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## Vaginal Thrush (Yeast Infection)

Vaginal thrush is an infection of the vagina and/or vulva with a yeast germ called candida.

## What is vaginal thrush?

We are all mostly blissfully unaware of a host of germs which live harmlessly inside us. One of these germs is a type of fungus, a yeast called candida. Fungi like warm, wet places, and a vagina is a perfect home for them. Most of the time, these candida germs reside peaceably within their vaginal abode without causing any problems. In certain conditions, however, the normal happy balance is disturbed and they multiply and then cause symptoms. When there are more of these germs than usual, they cause an inflammation of the vagina or the skin folds outside the vagina (the vulva). You then feel that inflammation as an itch or soreness, and you may notice a discharge.

Vaginal thrush is extremely common. Up to three quarters of women will get it at some point in their lives. It is not considered to be a sexually transmitted infection, although occasionally it is passed on during sex. More often, it is an overgrowth of a germ which is already there but not previously causing a problem.

## What symptoms might I have with thrush?

Itch of the skin folds outside the vagina (the vulva) is the most common symptom of thrush. It may be itchy inside the vagina also.

There may also be soreness of the vulva. Sometimes it may be painful to pass urine and/or painful to have sex. If there is soreness *without* itching, this is more likely to have another cause.

There may also be a discharge from the vagina. Thrush is the second most common cause of a vaginal discharge. (The most common cause of vaginal discharge is bacterial vaginosis. See separate leaflet called Bacterial Vaginosis for more details.)

The discharge from thrush is usually creamy white and quite thick, but is sometimes watery. It can add to the itch, redness, discomfort, or pain around the vulva. The discharge from thrush does not usually smell.

Sometimes symptoms are minor and clear up on their own. Often symptoms can be quite irritating and will not go without treatment.

Symptoms that suggest thrush is severe include:

- Redness (erythema) usually around the vagina and vulva, but may extend to the labia majora and perineum.
- Vaginal fissuring and/or swelling.
- Scratch marks (excoriation) on the vulva.
- Other skin rashes near to the vagina (called satellite lesions) this is rare and may indicate other fungal conditions or herpes simplex virus.

Thrush does not damage the vagina and it does not spread to damage the womb (uterus). If you are pregnant, thrush will not harm your baby.

Symptoms which suggest your symptoms are NOT due to thrush include:

- A smelly or coloured discharge.
- Bleeding between periods or after having sex.
- Needing to pass urine more often.
- A rash or blisters on the skin of the vulva.

#### What causes thrush?

Thrush is an infection caused by types of fungal yeast called *Candida* spp. Small numbers of *Candida* spp. commonly live on the skin and around the vaginal area. These are usually harmless. The immune system and the harmless germs (bacteria) that also normally live on the skin and in the vagina usually stop *Candida* spp. from thriving. However, when conditions are good for *Candida* spp., numbers multiply and may invade the vagina and cause symptoms.

The conditions most liked by *Candida* spp. are warm, moist, airless parts of the body. This is why the vagina is the most common site for candidal infection. Other areas of the body that are prone to candidal infection include the groin, the mouth and the nappy area in babies.

Most causes of thrush are a result of *Candida albicans* but sometimes other types of *Candida* spp. such as *Candida glabrata* or *Candida tropicalis* are the cause.

## Who gets thrush?

Up to three quarters of all women will have at least one bout of thrush in their lives. In most cases it develops for no apparent reason. However, certain factors can make thrush more likely to develop. The vagina contains mucus and some harmless bacteria which help to defend the vagina from candidal infection (and other germs). These natural defences may be altered or upset by certain situations:

- When you are pregnant.
- If you have diabetes.
- If you take antibiotic medication.
- If your immune system is not working normally. For example, if you are on chemotherapy for certain cancers, if you are taking high-dose steroids, etc.

So, in these situations, you may be more likely to develop thrush.

There is some relationship between thrush and the female hormone oestrogen. Thrush is much more common in the "reproductive years", ie the years between starting to have periods and stopping for menopause. Some women are prone to thrush in certain times of their menstrual cycle - for example, before a period. The hormone changes of pregnancy make thrush more likely. It may be that hormone pills such as hormone replacement therapy (HRT) and the combined oral contraceptive (COC) pill make you more prone to thrush. This is not yet certain, however.

## What causes recurring thrush?

Some women develop repeated (recurrent) thrush. Recurrent thrush is defined as a bout of thrush four or more times in a year. Of women who develop a first bout of vaginal thrush, about 5 in 100 of them will get problems with recurrent vaginal thrush. In most cases, the reason why this occurs is not known. Some women just seem more prone than usual to develop thrush. However, women with uncontrolled diabetes and women with a poor immune system may be more likely to develop recurrent thrush. There is some debate as to whether women taking HRT or the COC pill are more likely to develop recurrent thrush - the evidence is not yet clear.

