

NOVEL DRUGS

Olawale Ojo MD MSc

- Ecstasy
- Ketamine
- GHB
- Kratom
- Dextromethorphan
- Anabolic Steroids

Ecstasy

Methylene-Dioxy-Methamphetamine

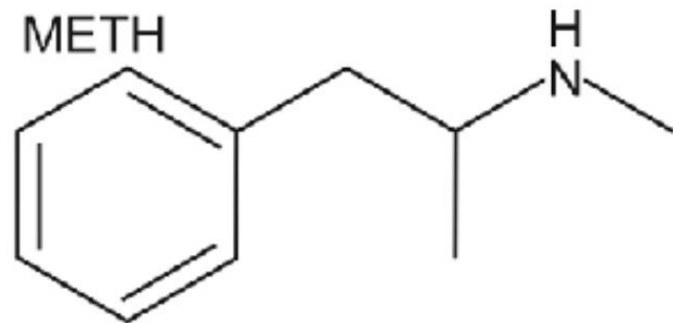
MDMA

+ Empathy

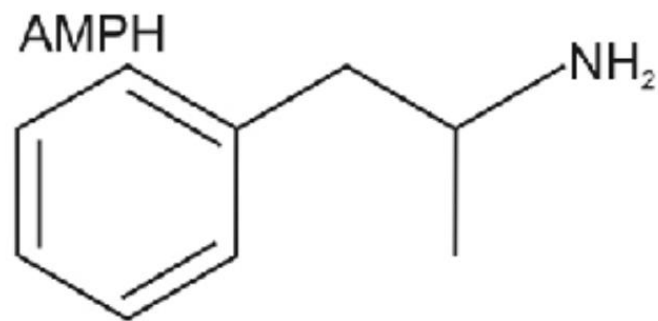
- Serotonin syndrome



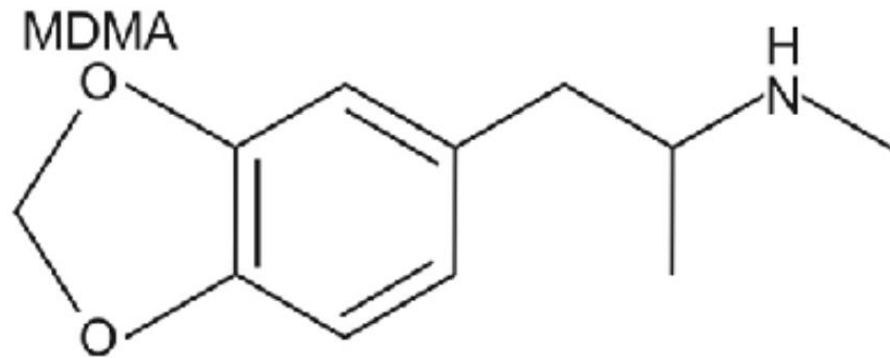
1 METH



2 AMPH



3 MDMA



Ecstasy

- Essentially partly a stimulant and partly a hallucinogen:
 - An attenuated form of cocaine, plus
 - An attenuated form of LSD
- Empathy (more than ecstasy).
- Profound feelings or relatedness to the rest of the world.
- Street names: XTC, E, essence, Adam

Ecstasy

- Acutely increases serotonin levels by:
 - Blocking reuptake, and
 - Directly releasing the neurotransmitter.
- Chronically decreases serotonin levels by:
 - Depleting serotonin stores
 - Inhibiting the synthesis of new serotonin.

