

NYSTATIN

*Nystatin is available in several forms, the powder being the most effective. 1/8 teaspoon of powder is equal to a dose of one tablet; however, unlike the tablet, when mixed and used as a liquid, the powder destroys yeast in the mouth and esophagus (bypassed by a tablet).

*Measure the powder with a standard set of measuring spoons. Do not pack the powder and do not mix the powder with liquid until just before taking.

*Keep nystatin refrigerated and tightly closed. The medicine will not spoil at room temperature, but will lose potency over time. Nystatin will degrade more rapidly if exposed to air or warm temperatures for extended periods.

Oral Administration:

- * Add a few ounces of water (or other liquid) to the measured dose of powder and stir.
- * Swish each mouthful for 20-30 seconds before swallowing.
- * Take the nystatin orally four times per day unless otherwise instructed.
- * It is important to space these doses throughout the day. Doses should be taken around breakfast, lunch, dinner, and bedtime.
- * Nystatin may be taken on an empty or full stomach; however, many patients find that they are better able to tolerate the nystatin when taken with food.

Vaginal Administration:

- * Obtain a box of #4 gelatin capsules from the pharmacy. Fill the capsule halfway with the same powder used for oral administration and insert vaginally.
- * To fill the capsule: pull it apart and push the long end, open side down into the powder until full, then fit the halves of the capsule back together. Several vaginal capsules may be made up ahead of time as long as they are kept in a container in the refrigerator.
- * Use the capsules twice per day, morning and night, unless otherwise instructed. Vaginal capsules should be continued during the menstrual period.

Beginning instructions for nystatin are as follows:

Oral Dose: 1/8 tsp. of powder four times per day.
Vaginal Dose: one capsule two times per day.

DIET IN THE TREATMENT OF CHRONIC CANDIDIASIS*

Symptoms may result when the yeast *Candida albicans* succeeds in penetrating tissues. Some of these symptoms result from allergic reactions to yeast products entering the bloodstream from the sites of tissue invasion, while others may be due to toxic mechanisms (non-allergic). Finally, the symptoms in the intestinal tract and vagina originate, at least in part, from the sites of tissue invasion by this fungus (mold).

Diet is important in reversing this process. There seem to be at least two ways in which the wrong foods aggravate this condition. First, yeast-containing foods may lead to an increase in symptoms that are allergically induced. Second, yeast uses carbohydrates efficiently.

There are many varieties of yeast in nature in addition to those that live on the skin and mucous membranes of animals, including humans. These yeasts are closely related biologically. Yeasts are among the normal surface organisms of most living things and are largely responsible for the decay of substances that originally were living (organic). Thus there is no such thing as a practical "mold-free diet," and any attempt to implement such a diet is futile. A diet must be chosen that is reasonable and can be followed for an extended period of time. Some physicians give a list several pages long of foods to be omitted. It is impractical for anyone to adhere to such a severe restriction of commonly eaten foods and, in my experience, is unnecessary in controlling the clinical manifestations of chronic yeast infection.

The foods that patients have learned are most troublesome should be omitted, at least in the beginning. Among others, these include fermented beverages and vinegar, and foods containing these substances. Mushrooms are fungi and should be avoided. Aged (moldy) cheeses are poorly tolerated; cottage cheese is allowed (although some physicians prohibit it also). All types of bread that contain yeast (loaf bread, rolls, crackers, pastries)

*Diet—Reprinted is an exact copy of our handout to patients. It includes both diet and the previous page on nystatin.

should be avoided, in contrast to cornbread or biscuits made with baking powder, both of which are allowed. Any patient who notes a particular food that repeatedly induces symptoms should, of course, add that food to the list of foods to be avoided in his or her particular case.

In identifying low-yeast foods, certain principles are helpful. Foods that can be peeled or shelled, or from which the juice can be squeezed, or that may be cut open and eaten immediately, will probably be as close to "yeast-free" as is possible. Examples might be bananas, citrus fruits, melons, peas, beans, and potatoes. However, once the inner portion of the food has been exposed to air by cutting open, peeling, or juicing, yeast begins to colonize it. Therefore foods should be eaten immediately in order to take advantage of the elimination of surface yeast. Remember also that handling the food while processing it in this way will contaminate the hands with yeast, which will, unless care is taken, be transferred to the exposed food.

