

e-resource by naturopath
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The Vaginal Microbiome



All you need to know for a
HAPPY VAGINA

The environment of the vaginal microbiome is very delicate

Many things can set off its fragile balance and when that happens, the vagina owner will surely know about it.

Think itching, redness, stinging, changes to discharge and odour.

These are all symptoms of imbalance but they don't actually indicate to us *exactly what is imbalanced*.

For example, I am speaking to a patient who wants help for recurring thrush. They take their chemist tablets or use the creams, have some relief for a short while, only to see this thrush coming back again and again. This tells me that:

1. It might not *only* be thrush
2. It might not be thrush at all
3. Standard treatments are not the solution

Situations like this are when I suggest a vaginal microbiome analysis test - a swab that is done from home and sent off to a speciality lab.

The test will tell us if there is any Candida present (therefore confirming thrush), if you have enough of the desirable Lactobacillus species, if there are some undesirable bacterial species present, signs of sexually transmitted infections and what your pH level is.

This gives us a lot more information to work with than a standard swab from the GP office or simply assuming we know what is going on.

But what does all of this information mean?

Lacto bacil lus

Lactobacillus bacteria are what we want to dominate the vaginal microbiome.

Unlike the rest of the body where diversity is key to health, the vagina DOES NOT LIKE diversity. The vagina wants to have one primary species and that is Lactobacillus.

There are various types of Lactobacillus and your dominant type can depend on where you live and where your mother lived when you were in utero. In Australia the main dominant types are Lactobacillus crispatus, Lactobacillus gasseri and Lactobacillus jensenii.

On a vaginal microbiome analysis test we will often be able to determine which of these types is dominant for you, however, sometimes the results show there to be no Lactobacillus detectable at all. This doesn't mean there isn't any in there but the levels are so low that the test wasn't able to pick up on any.

This proves to be a problem because vaginal Lactobacillus bacteria do a lot for the owner's health including:

- Enhancing fertility and birth outcomes

- Reducing risk of sexually transmitted infections, urinary tract infections and HIV
- Protecting vaginal cells from dysplasia which can lead to cancer

Pretty important stuff huh?!

Wondering how such a vital part of our health can be so easily disrupted? Well, I blame modern life. The way that we live our lives now and the pressure that we put on our bodies to look, smell and feel is impacting the really subtle and delicate parts of our health.

Broad spectrum antibiotic use, while it can be life saving if truly necessary, has been over prescribed and has led to important species in our body being wiped out. Please try to minimise your use or ask for more strain-specific antibiotics next time this is offered to you.

Vaginal washes, sprays and douches are another inhibitor to healthy Lactobacillus populations. The vagina is a self washing organ, it doesn't need soaps to clean it! These chemicals only disrupt your bacterial balance and pH.

Spermicides are also a no no for healthy Lactobacillus numbers. While effective at stopping sperm from travelling to the egg, making them an effective contraceptive, they totally zap healthy bacteria.

Sorry to say but multiple sexual partners and increased frequency of intercourse is another way to interfere with Lactobacillus bacteria balance, particularly if your partner has a penis. There are more bacteria found in semen fluid than there are sperm, therefore using condoms is the easiest way of protecting your vaginal health.

Other things that can impact on Lactobacillus numbers are smoking (cigarettes and vapes), stress, using bidet toilets and hormonal changes such as during menopause.



CANDIDA

Candida is a type of yeast that colonises the human body.

Small levels of Candida in the body are not such an issue, it is only when it overgrows that we begin to see symptoms.

There are many different types of Candida with the most common being Candida albicans which is the main culprit behind thrush.

Candida is an opportunistic microbe, meaning that when the opportunity arises, it will take over. For example, taking broad-spectrum antibiotics kills off multiple bacterial species in the body but does not kill yeasts like Candida. This gives the Candida extra space to flourish and thus it overgrows.

Candida is mainly found in the gut, however, like many other microbial species, it does travel to various other parts of the body - including the vagina. This is why oral antibiotics can have consequences for the vagina.

