Northamptonshire Healthcare
NHS Foundation Trust

MMG037 GUIDANCE FOR THE TREATMENT OF PRISONERS, PATIENTS AND SERVICE USERS TAKING STIMULANTS, CANNABIS AND NOVEL PSYCHOACTIVE SUBSTANCES

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Why we need this Guideline

Increasing numbers of drugs are causing harm and have been linked to deaths. These include stimulants (e.g. cocaine and amfetamines), cannabis and novel psycho-active substances, (often known as “legal highs”) and they pose a challenge to health services and prison populations.

Novel Psychoactive Substances (NPS) are defined by The Home Office as “psychoactive drugs newly available in the UK, which are not prohibited by the United Nations Drug Conventions but which may pose a public health threat comparable to those posed by substances listed in those conventions”.

The key features are that NPS are psychoactive i.e. they stimulate or depress the central nervous system, or cause a state of dependence; have a comparable level of potential harm to internationally controlled drugs; and are newly available, rather than newly invented.

Some NPS may have been legally available when first introduced but are now controlled by the Medicines Act 2016 e.g. mephedrone and some synthetic cannabinoids e.g. SPICE

The main NPS groups are:

- predominantly sedative drugs
- predominantly stimulant drugs
- hallucinogens and psychedelic drugs
- synthetic cannabinoids
- dissociative drugs

What the Guideline is trying to do

Emerging evidence suggests NPS are being used in the general and prison populations – there have been cases of people needing emergency treatment as a result of NPS use. The wide range of NPS, their relative cheapness and high potency makes them particularly attractive to prisoners, and most NPS currently evade urine testing.

This document provides guidance to staff working within NHFT services when encountering individuals presenting with symptoms indicating NPS use who have or have not been prescribed Opiate Substitution Therapy.

Which stakeholders have been involved in the creation of this Guideline

This guideline was initially reviewed and approved by The Drugs and Therapeutics Committee HMP Bedford

Any required definitions/explanations

ACMD- Advisory Council on Misuse of DrugsATS - Amphetamine Type Substances

CARATs - Counseling, Assessment, Referral, Advice and Throughcare programme

DMS-5 - Diagnostic and Statistical Manual of Mental Disorders

NHFT - Northamptonshire Healthcare NHS Foundation Trust

NPS- Novel Psychoactive Substances

PHE – Public Health England

OST- Opiate Substitution Therapy

SC- Synthetic Cannabinoid

Key duties

Heads of Healthcare are responsible for ensuring all relevant staff are aware of this guideline and comply with its content

Doctors and Non-Medical Prescribers are responsible for assessing patients, prisoners and service users prior to the administration of medication. This may be:-

- Before initially prescribing medication
- When patients, prisoners and service users are referred by nursing or pharmacy staff due to concerns regarding their state of health and concerns regarding the administration of already prescribed medication.

Nursing and pharmacy staff are responsible for monitoring patients, prisoners and service users and referring them for clinical review where concerns are identified regarding the possible use of NPS or any other medication that has not been prescribed.

Guidance detail

The following provides a section for each type of NPS and processes which should be followed when encountering their use. It is by no means intended to be a complete and comprehensive guide as new products are being developed all the time.

1. Sedative Drugs

- A number of designer benzodiazepines are now available which have no medical use and evade the Misuse of Drugs Act.
- The Advisory Council on Misuse of drugs have been alerted to designer benzodiazepines in particular etizolam, which has been particularly problematic in Scotland.
- Etizolam is similar pharmacologically to diazepam with similar adverse effects such as sedation, sleepiness, muscle relaxation, slurred speech, ataxia and loss of consciousness.
- Etizolam is imported from Europe, Far East and India as tablets in blister packs. It is also available as “blotters” (similar to LSD papers) which are high dosage (5 x diazepam)
- Police Scotland reports that there appears to be a general decrease in the prevalence of diazepam and an exponential increase in the use of etizolam and a more gradual increase in diclazepam.
- The Forensic Early Warning System detected etizolam in Scottish prisons in 2015-16.

