

Nystatin Information Document

TREATMENT OF FUNGAL TYPE DYSBIOSIS

In addition to an appropriate diet, the treatment most commonly employed to reduce the burden of fungal or yeast over growth (fungal dysbiosis) is Nystatin although Fluconazole, Itrakonazole, or natural antimicrobials such as Caprylic Acid or grapefruit seed extract may be used either in combination or as an alternative to Nystatin when necessary.

Safety

Nystatin has an outstanding safety record and has been used by the medical profession for over 65 years since its original discovery. There is virtually no absorption from the gut, limiting any systemic side-effects. Nausea and diarrhoea and other mild digestive effects have been reported when Nystatin has been taken in large dosages over prolonged periods, probably due to a local irritating effect on the gut mucosal lining. An indirect side-effect, the Herxheimer's reaction is discussed in detail later. There are no known adverse interactions with any other drugs.

How to take Nystatin

Nystatin in powder form is available in 25g pots. The powder is usually dispersed in water. The normal starting dose is half a level teaspoon per day dispersed in approximately 150ml of a fluid of your choice. The mixture is then consumed in three or four equal volumes throughout the day, preferably before food and before bed. The dosage is gradually increased to the maximum prescribed dose per day.

Alternatively, patients may prefer to encapsulate the Nystatin powder into empty capsules (size 0), which they fill themselves. One hundred empty capsules encapsulate the content of one 25g pot of Nystatin. The empty capsules are pulled apart and as much powder as possible is pushed into both the larger and the smaller sides of the capsule. The two sides are then pressed together to seal the capsule and its contents. Usually a pot of 100 capsules can be made up in approximately 45 minutes. Once the treatment is started, the first pot of powder lasts approximately 3 weeks. The second pot may last 2 weeks, but when full dosage is attained a pot of powder may last around 10 days.

Please note that although Nystatin may also be available on prescription from chemists in the form of tablets, these are not recommended because:

1. The tablets are sugar coated
2. They contain additives and dyes which may act as irritants

Nystatin dosage schedule

A 5ml plastic teaspoon is needed for measuring the dosage. The normal starting dose is ½ level teaspoon per day. The teaspoon should be levelled with a knife and excess powder returned to the pot. A ½ level teaspoon can be reasonably well estimated by removing ½ of the powder on the teaspoon with a knife and returning it to the pot. This ½ level teaspoon can then be placed in a cold liquid drink preferably water or alternatively any of the cold permitted beverages on your diet sheet. The measured dose of Nystatin powder should be placed in a glass bottle with a screw on top containing approximately 100-150ml of fluid and shaken to disperse.

As Nystatin does not dissolve in liquid, it should be shaken each time before use. As the dose of Nystatin increases you may wish to increase the quantity of water in which the water is diluted. It should then be taken at preferably 4 equal intervals throughout the day. Thus a convenient schedule for adults would be:

- 1/2 level teaspoon per day divided into 4 equal amounts for 5 days
- 3/4 level teaspoon per day divided into 4 equal amounts for 5 days
- 1 level teaspoon per day divided into 4 equal amounts for 5 days
- 1 1/4 level teaspoons per day divided into 4 equal amounts for 5 days
- 1 1/2 level teaspoons per day divided into 4 equal amounts for 5 days
- 1 3/4 level teaspoons per day divided into 4 equal amounts for 5 days
- 2 level teaspoons per day divided into 4 equal amounts for 5 days
- 2 1/4 level teaspoons per day divided into 4 equal amounts for 5 days
- 2 1/2 level teaspoons per day divided into 4 equal amounts for some weeks/months

2) Capsules

If self-made capsules are preferred, the idea is to take the Nystatin capsules spread evenly over the while day in about three or four doses. Thus a convenient schedule for adults would be:

	AM	Lunch	PM	Evening
2 Nystatin capsules per day for 5 days	1	0	1	0
3 Nystatin capsules per day for 5 days	1	1	1	0
4 Nystatin capsules per day for 5 days	2	1	1	0
5 Nystatin capsules per day for 5 days	2	1	2	0
6 Nystatin capsules per day for 5 days	2	2	2	0
7 Nystatin capsules per day for 5 days	3	2	2	0
8 Nystatin capsules per day for 5 days	3	2	3	0
9 Nystatin capsules per day for 5 days	3	3	3	0
10 Nystatin capsules per day	3	2	3	2

Whilst the total length of treatment varies from case to case, most patients need to remain on the full dosage of Nystatin they have been prescribed for at least two to four months, although palpable clinical improvement may occur earlier in the course of the treatment. This prolonged course of treatment is important to ensure effective and lasting reduction of the total load of fungal species that are being targeted.

