

Rapid Action Drug Alerts and Response (RADAR) Alerts

Nitazenes alert 2023

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Contents

Public health alert for action: Nitazene-type drugs in Scotland

- Update

- Summary

What are nitazenes?

- Areas in which nitazenes have been identified

- Opioid effects

- Appearance

Recognising and responding to a possible nitazene overdose

- Opioid overdose signs

- In an emergency

- Naloxone

Information for people who take drugs and community members

- Follow harm reduction practices

Actions for high-risk settings

Actions for drug and alcohol service staff

Actions for emergency service, clinical and healthcare staff

Actions for specialist medical staff

Legal status

More information

Public health alert for action: Nitazene-type drugs in Scotland

Alert area	Scotland
Action required by	people working and volunteering in drug and alcohol services, emergency services, healthcare and medical settings, and high-risk settings such as prisons and hostels.

Action required	Follow harm reduction advice for opioids and polydrug use – promote and provide naloxone – see sections marked for specific actions
Alert number	2023/04
Version number	1.3
Release date	24 January 2023
Updated	20 December 2023
Valid until	31 March 2024

[View a printable summary of this alert](#)

Update

This alert was further updated on 20 December 2023 to include provisional data on detections of nitazene-type opioids in deaths.

Deaths positive for nitazene-type opioids in post-mortem toxicology (from data available to Public Health Scotland as of 19 Dec 23)

Calendar quarter and year of death	Number of deaths positive for nitazenes
Q1 2022 (Jan-Mar)	1
Q2 2022 (Apr-Jun)	2
Q3 2022 (Jul-Sep)	0
Q4 2022 (Oct-Dec)	2
Q1 2023 (Jan-Mar)	2
Q2 2023 (Apr-Jun)	7
Q3 2023 (Jul-Sep)	11
Total	25

*Provisional data. Includes incomplete data from September 2023 onwards.

- The table shows the number of samples positive for four nitazene-type opioids: metonitazene, protonitazene, isotonitazene and N-pyrrolidino-ettonitazene (NPE).
- Although they were detected in samples, their contribution to death is unknown.
- In all deaths, more than one drug was detected, reflecting polysubstance use patterns in Scotland. They were most commonly detected alongside heroin/morphine, cocaine, codeine and bromazepam.
- Nitazenes were detected 35 times in 25 deaths. Two nitazenes were detected in 10 deaths: metonitazene & protonitazene (4), isotonitazene & metonitazene (3) and NPE & isotonitazene (3).
- Testing for nitazene-type opioids was introduced Scotland-wide in October 2022. Limited testing was completed for nitazene detections before this time.
- This data has been published to support the winter messaging campaign and activities related to the risks of synthetic opioids.
- Data for other drug detections during this time period will be available in our next RADAR Quarterly Report on 30 January 2024.

- For data source and quality, see metadata.

The information contained in this alert should be re-shared and routinely discussed with people at risk of drug harms.

Due to the potential for nitazenes to be present in the wider drugs supply, we continue to encourage the use of the drug testing service WEDINOS.

Summary

There is an increase in the availability of a new group of drugs called nitazenes. Nitazenes are potent synthetic opioids. Due to their unexpected presence in the drug supply and high potency, nitazenes pose a substantial risk of overdose, drug-related hospitalisation and drug-related death.

Nitazenes have been seized in both Scottish communities and custodial settings.

These drugs have been detected in overdoses and deaths in Scotland.

The harm associated with nitazenes should be considered in the context of polysubstance use (mixing drugs), which is a common feature of drug use in Scotland.

Services supporting people who take drugs should promote and discuss realistic harm reduction measures that mirror those recommended for opioid and polydrug use.

Overdose signs and response actions for nitazenes are the same as for any other overdose involving opioids. Naloxone effectively reverses opioid-type drug overdoses. Services should increase and optimise the availability of naloxone in community and custody settings.

What are nitazenes?

Nitazenes are a category of new synthetic opioids (NSO), also known as 2-benzyl benzimidazole opioids.

This group of chemical compounds exert broadly similar effects on the body, with varying levels of potency.

The first detection of this drug family in European drug markets was in 2019 and the first detection in Scotland was in mid-2021.

Nitazenes detected in Scotland include:

- N-pyrrolidino-etonitazene (etonitazepyne or NPE)
- metonitazene
- protonitazene
- isotonitazene

Areas in which nitazenes have been identified

This alert applies to all of Scotland.

To date there have been detections in at least six areas of Scotland, with multiple detections specifically reported in Lothian, Grampian and Greater Glasgow and Clyde.

