Lt. of the Sammamish Eastside Fire and Rescue who were all able to share invaluable insight into the effects of fentanyl in the Sammamish and Redmond community. We also owe credit to the Eastlake High School Students of all grade levels who volunteered to participate in our survey, as it is because of them that we were able to very clearly understand the current situation regarding fentanyl education in the community, and therefore form our PSA plan around what the demand existed for.

# Instagram Campaign: @fentanyl\_facts



1.



2.

Fentanyl Facts

## What Does Fentanyl Look Like?



**What Does Fentanyl Look Like?**

**Fentanyl Facts**

**Illegal fentanyl:**

- powders (off-white/light brown color)
- tablets (look like real prescription opioids (blue/green/white pills - look for unusual texture, color, numbering))



Fentanyl Facts

## What Does Fentanyl Look Like?



**Pharmaceutical fentanyl:**

- injectables
- skin patches
- nasal sprays
- milky-colored lozenges

Most ways to identify fentanyl are unreliable. The best way to detect Fentanyl is using Test Strips

Here is how to use a Fentanyl Test Strip:

1. Mix crushed pill/powder with water
2. Dip the strip into the solution for 15 seconds - 5 minutes
3. Read the results (one red line means the drug has fentanyl, two lines means it doesn't)

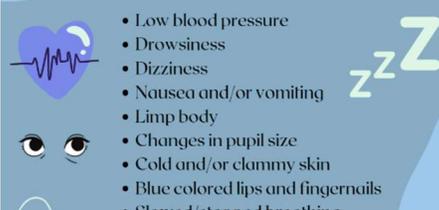
3.

Fentanyl Facts

## Symptoms of an Overdose



## Symptoms of an Overdose



- Low blood pressure
- Drowsiness
- Dizziness
- Nausea and/or vomiting
- Limp body
- Changes in pupil size
- Cold and/or clammy skin
- Blue colored lips and fingernails
- Slowed/stopped breathing
- Decreased heart rate
- Reduced/loss of consciousness
- Coma

Call 911 immediately if any of these symptoms occur

4.

Fentanyl Facts  
**Fentanyl Statistics**

**Fentanyl Statistics (National)**

- 42,700 fentanyl overdose deaths in 2020
- Fentanyl OD rates are rising 2.5x faster than heroin ODs
- 1kg of fentanyl contains 250,000 lethal doses
- 52.7% of all OD deaths involve fentanyl.

5.

Fentanyl Facts  
**IN THE EVENT OF AN OVERDOSE...**

**IN THE EVENT OF AN OVERDOSE...**

Fentanyl Facts

1. Call 911
2. Remove the pill from the mouth if possible
3. Administer antidotes like over the counter Narcan or Naloxone (multiple doses may be needed)
4. Cooperate with paramedics

6.

