KETAMINE

TD consultancy

History & Legal Status: 1962–2025

1962
Synthesized (Anaesthetic alternative to PCP)

1990s
Enters UK dance culture ('The new E')

2006
Controlled as Class C

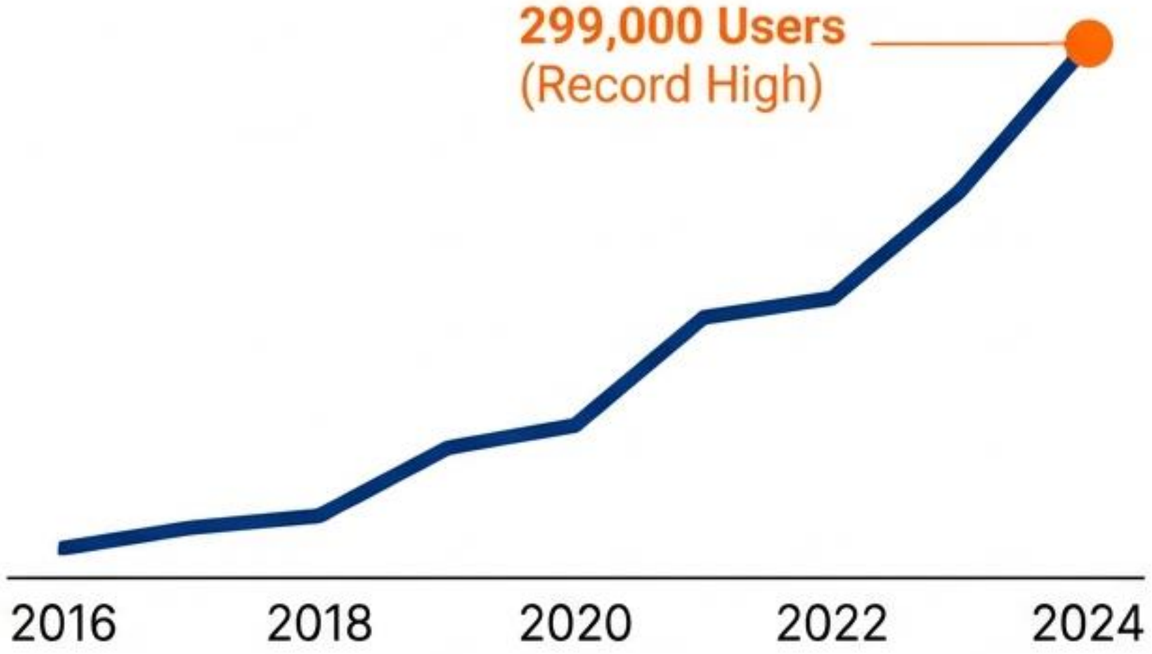
2014
Reclassified to Class B (Bladder harm evidence)

2024
Record Seizures (500kg police / 934kg Border Force)

Jan 2025
ACMD Review commissioned (Potential Class A)

Key Insight: Despite the 2014 upgrade to Class B, use has risen. Reclassification alone has not curbed demand.

The Shifting Landscape: From Club to Crisis



3x Usage has tripled among under-25s since 2016.

Low Cost: £10–£20 per gram.

Setting Shift: From dance floors to home use. Self-medication for anxiety & depression.

Frequency: Shift from occasional bingeing to daily maintenance dosing.

What is Ketamine?

Pharmacology and Street Identity

Classification:
Class B Dissociative Anaesthetic

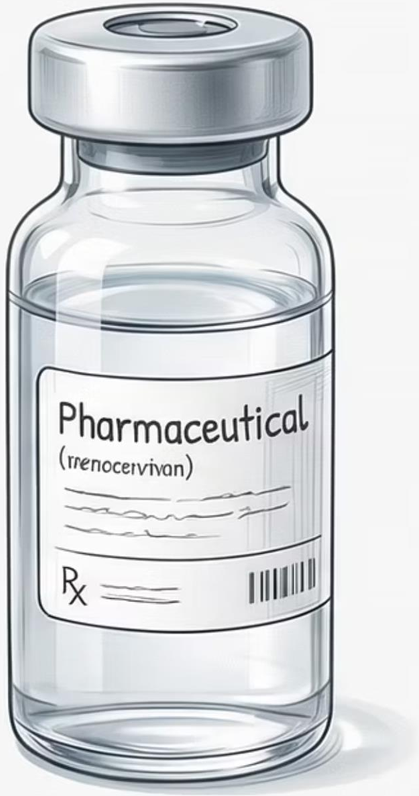
Mechanism:
NMDA receptor antagonist. 'Disconnects' mind from body.