## How is thrush diagnosed?

You do not always need a test to diagnose thrush. The diagnosis is often based on the typical symptoms and signs. However, it is important that you do not assume that a vaginal discharge is thrush. There are other causes of vaginal discharge. It is reasonable to assume it is thrush if:

You have a vaginal and/or vulval itch.

- Any discharge you have does not smell and is white or creamy.
- You have no abnormal bleeding.

However, if you have assumed you have thrush and you have had treatment, but the symptoms have not gone away, you may need to have tests. See your doctor, who may examine you and may perform some tests.

If tests are needed they may include:

- A test to see how acidic the vagina is (a pH test). The level of acidity gives an indication of whether a
  discharge is due to thrush or to bacterial vaginosis. This is the basis of the over-the-counter test for
  thrush. A test strip is placed into the vagina and then the colour change indicates if thrush is likely or
  not. A pH level of 4.5 or less suggests thrush. Some doctors may also use this test.
- A swab. This is a stick with a cotton bud at the end of it. A sample of discharge is taken from the vagina and analysed in a lab. This indicates if you have thrush or another infection. It can also inform the doctor which type of candida you have.
- Tests for other infections. Further swabs may be taken to be sure you do not have other types of vaginal infections.
- Urine tests. Your urine may be checked for sugar. This is to check you do not have diabetes, as this
  would make you more prone to thrush. This might be done if you were getting repeated (recurring)
  episodes of thrush. Urine may also be checked for infection, as sometimes it can be difficult to
  distinguish between a urine infection and thrush.

## Do I need to see a doctor if I get vaginal thrush?

If you have had thrush in the past and the same symptoms come back then it is common practice to treat it without an examination or tests. Many women know when they have thrush and treat it themselves. You can buy effective treatments without a prescription from pharmacies. You can read about these in the treatment section.

However, remember a vaginal discharge or vulval itch can be due to a number of causes. So, do not assume all discharges or itches are thrush. The following gives a guide as to when it may be best to see a doctor or nurse if you think that you might have thrush. If you:

- Are under 16 or over 60 years of age.
- Are pregnant.
- Have treated yourself with a thrush treatment from the chemist, but your symptoms have not gone away.
- Have abnormal vaginal bleeding.
- Have lower tummy (abdominal) pain.
- Are unwell in yourself in addition to the vaginal and vulval symptoms.
- Have symptoms that are not entirely the same as a previous bout of thrush. For example, if the discharge has a bad smell, or it you develop ulcers or blisters next to your vagina.
- Have had two episodes of thrush in six months and have not consulted a doctor or nurse about this for more than a year.
- Have had a previous sexually transmitted infection (or your partner has).
- Have had a previous bad reaction to anti-thrush medication or treatments.
- Have a weakened immune system for example, if you are on chemotherapy treatment for cancer or are taking long-term steroid medication for whatever reason.

And if you do treat yourself, see a doctor or nurse if the symptoms do not clear after treatment.

## What treatments are there for thrush?

There are a few different options for treating thrush. Some are applied directly to the vagina and/or vulva; others are medicines which are swallowed by mouth (taken orally).

#### **Topical thrush treatments**

These are pessaries and creams which you insert into the vagina with an applicator. They contain anti-yeast medicines such as clotrimazole, econazole, miconazole or fenticonazole. A single large dose inserted into the vagina is often sufficient to clear a bout of thrush. Alternatively a lower dose is used for several days. You may also want to rub some anti-thrush cream on to the skin around the vagina (the vulva) for a few days, especially if it is itchy. In mild cases, or for girls under the age of 16, a cream for the skin may be all that is needed.

You can obtain topical treatments on prescription, or you can buy some of them without a prescription at pharmacies. Side-effects are uncommon, but read the information leaflet that comes with the treatment for full information.

In general, you can use these topical treatments if you are pregnant but you should always check with your doctor or pharmacist. Treatment is usually needed for longer during pregnancy.

**Note**: some pessaries and creams may damage latex condoms and diaphragms and affect their use as a contraceptive. You should use alternative methods of contraception during treatment and for several days afterwards.

#### **Tablets**

Two options are available. Fluconazole, which is taken as a single dose, or itraconazole which is taken as two doses over the course of one day. You can obtain these treatments on prescription; you can also buy fluconazole without a prescription from pharmacies. Side-effects are uncommon, but always read the information leaflet that comes with the treatment for full information. Do not take these treatments if you are pregnant or breast-feeding. You may also want to rub some anti-yeast cream on to the skin around the vagina for a few days, especially if it is itchy. Combination packs containing both the tablet and the cream are available. In severe infection, a repeat dose of the tablet may be suggested after three days.