Opioid effects

NSOs are extremely potent opioid receptor agonists. This means that they have a significant effect on opioid receptors in the body and in turn depress the central nervous system. For example, N-pyrrolidino etonitazene is several hundred times more potent than heroin and 20 times more potent than other synthetic opioids like fentanyl. This means a significantly smaller amount is required to get the desired effect and this poses an increased risk of respiratory depression and death.

Nitazenes have been known to be administered by many routes including intravenous, oral, sublingual, nasal and vaping.

⊕ Effects

- reduced breathing
- reduced heart rate
- euphoria
- pain relief
- drowsiness
- reduced digestion (constipation)
- constricted pupils
- nausea
- itching

Appearance

In Scotland, nitazenes are often mis-sold as other drugs (including oxycodone, heroin and benzodiazepines) and have been detected in paper, powder and tablet form.

To date, most detections have fallen into one of two groups:

1. N-pyrrolidino-etonitazene and metonitazene in counterfeit tablets

- sold as oxycodone but no oxycodone detected
- visually similar to genuine oxycodone
- blue (sometimes yellow)
- letter M stamped on one side, half score and number 30 on the other

2. Metonitazene in paper form

- detected mainly in prison seizures
- white or cream paper or blotter
- detected in samples that also contained synthetic cannabinoids and benzodiazepines

Due to the limited testing of drugs in circulation in Scotland, this is likely to be an under-representation of the presence of nitazenes and there is a significant risk these drugs may appear in the wider drugs supply.

People are encouraged to use the drug testing service WEDINOS. Between 1 February and 20 March 2023, WEDINOS detected nitazenes seven times in drugs sold as alprazolam/Xanax in the UK

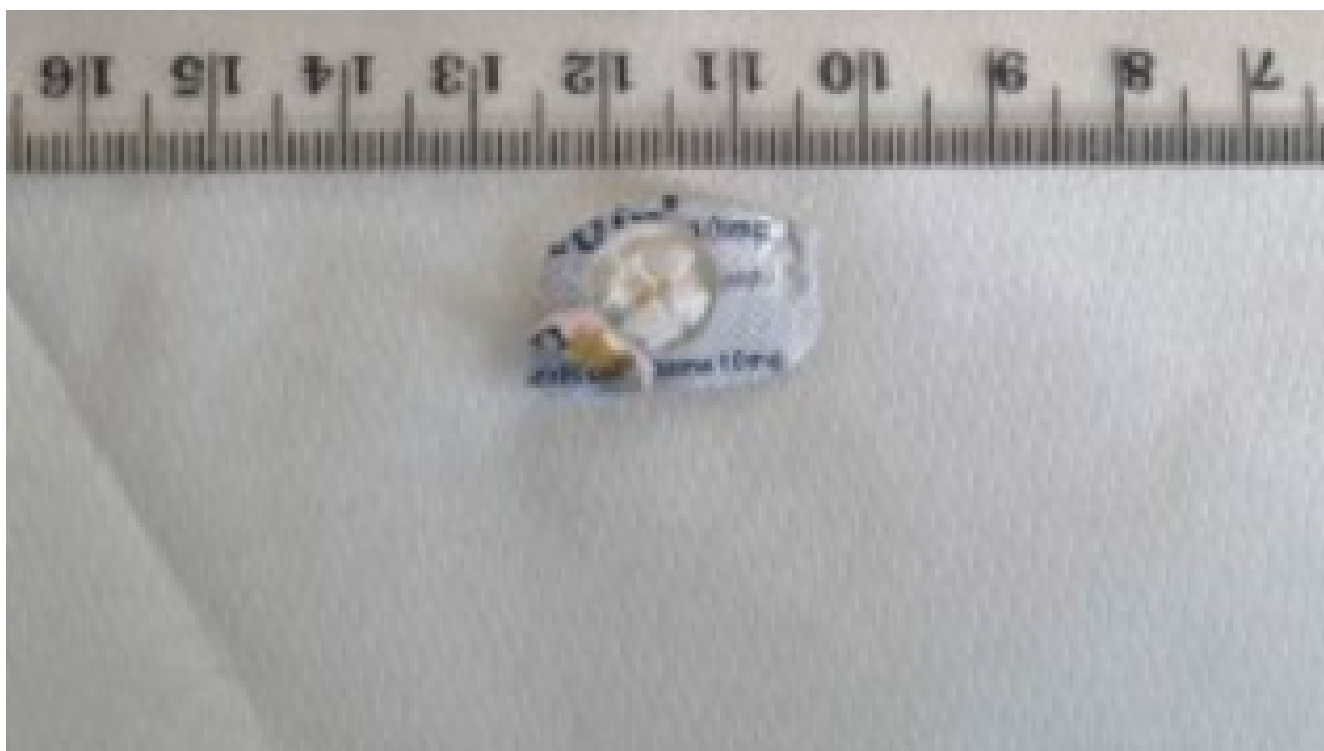
N-pyrrolidino-etomidate in blue 'M30' tablet from Edinburgh, mis-sold as oxycodone (photo credit: WEDINOS, W026272)