Candida that is overgrowing in the gut will

travel out of the large intestines, down the rectum, out the anus and across the short passage to the vagina where it is warm and moist.

Yeasts love warm and moist environments like underarms, mouths, enclosed feet and vaginas. This means it is especially important to keep moisture to a minimum to avoid Candida overgrowth.

You know the old advice of not sitting around in wet swimmers? Well, that's exactly why!

The main symptoms of vaginal Candida overgrowth (thrush) are:

- thick white discharge
- itching
- redness
- swelling.

The vagina shouldn't smell different, if it does, it is likely not just Candida.

Undesirable Microbes

Outside of Candida there are a lot of different microbial species that we would rather not find in the vagina.

The first thing that comes to your mind is probably sexually transmitted infections - gonorrhea, chlamydia, genital herpes, HPV, syphilis. These are all viruses or bacterial infections that are transmitted when there is skin-to-skin genital contact with a carrier.

When untreated, they can cause a multitude of health repercussions such as fertility struggles, pregnancy complications, pelvic pain and potentially even cancer. It's important to get tested for these infections regularly and begin the recommended medical treatments as soon as possible.

Outside of these microbes, there are a plethora of other bacterial species that can find their way into the vagina and cause disturbances. Most of these tend to also be from sexual experiences but are not technically classified as sexually transmitted infections and are not routinely tested for with general practitioners.

The most common cause of vaginal microbial imbalance is BV - bacterial vaginosis. BV is characterised by elevated pH levels and high levels of certain bacterial species such as Gardnerella vaginalis and Mycoplasma.

Group B streptococcus is a bacterial species that is often tested when women are in the late stages of their pregnancies.



There are some suggestions that it can infect the baby and women are routinely offered antibiotics. The problem is, these antibiotics can often flare up other imbalances in the vagina such as thrush. I suggest a preventative treatment of probiotics for pregnant women starting in week 28 to reduce the chances of having a positive reading when tested in week 35.

Other species that are commonly found throughout the rest of the body can also overgrow and flourish in the vagina. It's OK to have some small amounts of these bacteria present as they can be part of a healthy microbiome, however, there are recommended ranges we want them to fall within.

Symptoms for bacterial or viral overgrowth in the vagina include itching, burning, sores, changes to appearance and smell of discharge, pain on intercourse, redness and swelling. If you have been experiencing any of these symptoms it is a good idea to have a vaginal microbiome analysis test done.

pH is a measure of the acidity or alkalinity of an environment.

When it comes to the vagina the ideal pH is between 3.5 and 4.5. This is quite acidic and that is for many good reasons.

The acidity of the vagina acts as a protective barrier for invading microbes - including sperm!

Yep, that's right, the vagina produces a natural spermicide to kill off these foreign entities. Of course, when we enter our fertile window, this acidity changes to allow sperm safe passage on to their destination (however, this is only a maximum of six days out of the cycle) otherwise humans would never be able to reproduce.

The normal pH of semen sits somewhere between 7 and 8, meaning it is a lot more alkaline than the vagina. Simply having a sexual partner ejaculate inside you can temporarily alter your vagina's pH.

Interestingly, the pH of the vagina is controlled by the levels and types of Lactobacillus species present. These good guys produce lactate - a type of acidic chemical - which forms the vagina's acidic barrier.