2. Stimulants

- All patients reporting recent heavy stimulant use and who test positive on admission to either cocaine or amphetamines are placed under close supervision. Neurological observations and blood pressure monitoring for signs of hypertension should be carried out for the first three days of custody.
- Where there is evidence of agitation or volatility in those withdrawing from stimulants, consideration may be given to short-term prescribed management of some of the symptoms of withdrawal. A short course of low dose diazepam may be considered in situations where agitation is not responding to other treatment interventions.
- Withdrawal from stimulants can cause marked swings in mood, leading to potential acts of violence towards self or others. A short but profound depression is a recognised withdrawal symptom, which may necessitate treatment. To reduce the risks associated with isolation, the prison regime should ensure that optimum time out of cell is available for purposeful activities.
- An underlying serious mental health problem (such as schizophrenia) may appear in a newly drug-free phase. A full mental health assessment should be considered for any prisoner demonstrating signs of these problems. A full range of supportive resources (e.g. NHS, mental health in-reach services, Listeners and CARATs) should be available within the establishment to meet the needs of this group of prisoners. Concerns for a prisoner's safety as a consequence of their mental distress should result in the activation of the prison service's multi-disciplinary risk-management process (ACCT Plan or F2052SH).

3. Cocaine

- The desired effects of cocaine use are feelings of increased energy, alertness and intense euphoria, as well as a decrease in tiredness, appetite and sleep. Unwanted effects include fear, irritation, panic attacks, paranoia, impaired judgement, delusions and disturbance of sleep. Weight loss and hallucinations occur with increased doses or a more efficient route of administration
- Cocaine intoxication has been associated with anorexia, insomnia, anxiety and motor hyperactivity. It is linked with increased adrenergic tonus, manifested by diaphoresis, dilated but reactive pupils, hyper-reflexia and tachycardia. Stereotypical movements of face, mouth and extremities and even grand mal seizures may be present.
- Cocaine can be smoked, snorted or used intravenously. It is absorbed readily through all mucosae. The peak effect occurs 1–90 minutes after administration, depending on the route. The half-life varies between a few seconds and 20 minutes, depending again on the mode of administration (inhalation, intravenous administration or snorting, respectively). After oral use, the half-life is longest, at approximately 3 hours.
- Complications related to cocaine toxicity include hypertension, chest pain (often non-ischaemic), myocardial ischaemia and infarction, as well as cardiac dysrhythmias, coronary artery dissection, aortic dissection, convulsions, subarachnoid and intracerebral haemorrhage, cerebral infarction and gastrointestinal (gut) ischaemia. There may also be hyperpyrexia, rhabdomyolysis, renal failure, hypokalaemic paralysis, metabolic acidosis and cardiorespiratory arrest.

- Cocaine has a wide range of neuropsychiatric effects, including transient psychotic symptoms. These symptoms include paranoia and hallucinations, violence and aggression, repetitive or stereotyped simple behaviours and repetitive complex behaviours such as drawing and writing
- Cocaine use is associated with dependence. There is still no pharmacological treatment of proven efficacy. Psychosocial interventions remain the cornerstone of treatment. Although there are important differences in the neuropsychiatric and medical consequences of cocaine when compared with amphetamine use disorders, there is currently no evidence for a differential treatment effect of any psychosocial treatment in the management of these disorders.