Forms:
Crystalline powder (shards), Liquid vials, Pills.

Street Names:
K, Ket, Wonk, Donkey Dust, Vitamin K.

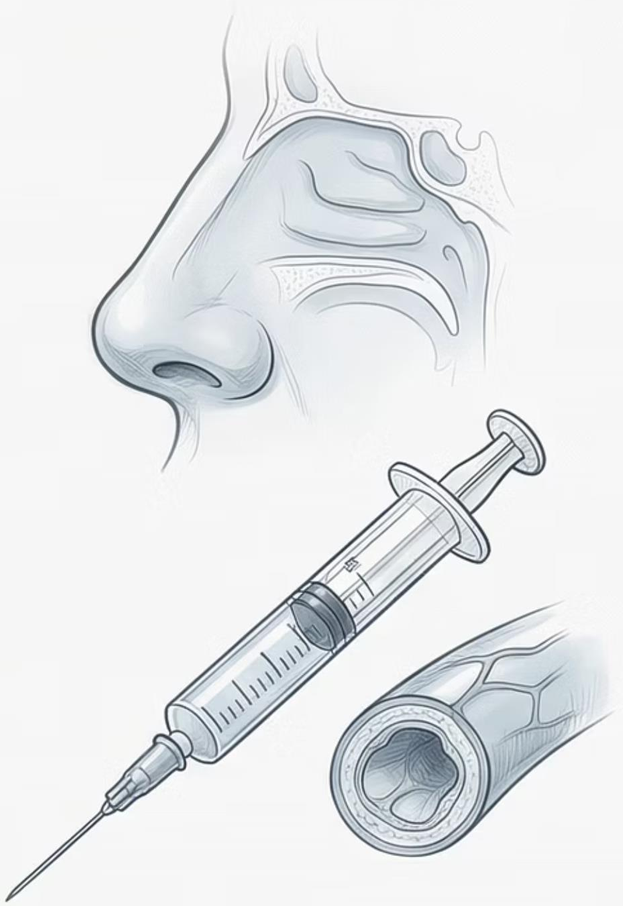
Key Fact

Ketamine is an anaesthetic used in human and veterinary medicine, repurposed for recreational dissociation.



Liquid

Powder



Routes

Routes of Administration

Intravenous (IV)

100% bioavailability

Intramuscular (IM)

93% bioavailability

Intranasal (IN)

45-50% bioavailability

Oral

16-29% bioavailability

Recreational routes: Snorting most common, causing nasal damage. Injection carries blood-borne virus risk. **Not advisable to use intramuscularly.**

Types, Forms & Mixes

Medical/Veterinary

- Liquid in vials
- Evaporated by dealers to form powder.

Illicit (Street)

- Crystalline white powder or shards
- Variable purity (40-90%)

Other Mixes

'Pink Cocaine' (Tusi):

- Synthetic cocktail (often MDMA/Ketamine/Caffeine, no cocaine).
- 'CKT' (Calvin Klein): Cocaine + Ketamine mix

Short-Term Effects of Ketamine

Ketamine's immediate and peak effects manifest rapidly, profoundly altering perception, motor function, and consciousness.

1

Immediate Effects (0-30 min)

- Rapid onset, often within minutes.
- Initial feelings of euphoria and well-being.
- Mild confusion and disorientation.
- Slight impairment of motor coordination.
- Altered perception of senses (e.g., sight, sound).

2

Peak Effects (30-90 min)

- Intensified feelings of dissociation from body and environment.
- Profound numbness and reduced sensitivity to pain.
- Significant confusion and inability to communicate effectively.
- Severe motor impairment, leading to immobility.
- Potential for "K-Hole" experiences (complete detachment, hallucinations).

