Certified Practice

DST 904 Care and Treatment Plan:
Bacterial Vaginosis

Note: For clients who are on gender-affirming testosterone therapy or who have had gender-affirming vaginoplasty, who have signs/symptoms of BV, consult with and/or refer to a nurse practitioner (NP) or physician as clients may require additional tests and alternate treatment. See Trans Care BC's Gender-affirming Care for Trans, Two-Spirit and Gender Diverse Patients in BC: A Primary Care Toolkit.

Definition

Bacterial Vaginosis (BV) is a common imbalance of the vaginal flora caused by an overgrowth of vaginal bacteria (especially anaerobic, gram-negative bacilli) with a possible a depletion of lactobacilli.

Registered Nurses with **Reproductive Health – Sexually Transmitted Infection** Certified Practice designation (RN(C)) are authorized to manage, diagnose, and treat individuals with bacterial vaginosis.

Potential Causes

Bacterial:

- Gardnerella vaginalis
- Prevotella species
- Mobiluncus species
- Ureaplasma urealyticum
- Mycoplasma hominis

Predisposing Risk Factors

- Sexual contact with a least one partner
- New/multiple sexual partners
- Other STI (e.g., herpes simplex virus type 2 (HSV-2), chlamydia, gonorrhea)
- Intrauterine device (IUD)
- Cigarette smoking
- Douching

Typical Findings

Sexual History

- Often asymptomatic (>50%)
- Change in normal patterns of discharge
- Odour (fishy)
- Irritation
- Recurrent BV is common. Individuals should be re-evaluated to reconfirm diagnosis and for consult/referral if indicated.

Physical Assessment

- Client-reported changes in vaginal discharge which may include:
    - Moderate to profuse amount
    - Homogenous (i.e., not clumpy)
    - Greyish or white colour
    - Thin
    - Fishy odour
    - Amine (fishy) odour before or after a positive KOH whiff test
    - pH greater than (>) 4.5

Diagnostic Tests

Full STI screening is recommended. See DST 900: Assessment and Diagnostic Guideline: STI

If signs or symptoms of BV are present, the following methods are available for BV diagnosis:

- Nugent scoring: from gram stain lab results
- Amsel's criteria: clinical diagnosis including microscopy
- Modified Amsel's Criteria: clinical diagnosis when microscopy not available

The following specimens are collected from the vaginal wall through clinician – or client-collected blind swab or during a speculum exam:

- Swab for microscopy: smear on slide for gram stain/or clue cells
- Swab for pH
- Swab for KOH whiff test

Notes:

1) Prepare glass slide for microscopy prior to using for pH or whiff test.
2) pH strips are ineffective in the presence of blood.
3) The KOH whiff test involves adding 10% KOH solution (not exceeding 0.5 ml) to collected vaginal secretions and briefly sniffing (1-2 seconds) the vapour to assess for an amine odour. Detection of an amine odour constitutes a positive whiff test. For more information on KOH whiff testing see: Safe Use of 10% Potassium Hydroxide in STI Screening located in the BCCDC Communicable Disease (CD) Manual Chapter 5: Sexually Transmitted Infections.

Clinical Evaluation/Clinical Judgement

Nugent Score/Gram Stain

Determined by lab testing of vaginal smear with three possible scoring outcomes and interpretations (see Bacterial Vaginosis Nugent Scoring (Gram Stain) algorithm):

- Negative (0-3)
- Intermediate (4-6)
- Positive (7-10)

Amsel's Criteria

Clinical criteria requiring three of the following symptoms or signs for BV diagnosis:

- pH greater than (>) 4.5
- Presence of moderate-profuse grey-white discharge – may be thin and homogenous (non-clumping)
- Positive KOH whiff test OR obvious BV odour (in the absence of KOH whiff test)
- Lab slide of smear result is positive for clue cells *

