JPP December 2021

7 days of #nystatin

[](https://twitter.com/reesprescribe%22%20%5Ct%20%22_blank)

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Day 1; Discovered via painstaking screening of soil samples in 1950 by Elizabeth Lee Hazen & Rachel Fuller Brown, [#nystatin](https://twitter.com/search?q=%23nystatin) is a mixture of antifungal polyenes derived from the bacteria Streptomyces noursei. From the hundreds of cultures tested, the species was discovered in the garden of a friend, surname Nourse! [#nystatin](https://twitter.com/search?q=%23nystatin) is so called because the women worked at the New York State Dept of Health.

Day 2; [#nystatin](https://twitter.com/search?q=%23nystatin) is a broad spectrum anti-fungal used for oral cavity candida infections. Oral suspension 1ml (100,000 units) is dropped into mouth after food four times daily for 7 days; Half the dose to each side of the mouth. Usually 2nd line to miconazole/used when miconazole not suitable. [#nystatin](https://twitter.com/search?q=%23nystatin) can be used to soak dentures overnight to prevent recurrence of oro-pharangeal thrush, in conjunction with miconazole/fluconazole treatment

Day 3: Nystatin suspension is rinsed around & held in mouth for as long as possible before spitting out. It should be continued for 48 hrs after lesions resolve. [#nystatin](https://twitter.com/search?q=%23nystatin) is also added to some steroid, antiseptic & antibiotic creams for a Candida component of skin infections. Used in all age groups, but unlicensed in UK for neonates

Day 4: [#nystatin](https://twitter.com/search?q=%23nystatin) is used topically, but if swallowed, there is no apparent absorption from the gut. Not used parenterally re high systemic toxicity. It is possible for a low concentration to enter systemic circulation, especially if inflammatory damage. Excreted unchanged in faeces. Unknown effects in pregnancy/lactation, so only used if benefits outweigh risks.

Day 5: [#nystatin](https://twitter.com/search?q=%23nystatin) mechanism of action. [#nystatin](https://twitter.com/search?q=%23nystatin) binds preferentially to ergosterol in the cell membrane & forms a channel. This causes a change in cell permeability, leading to K+ leakage, followed by fungal cell lysis/death

Day 6: Adverse drug effects; [#nystatin](https://twitter.com/search?q=%23nystatin) can cause nausea, vomiting, diarrhoea, GI irritation. Rare; rash, SJS & hypersensitivity. As it contains sucrose, can affect some intolerance/malabsorption syndromes, as well as diet & diabetic control; also high in sodium. (NOT exhaustive)

Day 7: [#nystatin](https://twitter.com/search?q=%23nystatin) has no drug-drug interactions! There is little reported about resistance, but always important to use as directed. [#nystatin](https://twitter.com/search?q=%23nystatin) is not usually used for prophylaxis in high-risk patients, to minimise development of anti-fungal resistance. An oral agent e.g fluconazole & antiseptic mouthwash can be used

**CPD -** in addition to the tweets, read the BNF section treatment summary on antifungals, systemic use, as well as the monograph on nystatin

**https://bnf.nice.org.uk/treatment-summary/antifungals-systemic-use.html**

[**https://bnf.nice.org.uk/drug/nystatin.html**](https://bnf.nice.org.uk/drug/nystatin.html)

**The SPC for nystatin oral suspension also contains some useful information**

[**https://www.medicines.org.uk/emc/product/408/smpc**](https://www.medicines.org.uk/emc/product/408/smpc)

1. Nystatin is a narrow spectrum anti-fungal drug

TRUE or FALSE

1. Nystatin can be used in all age groups

TRUE or FALSE

1. Nystatin should be continued for 12 hours after oral thrush has resolved

TRUE or FALSE

1. The primary use for nystatin is
2. Vaginal thrush
3. Oral candidiasis
4. Oesphageal aspergillosis
5. Venous ulcer infections
6. Nystatin is not known to be harmful in lactation, but caution is required

TRUE or FALSE

1. Which of the following best describes the mechanism of action?
2. Nystatin dismantles ergosterol structure
3. Nystatin interferes with ergosterol production
4. Nystatin attaches to ergosterol and creates ‘pores’ which cause cell content leakage
5. Nystatin inhibits the cell transport of ergosterol
6. Which of the following is a common adverse drug effect?
7. Diarrhoea
8. Hypersensitivity
9. Constipation
10. Hepatotoxicity
11. There is a caution with this drug if someone has diabetes mellitus

TRUE or FALSE

1. There is growing resistance to nystatin in the UK

TRUE or FALSE

1. There are no drug-drug interactions for nystatin

TRUE or FALSE