Ecstasy: Intoxication

- Intoxication
- “Disco dump” and bruxism.
- Stimulant effects:
 - Wakefulness, endurance, energy.
 - Trismus, anorexia, diaphoresis, hot flashes.
- Serotonin Syndrome:
 - Treat with hydration, cooling, and sedation.
 - Do not use beta-blockers, which may worsen vasospasm and hypertension

Ecstasy: Withdrawal

- Anhedonia and depressed mood.
- Lethargy and fatigue for several days.
- Frank suicidality in the absence of co-occurring depressive disorder is rare.
- No indication for treatment

Ecstasy

- Associated with
 - Depression
 - Anxiety
 - Panic disorder
 - Increased impulsivity
 - Sleep disturbances
 - Cognitive dysfunction
- No FDA approved medications
- MET and CBT are the major treatment modalities

Ecstasy

+ Empathy

- Serotonin syndrome

Ketamine

+ Dissociation

- Accidents



NDC 0143-9508-01

Rx only

KETAMINE HCl
INJECTION, USP

CIII

500 mg/10 mL*

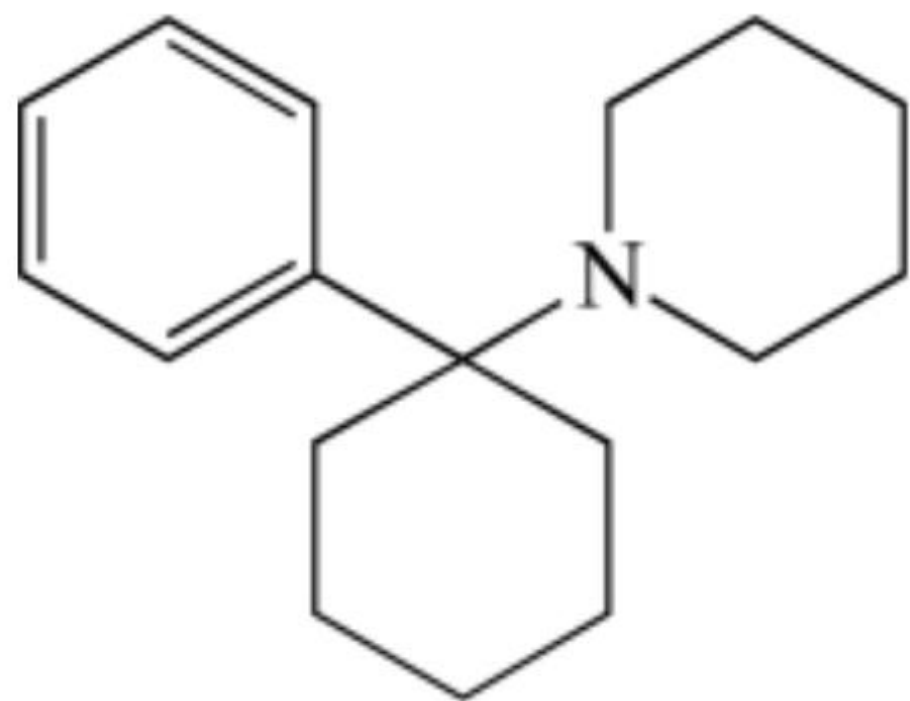
(50 mg/mL)

