



# Vaginal Candidiasis

## Vaginal Candidiasis

Vaginal candidiasis is a fungal or yeast infection of the vulva and/or vagina. It causes a smelly, thick, white-yellow discharge that might be accompanied by itching, burning and swelling. It can also make walking, urinating or sex very painful.

Vaginal candidiasis can be an occasional problem for even the healthiest woman. However, it's more common and severe in women with weakened immune systems. For many, a repeating or worsening vaginal yeast infection is the first symptom of HIV infection. This infection can occur at any CD4+ cell count but is likely to occur more often when your CD4+ count falls below 100.

### Cause

Vaginal candidiasis is caused by the fungus called *Candida*. Everyone has small quantities of the fungus in the mouth, vagina, digestive tract and skin. In healthy persons, "friendly" bacteria and the immune system prevent the fungus from causing infection. However, if you have a damaged or weakened immune system, it's easier for *Candida* to grow and cause disease.

Certain drugs can alter the natural organisms in the vagina, which can then promote the growth of *Candida*. These include the extended use of antibiotics, steroids and oral contraceptives (birth control) with a high estrogen content. Other factors that may cause candidiasis include: diabetes, pregnancy, using antihistamines (drugs commonly used to prevent allergies and rash) and iron, folate, vitamin B12 or zinc deficiency. Factors that may weaken the immune system—from cancer chemotherapy to stress and depression—can also cause candidiasis. Tight fitting pants and reactions to chemical ingredients found in soaps and detergents can lead to vaginal candidiasis as well.

### Diagnosis

Vaginal candidiasis is usually diagnosed by appearance and symptoms. Because symptoms are similar to many other conditions, like the sexually transmitted disease *trichomonas*, your doctor should confirm a diagnosis by scraping

an affected area for examination under a microscope. Other lab tests are usually done if the infection does not clear up after treatment.

### Treatment

Topical treatments (active only on the area where applied) are the first choices for yeast infections and these generally work for mild-to-moderate cases. These include vaginal creams, suppositories or tablets. Many are available over-the-counter in a drugstore.

Most topical treatments are put into the vagina once or twice a day for three days or once a day for seven days. (See table for drug names and doses). Longer courses (7-14 days) may be more effective in HIV-positive women.

Generally, topical treatments do not cause side effects, but in a small number of women they may lead to vaginal burning, itching or skin rash. A few women have experienced cramps or headaches. Oil-based vaginal creams should be used with caution as they may weaken latex condoms and diaphragms (see chart, page 2).

If topical treatment does not work, or if outbreaks recur often, you may need systemic (throughout the body) drugs. A single oral dose of fluconazole (Diflucan) is increasingly used to treat vaginal candidiasis.

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## Treating Vaginal Candidiasis

Drug Name	Dose	Notes
<b>TOPICAL THERAPIES</b>		
Butoconazole 2% cream	5 grams for 3 days	Available over-the-counter. May weaken latex condoms and diaphragms.
Clotrimazole (Lotrimin) 1% cream	5 grams for 7-14 days	Available over-the-counter. May weaken latex condoms and diaphragms.
Clotrimazole (Mycelex) 100mg vaginal tablet	One 100mg tablet for 7 days or two 100mg tablets for 3 days	
Clotrimazole (Mycelex) 500mg vaginal tablet	Single dose	
Miconazole (Monistat) 2% cream	5 grams for 7 days	Available over-the-counter. May weaken latex condoms and diaphragms.
Miconazole (Monistat) 200mg vaginal suppository	Once a day for 3 days	Available over-the-counter.
Miconazole (Monistat) 100mg vaginal suppository	Once a day for 7 days	Available over-the-counter.
Miconazole (Monistat) 1,200mg vaginal suppository	Single dose	
Tioconazole (Vagistat) 300mg ointment	A single dose	Available over-the-counter.
Terconazole (Terazol 7) 0.4% cream	5 grams for 7 days	May weaken latex condoms and diaphragms.
Terconazole (Terazol 3) 0.8% cream	5 grams for 3 days	May weaken latex condoms and diaphragms.
Terconazole (Terazol 3) 80mg vaginal suppository	Once a day for 3 days	
<b>ORAL THERAPIES</b>		
Fluconazole (Diflucan)	One 150mg dose	Not recommended for pregnant women; sometimes used weekly as a preventive measure.
Itraconazole (Sporanox)	One 100mg dose	Not recommended for pregnant women; sometimes used weekly as a preventive measure.
Ketaconazole (Nizoral)	One 200–400mg dose	Not recommended for pregnant women; sometimes used weekly as a preventive measure.
<b>OTHER THERAPIES</b>		
Nystatin vaginal tablet (Mycostatin)	Applied to affected areas twice a day for three days.	Available over-the-counter. May be useful for recurrent infections (apply every 7 days for 1 month); messy application; can cause vaginal swelling; refraining from sex or use of condom recommended.

# Vaginal Candidiasis



## Preventing Vaginal Candidiasis

There are many practical ways to try to prevent vaginal candidiasis (see below). For women with recurrent vaginal candidiasis, a single dose of fluconazole weekly is sometimes used to prevent the infection. Caution is recommended when considering this approach since extended use of fluconazole can result in candidiasis that becomes resistant to treatment.

Gentian violet has been used to treat and prevent fungal infections for years. It is available without a prescription, but your doctor may have special instructions for preventing vaginal candidiasis. As a prevention strategy, it is applied onto the affected areas with a cotton swab once a week for four weeks, or as instructed by your doctor.

