

Candida & Nutrition

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What is Candida?

- Candida is a type of yeast
- Most common cause of fungal infections worldwide



Candida albicans

- Most common species of candida
- *C. albicans* is part of the normal flora of the mucous membranes of the respiratory, gastrointestinal and female genital tracts.
- Causes infections

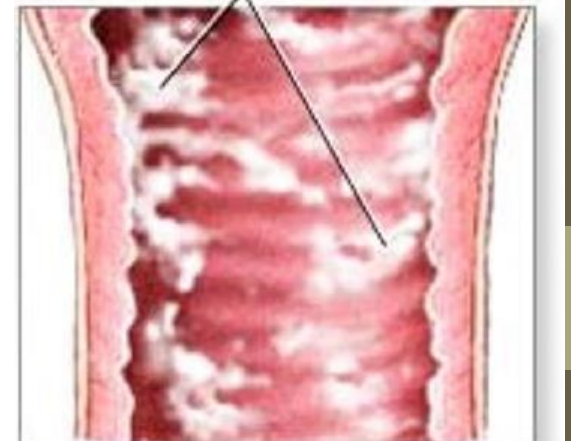


Candidiasis

- Overgrowth of candida can cause superficial infections
 - Commonly known as a “yeast infection”
 - Mouth, skin, stomach, urinary tract, and vagina
- Oropharyngeal candidiasis (thrush)
 - Oral infections, called oral thrush, are more common in infants, older adults, and people with weakened immune systems
- Vulvovaginal candidiasis (vaginal yeast infection)
 - About 75% of women will get a vaginal yeast infection during their lifetime



Candida albicans
on the vaginal walls



Causes of Candidiasis

- Humans naturally have small amounts of *Candida* that live in the mouth, stomach, and vagina and don't cause any infections.
- Candidiasis occurs when there's an overgrowth of the fungus



RISK FACTORS

WEAKENED IMUMUNE SYSTEM

- Infants
- Elderly

ASSOCIATED FACTORS

- HIV/AIDS (Immunosuppression)
- Diabetes
- Corticosteroid use
- Antibiotic use
- Contraceptives
- Increased estrogen levels

Type 2 Diabetes – Glucose in vaginal secretions promote Yeast growth. (**overgrowth**)

Treatment

- **Antifungal medications**

- Oral rinses and tablets, vaginal tablets and suppositories, and creams.
- For vaginal yeast infections, medications that are available over the counter include creams and suppositories, such as miconazole (Monistat), ticonazole (Vagistat), and clotrimazole (Gyne-Lotrimin).
- Your doctor may prescribe a pill, fluconazole (Diflucan).



The Candida Diet

- **Avoid carbohydrates:** Supporters believe that *Candida* thrives on simple sugars and recommend removing them, along with low-fiber carbohydrates (eg, white bread).
- **Avoid yeast-containing foods:** Examples include beer, wine, vinegar, baked goods, and mushrooms.
- **Use probiotics:** Advocates say this will help introduce more "healthy" bacteria to the gut to help prevent a build-up of *Candida*. Yogurt with probiotics and/or supplements may be recommended.
- **Candida cleanse:** These types of diets tend to begin with detoxification, where fasting may be promoted, or a diet restricted to vegetable juice, colon cleansing, or consumption of herbs with antifungal properties.



Candida Research

- One study published in *Microbial Ecology in Health and Disease* looked at the dietary influence of various carbohydrates in vitro on the adherence of Candida to human epithelial cells.
- The study examined the effect of various carbohydrates including fructose, galactose, glucose, maltose, sorbitol, and sucrose.
- The results found that galactose and glucose promoted a higher adhesion as compared with maltose and fructose.



Issues with the Candida Diet

- The "Candida diet" allows no alcohol, no simple sugars, no yeast, and very limited amounts of processed foods.

It is not clear whether the diet actually gets rid of *Candida* or helps people feel better because it is a healthful diet.

- Not enough research to suggest that dietary strategies help resolve *Candida* infections.
- Restrictive diet can lead to deficiencies in certain nutrients; in those with a weakened immune system, dietary restriction can cause a decrease in consumption of nutrients necessary to improve immune system function.
- Many people with *Candida* can actually have a gluten sensitivity or other food sensitivity. Once those are corrected, the *Candida* may improve.

Alternative Therapies

- **Probiotics**, *Lactobacillus acidophilus* or *bifidobacterium* may help restore normal balance of bacteria.
 - Taking probiotics or "friendly bacteria" at the same time that you take antibiotics may help prevent a buildup of *Candida*
 - Evidence is mixed
 - If you take drugs to suppress your immune system, ask your doctor before taking probiotics.
- **Vitamin C, vitamin E, and selenium**, help reduce inflammation and keep your immune system strong.
 - Fruits and Vegetables
 - Nuts



Alternative Therapies

- **Essential fatty acids** Help reduce inflammation. A mix of omega-6 (evening primrose) and omega-3 (fish oil) may be best. It also helps to reduce animal fats in your diet and increase your intake of fish and nuts.
- **Caprylic acid** may have antifungal properties.
- **Propolis**, a natural substance created by bees from pine resin, has antifungal properties according to test tube studies. One study in humans showed that a special propolis preparation got rid of oral thrush in people who had denture stomatitis (mouth sores).



Recommendations

- Choose a diet that boosts immune function, beneficial bacteria, fiber, and nutrients, while decreasing sugar and processed foods.
- Choose:
 - Yogurt
 - Whole grains
 - Fruits and Vegetables
 - Fish
 - Nuts
- Limit:
 - Simple sugars and refined grains



Questions?



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