**For Intramuscular or
Slow Intravenous Use**

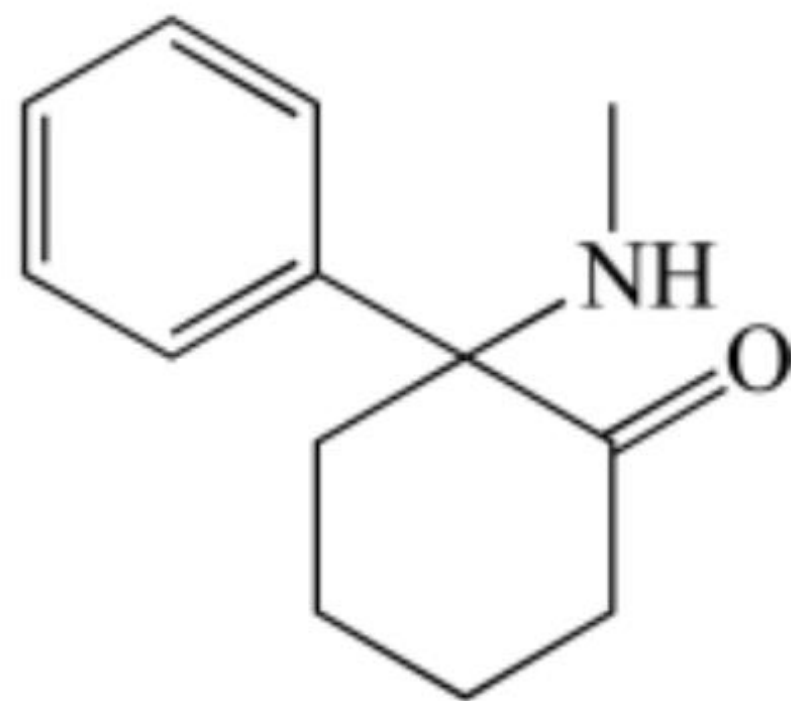
Sterile

10 mL Multi-Dose Vial

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Phencyclidine (PCP)



Ketamine

Ketamine

- Non-analgesic dissociative anesthetic used in children and animals.
- Street names: special K, K, Cat Valium
- Non-competitive NMDA antagonist.
- NMDA inhibition is related to:
 - Schizotypal symptoms
 - Dissociative symptoms

Ketamine

- Similar to phencyclidine but less potent, with shorter duration.
 - Distorted perception of the body, the environment, and time.
 - Lack of responsive awareness to pain and the general environment, disconnection.
- Used to achieve “higher” forms of consciousness.
- Heightened capacity to discern causal connections in all things.

Ketamine: intoxication

- Mild doses:
 - Autistic stare (“sightless staring”)
 - Paucity of thinking
- Higher doses:
 - K-hole (zombie-like state), accidents
 - Overdose is very rare (LD50 is approximately 60 times the recreational dose).
- Treat with calm reassurance and low-stimulation environment; avoid antipsychotics.

Ketamine: Withdrawal

- Both the anesthetic and behavioral effects remit soon after administration.
- No indication for treatment

Ketamine: Long-Term Features

- Tolerance
- Long-lasting memory impairments among frequent users.
- Flashbacks have been reported.
- No FDA approved medications.
- MET and CBT are the major treatment modalities.

Ketamine

+ Dissociation

- Accidents

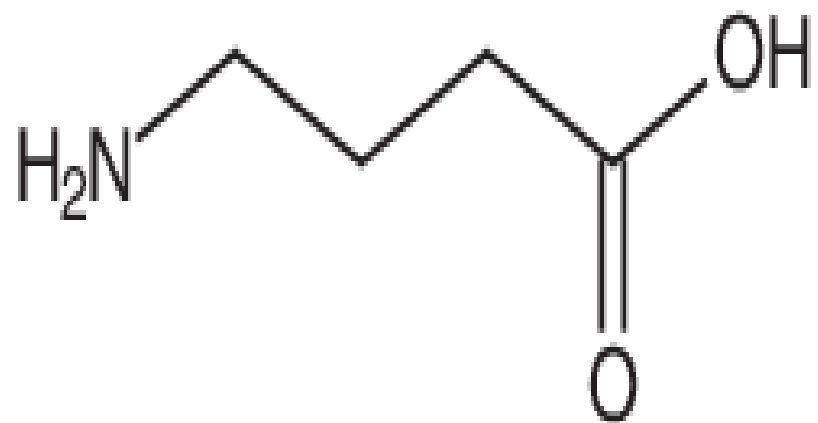
GHB

(Gamma-Hydroxybutyric acid)