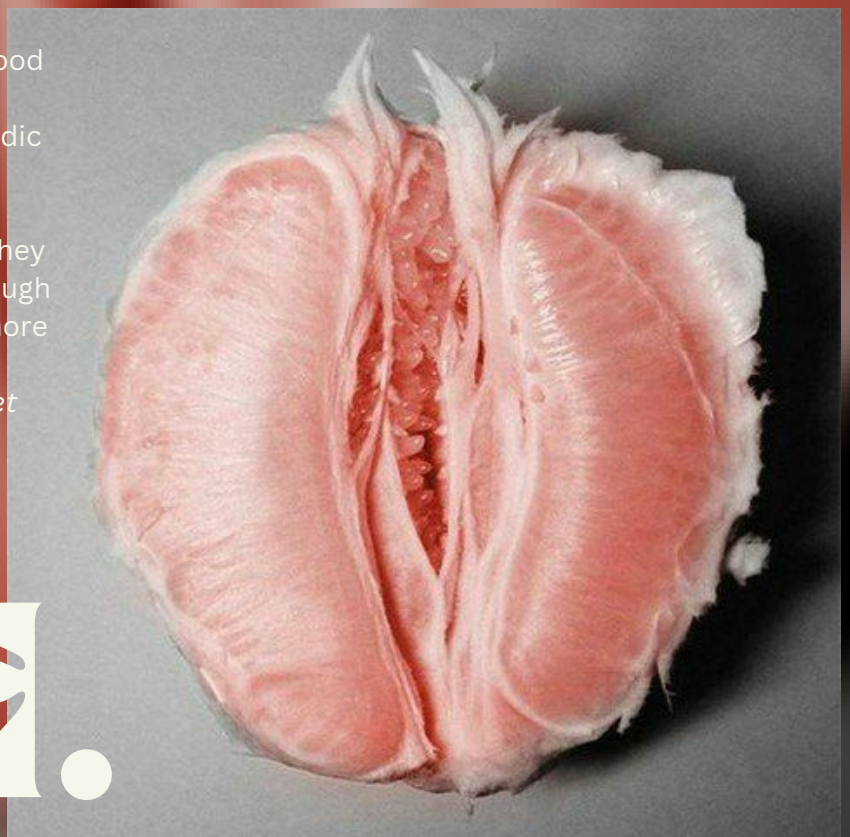
If you don't have many Lactobacillus, they won't be producing anywhere near enough lactate and thus the vagina becomes more alkaline. Mix that with regular semen exposure and your partner's bacteria, *et voila*, vaginal imbalance.

Once the pH goes over 4.5, microbial species that couldn't usually survive in the acidic vagina environment, now find themselves able to flourish and grow. This is where some of the bacteria mentioned above take their opportunity to colonise the vagina.

Correcting the pH level is often the first step in working towards a healthy vagina. If your pH is the right level of acidity, Candida and other bacterial species struggle to survive so rather than trying to kill them off immediately, simply raising the pH in the environment is often an effective and gentle way of eradicating these species.

You can test your pH using a simple swab. These can be found at some chemists, however, I recommend the **Vee For Me** pH test as this is a lot more detailed and accurate.

Note: urine pH tests are different as urine has a much more alkaline pH and is not associated with the vagina's pH.



pH.

TREATMENTS

OK now to the nitty gritty. What to do if you suspect your vaginal health is not up to scratch?

My advice is first and foremost keep up to date with your cervical screens (pap smears). This must be done every five years or if you have had anything show up in previous exams, your doctor may recommend you return more frequently.

Secondly, ensure you are getting regular sexually transmitted infection testing if you or the person you are sleeping with is having sex with multiple partners and always use barrier protection with new and non-monogamous partners.

After all that, I recommend speaking with a naturopath who can do a vaginal microbiome analysis test – like me. Now you can get into the details of what is going on and why you might be experiencing certain symptoms.

Once you know, your treatment might include some of these common medicinals:

Horopito

A gorgeous New Zealand native herb, Horopito, also known as pepper tree, is a potent anti-fungal. Unlike some other herbs, Horopito doesn't tend to disrupt the balance of other microbial populations and is very well tolerated by most people. Whenever there is thrush present, including orally and digestively, Horopito can be woven into the treatment at some point to lower Candida levels. It can be taken as a liquid herbal extract, a powdered capsule or used topically as a cream or wash.

Anti-bacterial herbs

In a similar way that antibiotics work, anti-bacterial herbs kill off undesirable bacterial species. Herbs such as oregano and golden seal can be taken both as liquid extracts and in capsule form. Garlic can be taken orally or it can be inserted as a fresh clove into the vagina. As expected, this can be irritating for some people so it may not be the first choice. Some of these herbs can kill off bacteria that you DO want to keep in your body so it's really important to choose the right herbs.