Possible Reactions to Nystatin

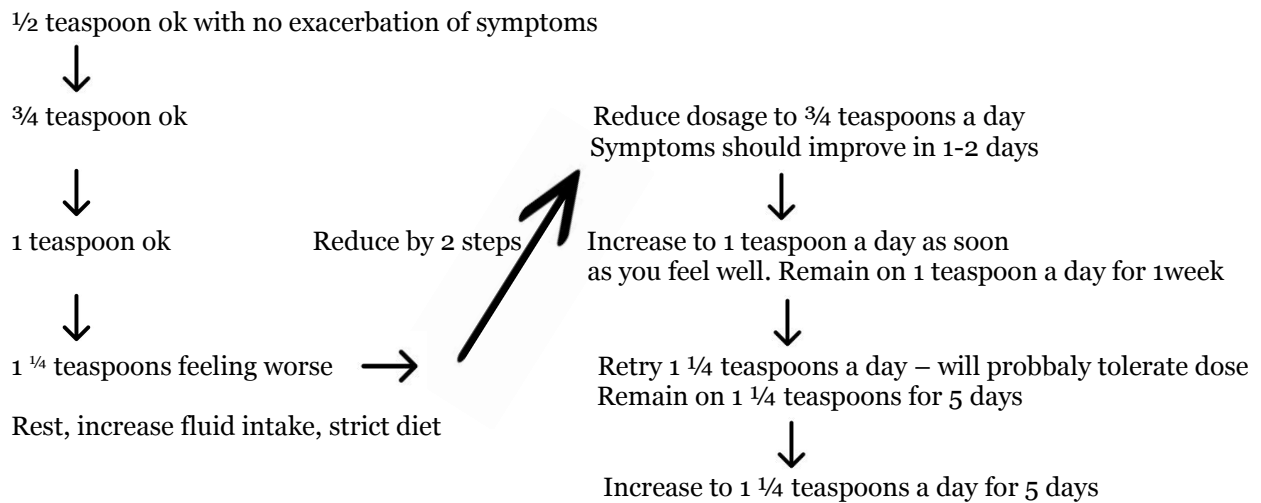
The reason for the slow build up in dosage of Nystatin relates to the possibility of a Herxheimer response. Nystatin itself, as stated above is associated with very few or mild side effects, but as it makes its way through the alimentary canal it effectively kills off yeast and fungal species which are sensitive to its action. Under an electron microscope it can be seen that the cell walls of these organisms disintegrate when they come into contact with Nystatin. These cells contain endotoxins such as candida toxin in the case of Candida species and so as large numbers of yeasts are killed, higher levels of endotoxins are released.

Any endotoxin absorbed through the gut as the microorganisms die in the normal course of the treatment may trigger symptoms both locally in the digestive system and beyond. The higher the number of microorganisms present and the higher the dose of Nystatin used, the more likely the risk of reactions and an accentuation of symptoms. This is especially true of symptoms which correspond to higher levels of antigens released and metabolites produced by the microorganisms. Thus, symptoms such as bloating, fatigue, depression, bowel disturbance, etc. may all worsen in the presence of higher number of yeasts or fungal species and a rapid rate of increase in the dose of the medication.

The idea of a slow build-up of the dose of Nystatin in combination with a no sugar, low carbohydrate diet is to avoid this possible problem given that fungal species rely on dietary sugars as their key source of fuel. Therefore without restricting the dietary intake of sugars the process will be less effective, more prolonged, with a higher chance of adverse reactions. If the protocol is followed strictly, then in most patients, the problem is a mild transitory nuisance. However patients with a tendency to hypersensitivity especially to fungal antigens or metabolites, the treatment can cause greater challenges in which case it may be necessary to assess further approaches to the treatment in subsequent follow up consultations.

Dealing with a Herxheimer (Die-Off) Reaction

A typical series of events is depicted below:



And so on, up to 2 1/2 teaspoons a day

If further die-off reactions occur at higher doses of 1 1/2, 1 3/4, 2, 2 1/4, or 2 1/2 teaspoons a day, follow the same procedure irrespective of the dose. If you have recurrent reactions please drop down to the dose when you last had any reactions until your next follow up appointment. The same protocol applies to taking Nystatin whether in powder or capsule form.

It is necessary to evaluate the response 6-7 weeks after stating treatment.

Nystatin Powder Supplier;

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