Acute Effects: The Dose-Response Spectrum

Low to Moderate Dose

- Euphoria & ‘Floaty’ sensation
- Mild hallucinations
- Numbness / Analgesia

High Dose (The ‘K-Hole”)

- Complete detachment from reality
- Paralysis (inability to move/speak)
- Sensory distortion

Physical Signs for Workers

Robotic Walking
“Donkey Legs”

Slurred Speech

Nystagmus
(Rapid eye movement)

Dosing Spectrum

Low (10-50mg "bump")

Acts like a CNS stimulant

Medium (60-100mg)

Dissociation, detachment from body

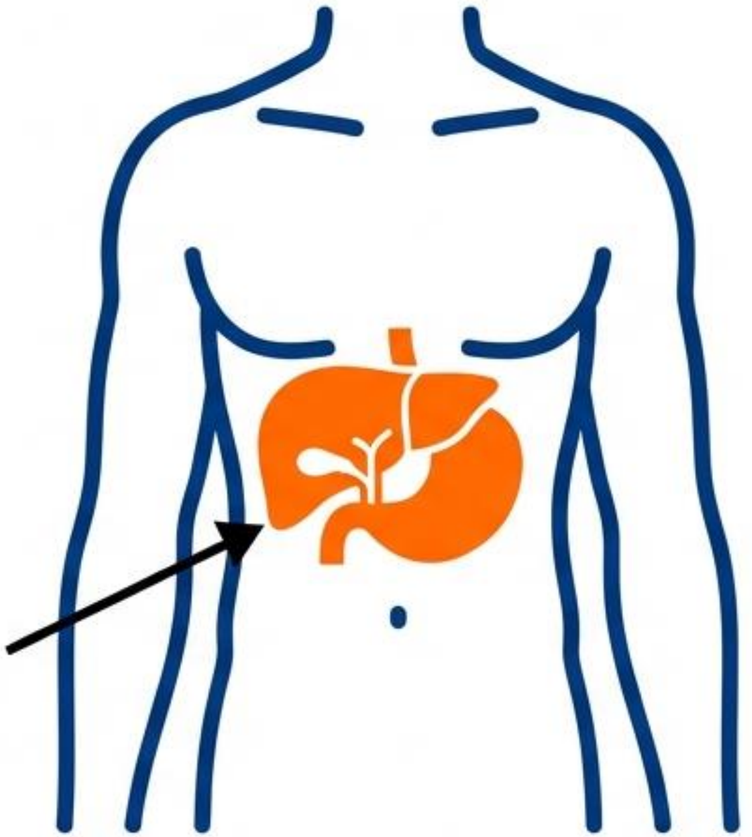
Large (100-250mg)

"K-hole"—profound dissociation, out-of-body experiences

Critical: Tolerance builds rapidly. K-hole becomes less accessible with continued use, driving dose escalation.

Chronic Harm: ‘K-Cramps’ (Gastrointestinal Toxicity)

- **Condition:** Biliary duct dilation, gastritis, liver toxicity.
- **Symptom:** Severe, colicky abdominal pain.



- **User Behaviour:** Often mistreated with hot baths.
- **WARNING:** Risk of drowning if user falls unconscious in bath.

Resolution: Symptoms usually resolve only upon complete cessation of use.

‘K-Cramps’ & Organ Toxicity

Stage 1
Usage damages bladder/biliary tree.

Stage 2
Severe abdominal pain (“K-Cramps”).

Stage 3
User takes MORE Ketamine to anaesthetize the pain.

Stage 4
Accelerated damage.

Other Organ Risks

Liver: Fatty degeneration & fibrosis.

Kidneys: Hydronephrosis (swelling from back-pressure).

Nasal: Septum perforation.