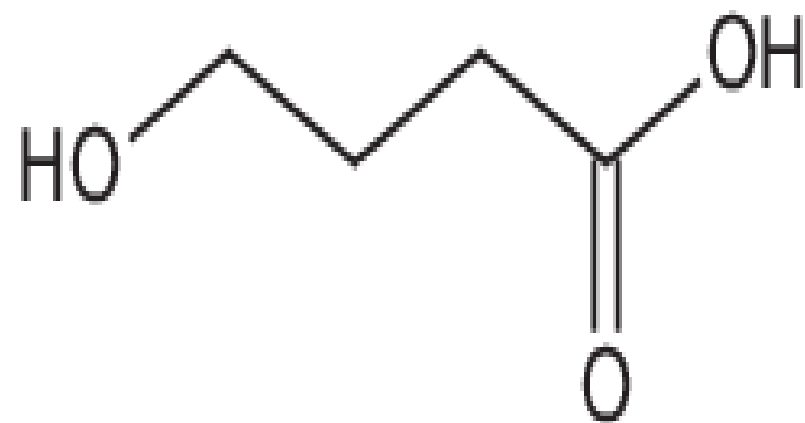
+ Sex

- Death





GABA



GHR

GHB

- GHB is a neurotransmitter.
- It is both a precursor and a metabolite of GABA.
- Activity on both the GABA and the GHB binding sites, results in:
 - Temporary suppression of dopamine,
 - Subsequent marked release of dopamine, and
 - Increased release of endogenous opioids.
- Also, it is a highly regulated Schedule III medication for narcolepsy (sodium oxybate).

GHB

- Sensual drug, like MDMA, but also resulting in “the greatest sex ever.”
- Street names: G, Gina, George, Vitamin G, Liquid Ecstasy
- Relaxation, tranquility, placidity, mild euphoria, disinhibition.
- Temporary amnesia (hence “the date rape drug”).

GHB: Intoxication

- Steep dose-response curve:
 - Ataxia, loss of coordination.
 - Respiratory depression, bradycardia.
 - Coma, persistent vegetative states, death
 - Overdose is a real danger (LD50 is only 5 times the recreational dose).
 - Synergistic effect with alcohol/other sedatives.
- Treat as a medical emergency:
 - ABCs, consider Intensive Care Unit admission.
 - Atropine for bradycardia.

GHB: Withdrawal

- Withdrawal is rare but severe.
- Mild withdrawal may persist for several weeks after cessation of use:
 - Anxiety, tremor, insomnia.
 - “Feelings of doom.”
- Severe withdrawal resembles barbiturate withdrawal:
 - Treat with benzodiazepines.

GHB: Long-Term Features

- Physiological dependence.
- Most patients who overdose on GHB recover completely.
- No FDA approved medications.
- MET and CBT are the major treatment modalities.

GHB

+ Sex

- Death

KRATOM

Mitragynine

7-Hydroxy-Mitragynine

+ Pain relief

- Respiratory collapse



Kratom

- *Mitragyna Speciosa*
- Native to Southeast Asia , Thailand, Malaysia, Papua New Guinea
- Used by indigenous population historically to enhance stamina and reduce fatigue
- Leaves are traditionally chewed or drunk as tea
- Illegal to buy, sell and use in Indiana
- Attempt by DEA to schedule as Schedule 1 substance failed in 2016-
American Kratom Association

KRATOM: Desirable Effects

- Low dose (1-5g)– Stimulant/Hallucinogen
- Higher dose (>5g)– Opioid
- 13 times more potent than morphine on opioid receptor- Kappa > Mu > delta

Kratom: Withdrawals

- Mimics opioid withdrawal
- starts 12 to 24 hours after last use
- Lasts up to 4 days
- Responds to similar interventions as for opioid withdrawals- detox, Buprenorphine, Methadone.
- MAT considerations to prevent relapse and cravings