Lactic acid

As the name suggests, lactic acid is... acidic. When you have a pH that is elevated it is too alkaline and we want to bring it back down into a nice acidic range of 3.5 – 4.5. Lactic acid can directly influence the acidity of the vagina which can help to eliminate any of the undesirable microbes currently flourishing in there. This is not necessarily a permanent fix but it does create the right environment for microbial balance. Lactic acid will be inserted into the vagina, however, this is a very short term treatment.

Probiotics

Most of us have heard of probiotics before – little capsules full of millions of different bacteria species that we swallow. Probiotics can be really helpful for populating certain areas (gut, vagina, etc.) with the right microbial species. The probiotic bacteria do not live in the body, they will come in temporarily and interact with the microbes that are already in there. Taking a Lactobacillus probiotic will only give the body those specific Lactobacillus bacteria for a few days, however, during those few days, they will be busy assisting the beneficial bacteria – which is why they can be such powerful therapeutics when there are low levels of beneficial bacteria found. Depending on which probiotic is needed, you may take it orally or insert it directly into the vagina.

Lactulose

This sticky sugary substance is what we call a prebiotic – food for beneficial bacteria. Using lactulose on and inside the genitals is a great way of supporting the growth of the good bacteria. When we test and find there is little to no Lactobacillus, lactulose will often be recommended and prebiotics such as lactulose usually go hand in hand with probiotic treatments. It can be taken both orally and inserted directly into the vagina using a douche or in capsule form.

I DO NOT recommend self prescribing any of these things, especially if you have not done a vaginal microbiome analysis test. You could make the situation worse and who wants more burning, itching and discharge?

Sexual Hygiene

- Lubricants are a wonderful tool for enhancing your sexual experience, however, depending on which ones you use there could be all manner of chemicals and fragrances that eventually come in contact with your vagina. As noted earlier, pH is a vital element for a happy vagina. The brand **YES** has two pH balanced lubricants - water based and oil based. I suggest switching to one of these or another pH balanced brand.
- On the note of lubricant, did you realise that all condoms have lubricant added to them? While you can add in your own **YES** water based lubricant, choosing a condom brand that is low tox and pH safe can be game changing for your vaginal health. The brands **Johnny** and **Frenchie** are my two recommendations. Always use protection with new partners and during any treatments.
- Ensure you are washing your sex toys with hot water and antibacterial soap after every use to avoid any microbes colonising on the toy. Store your sex toys inside a clean draw or box to avoid dust build up which can also encourage microbial growth.



- Even after sex, do not douche or use soaps to wash your vagina. Water on the vulva and outer vagina is enough. It will clean itself.
- Ensure you and your partner are up to date with your dental checks and are following good dental hygiene practices twice daily. The mouth is an absolute hot bed of bacterial overgrowth and is an easy way of exposing your genitals to undesirable microbial species during sex.

OTHER RECOMMENDATIONS

- If you are using menstrual cups ensure you are sterilising after you use them with hot water and a low tox antibacterial soap. Store your cup in a draw or box so that it doesn't gather dust between cycles.
- Menstrual underwear should be rinsed after taken off and then washed with hot soapy water to ensure they are cleaned well.
- Opt for bleach free organic cotton tampons and pads. Bleach and some of the other chemicals used in the construction of some menstrual products can alter the pH of the vagina. **Tsuno** and **TOM Organic** are my two picks.
- Switch to bleach free unscented toilet paper for the same reasons as above. **Eco Cheeks**, **iCare** and **Who Gives a Crap** are three options but there are, thankfully, many more companies now not using bleach to whiten their paper, just check the packaging or website.
- As mentioned earlier, warm moist environments are not great for ideal microbial balance. Breathable bamboo and cotton underwear is the preferred choice for vaginal health. Synthetic fibres hold moisture and don't allow as much aeration. If you are wearing fancy lace options, try to limit your time in these to special occasions and use your basic cottontails for every day.
- In line with the same theory as above, limit your time in activewear and swimwear especially if you have been swimming or sweating. Try to take a fresh change of underwear and some looser pants with you if you go to the gym and aren't going straight home afterwards.
- ALWAYS wipe front to back when urinating and never allow anything that has come in contact with your anus come in contact with your vagina without first being sterilised.
- Diet can be hugely important for maintaining a healthy vagina. High fat meals such as heavy animal products (meats, dairies, etc.), fried foods, margarines, and processed biscuits/chips are best to avoid. If there is Candida present, avoid high sugar foods including fruit juices, white breads/pastas, lollies, cookies and other sweet snacks.
- Alcohol not only contains a lot of sugar but many options are also made with yeasts (beer, wine, champagne) which can exacerbate Candida. Don't have more than two standard drinks in a sitting and choose clear spirits with soda water as a cleaner option if drinking during treatment.
- Smoking has got to go for so many reasons but especially for vaginal health. It can alter your pH level, inhibit growth of beneficial Lactobacillus and increase your chances of undesirable microbes overgrowing.
- Start adding manuka honey with a high MGO number to your daily diet. It can be expensive so just one teaspoon a day is sufficient. Try to avoid standard off-the-shelf honey as it doesn't have the same medicinal qualities as manuka.