Bladder Issues
Ketamine-induced uropathy

Symptoms

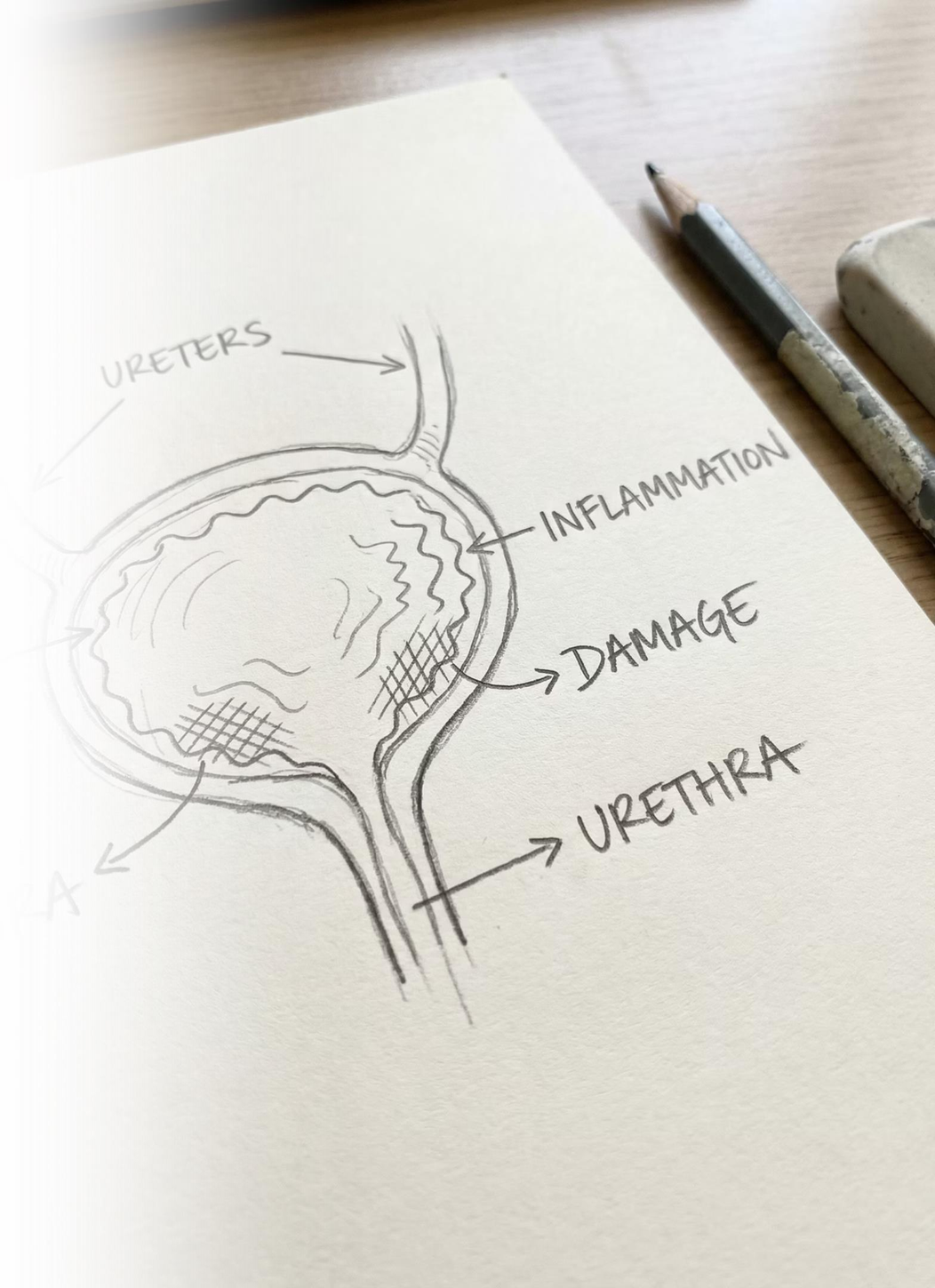
- Urinary frequency and urgency
- Burning pain during urination
- Blood in urine
- Suprapubic pain
- Reduced bladder capacity

Mechanisms

- Direct toxic effects on urothelial cells
- Inflammatory pathways (NF-κB/COX-2)
- Oxidative stress
- Barrier disruption
- Fibrosis and thickening

Severe Cases

- Bladder ulceration
- Complete dysfunction
- Surgical intervention required
- Possible bladder removal
- Kidney damage



Beyond the Bladder

Liver Toxicity

Fatty degeneration, fibrosis, cirrhosis. Elevated enzymes. Increased cancer risk. Amplified by alcohol.