Fentanyl Facts  
**Fentanyl Street Names**

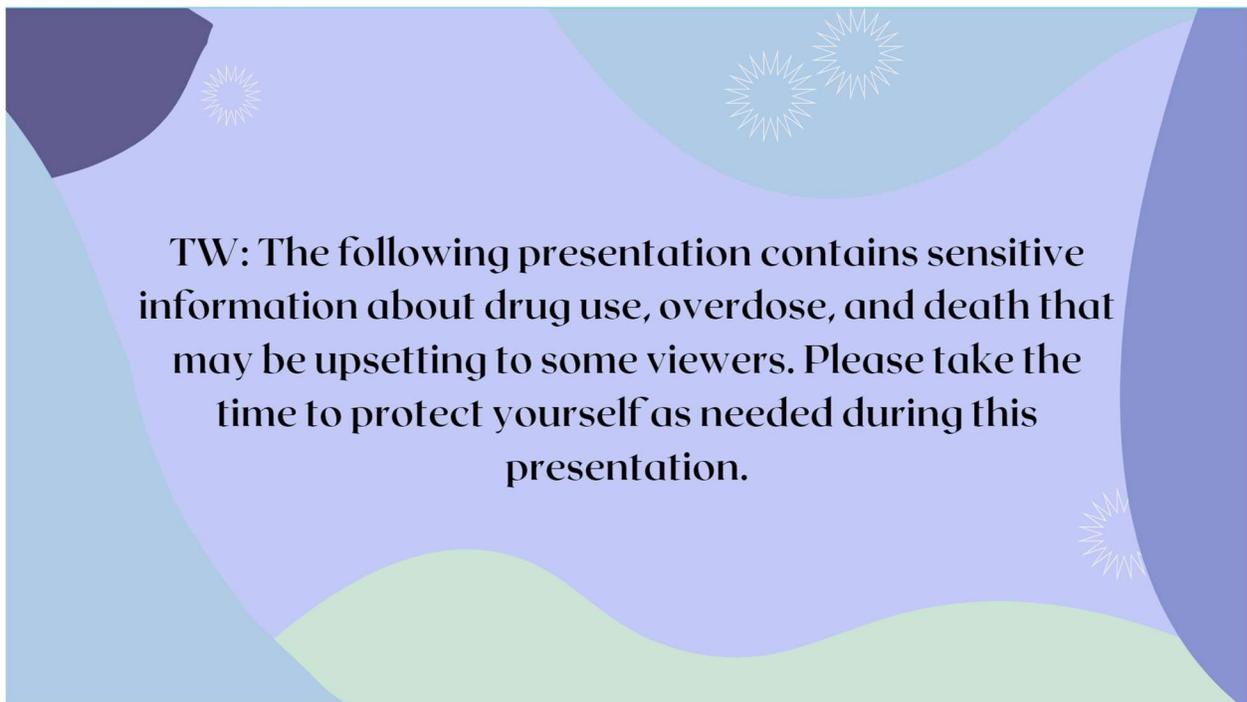
**Fentanyl Street Names**

Blonde Poson Fuf  
Dance Fever Goodfellas Freddy  
Blues Fenty Great Bear Opes

Presentation Campaign:

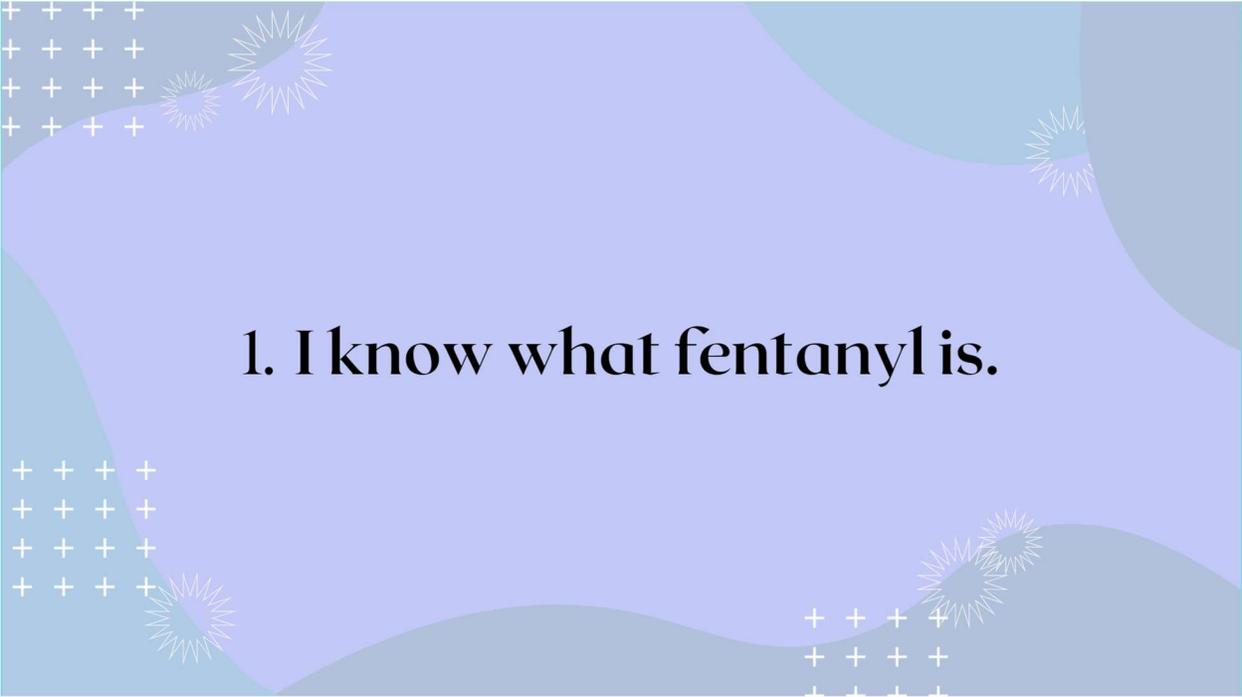
Presentation Link: <https://tinyurl.com/fentanylPSA>

