JPP Tweetorial August 2020

[**Dr Sharon Rees**](https://twitter.com/reesprescribe)

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7 days of [#cyclizine](https://twitter.com/search?q=%23cyclizine); an antihistamine with its clinical niche as an anti-emetic. It bears chemical similarity to the ‘piperine’ structure found in the black pepper plant. Developed in 1947, its popularity increased after NASA selected to treat space sickness for the Apollo missions

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Day 2: UK indications [#cyclizine](https://twitter.com/search?q=%23cyclizine) include nausea,vomiting,vertigo,motion sickness,labyrinthine disorders, nausea & vomiting in palliative care. Oral, i.v.,i.m, s.c (palliative),adults 50-150mg/day & children >1month (dose variable, injection unlicensed + tablets <6yr). Unlicensed use for morning sickness (if persistent symptoms)

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Day 3: MOA: Emetic stimuli such as labyrinthine disturbance & triggers to vomiting centre/chemoreceptor trigger zone, evokes histamine 1(H1) +M1 receptors. [#cyclizine](https://twitter.com/search?q=%23cyclizine) is an antagonist at both H1 & muscarinic receptors; also a CNS depressant but precise anti-emetic mechanism unknown

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Day 4: Kinetics [#cyclizine](https://twitter.com/search?q=%23cyclizine); good oral absorption, effects within 30 mins lasting 4-6 hrs. Oral t½ 20 hours, i.v 13 hours. Elimination poorly understood; clearance believed to be extra-renal. Absence of detail in drug literature possibly because of age &/or quality of supporting data

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Day 5: Low incidence of drowsiness, but unknown frequency for most [#cyclizine](https://twitter.com/search?q=%23cyclizine) ADRs, including insomnia, reduced appetite, nausea/vomiting, movement disorders, hallucinations (not exhaustive). Anti-cholinergic effects include urinary retention, constipation, dry mouth, blurred vision.

CAUTIONS for [#cyclizine](https://twitter.com/search?q=%23cyclizine) include severe heart failure & epilepsy; [#cyclizine](https://twitter.com/search?q=%23cyclizine) can enhance opioid action re CNS depression

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Day 6:[#cyclizine](https://twitter.com/search?q=%23cyclizine) drug-drug interactions; multiple moderate; severe (increased risks of antimuscarinic effects) with isocarboxazid,phenelzine,tranylcypromine. Additive effects with other CNS depressants including alcohol & may enhance toxicity of alcohol. Care re anti-cholinergic burden

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Day 7: i.v formulation of cyclizine can cause euphoria and addiction. ‘Recreational’ use to induce psychoactive effects e.g hallucinations, which are also promoted in combination with agents such as methadone. Has been associated with addictive behaviour

CPD: in addition to the tweets, read the BNF section on ‘Nausea and labyrinth disorders’ and the monograph on Cyclizine. Another useful source is the Summary of Product Characteristics for Cyclizine – see link below

<https://www.medicines.org.uk/emc/product/4318/smpc>

10 CPD questions (most but not all answers will be in the tweets). There is only one correct answer per question

1. Cyclizine is licensed for motion sickness in adults and children over the age of six?

TRUE or FALSE

1. Which of the following is TRUE?
2. Cyclizine has anti-cholinergic effects which have no benefit but cause adverse drug reactions
3. Cyclizine has anti-cholinergic effects which contribute to the anti-emetic actions, as well as cause adverse drug reactions
4. Cyclizine may be used safely with alcohol
5. As an anti-emetic drug, cyclizine cannot itself cause nausea or vomiting
6. Cyclizine is an M1 receptor agonist

TRUE or FALSE

1. Which of the following is NOT an ADR associated with cyclizine?
2. Seizure
3. Urinary retention
4. Movement disorders
5. Arthralgia
6. Cyclizine is associated with a low risk of drowsiness

TRUE or FALSE

1. Which of the following best describes the mechanism of action for cyclizine?
2. CNS sedation reduces the sensations of nausea
3. Agonism of the M3 receptors impairs the chemoreceptor trigger zone
4. It blocks the emetic dopamine pathways from the gut
5. It antagonises central histamine and cholinergic pathways linked to emesis
6. A licensed use for cyclizine is morning sickness

TRUE or FALSE

1. Which of the following is TRUE?
2. Cyclizine scores the highest (3) on the anti-cholinergic burden score
3. Elimination is thought to be predominantly renal
4. Cyclizine is best taken as soon as motion sickness symptoms begin
5. Diabetes is a caution for use
6. Cyclizine may be used to manage nausea and vomiting in palliative care

TRUE or FALSE

1. Which of the following has a ***severe*** drug-drug interaction with cyclizine
2. Amitriptyline
3. Oxycodone
4. Isocarboxazid
5. Risperidone