Kidney Damage

Glomerular damage, tubular necrosis. Progression to chronic kidney disease requiring long-term management.

"K-Cramps"

Severe abdominal pain. Mechanism unclear—possibly bowel dysmotility, biliary spasm, or direct GI toxicity.

Cardiovascular

Chronic hypertension, increased cardiac strain, risk of complications in vulnerable individuals.

Nasal Damage

Septum damage from snorting, impaired smell, chronic rhinitis.

Weight Loss

Rapid, severe weight loss. Malnutrition. Weakened immune function.

Psychological & Cognitive Impact

Cognitive Fog

Short & long-term memory deficits. Reduced verbal fluency.

Mood Disorders

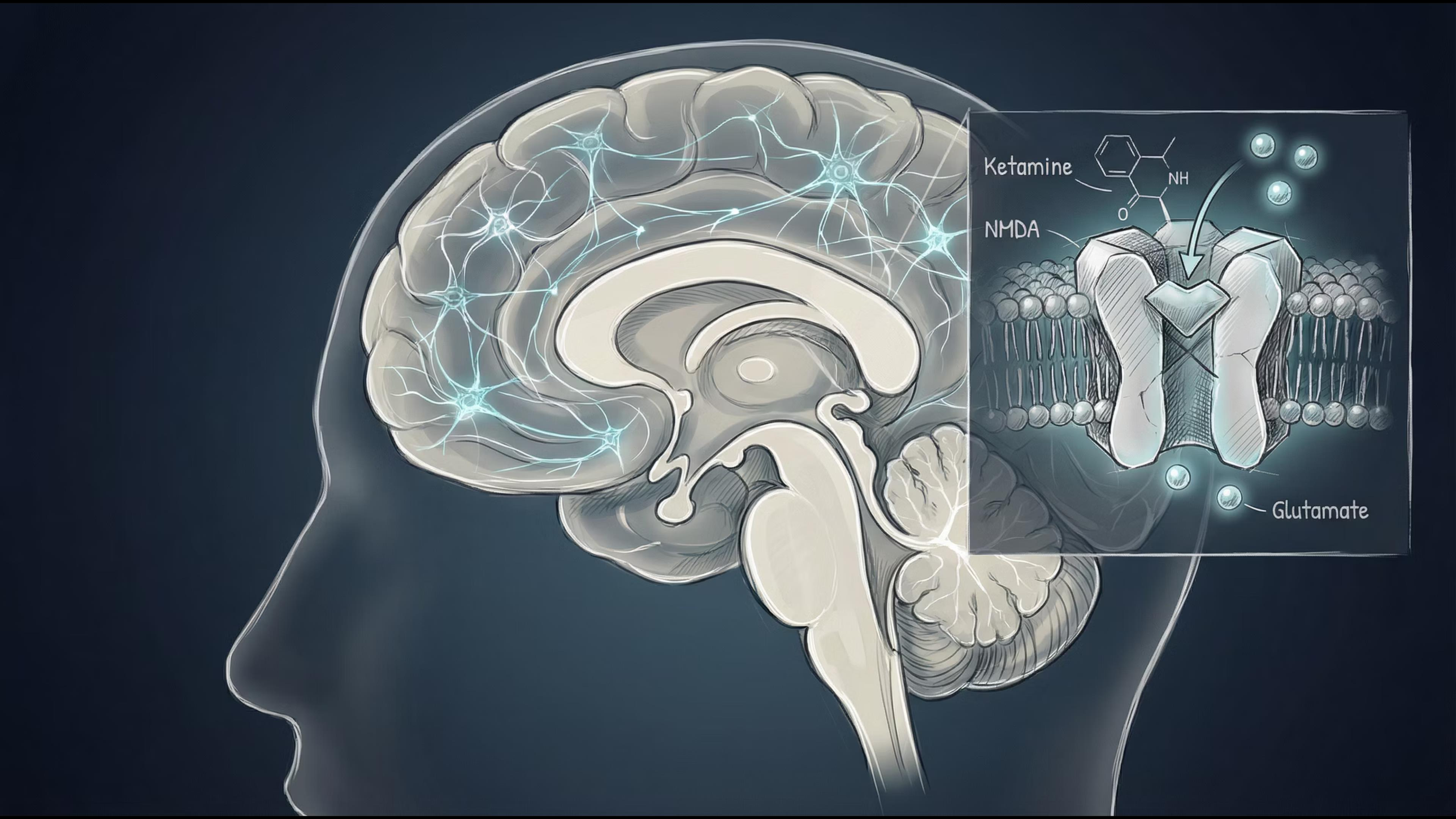
Depression & Anxiety. Often the cause of self-medication and the result of chronic use.

