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Patient information: Vaginal yeast infection (Beyond the Basics)

INTRODUCTION

Vaginal yeast infections (also called yeast vaginitis or vaginal candidiasis) are a common problem in women. The most common symptoms are itching and irritation of the vulva and around the opening of the vagina. Vaginal yeast infections usually occur as infrequent episodes, but can recur frequently and may cause chronic persistent symptoms.

Yeast infections occur mainly in women who are menstruating (having monthly periods). They are less common in postmenopausal women who do not take estrogen and they are rare in girls who have not yet started menstruating.

VAGINAL YEAST INFECTION SYMPTOMS

The most common symptoms of a yeast infection include:

- Itching or irritation of the vulva and around the vaginal opening ([figure 1](#)).
- Pain with urination, vulvar soreness or irritation,
- Pain with intercourse
- Reddened and swollen vulvar and vaginal tissues.
- Some women have no abnormal vaginal discharge. Others have white clumpy (curd-like) or watery vaginal discharge.

Symptoms of a yeast infection are similar to a number of other conditions, including bacterial vaginosis (a bacterial infection of the vagina), trichomoniasis (a sexually transmitted infection), and dermatitis (irritated skin). (See "[Patient information: Vaginal discharge in adult women \(Beyond the Basics\)](#)".)

It is often not possible to know if itching is caused by yeast or other causes. (See '[Self-diagnosis](#)' below.)

VAGINAL YEAST INFECTION CAUSE

The fungus that causes yeast infections (named Candida) normally lives in the gastrointestinal tract and sometimes the vagina. Normally, Candida causes no symptoms. However, when there are changes in the normal flora of the gastrointestinal tract and vagina (caused by medicines,

injury, or stress to the immune system), Candida can overgrow and cause the symptoms described above.

VAGINAL YEAST INFECTION RISK FACTORS

In most women, there is no underlying health problem that leads to a yeast infection. There are several risk factors that may increase the chances of developing an infection, including:

- Antibiotics — Most antibiotics kill a wide variety of bacteria, including those that normally live in the vagina. These bacteria protect the vagina from the overgrowth of yeast. Some women are prone to yeast infections while taking antibiotics.
- Hormonal contraceptives (eg, birth control pills, patch, and vaginal ring) — The risk of yeast infections may be higher in women who use birth control methods containing estrogen. (See ["Patient information: Hormonal methods of birth control \(Beyond the Basics\)"](#).)
- Contraceptive devices — Vaginal sponges, diaphragms, and intrauterine devices (IUDs) may increase the risk of yeast infections. Spermicides do not usually cause yeast infections, although they can cause you to have vaginal or vulvar irritation. (See ["Patient information: Birth control; which method is right for me? \(Beyond the Basics\)"](#).)
- Weakened immune system — Yeast infections are more common in people who have a weakened immune system due to HIV or use of certain medications (steroids, chemotherapy, post-organ transplant medications).
- Pregnancy — Vaginal discharge becomes more noticeable during pregnancy, although yeast infection is not always the cause. (See ["Patient information: Vaginal discharge in adult women \(Beyond the Basics\)"](#).)
- Diabetes — Women with diabetes are at higher risk for yeast infections, especially if blood sugar levels are often higher than normal.
- Sexual activity — Vaginal yeast infections are not a sexually transmitted infection. They can occur in women who have never been sexually active, but are more common in women who are sexually active.

VAGINAL YEAST INFECTION DIAGNOSIS

Yeast infections can be diagnosed with an exam. During the exam, your doctor or nurse will examine your vulva and vagina and swab the vagina to get a sample of discharge. Do not begin treatment at home before being examined.

Self-diagnosis — Women with vulvar itching or vaginal discharge often assume that their symptoms are caused by a yeast infection and then use a non-prescription treatment. However, in one study, only 11 percent of women accurately diagnosed their infection; women with a previous yeast infection were only slightly more accurate (35 percent correct) [1].

Diagnosing and treating yourself:

- Wastes money (on non-prescription treatment)
- Wastes time; you will not feel better until you use the right treatment

- Can make you more itchy and irritated

VAGINAL YEAST INFECTION TREATMENT

Treatment of a vaginal yeast infection may include a pill that you take by mouth or a vaginal treatment.