**Note**: tablets and topical treatments are thought to be equally effective. Tablets are more convenient but are more expensive than most topical treatments.

If you are in a sexual relationship, there is no need to treat your partner too unless they also have symptoms.

#### Other things that may help

If you have thrush, you may also find the following things help to relieve your symptoms:

- Avoiding wearing tight-fitting clothing, especially clothing made from synthetic materials. Loose-fitting, natural-fibre underwear may be better.
- Avoiding washing underwear with biological washing powders or liquids and avoiding the use of fabric conditioners.
- Avoiding using perfumed products around the vaginal area, such as soaps and shower gels, as these may cause further irritation.
- Using a simple emollient every day as a moisturiser to protect the skin around the vulva.
- Yoghurt containing probiotics, either eaten or applied to the vagina, may be helpful; however, there is not vet enough evidence to know if it is proven to be effective.

### What if the treatment doesn't work?

If you still have symptoms a week after starting treatment then see your doctor or nurse. Treatment does not clear symptoms in up to 1 in 5 cases. Reasons why treatment may fail include:

- The symptoms may not be due to thrush. There are other causes of a vaginal discharge. Also, thrush
  can occur at the same time as another infection. You may need tests such as vaginal swabs
  (samples taken using a small ball of cotton wool on the end of a thin stick) to clarify the cause of the
  symptoms.
- Most bouts of thrush are caused by C. albicans. However, about 1 in 10 bouts of thrush are caused by other strains of Candida spp., such as C. glabrata. These may not be so easily treated with the usual anti-thrush medicines.
- You may not have used the treatment correctly.
- You may have had a quick recurrence of a new thrush infection. (This is more likely if you are taking antibiotic medication, or if you have undiagnosed or poorly controlled diabetes.)

## What is the treatment for recurring thrush?

If you have repeated (recurrent) bouts of thrush then one option is simply to treat each bout as and when it occurs. Another option that your doctor may suggest is as follows:

- Use one of the treatments described above (topical treatments or tablets) but for longer than usual. Your doctor will advise exactly how long to use the treatment for. For example, this may be for 10-14 days for topical treatments.
- Then use a topical treatment or take a fluconazole tablet once per week. (Sometimes other tablets may be prescribed; follow the instructions given by your doctor.) This is called maintenance treatment, which often prevents thrush from coming back.
- Continue maintenance treatment for six months and then stop.

Most women remain clear of thrush during maintenance treatment. After treatment is stopped, many of those treated remain free of thrush, or only develop the occasional bout again. However, some women return to developing recurrent thrush. In such cases, if necessary, the treatment plan can be repeated, and maintenance treatment continued for longer.

See your doctor if you develop thrush whilst on maintenance treatment. This may indicate that you have a resistant strain of *Candida* spp. which may require an alternative treatment.

If you have recurrent thrush, your doctor or nurse may also discuss your current method of contraception with you and suggest a change. There has been talk in the past about the combined oral contraceptive (COC) pill (the pill that contains both oestrogen and progesterone hormones) possibly making recurrent thrush more likely. However, the evidence around this is a little unclear.

## How can thrush be prevented?

The following tips may help you to avoid thrush, or avoid it coming back. However, they have not been proven to work by research. Their use is based on common practice rather than research studies:

- **Hygiene**. Thrush is not due to poor hygiene. However, the normal conditions of the vagina may be altered by excess washing and rinsing out (douching) of the vagina, bubble baths, scented soaps, spermicides, etc. The normal mucus and germs (bacteria) in the vagina may be upset by these things and allow *Candida* spp. to infect. Therefore, it may be best to wash just with water and unscented soap and not to douche the vagina.
- Clothes. Don't wear nylon underwear or tight-fitting jeans too often. Loose cotton pants are best. Stockings rather than tights are preferable. The aim is to prevent the vaginal area from being constantly warm, moist and airless. Avoid washing underwear in biological washing powder and using fabric conditioners.
- Antibiotic medicines. Be aware that thrush is more likely if you take antibiotics for other conditions. Antibiotics may kill the normal harmless bacteria in the vagina which help to defend against *Candida* spp. As *Candida* spp. are yeasts and not bacteria, they will not be killed by antibiotics. This is not to say that every course of antibiotics will lead to thrush. But, if you are prone to this problem and you are prescribed antibiotics then have some anti-thrush treatment ready to use at the first sign of thrush.
- **Sex**. Thrush is not a sexually transmitted infection. However, friction when you have sex may cause minor damage to the vagina which may make *Candida* spp. more likely to thrive. So, make sure your vagina is well lubricated when having sex. If natural secretions are not sufficient then use a lubricant when you have sex. After sex, wipe yourself so you are clean and dry.

It may also be worth reviewing any medication you are taking, as some medicines can make you more prone to thrush. You should discuss this with your doctor.

## Further reading & references

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