4. Synthetic Cannabinoids (SC)

- A variety of street names are used for synthetic cannabinoids. The term 'Spice', which is the brand name of one the most common SC products sold in Europe, is often used as a generic term for all synthetic cannabinoids.
- The primary route of administration of SCs is inhalation, either by smoking the 'herbal mixture' as a joint, or by utilising a vaporiser, bong or pipe. Both oral consumption and snorting of the compounds have also been described.
- The onset of the action of SCs is usually within minutes of smoking, like cannabis, because of the instant absorption via the lungs and redistribution into the brain and other organs, within minutes of use. There is a delay of absorption following oral consumption.
- The length of the effect of SCs varies. It has been reported that, within 10 minutes of inhaling a 0.3 g dose, users demonstrate mild to moderate cognitive impairment, as well as changes in perception and mood. Effects gradually diminish over 6 hours.
- The desired effects of SCs are similar to those of cannabis intoxication: relaxation, altered consciousness, disinhibition, a state of 'being energised' and euphoria,
- The most commonly reported unwanted physical effects are nausea and vomiting. Other unwanted effects include decreased motor coordination (39%), fast or irregular heartbeat (33%), dissociation (22%), dizziness (20%), paranoia (18%) and psychosis (4%).
- At least some SCs could lead to severe or even life-threatening intoxication when taken in sufficiently larger doses.

Summary of features of acute SC toxicity

Central nervous system

- Agitation, tremor, anxiety, confusion, somnolence, syncope, hallucinations, changes in perception, acute psychosis, nystagmus, convulsions, coma

Cardiac

- Tachycardia, hypertension, chest pain, palpitations, ECG changes

Renal

- Acute kidney damage

Muscular

- Hypertonia, myoclonus, muscle jerking, myalgia

Other

- Cold extremities, dry mouth, dyspnoea, mydriasis, vomiting, hypokalaemia
- Loss of eyesight and speech also reported

5. Cannabis

- Despite indicating that the effects of SCs are similar to those of cannabis, 54% of respondents to an internet survey reported that SCs produce subjective effects unique and discernible from other licit or illicit drugs. Similarly, findings from the Global Drug Survey also suggest that, when products are smoked, users are able to differentiate between the effects of natural versus synthetic cannabis.
- Although it cannot be assumed that that this can be generalised, respondents to the Global Drug Survey reported a strong preference for natural over synthetic cannabis (it was preferred by 93% of users), with natural cannabis rated as giving greater pleasurable effects while leaving the user able to function better. SCs were given significantly higher scores for self-reported hangover effects and other negative effects than were given to natural cannabis. The survey also found that natural cannabis was used more frequently and more recently than SC.
- Cannabis is less likely to be associated with hallucinations than SCs.

DSM-5 diagnostic criteria for cannabis withdrawal

Approximately one week after cessation of cannabis use, three (or more) of the following signs and symptoms develop:

- Irritability, anger or aggression
- Nervousness or anxiety
- Sleep difficulty (e.g. insomnia, disturbing dreams)
- Decreased appetite or weight loss
- Restlessness
- Depressed mood
- At least one of the following physical symptoms causing significant discomfort: abdominal pain, shakiness/tremors, sweating, fever, chills or headache
- These signs and symptoms cause clinically significant distress or impairment and are not attributable to another medical condition. They cannot be better explained by another mental disorder, including intoxication or withdrawal from another substance.

6. Amphetamine-type substances

- Depending on the substance, Amphetamine Type Substances (ATS) can be taken orally, by insufflation or injected. Only methamphetamine can be smoked. Smoked or injected ATS are more likely to lead to dependence.
- Overall, ATS are used for their stimulant, euphoric, anorectic and, in the case of some substances, empathogenic, entactogenic and hallucinogenic properties. ATS produce feelings of euphoria and relief from fatigue; they may improve performance on simple tasks and increase activity levels. It is thought that the misuse liability of amphetamines is related to their euphorigenic effects.