Kratom

+ Pain relief

- Respiratory collapse

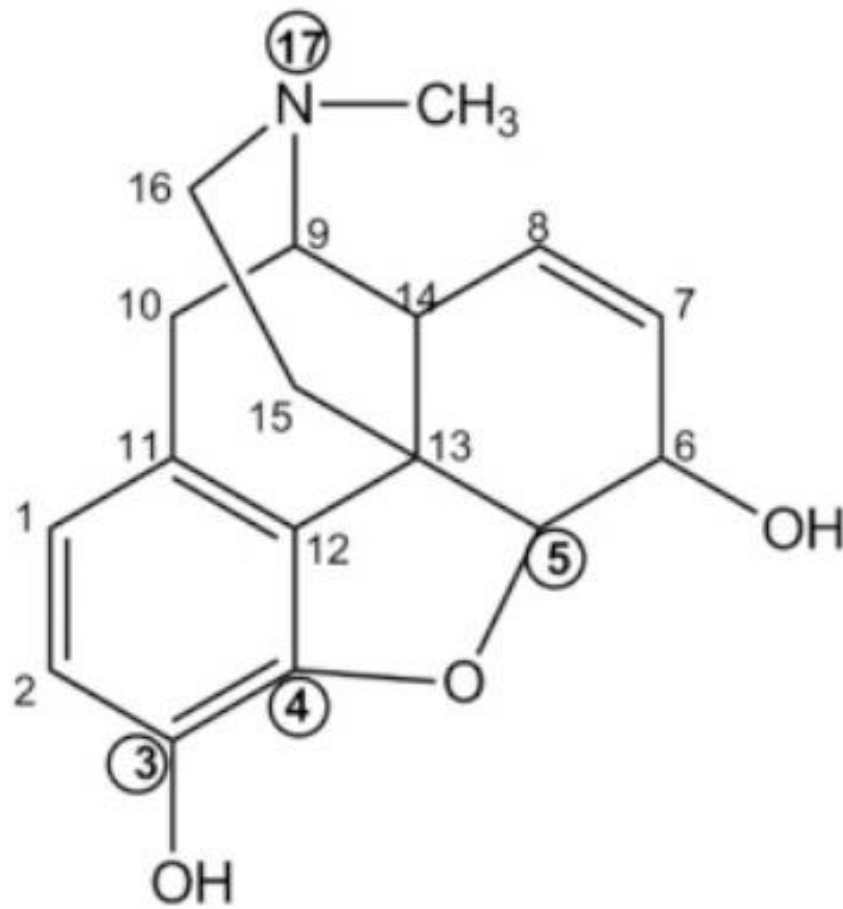
DXM

Dextromethorphan

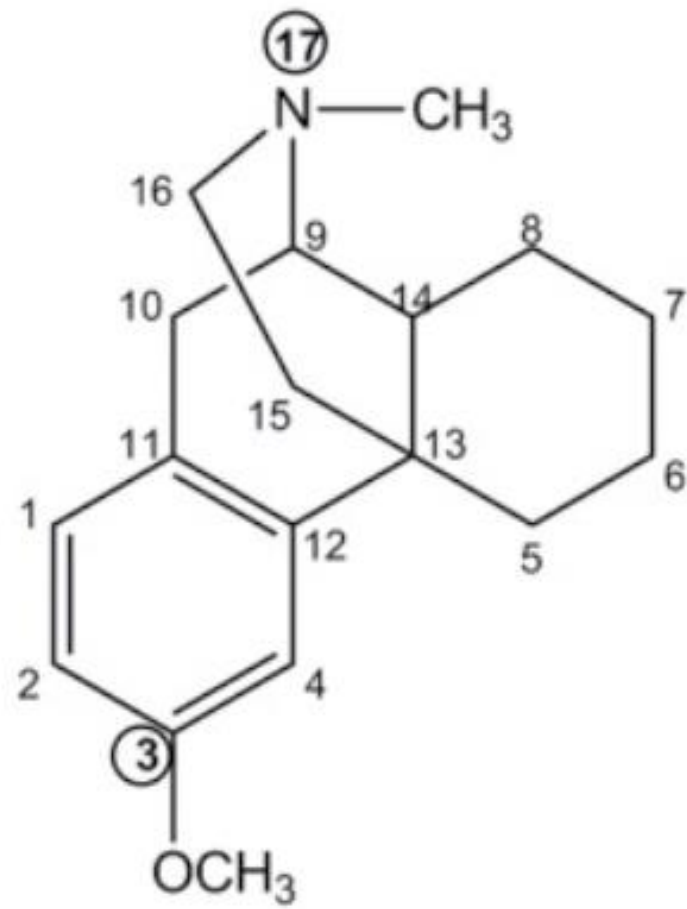
(D-3-Methoxy-N-methylmorphinan)