Vaginal treatment — Treatment for a vaginal yeast infection often includes a vaginal cream or tablet. You apply the cream or tablet inside the vagina at bedtime with an applicator. There are prescription and non-prescription treatments, so ask your doctor or nurse which to use. One, three, and seven-day treatments are equally effective. The duration of treatment should depend upon severity of infection.

Oral treatment — A prescription pill called fluconazole (Diflucan) is another option for treating yeast infections. Most women only need one dose, although women with more complicated infections (such as those with underlying medical problems, recurrent yeast infections, or severe signs and symptoms) may require a second dose 72 hours (3 days) after the first dose.

Side effects of fluconazole are mild and infrequent, but may include stomach upset, headache, and rash. Fluconazole interacts with a number of medications; ask your doctor, nurse, or pharmacist if you have concerns. Fluconazole is not usually recommended during the first trimester of pregnancy due to the potential risk of harm to the fetus.

When will I feel better? — Most yeast infections go away within a few days after starting treatment. However, you may continue to feel itchy and irritated, even after the infection is gone. If you do not get better within a few days after finishing treatment, call your doctor or nurse for advice.

RECURRENT VAGINAL YEAST INFECTIONS

Between 5 and 8 percent of women have recurrent yeast infections, defined as more than four infections per year.

There is no evidence that eating yogurt or other products containing live *Lactobacillus acidophilus*, or applying these products to the vagina is of any benefit in women with recurrent vaginal yeast infections.

Diagnosis — As with initial yeast infections, it is important to correctly diagnose recurrent yeast infections. A woman who has frequent signs and symptoms of vulvar or vaginal irritation or itching should be seen by a healthcare provider to ensure that her symptoms are caused by yeast rather than other common problems (eg, other vaginal infections, allergic reaction or sensitivity, eczema). As with initial infections, self-diagnosis is not accurate enough to recommend treatment.

Most vaginal yeast infections are caused by *Candida albicans*. Persistent or recurrent infections may be due to infection with one of the less common species of *Candida*, such as *Candida*

glabrata or *Candida krusei*. In women with recurrent or persistent symptoms, vaginal cultures should always be obtained to confirm the diagnosis and identify these less common species, if present, since different medications are used to treat these infections.

Treatment — Women with recurrent infections are usually given a longer course of treatment for infections, between 7 and 14 days for a topical (cream or suppository) medication or fluconazole 150 mg by mouth with a second and third dose 3 and 6 days later.

Preventive treatment may be recommended after the infection has resolved; this may include fluconazole (150 mg orally once per week) or clotrimazole (500 mg vaginal suppositories administered once per week).

Treatment of a sexual partner — Vaginal yeast infections are not a sexually transmitted infection, although the infection may rarely be passed from one partner to another. Experts do not recommend treatment of a sexual partner.

PREVENTION

Sporadic attacks of vulvovaginal candidiasis usually occur without an identifiable precipitating factor. Nevertheless, a number of factors predispose to symptomatic infection:

- Diabetes mellitus — Women with diabetes mellitus who have poor glycemic control are more prone to vulvovaginal candidiasis than euglycemic women. Maintaining good glycemic control can help to prevent vaginal infection.
- Antibiotics — One-quarter to one-third of women are prone to vulvovaginal candidiasis during or after taking broad spectrum antibiotics. These drugs inhibit normal bacterial flora, which favors growth of potential pathogens such as candida. In women susceptible to symptomatic yeast infections with antibiotic therapy, a dose of fluconazole (150 mg orally) at the start and end of antibiotic therapy may prevent postantibiotic vulvovaginitis.
- Increased estrogen levels — Vulvovaginal candidiasis appears to occur more often in the setting of increased estrogen levels, such as oral contraceptive use (especially when estrogen dose is high), pregnancy, and estrogen therapy, including topical or intravaginal estrogen therapy.
- Immunosuppression — Candidal infections are more common in immunosuppressed patients, such as those taking corticosteroids or with HIV infection.
- Contraceptive devices — Vaginal sponges, diaphragms, and intrauterine devices have been associated with vulvovaginal candidiasis, but not consistently. Spermicides are not associated with candida infection.
- Behavioral factors — Vulvovaginal candidiasis is not traditionally considered a sexually transmitted disease since it occurs in celibate women and since candida is considered part of the normal vaginal flora. This does not mean that sexual transmission of candida does not occur or that vulvovaginal candidiasis is not associated with sexual activity. As an example, there is an increase in the frequency of vulvovaginal candidiasis at the time most women begin regular sexual activity. Partners of infected women are four times more likely to be colonized than partners of uninfected women, and colonization is often the same strain in both partners. Individual episodes of vulvovaginal candidiasis do not

appear to be related to lifetime numbers of sexual partners or the frequency of coitus, but may be linked to orogenital and, less commonly, anogenital sex.

