

SCOPE OF PRACTICE

TARGET POPULATION

- Female clients presenting with vaginal discharge, itching and irritation
- Female clients who present as asymptomatic with subsequent discovery of vaginal signs on clinical examination

EXCLUSION CRITERIA

- Clients with ongoing vaginal and vulval issues
- Clients with complications of infection including symptoms of Pelvic Inflammatory Disease (PID)
- Clients presenting with persistent symptoms post treatment
- Clients who are pregnant

GUIDELINE OBJECTIVES AND ANTICIPATED OUTCOMES

- Determine cause of symptoms and identify probable aetiology, diagnosis and differential diagnoses
- Provide treatment for clients with a confirmed diagnosed infection or presumptive treatment for symptomatic clients
- Identification of individual sexually transmitted infections (STI) risk and provision of appropriate screening
- Identify public health risks to control infections by:
 - Provision of STI education and information
 - Identification and exploration of sexual risk taking behaviours
 - Partner notification and treatment
 - Test of reinfection/test of cure where appropriate
 - Monitoring antimicrobial resistance

BACKGROUND

CONDITION DESCRIPTION

Abnormal vaginal discharge and associated vulval itch, dysuria and dyspareunia are common genital symptoms in females. The vagina normally contains a large number of bacterial colonies. The normal flora is dominated by lactobacilli, other organisms including pathogens are present at lower levels.¹ Vaginal pH is usually between 3.8-4.2.^{1,2,3} This acidic environment inhibits the overgrowth of bacteria and other organisms. Normal vaginal discharge is clear to white, odourless and of high viscosity and is cyclical in nature.² Although vaginitis can have a variety of causes, it is most often associated with infection or atrophic changes.⁴ Three common causes of vaginitis are trichomoniasis, bacterial vaginosis and vulvovaginal candidiasis, these infrequently can occur in combination.^{1,2} Other causes of vaginal discharge include mucopurulent cervicitis caused by *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, or herpes simplex virus, atrophic vaginitis, allergic or irritant reactions, vulvar vestibulitis, lichen simplex chronicus and lichen sclerosis and foreign bodies.^{1,2,3,4}

Vaginitis is defined as a cluster of symptoms that can include one or more of the following;^{1,2,3}

- Vaginal discharge (non physiological clear, white, yellow or green exudate)
- Vulvar itching and irritation
- Vaginal odour

Factors predisposing to vaginitis include ^{1,2,3,4}

- Pregnancy
- Oral contraception use
- Menstruation
- Antibiotic use
- Corticosteroid use
- Diabetes mellitus
- Immunosuppression including HIV
- Chemical irritation
- Foreign body such as retained tampon, diaphragm, condom

CAUSES OF VAGINITIS	UNCOMMON STI CAUSES
<ul style="list-style-type: none"> • Trichomoniasis vaginalis • Bacterial vaginosis • Vulvovaginal candidiasis 	<ul style="list-style-type: none"> • Chlamydia trachomatis (CT) • Neisseria gonorrhoeae (GC) • Herpes Simplex Virus 1 and 2 • Mycoplasma genitalium (MG)
NON STI CAUSES	UNCOMMON STI CAUSES
<ul style="list-style-type: none"> • Chemical irritation • Atrophic vaginitis • Allergic or irritant reactions • Vulvar vestibulitis • Lichen simplex chronicus • Lichen sclerosis • Foreign bodies 	<ul style="list-style-type: none"> • Streptococcal species • <i>Staphylococcus aureus</i> • Desquamative inflammatory vaginitis • Cervical polyps • Endometritis • Cervical or endometrial neoplasia • Intrauterine device

Table F1.1: Causes of vaginitis in women ^{3,4,5}

SEQUELAE

Vaginitis may become persistent or recurrent. BV may also predispose women to upper genital tract infections. BV and trichomonal vaginitis in the third trimester are associated with increased risk of adverse pregnancy outcomes.^{3,4} BV has been associated with complications, including second trimester miscarriage, pelvic inflammatory disease, preterm birth, preterm premature rupture of the membranes, chorioamnionitis, postpartum endometritis, and postoperative infection after gynecologic surgery, and as a cofactor in acquisition of HIV.^{2,4,5,6,8}