A good example is the high yeast content of fruit juices that have been processed into frozen, canned, or bottled forms. For example, when oranges or apples are cut or crushed for such processing, the interval between the beginning and end of processing allows yeast to colonize the exposed fruit or juice. Contrast this to squeezing and drinking the juice immediately as a source of "yeast-free" orange juice.

There is no way to know specifically the yeast content of many foods. Labels often indicate that yeast has been added, but many times it will be present even though not indicated on the label. In general, any food that has come from a processing company is a candidate to be contaminated with yeast, either intentionally or accidentally. Also remember that preparation and cooking methods may introduce additional yeast and carbohydrates into otherwise acceptable foods. For example, meat that is barbecued has often been treated with vinegar, and that which is fried has often been breaded. It is therefore best, especially in the early stages of treatment, to eat meat and fish that have been cooked without the addition of other substances (except salt) and to rely on fresh vegetables and fruits.

other contraindications, a restriction to 60-80 or perhaps 100 grams of carbohydrate per day is well tolerated in most cases, and during the first few weeks or months of treatment adherence to the diet contributes greatly to early improvement in symptoms. The long-term management of diet in all situations must aim at a proper balance of the various classes of foods, as well as intake of vitamins and necessary minerals.

It is important to remember that restriction of carbohydrates removes calories from the diet. These must be replaced by an equal number of calories as protein or fat; otherwise the patient is, in effect, on a reducing diet and will lose weight. Most people require approximately 1800-2200 calories per day to maintain an even weight; therefore, in treating candidiasis, once excess weight has been removed, the total caloric intake must be adjusted to the point necessary to stop weight loss in that particular individual. The level of thyroid activity as well as other factors influence this. The scales are the only way of finally determining the necessary caloric intake for each individual.

To prevent further weight loss in a patient already thin, carbohydrate calories must be replaced with protein and fat calories; certain foods are helpful. Some recommended foods include meat and fish, nuts that have just been shelled, peanut butter, canned tuna packed in oil rather than water, high-calorie cottage cheese, and avocados. This is not meant to be a complete list, but indicates in general how extra calories may be obtained with a minimum increase in carbohydrate and yeast intake. Peanuts are not as yeast free as nuts with hard shells since the shell of the nut is porous and often will have a hole in it that could have provided access for yeast. Peanut butter, of course, has mold in it, but patient experience has indicated that this is not a significant problem.

Attached is a short list of foods that experience has shown to be the most troublesome. This is simply a starting point, and must be modified to individual food tolerances or allergies and according to other medical conditions in which other dietary considerations might outweigh the indication for a diet designed for yeast control. It is always wise to check with your family physician regarding any possible dietary conflict.

DIET

General Rules:

Follow the diet as strictly as possible, especially the first six to eight weeks of treatment. If in doubt about any food, do not eat it.

Limit total carbohydrate intake to 80 grams per day. Patients may want to consider purchasing a carbohydrate gram counter to assist in tracking daily carbohydrate intake. These books are available at most bookstores.

Avoid B vitamin supplements and multi-vitamins, which will contain the B vitamins. Women of child-bearing age, for whom pregnancy is a possibility, are an exception, and should be sure to take folic acid daily. All other individual vitamins and minerals, such as A, C, D, E, K, calcium, and magnesium, are allowed. Look for yeast-free brands. Herbal supplements are not allowed.

Fresher is better! In general, fresher foods will contain less mold. Keep leftovers for only about one day. Eat only freshly opened canned foods. Foods that need to be kept for an extended period should be frozen. Also, homemade sauces and dressings can be frozen in individual portions, such as in ice cube or popsicle trays.

Read Labels! Yeast is used as a flavor enhancer in many processed foods. Read the ingredients and avoid products that contain yeast or malt.

Foods to avoid:

- * aged cheeses
- * alcoholic beverages
- * vinegar and vinegar containing foods
- * soured breads and any breads or pastries containing yeast
- * pickled, smoked, or processed meats or fish
- * sauerkraut
- * cider
- * mushrooms
- * anything dried (dried fruits, dried herbs, tea, etc.)
- * fruit juices, unless freshly squeezed
- * any other moldy or fermented foods