Presentation Slides:

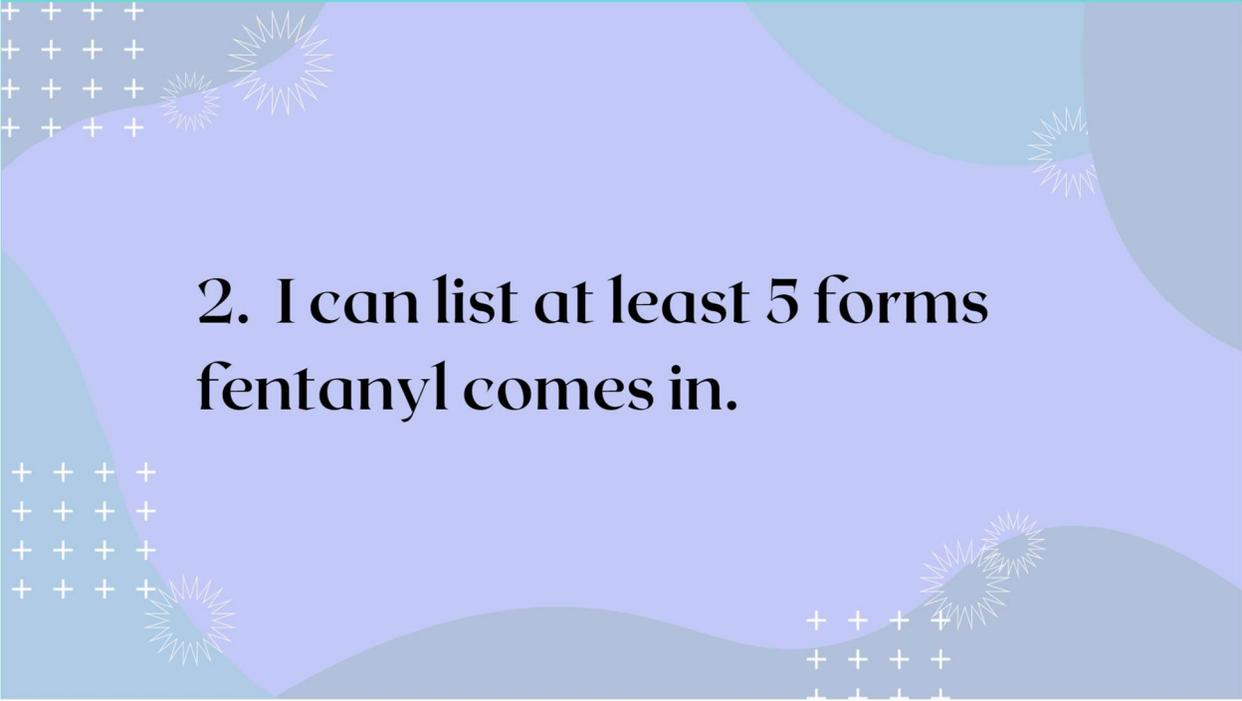




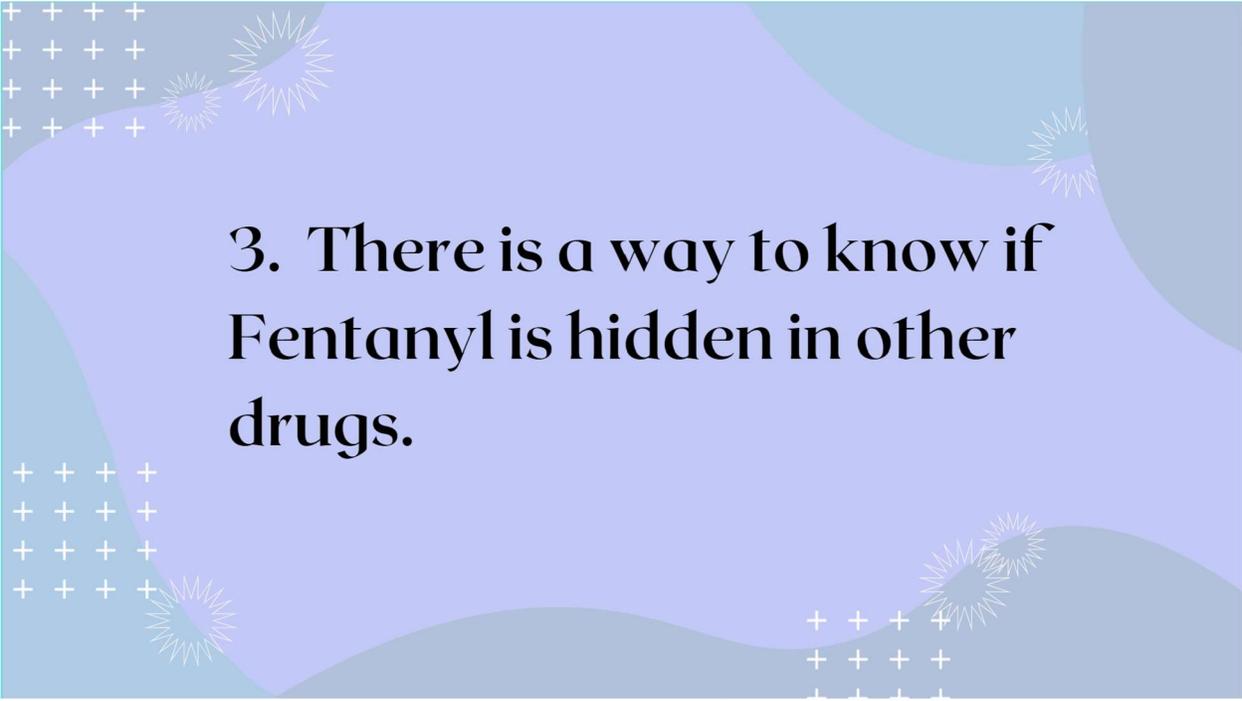