### Practical Prevention Tips

- Avoid douching. Douching changes the normal acid level of the vagina and causes inflammation, both of which may increase the risk of infection.
- Try not to use scented laundry soap, bleach or fabric softeners. Chemicals in scented laundry soap can cause yeast infections. Bleach in your clothes may harm the friendly bacteria that stop *Candida* from taking over. Also, fabric softeners stop moisture from escaping, keeping the skin damp and more likely for yeast to grow.
- Avoid tight clothes which block air flow.
- Wear cotton underwear as it lets air in and moisture out.
- Avoid washing the vaginal area with deodorant, scented soaps or bubble baths.
- Try a non-soap cleanser that is less likely to irritate the vaginal area if yeast infections are a problem for you.

### Food as Prevention

- Decrease or avoid sugars (corn and maple syrup, glucose, fructose and sucrose). Sugars are food for *Candida* and help it grow.
- Decrease or avoid alcohol. Alcohol converts to sugar and helps *Candida* grow.
- Swallow large amounts of garlic. (Fresh is considered best—mince and put into empty gelatin capsules, up to six cloves a day.) Garlic is believed to have some natural anti-fungal properties. *(Note: it is unknown if large amounts of garlic interfere with anti-HIV drugs, but some evidence exists that it may increase the risk of side effects from ritonavir [Norvir].)*
- Drink milk or eat yogurt that contains acidophilus bacteria. Acidophilus is “friendly” bacteria that helps keep your body in balance.

## Treating and Preventing Fungal Infections Naturally

There's a strong connection between what you eat and the health of your immune system. Nevertheless, nutritional approaches to prevent and treat conditions like candidiasis are complicated and controversial. While there isn't a magic recipe that prevents or treats yeast infections in everyone, following some basic guidelines may lower the risk of yeast becoming a problem for you.

Sugar, yeast, dairy, wheat, caffeine, nicotine and alcohol promote the growth of yeast. Nutritionists recommend ingesting as little as possible of these foods and products to decrease the risk and/or severity of yeast infections. Eating larger amounts of foods that may suppress the growth of yeast, like garlic or milk and yogurt that contain acidophilus, may help prevent yeast infections or provide extra treatment for infections that occur.



## Vaginal Candidiasis

### Anti-Fungal Drugs and Pregnancy

The US Public Health Service *Guidelines for the Prevention of Opportunistic Infections* include recommendations about using anti-fungal drugs during pregnancy. In short, the Guidelines recommend that oral *azole* anti-fungals—including fluconazole (Diflucan), itraconazole (Sporanox) and ketoconazole (Nizoral)—should not be used during pregnancy because they have caused birth defects in animal studies.

If you are pregnant and treating or preventing vaginal candidiasis, topical therapies are preferable. Moreover, it's recommended that oral *azole* drugs be stopped in women who become pregnant and that women taking these drugs use effective birth control.

### Conclusion

Candidiasis is among the most common conditions in people with HIV. While it's a relatively common condition in general, it's often the first sign of illness that HIV disease is progressing to a more severe stage, particularly yeast infections that recur or respond less to treatment. Candidiasis outbreaks can be frequent, cause great discomfort and add to the decline in health seen in AIDS.

It's important for you to prevent and treat vaginal candidiasis, like other forms of candidiasis. This will improve the discomfort created by the infection and reduce further damage candidiasis may cause to your immune system.

For information on oral candidiasis, read *Oral Candidiasis* available by calling Project Inform's HIV/AIDS Treatment Hotline at 1-800-822-7422 or by visiting our website at [www.projectinform.org](http://www.projectinform.org).

## Project Inform On Line!



[www.projectinform.org](http://www.projectinform.org)

For more information about accessing Project Inform on the Internet, call the Project Inform Hotline at

**1-800-822-7422**

## The Basic Message

- Learn about HIV testing options and choose one that fits your needs! Be sure your privacy is protected!
- If you're positive, don't panic. If you make your health a priority, chances are you will be reasonably healthy for many years.
- Learn about your healthcare options and local support services.
- Get a complete physical and blood tests for CD4+ cell count & HIV level. Repeat quarterly and watch for trends. Women should get GYN exams and Pap tests every six months, more often if abnormal.
- Work with a doctor to develop a long-term strategy for managing HIV disease.
- If the CD4+ cell count is below 350 or falling rapidly, consider starting anti-HIV therapy. Test at least twice before taking action.
- If anti-HIV therapy fails to reduce your HIV level below the "limit of detection" or below 5,000 copies within 3–6 months, consider a different or more aggressive therapy.
- If the CD4+ count trend stays below 300, consider treatment for preventing PCP. If it stays below 200, start treatment for preventing PCP (if you haven't already done so) and reconsider anti-HIV therapy if not on one. Learn about drug interactions and preventive treatments for opportunistic infections.
- If you started preventive therapies and your CD4+ cell count rises in response to anti-HIV therapy, ask your doctor whether it might be safe to stop certain preventive therapies.
- If your CD4+ cell count stays below 75, consider more frequent blood work—perhaps even monthly. Consider therapies for preventing MAC/MAI and CMV.
- Regularly seek support for your personal, spiritual and emotional needs. It takes more than medicines to keep you well.

### HELPFUL READING FROM PROJECT INFORM

*Day One; Building a Doctor/Patient Relationship; Making Decisions; and Anti-HIV Therapy Strategies*