Metomidate in yellow tablet from Glasgow, mis-sold as oxycodone (photo credit: WEDINOS, W029874)



Metonitazene and bromazolam in white tablet from G83 postcode, mis-sold as diazepam (photo credit: WEDINOS, W038725)



Recognising and responding to a possible nitazene overdose

The signs and the response actions for nitazenes are the same as for any other overdose involving opioids.

Opioid overdose signs

- unconsciousness (won't wake with a shout or a shake)
- unable to speak or respond
- shallow (or slowed) breathing
- snoring or rasping breaths
- blue lips
- pale skin
- pin-point pupils

Be aware: people may be taking a combination of drugs with different effects and the signs may not be as clear cut as the above. Some people may display all overdose signs, others will have one or two.

In an emergency

- Check if the person is conscious by shaking them and loudly calling their name or asking if they're okay.
- If the person does not respond, check they are breathing.
- If there's no response, stay calm and call 999.
- Ask for an ambulance. Give as much information as you can and be honest about what was taken – you won't get in trouble for getting help.
- The call handler will stay on the line and talk you through what to do. If you are by yourself, put them on speakerphone to leave your hands free.
- Administer naloxone if you have it (see naloxone guidance below).
- For people who are unresponsive and breathing, put them in the recovery position (on their side with their head tilted back) and monitor breathing.

- For people who are unresponsive and not breathing, start chest compressions. If you have someone there, ask them to get a defibrillator.
- Stay with the person until help arrives.

Learn more about emergency first aid with these tutorials from the British Red Cross:

- unresponsive and breathing patient
- unresponsive and not breathing patient

Naloxone should be administered to anyone who is displaying overdose signs and is unresponsive and breathing or unresponsive and not breathing. Even if it doesn't help, it will do no harm.

In Scotland, naloxone is available at some pharmacies and drug services. It can also be ordered online for home delivery from Scottish Families Affected by Alcohol and Drugs.

Naloxone

⊕ How to administer naloxone

- Naloxone is very easy to administer. You can learn how to administer naloxone in a free e-learning module by the Scottish Drugs Forum (SDF).
- For more information and tutorial videos, visit naloxone.org.uk:
 - How to administer intranasal naloxone (Nyxoid)
 - How to administer intramuscular naloxone (Prenoxad)
- Naloxone effectively reverses opioid-type drug overdoses, but due to the high potency of nitazenes **multiple doses may be required** before the overdose is reversed.
- Ideally, doses should be administered one at a time, waiting 2–3 minutes between each dose while watching for a response.
- If there's no response after using a kit and further kits are available, they can also be used. This may be necessary to reverse overdoses from large doses of potent opioids.
- Administration should continue until:
 - the person comes round
 - emergency services arrive and take over
 - you have no naloxone left
- If multiple kits have been administered but they are having no effect, it may be that this is a different type of medical emergency. This is one reason an ambulance is called immediately, so that professional assistance can be offered as soon as possible.
- Naloxone will start to wear off after 20–30 minutes. The duration of action of naloxone is shorter than that of opioid drugs, which means there is a risk of repeat overdose.
- Stay with the person and monitor. When they wake up provide reassurance and explain who you are and what has happened.
- If they go back into overdose administer further doses of naloxone as required.

Learn more about overdose

- Drugs: what you need to know (NHS inform)
- Stop The Deaths (SDF)
- Overdose (Crew)

Information for people who take drugs and community members

- The unregulated drug supply is increasingly toxic and unpredictable. Getting into drug treatment reduces the risk of experiencing harm or dying from an overdose. [Click here to find a drug service in your area.](#)
- There are ways to reduce the risk of harm and overdose when taking drugs, **but there is no safe way to take nitazenes**. Even when following all harm reduction advice, there is still a significant risk involved in taking them.

- Due to their potency, it's almost impossible to accurately measure the right dose. The contents in a single pill can vary widely even within the same batch.
- If you buy tablets that are of poor quality or crumble easily, this may be an indicator that they have been illicitly produced. Be aware that even if a tablet looks authentic, it may be fake and it can be difficult to distinguish between genuine and counterfeit medication.
- Any medicine obtained without a prescription should be treated with caution.