Psychosis

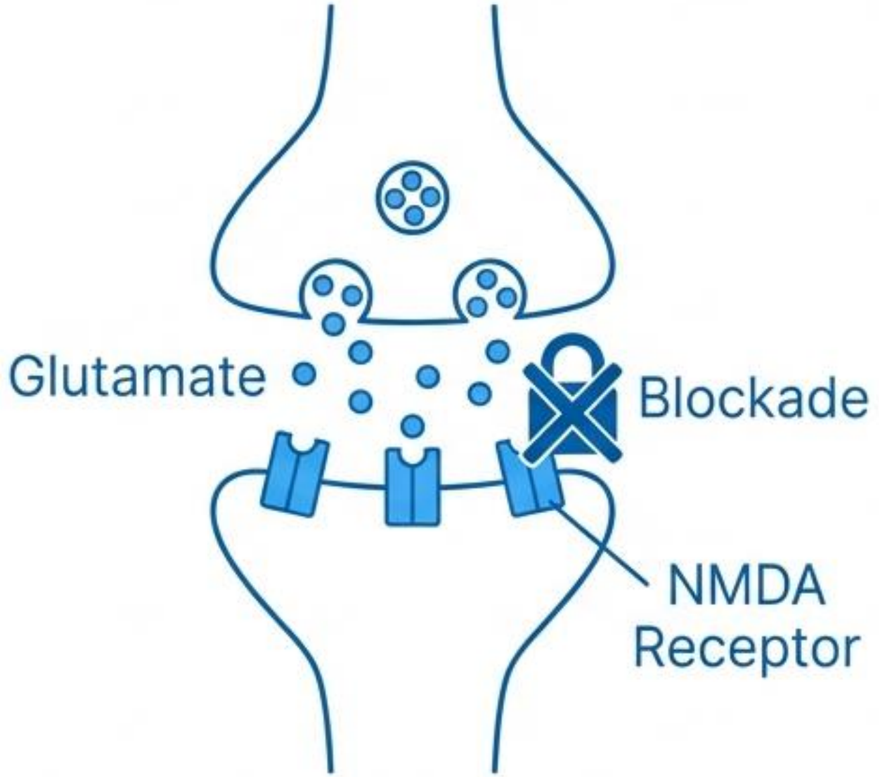
Delusions, paranoia, and ‘persistent dissociation’ even when sober.

Dependence

High psychological dependence. Rapid tolerance buildup (1g → 7g+ daily).


Ketamine
NH
O
NMDA
Glutamate

Pharmacology: Dissociation & The Brain



Mechanism: NMDA Antagonist
(Blocks glutamate)

The Disconnect (Acute Effect):
Disconnects sensory cortex from limbic system (emotion). Causes dissociation—detachment from body and self.

The Afterglow (Therapeutic Effect):
Triggers glutamate surge > BDNF release. Promotes neuroplasticity (new connections), explaining antidepressant utility.

How Ketamine Works

NMDA Blockade

Blocks glutamate receptors on GABAergic interneurons

Disinhibition

Reduces inhibitory GABA tone on pyramidal neurons

Glutamate Surge

Transient burst activates AMPA receptors

BDNF Release

Triggers brain-derived neurotrophic factor

Synaptogenesis

New synapse formation in prefrontal cortex and hippocampus

Ketamine's Essential Medical Value

Anaesthesia & Pain Management

A cornerstone of NHS practice for decades. Valued for inducing sedation whilst preserving respiratory drive—a critical safety feature governed by strict clinical protocols.