+Insights

-Hell



Morphine



Dextromethorphan

DXM

- D isomer of methorphan which is a codeine analog
- Not an opioid analgesic like L-isomer
- NMDA antagonism

DXM

- Over-the-counter cough and cold medicine
- Street names: triple C, Dex, Orange Crush, Red devils, Poor man's PCP
- "Robotripping", "tussin", "Skittling"
- Combination with other products increase lethality
- Trip sitters

KOBITUSSIN

LINGERING COLD

Long-Acting CoughGels®

DEXTROMETHORPHAN HBr (Cough Suppressant)

Relieves: Cough for up to 8 Hours

Non-Drowsy

20 LIQUI-GELS®*
*Liquid-Filled Capsules

- this adult product
- adults and children
- children under 12

(68-77°F)

Inactive Ingredients

gelatin, glycerin, hydroxypropyl methylcellulose, propyl galate, propylene glycol, sodium lauryl sulfate, titanium dioxide, xanthan gum

Questions or comments?

9 AM-5 PM EST

LIQUI-GELS® is a registered trademark of

Pharma Solutions

For most recent information, visit our website at

Bottle seal broken? Do Not Use

DMX: Desirable Effects

- Low dose – Opioid
- Higher dose – Dissociative
Hallucinogen

1st	100 – 250 mg	<ul style="list-style-type: none"> ○ Great for conversation ○ Great insights to everything ○ “Good for a party or concert!”
2nd	250 – 450 mg	<ul style="list-style-type: none"> ○ More euphoria ○ Decreased sense of time ○ Decreased sense of surroundings
3rd	450 – 800 mg	<ul style="list-style-type: none"> ○ Visual hallucinations, mostly spirals and fluids ○ Popping up of thoughts and feelings of one’s own life ○ “This is definitely not a party plateau.”
4th	800 – 1,800 mg	<ul style="list-style-type: none"> ○ Alien encounters ○ Out of body experiences ○ “Not for beginners—not be done without close access to a hospital and a smart trip-sitter.”
5th	Over 1,800 mg	<ul style="list-style-type: none"> ○ Very few reports of a 5th plateau ○ Profuse sweating, extreme nausea, blackouts ○ “Point of no return. Unless you want to go through physical and mental hell, don’t try and hit this point.”

DXM Dosage Calculator

This is a simple calculator designed to help you discern how much [DXM](#) you need to take reach each plateau of experience, depending on variable factors such as weight and concentration of the product you're using. For a description of the plateau model, and the effects you can expect at each level, click [here](#).

DXM-containing products may also contain several potentially dangerous adulterants; you must make sure that your product contains only DXM as its active ingredient. For more information about DXM adulterants, see [here](#).

For information about combining DXM with other drugs, check out our [Combo Chart](#). Make sure to read the label and research the product thoroughly before use.

Auto Manual

Auto mode:

NOTE: All products listed here contain DXM hBr as the sole active ingredient.

I weigh in and I want to take

Plateau	Minimum	Maximum
1st:	0 (ml)	0 (ml)
2nd:	0 (ml)	0 (ml)
3rd:	0 (ml)	0 (ml)
4th:	0 (ml)	0 (ml)

Note: You should always start low and work your way up until you find the doses that are right for you.