**Intro Game!**  
**4 Corners**



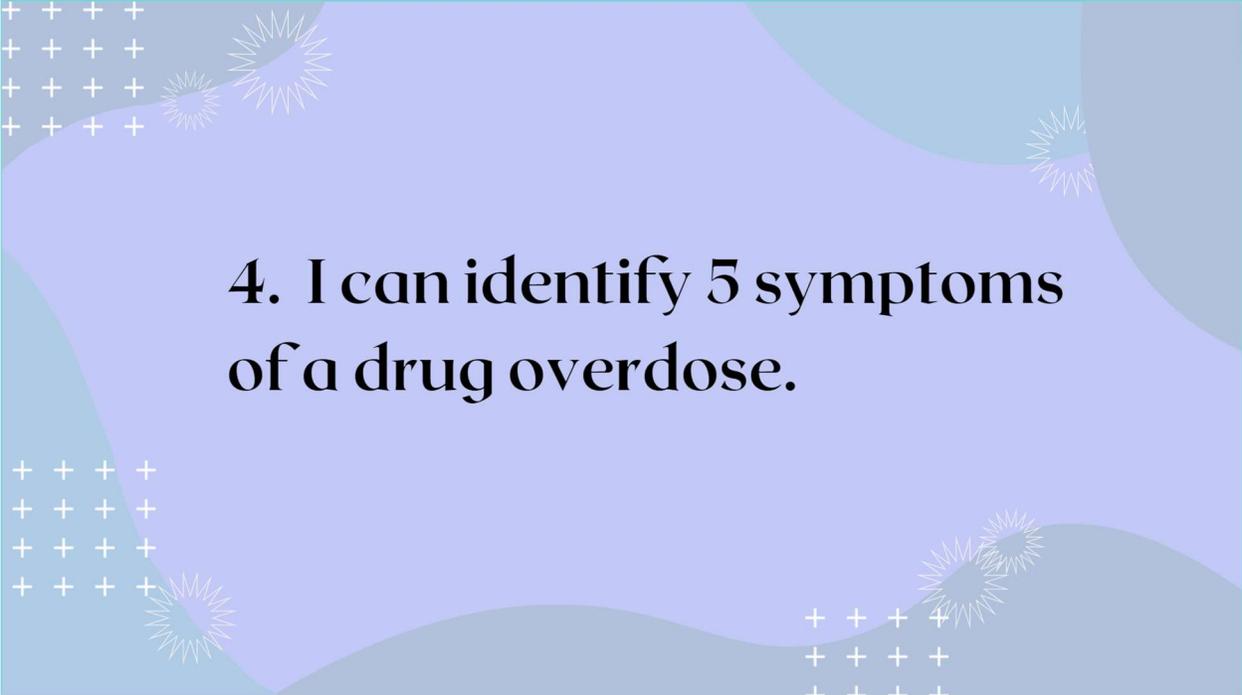
**1. I know what fentanyl is.