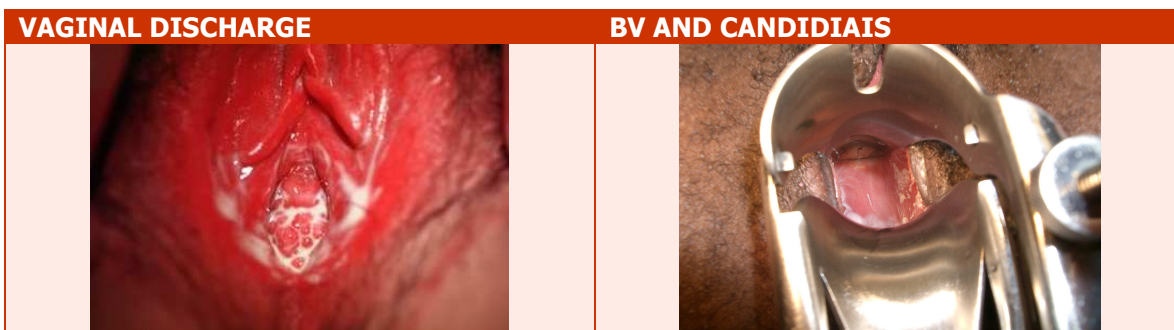


Table F1.2: Clinical presentations of vaginitis (photos courtesy of MSHC)

INVESTIGATIONS AND DIAGNOSIS

A variety of tests which reflect the changes in vaginal ecology can be used to diagnose vaginitis. Diagnosis rests mainly on both physical examination of vulva, vagina, and the discharge and upon microscopic examination of the discharge and determination of its pH.^{3,4} Speculum examination is warranted to exclude cervicitis.^{2,5} An STI screen should be performed on all women presenting with vaginal discharge.⁶ Signs of mucopurulent cervicitis (yellow endocervical discharge, erythema and oedema at the transformation zone and easy contact bleeding when swabs are taken) warrants MO review.^{3,4}

General Investigations for vaginitis symptoms include^{6,7,8,9,10}

- Cervical and vaginal gram stain
- Vaginal pH (vaginal secretion from lateral vaginal wall)
- Wet preparation for Trichomoniasis
- Gonococcal culture
- NAAT for Chlamydia and MG
- Trichomoniasis swab in broth
- Perform amine test with application of 10% KOH to discharge
- Nugent's score
- Amsel's criteria
- Fungal culture if warranted
- Any vulval fissures or erosions should be swabbed for HSV and yeasts
- PAP test if required

The presence of more than 5 polymorphonuclear cells per high power field on vaginal microscopy suggests an inflammatory or infective process.^{6,9}

Vaginal microscopy 60-70% sensitive for Candida^{2,3,4,6}

Vaginal culture may be positive in 30-50% of cases with negative microscopy^{4,5}

Sensitivity for visualization of motile trichomonads on wet prep 40-80% and culture 80-90%⁷

SITE	INVESTIGATIONS
Vulval erosions or fissures	<ul style="list-style-type: none"> • Microscopy for yeasts • Culture for yeasts • HSV PCR swab
Vaginal	<ul style="list-style-type: none"> • Vaginal pH • Microscopy of Gram stain and wet preparation to evaluate vaginal flora • Culture for TV and yeasts
Cervical	<ul style="list-style-type: none"> • Microscopy for flora • Culture for NG • NAAT for CT/MG

Table F1.3: Investigations of vaginitis^{3,4,5}

	NORMAL	CANDIDIASIS	TRICHOMONIASIS	BACTERIAL VAGINOSIS
Etiology	<i>Lactobacillus</i>	<i>Candida spp.</i> and other yeasts	<i>Trichomonas vaginalis</i>	Depletion of lactobacilli and overgrowth of <i>Gardeneralla vaginalis</i> , various anaerobic bacteria and <i>mycoplasma hominis</i>
Symptoms Presentation	None	Itch Discomfort Dysuria Thick discharge	Odour Itch Discharge External dysuria	Odour Discharge Itch
Vaginal Discharge • Amount • Colour • Consistency	Variable Clear to white Non-homogeneous	Scant to moderate White Thick, clumpy, "cottage cheese" adherent exudative plaques	Profuse White, grey or yellow-green Frothy, homogeneous, watery malodorous	Moderate to profuse milky white, grey Malodorous Homogenous, adherent, thin,
Clinical Findings	None	Inflammation and erythema of vagina and external genitalia	Cervical petechiae "strawberry cervix"	as above
Vaginal pH	3.8-4.2	Usually ≤ 4.5	>4.5	>4.5
KOH "whiff test"	Negative	Negative	Often positive	Positive
Wet Mount	Lactobacilli	Few WBCs	Motile flagellated protozoa, Large number of WBCs	Clue cells ($\geq 20\%$), none or few WBCs
KOH Wet Mount		Pseudohyphae or spores if non-albicans species		
Microscopy	Normal Epithelial cells Lactobacilli predominate	Leukocytes, yeast, epithelial cells, mycelia, pseudmycelia	Leukocytes, motile trichomonads	Clue cells, lactobacilli outnumbered by profuse mixed flora, gram positive <i>cocci</i> and <i>coccobacilli</i>

Table F1.4: Common causes of vaginitis in women^{1,2,3,4,5}.