PHS strongly recommends people do not take oxycodone tablets from any source unless they have been prescribed to them.

Although many nitazene detections have been in drugs sold as oxycodone, there is a risk these drugs may appear in the wider drugs supply and be sold as something else. Great caution is advised. Everyone taking drugs – not just oxycodone or other opioids – should be aware of the information below.

Follow harm reduction practices

Harm reduction advice for opioids is relevant for synthetic opioids, with greater vigilance advised due to the potency and difficulty of dosing nitazenes.

Be aware of fakes

- Any medicine obtained without a prescription should be treated with caution.
- Even if a tablet looks authentic, it may be fake and it can be difficult to distinguish between genuine and counterfeit medication.
- The contents may be lower quality, be contaminated with other substances or have unpredictable potency levels. The contents can vary even within the same batch.
- There are some potential signs that may indicate that a pill is fake, including differences in colour, size and shape compared to the real medication. Fake tablets may be of poor quality or crumble easily.
- The packaging may be made from lower-quality materials, have spelling or grammatical errors, or lack information such as dosage instructions, expiry dates, serial numbers and tamper-proof seals.
- Pills purchased from illegitimate sources or online marketplaces are likely to be counterfeit. To find out more, visit: [Dangers of buying medicines online – NHS](#).

Test before use

- Drug testing is the only way to confirm drug contents. To get a sample tested, use the free, anonymous postal service provided by WEDINOS.
- Click for more information on WEDINOS:
 - Visit www.wedinos.org and click sample testing.
 - Print off a sample form.
 - Follow the instructions to generate a reference code and make a note of the code.
 - Fill in the form completely or the sample won't be accepted.
 - Put the form and drug sample (double wrapped in something leakproof) into an envelope with a stamp on it and post it to WEDINOS.
 - Results will be posted online a few days later.

Dose low

- Take a test dose – a small amount or part of a pill.
- The drug purchased may not always be the drug that it's expected to be. It may contain adulterants or cutting agents, be mis-sold or contain a different amount than anticipated.
- If someone who takes opioids regularly has stopped or cut down use, their tolerance will have reduced. This increases the risk of overdose as they will not need to take as much to get the same effect.

Go slow

- Leave as long as you can between doses – at least two hours.
- Some drugs have a very long half-life (over 24 hours), which means they stay in the body long after the initial effects have worn off and can increase risk when other drugs are taken.
- Redosing too quickly can cause drugs to build up in the body.
- Avoid injecting if possible. This route of administration poses the highest risk and it's more difficult to judge the dose if injecting.

Stick to one drug

- Avoid mixing drugs (including alcohol and medicines).
- Mixing drugs can cause unexpected and unpredictable results. This is a major risk factor in drug-related deaths in Scotland.
- If you do mix drugs, research potential interactions between substances, ensure you are somewhere safe and take much less of both substances than you would if you were only taking one.
- Drugs such as benzodiazepines, gabapentinoids and alcohol have similar effects to opioids. They slow down heart rate and breathing. Combining them significantly increases the risk of overdose.

Use in company

- Make sure that there are people around who can respond in the event of an emergency.
- If everyone present is taking drugs, stagger dosing so there is always someone who can respond if there are unexpected effects.
- Tell someone what you have taken, how much and when.

Carry naloxone

- Naloxone (see above) is an effective, life-saving medicine that can temporarily reverse the effects of an opioid overdose including synthetic opioids such as nitazenes.
- Pick up naloxone from a drug service or order online from Scottish Families Affected by Alcohol and Drugs.

Actions for high-risk settings

High-risk settings are places where people may take more drugs than average, often at the same time and from shared batches. Places at higher risk include prisons, hostels, supported accommodation, nightlife venues, festivals, care homes and educational settings.

People living and working in these settings should:

- Ensure their setting is prepared and ready to respond to overdose situations.
- Be vigilant to opioid use and aware of the signs of an overdose. Encourage people to report overdose signs immediately. In an emergency, stay calm and call 999 straight away.
- Carry and promote naloxone.
- Ensure the setting has multiple naloxone kits available and trained people able to respond.
- Check that kits have not expired and that they are easy to access in the event of an emergency.
- Provide regular refresher training on drug-related emergencies, including information on risk factors, identifying an overdose, basic life support and how to administer naloxone.

To arrange naloxone training for your service, speak to your local Alcohol and Drug Partnership or visit the SDF webpage on take-home naloxone training.