**



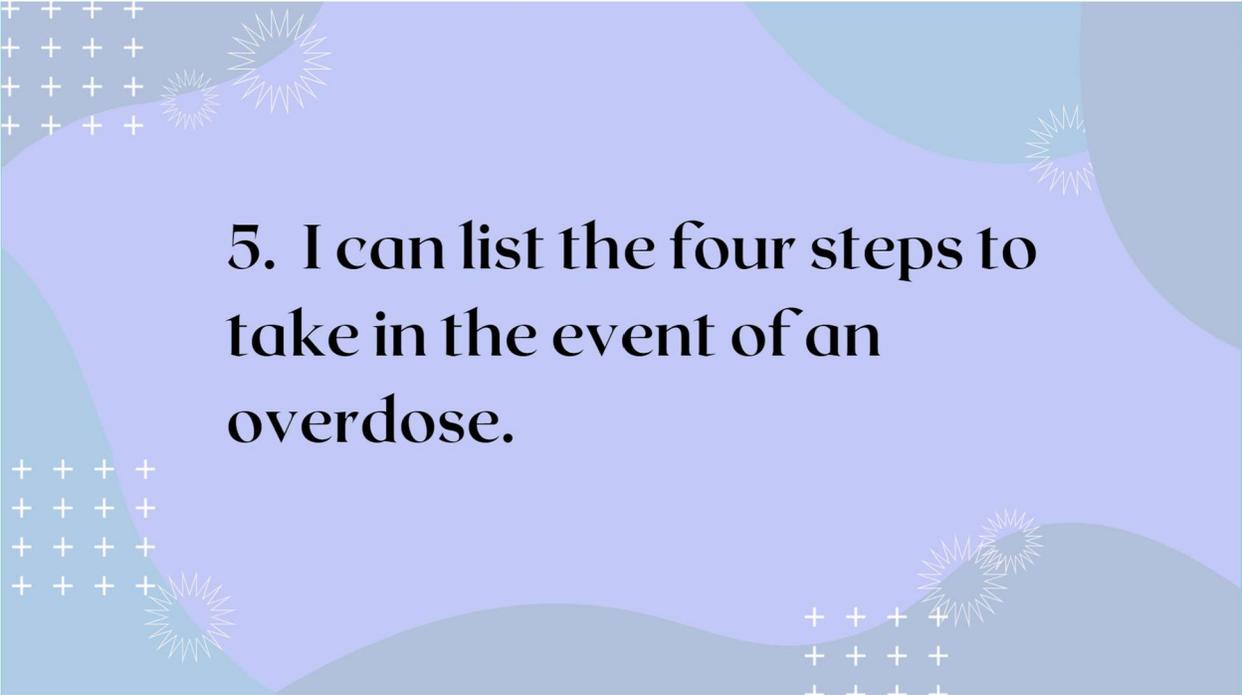
**2. I can list at least 5 forms  
fentanyl comes in.**