TREATMENT AND MANAGEMENT

TREATMENT INDICATORS

- Clinical diagnosis based on sexual history and examination findings
- Laboratory confirmed diagnosis
- After the identification of a specific aetiology, appropriate therapy for vaginitis can be commenced

TRICHOMONIASIS

Refer to CPG C9: Clinical Management of Uncomplicated Trichomoniasis Infection

CANDIDIASIS

Refer to CPG F2: Clinical Management of Uncomplicated Candidiasis

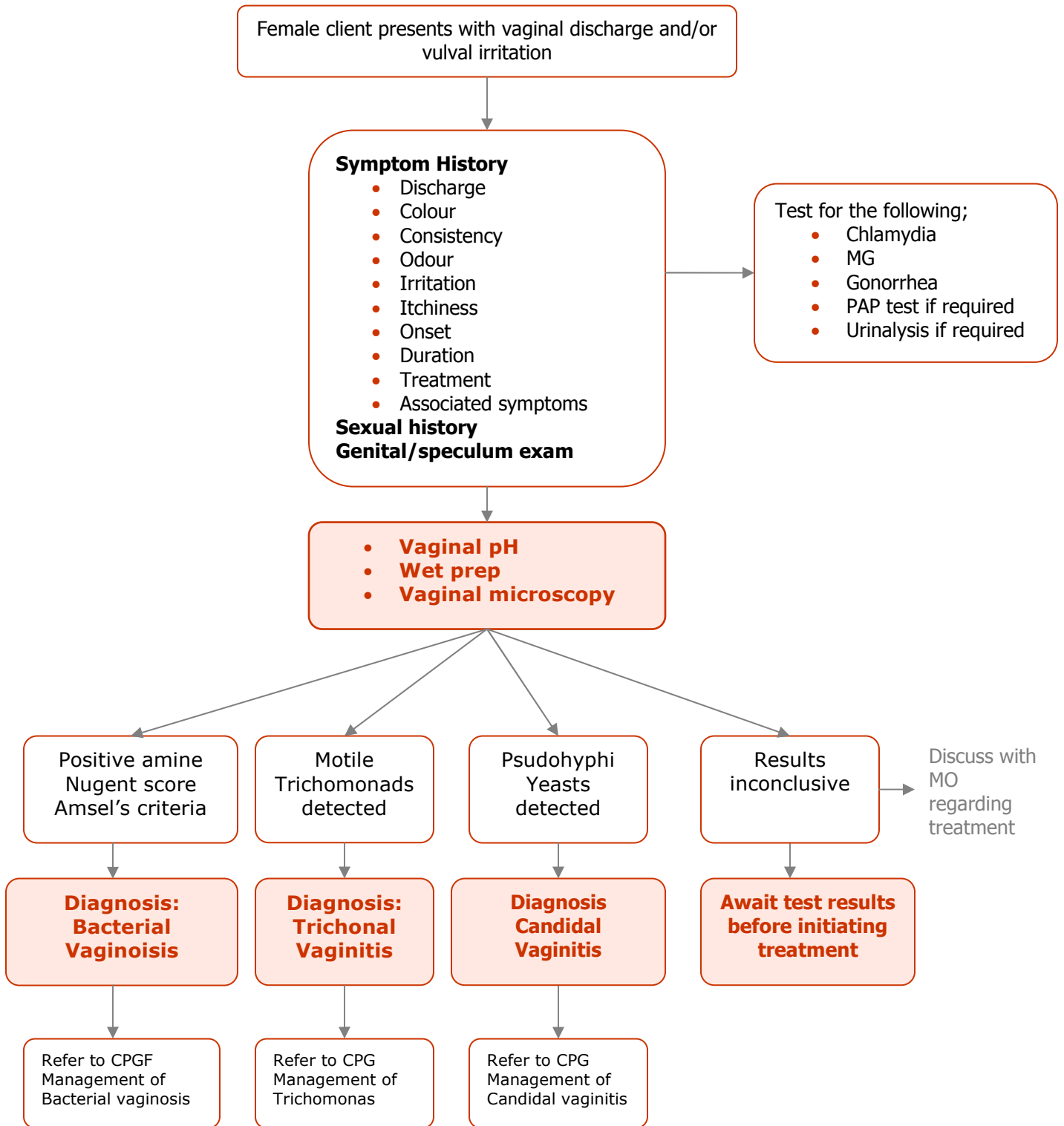
BACTERIAL VAGINOSIS

Refer to CPG F3: Clinical Management of Uncomplicated Bacterial Vaginosis Infection

MANAGEMENT ^{7,8,9,10}

- Refer to individual CPGs for specific management
- If vulval itch is secondary to vaginal discharge a barrier cream may help relieve symptoms
- Advise client about genital skin care
- Advise no sexual contact for seven days post treatment
- Contact tracing and partner notification is required depending on cause of vaginitis
- MO review if symptoms persist post treatment

CLINICAL ALGORITHM



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