**Can be used if immediate microscopic evaluation is available.*

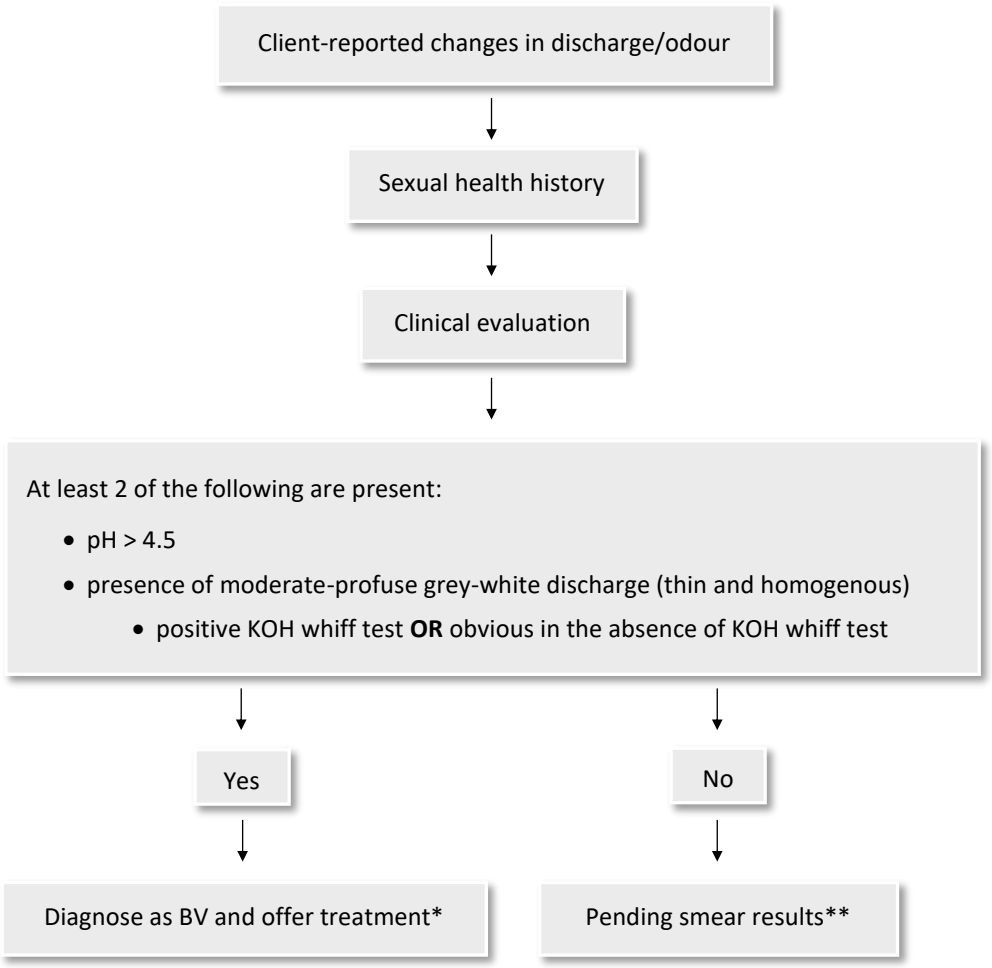
Modified Amsel's Criteria

This method is useful for clinical management of BV when microscopic evaluation for clue cells is not immediately available, and the client reports abnormal changes in vaginal discharge plus at least two of the following are present:

- pH greater than (>) 4.5
- Presence of homogenous, moderate-profuse grey-white discharge

- Positive KOH whiff test OR obvious BV odour in the absence of the KOH whiff test

Modified Amsel's Criteria: Clinical Management of Bacterial Vaginosis Symptoms in the Absence of Immediate Diagnostic Support