Please note, these tools were developed and tested to the best possible ability by the TripSit team, and the greatest effort has been made not to produce incorrect or misleading results, though for unforeseen reasons these may occur. Always check your maths, and be careful. If you have any questions, suggestions or error reports on this tool, you can contact us [here](#).

Weight Range

Dosage

I weigh

70

lbs

kg

Hide weight

Dose range for 1st plateau:

105 mg to 193 mg, recommended dose is 189 mg.

Dose range for 2nd plateau:

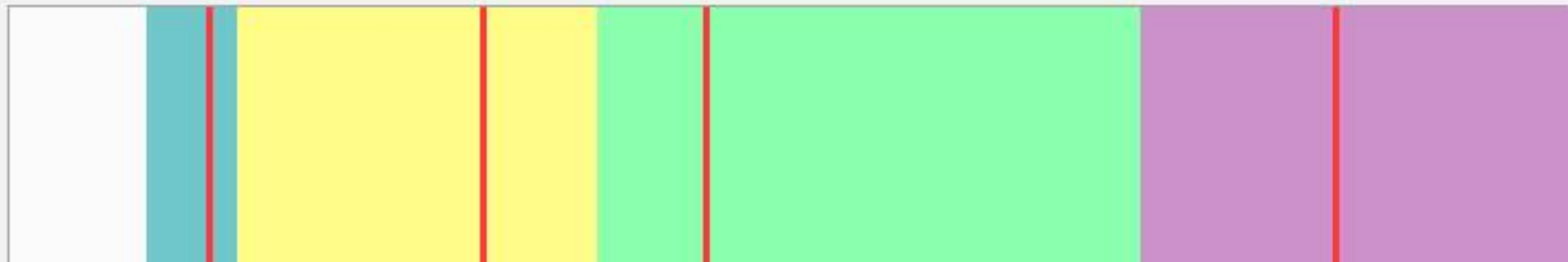
175 mg to 525 mg, recommended dose is 448 mg.

Dose range for 3rd plateau:

525 mg to 1050 mg, recommended dose is 658 mg.

Dose range for 4th plateau:

1050 mg to 1400 mg, recommended dose is 1260 mg.



DXM

+Insights

-Hell

Anabolic-Androgenic Steroids

+ Good looking body

- Hulk Smash

- Negative bodily perception, weightlifters, bodybuilders, athletes
- Includes testosterone and synthetic derivatives
- Acts on androgen receptor for anabolic effects (muscle building) or androgenic effects.
- Causes gene transcription and protein synthesis
- Use could be- stacking/pyramiding, cycle/off cycle
- Addition of other substances- hCG, GH, alpha-reductase inhibitor

AAS: Adverse effects

- Cardiovascular effects-hypertension
- Endocrine effects- hypogonadism, erectile dysfunction, gynecomastia, amenorrhea
- Manic/hypomanic symptoms- “Riod rage”
- Tendon injuries
- Skin- acne

AAS: Withdrawal

- Depressive symptoms and anxiety
- Treatment with CBT for body image concerns and depression
- May start on SSRI if image issues become obsessions
- Medical complications best managed by specialist

- Carlos is a 40- year-old gay man. In his 20's, he scored drugs and hooked up at bars and parties. In his 30's, it was all about the apps. Now, it's "all of the above." He finds himself in trouble one weekend at a party in New Orleans, where a new friend gave him something that made him feel a little drunk, relaxed, and sexually disinhibited. After a few hits, he feels sedated, confused, and his gait becomes unsteady. He passes out and needs to be revived by the EMS people who take him to the hospital where he is admitted to ICU with severe bradypnea.

Question:

What substance is most likely responsible?

(Poll Question)

References

- [Adopted from Emerging drug by Dr Petros Levounis, MD, MA](#)
- [Absolute Addiction psychiatry review](#)
- <https://doi.org/10.1016/j.jphs.2016.10.001>
- <https://dxm.tripsit.me/>