**3. There is a way to know if  
Fentanyl is hidden in other  
drugs.**



**4. I can identify 5 symptoms of a drug overdose.**



**5. I can list the four steps to take in the event of an overdose.**

# What is Fentanyl?

- A synthetic opioid
- 50 x stronger than heroin
- 100 x stronger than morphine
- Extremely addictive
- Known as Actiq®, Duragesic®, and Sublimaze® in its prescription form



## Pharmaceutical vs. Illicit Fentanyl

### Pharmaceutical:

- very rarely prescribed
- prescribed to treat severe pain (post surgery / for advanced-stage cancer)
- only prescribed under close monitoring due to addictive properties

### Illicit:

- distributed through illegal drug market
- heroin-like effect
- Extremely potent, so added to other drugs to make cheaper & more addictive



# What does Fentanyl Look Like?



## Pharmaceutical fentanyl:

- injectables
- skin patches
- nasal sprays
- milky-colored lozenges

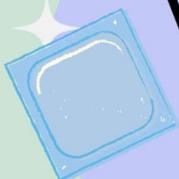


## Illicit fentanyl:

- powders
  - (off-white/light brown color)
- tablets
  - (look like real prescription opioids (blue/green/white pills - look for unusual texture, color, numbering))



# What does Fentanyl Look Like?



The most reliable way to know if there is fentanyl present is by using fentanyl test strips. Let's learn how to use them!



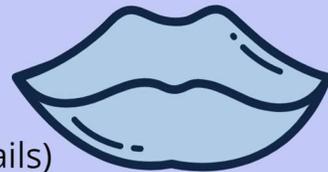
## How Does Fentanyl Work?

- Binds to opioid receptors in brain & spinal cord
  - in areas that control pain & emotions
- Immediate effects:
  - Pain relief
  - Pleasure from a "high"
- Brain becomes more tolerant of the drug
- Larger doses needed to feel the same "high"
- Dependency increases and leads to addiction



## Symptoms of an Overdose

- Small, "pinpoint pupils"
- Drowsiness
- Losing consciousness
- Slow, weak, or no breathing
- Choking or gurgling
- Limp body
- Cold and/or clammy skin
- Discolored, bluish, skin (especially lips and nails)



# In the Event of an Overdose...

1. Call 911 
2. Remove pill from mouth 
3. Administer Narcan / Naloxone 
4. Cooperate with Paramedics 

## Thank You!



Follow us on Instagram for more information:  
[@fentanyl\\_facts](https://www.instagram.com/fentanyl_facts)

Any Questions?