- Unwanted subjective effects of amphetamines include increased anxiety, insomnia, irritability, aggression, restlessness and paranoia, and in some cases violent behaviour. Psychotic symptoms can occur when using amphetamines and can last for days or weeks.
- The 'come-down' from ATS, which is distinct from the physiological withdrawal observed in many dependent users, can last up to a few days; users may feel tired, anxious, depressed and some may experience restlessness, insomnia, muscle ache and fasciculation. Its intensity will depend on the substance, the dose consumed and the individual. Serotonin syndrome or toxicity is a potential risk
- Overall, ATS increase heart rate, blood pressure and breathing rates, constrict blood vessels, dilate pupils and release glucose and lipids into the bloodstream.
- There is a risk that the use of amphetamine induces strokes and heart attacks because it raises blood pressure and constricts blood vessels. People at risk of heart disease or strokes are more likely to experience such complications
- Hyperthermia is one of the most life-threatening acute physiological consequences of ATS intoxication, with case reports suggesting that its incidence and severity varies between drugs. Hyperthermia associated with these drugs appears to be responsible for fatal complications, including rhabdomyolysis, acute renal failure, disseminated intravascular coagulation, multiple organ failure and acidosis.
- The resolution of symptoms among those who experience amphetamine-induced psychosis usually occurs with abstinence, although it may be incomplete, thus increasing risks of relapse. Symptoms usually resolve with medication, which is as for schizophrenia, including antipsychotics and benzodiazepines

7. Serotonin Syndrome

- Serotonin syndrome is a potentially life-threatening adverse reaction to the use of particular drugs (illicit or prescribed) or the interaction between drugs. A number of ATS used for recreational purposes are associated with serotonin syndrome. In addition, the simultaneous use of multiple serotonergic substances (e.g. ecstasy and methamphetamine) increases the risk of serotonin syndrome
- Drugs used therapeutically are also associated with serotonin syndrome. The use of illicit substances with therapeutic drugs increases the risks of serotonin toxicity.
- Serotonin syndrome has three classic features of:
    - mental state changes,
    - autonomic hyperactivity
    - neuromuscular abnormalities
- Most cases of serotonin syndrome are mild and may be treated by withdrawal of the offending agent and supportive care. Most mild cases will resolve spontaneously within 24 hours. Patients with moderate or severe cases of serotonin syndrome require hospitalisation
- Benzodiazepines are the standard treatment for the agitation and tremor

8. Drug interactions

See appendix 1

9. Hyoscine Butylbromide (Buscopan)

- Hyoscine butylbromide is an anticholinergic licensed for the relief of spasm of the GI or GU tract or the symptomatic relief of IBS

- Crushing and smoking hyoscine butylbromide releases scopolamine, a known hallucinogen, causing auditory, visual and tactile hallucinations, amnesia, insomnia, palpitations, flushing irritability and the inability to concentrate
- The use of hyoscine butylbromide should be restricted to situations where no alternative preparation is suitable and administration should not be supplied in possession.

10. NPS Interventions and treatment

The treatment of patients, prisoners and service users identified as taking any NPS substance is based on symptomatic relief dependant on the drug in question. See above for specific interventions

Drug	Physical signs of intoxication	Most common mental changes	Withdrawal symptoms	Duration of withdrawal
Amfetamine	Tachycardia, increased BP, anorexia, tremor, restlessness	Visual/ tactile/olfactory/auditory hallucinations; paranoia; decreased concentration; elation	Extreme fatigue; hunger; depression	Peaks 7-34 hrs lasts maximum of 5 days
Barbiturates	Headache; hypotension; respiratory depression	Restlessness/ataxia; confusion/excitement; drowsiness	Similar to alcohol: tremor, vomiting, seizures, delirium tremens	Depends on half-life, likely to be at least several days
Cannabinoids	Tachycardia; lack of co-ordination; red eyes; postural hypotension	Elation; psychosis; perceptual distortions; disturbance of memory/ judgement; two fold increase in risk of developing schizophrenia	Restlessness; irritability; insomnia; anxiety	Uncertain. Probably less than a month but longer in long term users
Cocaine	Tachycardia; tachypnoea; increased BP; headache; respiratory depression; chest pain	Euphoria; paranoid psychosis; panic attacks/ anxiety; insomnia/excitement	Profound lethargy; decreased consciousness	12-18 hours

Training requirements associated with this Guideline

There is no mandatory training associated with this Guideline

Equality considerations

See MMC01 Control of Medicines Policy

Reference Guide

Novel Psychoactive Treatment UK Network Guidance on the Clinical Management of Acute and Chronic Harms of Club Drugs and Novel Psychoactive Substances 2015

