



Vulvovaginal Disorders: An algorithm for basic adult diagnosis and treatment

VAGINAL ODOR

Is vaginal odor normal?

In a word, yes! Even after a shower, a very faint, not-unpleasant, odor will be present if vaginal secretions are smelled up close. Some have likened this normal odor to that of lightly soured milk or yogurt. This mild odor is related to the functionality of the vagina, which is not supposed to smell like flowers, perfume, or fields of freshly mowed grass! It is known that pheromones (odor-containing substances that are released by one individual and produce a change in behavior or physiology of an individual of the same species) play a role in mating behaviors. Not much is known about this in humans, and the role of vaginal odor and human attraction has not been studied specifically, but naturally occurring odors could be attractive to a potential mate.

Does yeast infection (vulvovaginal candidiasis, monilia, thrush) have an odor?

Vulvovaginal candidiasis (VVC) may produce a discharge, and certainly usually produces itching and irritation, but does not cause malodor. Some women notice a “yeasty” (though not unpleasant) odor with VVC.

What are the most common reasons for stronger, more unpleasant odor?

- **Hormonal changes:**
 - **Normal changes in the menstrual cycle:** Most women are familiar with the less pleasant odor of menstrual blood, particularly at the end of the flow. Sniff-test studies have shown that participants found the odor of vaginal secretions around the time of ovulation more pleasant than the odor of secretions taken at other times of the cycle.
 - **Post-menopausal status:** Some, but not all, postmenopausal women complain of vaginal malodor. If this is related to hormonal changes, (identified by it usually resolves with the use of vaginal estrogen).
- **Sweat:**
 - Sweat from apocrine and eccrine glands in the vulva and the groin is odorless, but when it combines with certain normal bacteria, it can develop an unwanted odor. If sweat is the problem, vaginal exam and microscopy will be normal.
 - **Intertrigo** in the groin is an uncomfortable condition caused by skin rubbing on skin, usually in combination with sweat. The area can become infected with yeast or bacteria which can give off an odor. Treatment of intertrigo involves use of an anti-fungal cream such as Clotrimazole twice a day until resolved and an attempt to reduce sweating and keep the area clean and dry.
 - **Treatment:** Try to reduce weight if obesity is adding to the problem. Try to stay cool and dry. Wear layers of loose, comfortable, breathable clothing that you can remove if you get too hot. Change your non-binding, cotton underwear a couple of times a day. Prevent skin rubbing on skin by placing a piece of cotton sheeting



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or handkerchief between the folds of touching skin. Avoid panty liners, pads, and urine protection panties if you can. Use cornstarch powder in the groin area. Try antibacterial soaps and Drysol deodorant applied once a day to the groin and labia majora if need be, but be aware that vulvar drying and irritation may occur.

- **Urine:**

- The ammonia odor of urine can cling to pubic hair and skin despite careful wiping after urination. If urine on the skin is the problem, vaginal exam and microscopy will be normal. Your clinician will decide whether a urine culture is needed.
- Urine odor can be more pronounced if certain foods or medications are ingested (e.g. asparagus, some vitamins and antibiotics, etc.) or in the case of some urinary tract infections.
- Urinary incontinence may contribute to odor when clothing, pads, or incontinence panties get wet.
- **Treatment:** Rinsing the vulvar area after urination may help eliminate some of these odors. Pat dry and apply plain Vaseline® as a protective moisturizer and barrier layer. Minimize use of occlusive panties and clothing. If incontinence is a major problem, consider making an appointment with a urogynecologist.

- **Inadequate cleansing after a bowel movement, fecal incontinence, or chronic constipation:**

- Stool and gases accumulated in the rectum can contribute to malodor.
- Fecal incontinence is a rare, but significant problem; if these are issues, the vaginal exam and microscopy will be normal.
- **Treatment:** Constipation can be treated with diet, increased water intake, and fiber supplements. Cleansing may be assisted with use of a “peri-bottle” to rinse off with plain water after a bowel movement and/or application of a few drops of mineral oil or Vaseline® to the toilet paper to help remove loose stool.

- **Foreign bodies left in the vagina:**

- Tampons, diaphragms, contraceptive sponges, or pessaries that are forgotten in the vagina can result in malodor and discharge related to bacterial overgrowth, as can mesh from surgical procedures protruding into the vaginal tissue. These foreign bodies can be located with speculum exam and palpation. Often, there will be changes on microscopy that may indicate need for treatment.
- **Treatment:** Removal of the foreign body will often be all that is needed. Antibiotics may also be necessary. If protruding mesh is found, referral will be made to a urogynecologist.