There is no good evidence showing a link between vulvovaginal candidiasis and hygienic habits or wearing tight or synthetic clothing.

SUMMARY

- Vaginal yeast infections are a common problem in women.
- Itching is the most common symptom of a vaginal yeast infection. Women may also note pain with urination, soreness or irritation, pain with intercourse, or reddened and swollen vulvar and vaginal tissues. There is often little or no vaginal discharge; if present, discharge is typically white and clumpy (curd-like) or thin and watery.
- Symptoms of a yeast infection are similar to a number of other conditions. A physical examination and laboratory testing are needed to determine the cause of symptoms.
- There are several risk factors that may increase the chances of developing a yeast infection, including use of antibiotics, birth control, diabetes, pregnancy, and a weakened immune system (due to chemotherapy, HIV, or certain medications).
- To diagnose a vaginal yeast infection, a healthcare provider will do an examination. It is important to be seen and tested when symptoms are bothersome and before any treatment is used.
- Do not begin treatment for a yeast infection before being examined and tested.
- Treatment of vaginal yeast infection may include a vaginal cream or tablet or a pill taken by mouth.

WHERE TO GET MORE INFORMATION

Your healthcare provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our web site (www.uptodate.com/patients). Related topics for patients, as well as selected articles written for healthcare professionals, are also available. Some of the most relevant are listed below.

Patient level information — UpToDate offers two types of patient education materials.

The Basics — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

[Patient information: Vulvovaginal yeast infection \(The Basics\)](#)

[Patient information: Vaginal discharge in adults \(The Basics\)](#)

[Patient information: Probiotics \(The Basics\)](#)

[Patient information: Diabetes and infections \(The Basics\)](#)

[Patient information: Vulvar itching \(The Basics\)](#)

[Patient information: Vulvar pain \(The Basics\)](#)

Beyond the Basics — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

[Patient information: Vaginal discharge in adult women \(Beyond the Basics\)](#)

[Patient information: Hormonal methods of birth control \(Beyond the Basics\)](#)

[Patient information: Birth control; which method is right for me? \(Beyond the Basics\)](#)

Professional level information — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

[Candida vulvovaginitis](#)

[Desquamative inflammatory vaginitis](#)

[HIV and women](#)

[Clinical manifestations and diagnosis of localized, provoked vulvodynia \(formerly vulvar vestibulitis\)](#)

[Approach to women with symptoms of vaginitis](#)

[Differential diagnosis of vulvar lesions](#)

[Overview of Candida infections](#)

[Screening for sexually transmitted infections](#)

[Acute uncomplicated cystitis and pyelonephritis in women](#)

The following organizations also provide reliable health information.

- National Library of Medicine

www.nlm.nih.gov/medlineplus/yeastinfections.html

- US Department of Health and Human Services

womenshealth.gov/publications/our-publications/fact-sheet/vaginal-yeast-infections.cfm

- The Nemours Foundations

www.kidshealth.org/teen/infections/fungal/yeast_infections.html

[1-3]

Literature review current through: Oct 2013. | This topic last updated: Jun 28, 2013.

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References

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1. [Ferris DG, Nyirjesy P, Sobel JD, et al. Over-the-counter antifungal drug misuse associated with patient-diagnosed vulvovaginal candidiasis. Obstet Gynecol 2002; 99:419.](#)
2. [National guideline for the management of vulvovaginal candidiasis. Clinical Effectiveness Group \(Association of Genitourinary Medicine and the Medical Society for the Study of Venereal Diseases\). Sex Transm Infect 1999; 75 Suppl 1:S19.](#)
3. [Rex JH, Walsh TJ, Sobel JD, et al. Practice guidelines for the treatment of candidiasis. Infectious Diseases Society of America. Clin Infect Dis 2000; 30:662.](#)