## Works Cited

- “Counterfeit Pills Possibly to Blame in Overdose Deaths of 2 Sammamish Students.” *King5.com*, 2019, [www.king5.com/article/news/local/skyline-high-school-deaths/281-2cb60316-530c-4849-86f3-5a00886651a2](http://www.king5.com/article/news/local/skyline-high-school-deaths/281-2cb60316-530c-4849-86f3-5a00886651a2). Accessed 12 Apr. 2022.
- “Fentanyl Abuse Statistics.” *NCDAS*, [drugabusestatistics.org/fentanyl-abuse-statistics/](http://drugabusestatistics.org/fentanyl-abuse-statistics/).
- “Fentanyl Facts.” *Www.cdc.gov*, 20 Sept. 2021, [www.cdc.gov/stopoverdose/fentanyl/index.html](http://www.cdc.gov/stopoverdose/fentanyl/index.html).
- “How Does Fentanyl Work?” *Oceanfront Recovery*, 1 Feb. 2022, <https://www.osceanfrontrecovery.com/rehab-blog/how-does-fentanyl-work/>.
- “How the Powerful Opioid Fentanyl Kills.” *CBC*, 15 Aug. 2017, [www.cbc.ca/news/canada/manitoba/how-the-powerful-opioid-fentanyl-kills-1.3864676](http://www.cbc.ca/news/canada/manitoba/how-the-powerful-opioid-fentanyl-kills-1.3864676).
- June 10, Scot Thomas Last updated on, and 2021. “Fentanyl, Teens, and the Deadly Consequences.” *Project Know*, [projectknow.com/teen/fentanyl/](http://projectknow.com/teen/fentanyl/). Accessed 12 Apr. 2022.
- “King County Warns Public about Fentanyl Overdoses after 2 Teens Die.” *KIRO 7 News Seattle*, 2 Oct. 2019, [www.kiro7.com/news/local/health-officials-fentanyl-laced-drugs-linked-to-increase-in-king-county-overdose-deaths/992500091/](http://www.kiro7.com/news/local/health-officials-fentanyl-laced-drugs-linked-to-increase-in-king-county-overdose-deaths/992500091/). Accessed 12 Apr. 2022.
- “What Is Fentanyl.” *Www.helpsherede.com*, [www.helpsherede.com/Prevention/Facts-About-Fentanyl#:~:text=Fentanyl%20facts%3A%201%20Fentanyl%20is%2050%20to%20100](http://www.helpsherede.com/Prevention/Facts-About-Fentanyl#:~:text=Fentanyl%20facts%3A%201%20Fentanyl%20is%2050%20to%20100). Accessed 12 Apr. 2022.
- “What to Do in the Event of a Fentanyl Overdose.” *Opiate*, [www.opiate.com/overdose/what-to-do-in-the-event-of-a-fentanyl-overdose/](http://www.opiate.com/overdose/what-to-do-in-the-event-of-a-fentanyl-overdose/). Accessed 12 Apr. 2022.
- Canva. “Canva.” *Canva*, [www.canva.com/](http://www.canva.com/).
- Cherry, Kendra. “How Does the Color Green Impact Mood and Behavior?” *Verywell Mind*, 18 Feb. 2022, [www.verywellmind.com/color-psychology-green-2795817](http://www.verywellmind.com/color-psychology-green-2795817).
- Cherry, Kendra. “The Color Psychology of Blue.” *Verywell Mind*, Verywellmind, 21 Feb. 2020, [www.verywellmind.com/the-color-psychology-of-blue-2795815](http://www.verywellmind.com/the-color-psychology-of-blue-2795815).

Cherry, Kendra. "The Color Psychology of Purple." *Verywell Mind*, Verywellmind, 24 Nov. 2005, [www.verywellmind.com/the-color-psychology-of-purple-2795820](http://www.verywellmind.com/the-color-psychology-of-purple-2795820).

Graaf, Mia De. "Fentanyl Is Now Officially the Deadliest Drug in America, CDC Declares." *Mail Online*, 12 Dec. 2018, [www.dailymail.co.uk/health/article-6489155/Fentanyl-officially-deadliest-drug-America-CDC-declares.html](http://www.dailymail.co.uk/health/article-6489155/Fentanyl-officially-deadliest-drug-America-CDC-declares.html). Accessed 12 Apr. 2022.

National Institute on Drug Abuse. "Fentanyl DrugFacts." *National Institute on Drug Abuse*, 1 June 2021, [nida.nih.gov/publications/drugfacts/fentanyl](http://nida.nih.gov/publications/drugfacts/fentanyl).

Post, Scott Higham, Sari Horwitz and Katie Zezima / The Washington. "PART ONE: Despite Warnings, the Obama Administration Failed to Focus on Fentanyl as Deaths Soared." *Statesville.com*, [statesville.com/news/trending/despite-warnings-the-obama-administration-failed-to-focus-on-fentanyl/article\\_affea1a1-773e-51b2-aa50-44835a7b1a10.html](http://statesville.com/news/trending/despite-warnings-the-obama-administration-failed-to-focus-on-fentanyl/article_affea1a1-773e-51b2-aa50-44835a7b1a10.html). Accessed 12 Apr. 2022.

*What Does Fentanyl Look Like? (Pics & Safety Info)*. 21 Dec. 2021, [www.addictiongroup.org/blog/what-fentanyl-looks-like/](http://www.addictiongroup.org/blog/what-fentanyl-looks-like/). Accessed 12 Apr. 2022.