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Day 1: A synthetic opioid discovered circa 1960 (from phenylpiperidine)#fentanyl is x 50-100 more potent compared to morphine. Originally for anaesthetic i.v use; also now used for moderate-severe acute/chronic pain management via alternative formulations. Schedule 2 controlled drug

Day 2. #fentanyl uses include anaesthetic & peri-operative pain management > drowsiness, happiness, sedation. Buccal lozenge & sub-lingual tablets/sprays & nasal spray for acute/breakthrough pain e.g palliative care, as well as transdermal patches for chronic pain. Dose depends on use.

Day 3: [#fentanyl](https://twitter.com/hashtag/fentanyl?src=hashtag_click) i.v use leads to rapid onset sedation (high lipid solubility), analgesia, bradycardia,respiratory depression. Patch absorption bioavailability over 90%;3 or more days to reach steady state (chronic pain). Skin temp increase can increase absorption. High Vd, high liver metabolism (CYP3A4) > inactive metabolites/renal excretion.T½ varies between formulations in the range ~7-12hrs (prolonged for patch). Renal/hepatic impairment can increase exposure. In elderly there is lower clearance, so care re toxicity. Interestingly, increased clearance in obesity (i.v)

Day 4: Opiate action; agonism of the mu opioid receptor suppresses neurotransmission. Powerful effect on brain reward circuit leading to rapid dependence & addiction. High research focus on receptor binding properties compared to morphine, with implications for abuse & also reversal in overdose

Day 5: #fentanyl DDIs. Multiple as per all opioids; severe DDIs with enzyme inhibitors e.g macrolides & some anti-virals e.g lopinavir, as can increase exposure. Use with clozapine can lead to intestinal obstruction. Buprenorphine can increase opiate withdrawal (NOT exhaustive)

Day 6: ADEs multiple as per opioids e.g N&V, arrhythmias, dry mouth, substance abuse disorder. [#fentanyl](https://twitter.com/hashtag/fentanyl?src=hashtag_click) may have better SE profile c.f morphine e.g patch causing less nausea. If opioid naïve then increased risk of respiratory depression from patches;recommended to try other opioids 1st Naloxone can block [#fentanyl](https://twitter.com/hashtag/fentanyl?src=hashtag_click) in overdose, but a rapid response is needed & multiple doses may be necessary to reverse. (NOT exhaustive).

Day 7: [#fentanyl](https://twitter.com/hashtag/fentanyl?src=hashtag_click) abuse has meant increased trafficking/overdose deaths globally from respiratory depression. Issue as ‘hidden’ ingredient when used as cheap ‘mixer’ with other opioids eg heroin. Gel from patches can be abused via chewing/injecting contents,or heated & inhaling smoke

**CPD**

In addition to the tweets, read the BNF treatment summaries on Analgesics, chronic pain and peri-operative analgesia, as well as the monograph on fentanyl and SPCs for various formulations as resources (one example only below)

<https://bnf.nice.org.uk/drugs/fentanyl/>

<https://bnf.nice.org.uk/treatment-summaries/analgesics/>

<https://bnf.nice.org.uk/treatment-summaries/analgesics/#opioid-analgesics-and-dependence>

<https://bnf.nice.org.uk/treatment-summaries/pain-chronic/>

<https://bnf.nice.org.uk/treatment-summaries/peri-operative-analgesia/>

<https://www.medicines.org.uk/emc/product/10272/smpc#gref>

1. **Fentanyl is a strong opioid compared to morphine**

**TRUE or FALSE**

1. **Fentanyl is used for all levels of pain**

**TRUE or FALSE**

1. **Transdermal application is the only route used in palliative care**

**TRUE or FALSE**

1. **Which of the following is TRUE?**
2. **Fentanyl has a rapid onset of action through all routes of administration**
3. **Fentanyl is highly lipid soluble**
4. **All routes of administration have high bioavailability**
5. **The processes of metabolism produce active metabolites**
6. **Reduced clearance of fentanyl in the elderly can mean an enhanced effect**

**TRUE or FALSE**

1. **A low affinity of fentanyl to the mu opioid receptor means strong action but for a short duration**

**TRUE or FALSE**

1. **Which of the following is FALSE?**
2. **If chronic use, abrupt withdrawal should be avoided**
3. **If someone using a patch has a fever, absorption of fentanyl could be increased**
4. **Naloxone needs to be given rapidly for fentanyl in the event of an overdose**
5. **Respiratory depression is less severe for fentanyl compared to morphine**
6. **Enzyme inhibitors, such as clarithromycin, can mean increased clearance and loss of therapeutic effects**

**TRUE or FALSE**

1. **Fentanyl is a drug related to growing abuse across the World**

**TRUE or FALSE**

1. **Which of the following is a common adverse drug effect for transdermal fentanyl**
2. **Diarrhoea**
3. **Constipation**
4. **Memory loss**
5. **Apnoea**