World Health Organisation: Clinical Guidelines for the Withdrawal Management and Treatment of Drug Dependence in Closed Settings 2009

Public Health England Misuse of Hyoscine PHE Gateway number 2015137 June 2015

Public Health England Synthetic Cannabinoids_alert_10_07_15

ACMD TCDO report U47700 and designer benzodiazepines December 2016

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2	5/10/2018	1/11/2018	1/11/2020	Review and addition of information regarding benzodiazepines
3	14/5/2019	14/05/2019	14/5/2022	Updated to apply to all NHFT clinical areas

Appendix 1: Interactions between prescribed medications and NPS

The increased use of New Psychoactive Substances (particularly synthetic cannabinoids) among the prison population is presenting clinicians with a new set of challenges. Public Health England (PHE) is currently undertaking a national training programme for prison healthcare and custody staff to support this work. A recurring theme that has arisen during the course of this training is the request for advice and information on the interaction between NPS and prescribed medications.

In response to this, PHE has consulted with a range of experienced clinicians, NHS England's Pharmaceutical Adviser Health and Justice Commissioning and the authors of the leading guidance on the clinical management of NPS at Project NEPTUNE (http://neptune-clinical-guidance.co.uk/wp-content/uploads/2015/03/NEPTUNE-Guidance-March-2015.pdf) to distil the current understanding on this issue.

There is currently an absence of robust evidence and research on this issue and it is therefore not possible to offer definitive guidance about whether to withhold prescribed medication when NPS has been used.

As part of the Project NEPTUNE guidance a literature search was conducted in 2015 and colleagues at NHS England have commissioned a formal literature search on this issue via the UK Medicines Information (UKMi part of the NHS England Specialist Pharmacy Services). Any further information that comes to light as a result of this work will be disseminated as soon as it is available.

In the interim, there are key messages in terms of good clinical practice that should be observed:

- Due to the lack of clear information, decisions about continuity of prescribed medicines should be made on a case by case basis taking into account the nature and severity of the presenting symptoms and signs. This is especially important for medicines that cause drowsiness or affect the central nervous system. Possible side effects of medicines are available in the British National Formulary (BNF) and the Summary of Product Characteristics (SPC) of medicines available here: http://www.medicines.org.uk/emc/)
- In addition, it will be necessary to have clear, written protocols that include who may make a decision to omit a dose of medication or to discontinue a medicine altogether, as these decisions will frequently need to be made in the absence of a prescriber. A prescriber should review these decisions as soon as possible.

Other factors to take into account when considering whether to withhold or continue medication include:

- Whether or not an establishment has an in-patient unit for closer healthcare supervision
- The healthcare workforce availability and capability to assess and follow-up the care of the patient

Examples of when treatment might be withheld include:

- If an affected prisoner was showing signs of significant drowsiness it might be necessary to withhold opioid analgesics, opiate substitute treatment or hypnotics for a period of time.

- If an individual presented with a lowered pulse and blood pressure beta blockers or other anti-hypertensives might need to be reduced or discontinued for a period of time.

Examples where continuation of critical medicines is more likely to be needed to avoid harm include:

- Continuing essential medication, such as insulin or warfarin. Close therapeutic monitoring of the effect of these doses is advised.
- Given the many anecdotal reports of an association between synthetic cannabis [SC] use (the more common type of NPS) and convulsions, particular thought would need to be given before discontinuing anticonvulsants.

There is anecdotal evidence that SC and antipsychotics such as clozapine and quetiapine may cause brain, kidney, liver or heart injury. Careful consideration is necessary about initiating or continuing medicines with effects on the central nervous system if an individual has used SC and is likely to continue using it. Vigilance for symptoms and signs of the injuries alluded to above, along with relevant blood tests or other investigations is essential in such cases.

Novel psychoactive substances (NPS)

Novel psychoactive substances (NPS), sometimes incorrectly called "legal highs," include a multitude of substances, with many different effects. This infographic classifies NPS into their major groupings and provides information on the desired effects of these compounds, common methods of usage, and their associated risks.