Partners need to be treated too!

This is true for partners of any gender if you are having skin-to-skin genital contact during sex.

Contact with another person's microbiome is one of the easiest ways to influence your own microbiome. This is true not just for our genitals but our whole body.

Research has found that couples who live together in the same household, eat the same meals, do activities together and sleep in the same bed will have microbiomes that resemble each other more than anyone else in the world - including biological family members.

While this might sound really cute, it isn't always so great for our vaginas. Like I mentioned earlier, the vagina really wants to have a pretty stable environment dominated by one specific species of Lactobacillus. If your partner has any other bacterial species living on and in their genitals, you have now disrupted the balance of both ecosystems.

This doesn't mean we shouldn't be having sex. In fact, that is the exact opposite of what I'm getting at. It just means that there is a high likelihood of having vaginal symptoms when having unprotected sex with a partner, especially a new partner, if you don't have robust vaginal health.

If you have found out that you have thrush, bacterial vaginosis or a sexually transmitted infection, your partner **MUST** be treated too, otherwise you will continue to give it back to each other, spreading the love every time you make love.

Vagina owning partners can mostly follow the same treatment or, even better, they can have their own vaginal microbiome analysis test done for tailored treatment.

For penis owners there are certain things they can do the same as you but there are also localised treatments for the penis such as diluted apple cider vinegar or lactulose washes. These can get messy and the tissue of the penis is quite sensitive so best to speak to a professional before just dipping the penis into various solutions!

Penis microbiome testing is something that is in the works but not currently available, watch this space though.

A NOTE on hormones (including menopause)

Have you noticed that you are coasting along all month with a happy vagina and then right before your period is due or during your bleed you notice a flare up of symptoms?

That is because hormones can influence your vaginal pH and both Candida and bacterial levels. High oestrogen often leads to high Candida due to a chemical produced - glycogen - which feeds this hungry yeast.

The same goes for pregnancy, due to rises in oestrogen, Candida is much more common for pregnant women.

Cyclical hormonal fluctuations are a normal and healthy part of life, getting a recurrence of thrush or vaginal symptoms is not. This is a sign that there is an underlying imbalance that is constantly being enhanced and subdued but never really corrected.

Treatments for these scenarios are mostly on the microbial and pH level such as those mentioned earlier rather than hormonally.

pH levels are also changed from the presence of blood in the vagina during your period, making it temporarily more alkaline. This allows Candida or bacterial species a monthly opportunity to overgrow and cause symptoms.



During menopause the pH of the vagina slightly raises. Due to a drop in oestrogen, the tissue of the vagina thins and we produce less lubrication as the need for our fertile mucous has now subsided.

Now that we don't have that acidic fertile mucous, we are relying on Lactobacillus to produce all the lactate needed to maintain the right pH to ward off invading microbes. This leaves the vagina more susceptible to imbalance.

For some menopausal women, hormonal treatments both orally and topically can be recommended alongside microbial and pH support.

If you would like further individualised support for your vaginal health please reach out for a consultation. I look forward to working together!