Treatment-Resistant Depression

Shows remarkable promise with rapid symptom relief within hours, contrasting with weeks required for conventional antidepressants. Currently used "off-label" in the UK.

Alcohol Use Disorder

The UK hosts the MORE-KARE trial, the largest Phase III study in its field, co-funded by NIHR and MRC. Aims to prove ketamine-assisted therapy can treat severe alcohol dependency.

A profound paradox: whilst the Home Office considers escalating criminal penalties, major UK health bodies invest millions to prove ketamine's potential to solve intractable public health problems.

Harm Reduction: Safer Administration

Preparation

Crush it fine. Avoid sniffing shards/crystals to reduce nasal damage.

Hygiene

Use clean paper/post-its. Never share straws (Hepatitis C risk).

Dosing

Start low, go slow. Purity varies Pre-measure doses.

Injecting (IM/IV) significantly increases overdose and abscess risk.

Harm Reduction: Environment & Mindset

Set & Setting Risks

- **Trip Hazards:** Avoid stairs, heights, traffic (Balance is impaired).

- **Water Safety:** NEVER use in a bath. High drowning risk due to paralysis.

Support System

- **Company:** Never use alone. Have a sober sitter.

- **Mindset:** Avoid use if anxious/depressed. High risk of ‘bad trip’.

Emergency Response & Crisis Management

Unresponsive / K-Hole

Action: Recovery Position immediately. Maintain airway.

Alert: Call 999 if breathing is shallow or user cannot be roused. ⚠

Agitation / Bad Trip

Action: Reduce sensory input (Low lights, quiet). Calm reassurance.

Alert: Avoid forceful restraint.

Polydrug Overdose

Action: If opioids suspected/unknown, administer NALOXONE.

Note: Naloxone does not reverse Ketamine, but reverses the opioid component to save life.

Harm Reduction Essentials

Safe Environment

Familiar spaces, minimal hazards. Avoid water, heights, roads. Never use alone.

Dosing Practices

"Start low, go slow." Pre-measure doses. Take breaks between sessions. Use in a safe group and stagger K-holes so not all k-holing at the same time.

Hydration

Drink water before, during, after. But not excessive amounts.

Avoid Combinations

Never mix with alcohol or opioids. Dangerous respiratory depression. Avoid stimulants.

Health Monitoring

Watch for bladder symptoms. Seek medical help for persistent issues. Never use to ease pain.

Emergency Prep

Know overdose signs. Recovery position. Call emergency services if needed.

Addiction and Dependence

Psychological Dependence

- Intense cravings
- Preoccupation with obtaining drug
- Continued use despite consequences
- Loss of control

Rapid Tolerance

- Progressively higher doses needed
- K-hole harder to access
- Heavy users: grams per day
- Binge patterns accelerate tolerance

Withdrawal Symptoms

- Anxiety and restlessness
- Severe depression
- Insomnia
- Intense cravings
- Fatigue, irritability

Treatment Pathways & Referrals

Step 1

Cessation (Primary)

The only way to halt bladder damage.

Early damage can heal; late scarring is permanent.

Step 2

Physical Health

GP/Urology: Fast-track for haematuria or pelvic pain.

Pain management (non-opioid).

Step 3

Psychosocial Support

Therapies: CBT & DBT for trauma/depression.

Addiction Services: Motivational interviewing.

Treatment Pathways

Physical Health

GP assessment. Fast-track urology for bladder symptoms. Gastroenterology for K-cramps. Hepatology for liver iss

Drug & Alcohol Services

Keyworking, harm reduction education, motivational interviewing, detox support, aftercare planning.

Mental Health

CMHT for severe/complex needs. IAPT for anxiety/depression. CBT, DBT, trauma-informed care.

Emergency/Crisis

A&E for acute overdose. Crisis team for psychiatric deterioration. Safeguarding referrals.

Peer Support

SMART Recovery, online forums, helplines:

Website: https://tonydagostino.co.uk

Written by Tony D'Agostino

This information is provided for general information and harm reduction purposes only and is not a substitute for professional medical advice, diagnosis, or treatment.