



# Vulvovaginal Disorders: An algorithm for basic adult diagnosis and treatment

## VAGINAL DISCHARGE

### **What is vaginal discharge?**

Discharge is fluid released from the body. The vagina is an 8-12 cm long tube that opens at the lips of the vulva.

Discharge from the vagina is made of mucus from the cervix, secretions from the Bartholin gland next to the vaginal opening, and from moisture that comes through the vaginal walls and flows out onto the vulva and perineum (the space between the vagina and anus).

Many different bacteria, yeasts, and parasites (microscopic forms of life or 'flora') normally live in the vagina without causing symptoms. The vagina is usually weakly acidic because normal bacteria (lactobacilli) produce lactic acid. Lactobacilli and the acid help the vagina protect itself from the kinds of bacteria that cause disease.

### **How do hormones influence vaginal discharge?**

A woman may notice changes in the amount of discharge throughout the menstrual cycle. This is normal and due to the changing levels of female hormones. After the menstrual flow ends, the low estrogen environment may cause dryness and few secretions. Whitish discharge starts up around day 8 of the menstrual cycle. (Start counting on Day 1, the day your period starts.) Many women notice an increase of clear, stringy mucus around the time of ovulation (usually Day 14, but not always; the timing of ovulation depends on the length of each women's natural menstrual cycle). After ovulation, when progesterone rises, the secretions thicken and turn yellowish. As both estrogen and progesterone decrease near the beginning of menstrual flow, vaginal secretions diminish to a low point.

Women do not ovulate on the birth control pill and the birth control pill can keep discharge in a steady state throughout the menstrual cycle. The increased hormone levels of pregnancy are associated with an increase in normal discharge and the sensation of wetness; this cervical mucus is thick and clear in color.

Sometimes the amount of mucus is greater than the person would like, especially on oral contraception pills or during pregnancy. Women who have had children may notice more discharge since the vaginal opening is slightly wider after childbirth and may allow secretions to come out more easily. The impact of jogging or running may cause more discharge to appear. This does not mean there is anything wrong. This discharge does not cause itching, redness or swelling, but it may cause discomfort if the woman feels wet all the time. Frequent changes of underwear help.

### **What does normal discharge feel like?**

Normal discharge just feels wet. There is no discomfort.



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### What does normal discharge look like?

Normal discharge can be variable but is usually clear or white the first half of the cycle and yellowish during the second half. Infections may cause discharge of varying color, consistency, amount, and odor. A sudden change in your discharge, except as noted above, may signify infection or inflammation. Bloody discharge always needs to be checked out. You should see your health care provider.

### What is abnormal discharge from the vagina?

Abnormal discharge may be caused by the following conditions:

- *Chlamydia and gonorrhea* are sexually transmitted infections. They may cause an infection in the uterus and tubes that can lead to pelvic pain. *Chlamydia and/or gonorrhea* may also cause pain on passing urine, bleeding between periods, or bleeding after sex.
- *Bacterial vaginosis (BV)* is caused by overgrowth of some types of normal bacteria; (these are good bugs when present in small numbers). *Bacterial vaginosis* does not usually cause discomfort, but can cause mild irritation with sex, and a fishy odor.
- *Candidiasis* is caused by too much yeast. *Candidiasis* can make the skin itchy, swollen, red, and sore. Diabetes, pregnancy, HIV infection, and the use of antibiotics can upset the normal organisms in the vagina. These changes increase the chance of *Candida* (yeast) becoming a problem. In most women with recurrent *Candida* infection, no underlying problem is found. Weaker immunity to overgrowth of yeast in some women explains why it frequently recurs, even with recommended treatment.
- *Desquamative inflammatory vaginitis* is a rare condition that produces a copious green/yellow discharge. The cause is unknown. It is not sexually transmitted.
- *Trichomoniasis (TV)* is caused by a sexually transmitted parasite (bad bug). *Trichomoniasis* can cause itch and pain passing urine as well as a copious yellow/green discharge.
- *Cervicitis (cervical inflammation)* may cause an increase in discharge. While this may come from an STI, or, rarely, a cervical or uterine problem, cervicitis is often an entirely benign, though annoying condition.
- *Atrophic vaginitis* is caused by low levels of estrogen in the postpartum period or after menopause. A woman may have an uncomfortable, sticky, yellow discharge



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### How is an abnormal discharge diagnosed?

The correct diagnosis cannot be made by just looking at the discharge. The correct diagnosis is made by taking appropriate samples from the vagina, cervix, or urine. The samples are examined with a microscope, culture, or other diagnostic tests.

### How is vaginal discharge treated?

- Normal discharge needs no treatment.
- Discharge associated with infections should respond to the specific treatment for that infection. If you have *gonorrhea*, *chlamydia*, or *trichomoniasis*, your sexual partner/s must also be tested and treated or they will re-infect you and possibly others.
- Yeast (*Candida albicans*) is treated with vaginal anti-fungal creams or prescription oral tablets.
- Bacterial vaginosis is treated with prescription vaginal or oral antibiotics.
- Desquamative inflammatory vaginitis is treated with vaginal antibiotics or vaginal cortisone.
- Cervicitis, after evaluation, may be treated with discontinuation of the birth control pills and use of antibiotics. In some persistent cases, freezing or laser treatment is used.
- Atrophic vaginitis is treated with vaginal estrogen cream, tablets or ring.
- Douching, yogurt, and lactobacillus tablets are not useful as treatments. Do not try to treat yourself.
- If you are not sure whether your discharge is normal, talk to your health care provider. If you have fever or pain as well as a discharge, see your health care provider urgently as this could mean a serious infection.