- **Alterations in normal vaginal flora: bacterial vaginosis (BV):**

- **Bacterial vaginosis is the most common cause for vaginal malodor.** Women usually complain of a persistent “fishy” odor which may be associated with a non-irritating but heavier than normal discharge. This may be noticed especially after intercourse without a condom or after the end of the menses because of the alkaline effect of semen and menstrual blood. It occurs because of overproduction of normal organisms in the vagina. This condition may be identified through evaluation of vaginal pH and use of microscopy at an office visit. DNA probe tests such as Affirm may also be sent out and will identify one organism that is elevated



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when BV is present.

- **Treatment:** BV is treated with the oral antibiotic metronidazole (Flagyl), 500 mg twice a day for 7 days, or vaginal treatment with metronidazole gel 0.75% daily for 5 days or 2% clindamycin cream daily for 7 days. Yeast overgrowth is sometimes a consequence of the use of antibiotics and also needs to be treated.
- If recurrence is a problem, longer courses of antibiotics may be used. You may be advised to stop smoking and use condoms for intercourse.
- Use of a “peri-bottle” to rinse off discharge gently, followed by patting dry gently, and application of a small amount of Vaseline® can be comforting, along with the use of loose, comfortable clothing.

What are less common reasons for unpleasant odor?

- **Pelvic inflammatory disease (PID):**

- PID, a rare condition, is caused by infectious organisms in the upper genital tract. It may be accompanied by a heavy, pus-like discharge from the cervix that may be foul-smelling and low abdominal pain. It is diagnosed via vaginal exam and microscopy, as well as DNA-probe testing and cultures.
- **Treatment:** Oral, intramuscular, or intravenous antibiotics will be used.

- **Trichomoniasis:**

- Trichomoniasis is a sexually transmitted infection that usually causes vaginal inflammation and a vaginal discharge that may or may not be malodorous. It is identified by vaginal exam and microscopy, DNA probe testing or culture.
- **Treatment:** Oral metronidazole 2 grams taken all at once, or 500 mg taken twice a day for two days will usually treat this condition. Partners need to be treated to prevent re-infection.

- **Vulvar ulcerations:**

- If women have vulvar skin conditions such as psoriasis, eczema, or contact dermatitis, they may be at risk of developing skin breakdown as a result of rubbing and scratching from itching or from superimposed infection. (Malignant ulcers – very rare – can also be an issue). The resulting ulcers may, rarely, become malodorous.
- **Treatment:** The condition itself will need treatment. Antibiotics may also be necessary.

- **Hidradenitis suppurativa:**

- Women who have this condition, usually know that it causes painful “boils” in the mons pubis, groin areas, and labia majora, as well as the buttocks area, that may form abscesses. If these become infected, they may rupture, producing malodorous material.
- **Treatment:** The treatment depends on the staging of the lesions and the degree of inflammation and pain present. The treatment is both short term and long-range and may involve multiple medications and even surgery.



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- **Fistulas**

- Fistulas are channels or tracts that develop between the vagina and the bladder or the rectum, usually because of previous surgical procedures. The fistulas that develop between the vagina and the bladder are usually accompanied by a clear leakage of fluid with the smell of ammonia. The ones that develop between the vagina and the rectum may be accompanied by a foul-smelling leakage.
- Fistulas may be difficult to diagnose, but they are luckily very rare. They are identified by careful exam, microscopy, and some cultures or other tests.
- **Treatment:** Surgery is usually necessary.

Is douching or the use of feminine sprays, deodorants, or other products helpful?

Douching is almost never recommended because it disrupts the normal, physiologic processes of the upper and lower genital tracts. Topical products such as sprays, deodorants, and creams that promise to remove odors can cause irritation to the skin and do not address possible underlying causes. The vagina is usually “self-cleansing.” If the conditions above have been ruled out by your health-care provider, or you have been treated for any of the conditions above and your malodor persists, you should return to your clinician for another exam.

What should I do to maintain normal vaginal odor?

General hygienic principles apply:

- You do not need to bathe or shower more than once a day. You do not need to use soap. If you do use soap, use Dove for Sensitive Skin. If sweating is an odor-causing problem, use an anti-bacterial soap like Dial for a short period of time.
- Wear properly fitting underwear with cotton crotch and change it as needed.
- Wear loose, comfortable, non-occlusive clothing that does not rub or bind.
- Do not wear underwear or tight pajamas to bed at night.
- Do not use so-called feminine care products such as douches, wet wipes, sprays, creams, or ointments unless they have been recommended by your health care provider.
- Use proper cleansing after urination or bowel movements. This does not usually require more than use of toilet paper, but you may use a peri-bottle to rinse off, then pat dry gently, and apply plain Vaseline or mineral oil to keep the skin moisturized and protected.

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