Actions for drug and alcohol service staff

- When asking patients about substance use, also enquire about any potential use of oxycodone or other pain-relief medicines. Oxycodone may be referred to by brand names such as OxyContin and Percocet, or street

names such as 'oxy' and '30s'.

- Use the opportunity to raise awareness on the risks of taking counterfeit medication.
- Discuss harm reduction approaches including the risk of mixing drugs and the importance of drug checking.
- Service staff can help people access the drug testing service WEDINOS. Staff should not handle any substances but can facilitate service access by providing printed sample submission forms, stamped addressed envelopes and by sharing online results.
- Share reminders of the signs of an overdose and the importance of getting help in an emergency.
- Provide people with naloxone and offer regular refresher training for those previously trained.
- Services and Alcohol and Drug Partnerships should share this alert with local partners who are likely to be in contact with people who take drugs.

Actions for emergency service, clinical and healthcare staff

All staff working in emergency services and healthcare should be vigilant for the presentation of patients with opioid toxicity:

- decreased respiration
- decreased pulse
- decreased mental activity
- decreased pupil size (miosis)
- decreased blood pressure
- decreased temperature
- decreased gastrointestinal motility

A progression of signs and symptoms includes drowsiness with eventual pin-point pupils, loss of consciousness, airway compromise and respiratory arrest, which can be rapidly fatal if untreated.

Build links with your local drug services and liaison team and encourage patients to access support and take-home naloxone wherever the opportunity presents.

All organisations that provide emergency care for opioid overdose should ensure staff are able to:

- Treat suspected cases as for any opioid overdose, using naloxone and appropriate supportive care (including airway and breathing support).
- Recognise that the duration of effect of naloxone is shorter than that of opioid drugs and appropriate monitoring and further doses of naloxone may be required.
- In the community this could include injectable or intranasal naloxone. Doses should be administered one at a time, waiting 2–3 minutes between each dose while watching for a response.

Actions for specialist medical staff

In specialist medical settings only

- Where hospital-based toxicology services are available, physicians are encouraged to submit specimens of unusual opioid toxidromes to ascertain the presence of nitazene compounds.
- Treatment may involve the intravenous naloxone titration regimen recommended by the National Poisons Information Service (see below).

Naloxone dosing in acute medical care

For adults and children aged 12 years or over, in acute hospitals the standard naloxone dosing regimen where potent opioid overdose is suspected, subject to clinical assessment of the individual case, is:

- Give an initial dose of 400 micrograms (0.4 mg) intravenously (IV).
- If there's no response after 60 seconds, give a further 800 micrograms (0.8 mg).
- If there's still no response after another 60 seconds, give another 800 micrograms (0.8 mg).
- If still no response, give a further 2 mg dose. Large doses (more than 4 mg) may be required in patients exposed to highly potent opioids and those who are severely poisoned.
- Aim for reversal of respiratory depression and maintenance of airway protective reflexes, not full reversal of unconsciousness.
- Failure of a definite opioid overdose to respond to large doses of naloxone suggests that another central nervous system (CNS) depressant drug or brain damage is present.

- Once an adequate response has occurred, monitor blood gases, oxygen saturation and respiratory rate.
- Intramuscular naloxone is an alternative in the event that IV access is not possible or is delayed.
- Observe the patient carefully for recurrence of CNS and respiratory depression. The duration of action of naloxone is shorter than that of all opioid analgesics and repeated doses of naloxone may be required.

For further advice, medical professionals can use the National Poisons Information Service 24-hour telephone service on 0344 892 0111 or its online database, TOXBASE.

Legal status

- Clonitazene and etonitazene are Class A drugs controlled by the Misuse of Drugs Act 1971 (MDA).
- The supply and importation of other nitazenes is controlled by the Psychoactive Substances Act 2016.
- The UK government plans to add 14 nitazenes to the MDA as Class A drugs. New compounds may emerge as the market adapts to legislative changes.

More information

- For more information on nitazenes, read this briefing from the Advisory Council on the Misuse of Drugs.
- For more information on opioid overdose, visit [Stop the Deaths](#).
- For help and support or information on drugs, visit [NHS inform](#).
- To order naloxone, visit [Scottish Families Affected by Drugs and Alcohol: Take Home Naloxone](#).
- To make a report use our reporting form or email phs.drugsradar@phs.scot

Last updated: 21 March 2024

Version history

09 May 2024 - Version Xylazine alert

05 July 2023 - Version Bromazolam alert

29 March 2023 - Version Nitazenes alert 2023

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