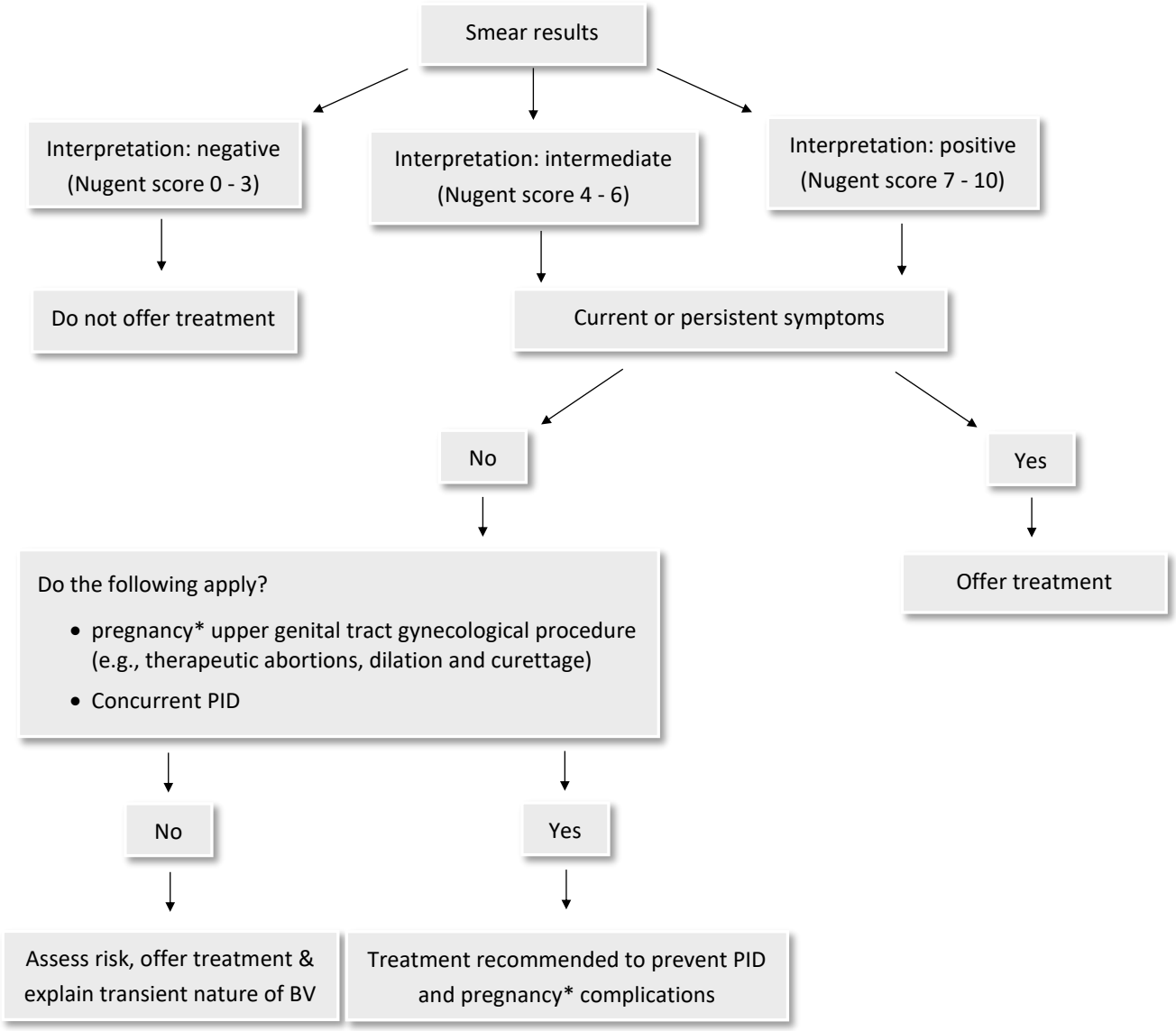


*Special considerations:

- See indications for consultation/referral upon clinical findings
- In the presence of clinical findings, treatment is recommended if the client:
    - Is pregnant
    - Is having upper genital tract instrumentation (e.g., therapeutic abortion, dilation, and curettage)
    - Has concurrent PID

** Please refer to the following Bacterial Vaginosis Nugent Scoring (Gram Stain) algorithm

Bacterial Vaginosis Nugent Scoring (Gram Stain)



*Consult with or refer to a physician or NP

Management and Interventions

Goals and Treatment

- Treat infection
- Prevent complications
- Prevent the spread of infection

Treatment of Choice

Treatment	Notes
First Choice Metronidazole 500mg PO BID for 7 days OR Metronidazole gel 0.75%, one applicator (5g) once a day intravaginally for 5 days OR Clindamycin cream 2%, one applicator (5g) intravaginally once a day for 7 days	**General:** 1. Though demonstrated to have a lower efficacy in treating BV V (primarily due to recurrence), metronidazole 2 gm PO as a single dose may be given in instances where completion of treatment is a concern. 2. Intravaginal metronidazole gel and clindamycin cream/ovules/oral formulations are not included in the BCCDC Provincial STI Drug Program. RN(C)s may need to consult with a physician or NP to obtain a prescription for the client. 3. Clindamycin cream may weaken latex condoms and diaphragms for up to 5 days after use. 4. The efficacy of probiotic (lactobacillus or lactic acid formulations), antiseptics, or boric acid preparations as treatments for BV has, to date, not been conclusively demonstrated despite promising results. Until there is more published data, it is premature to make a judgement as to their recommended use. **Allergy and Administration:** 5. Alcohol must be avoided 12 hours pre-treatment, during treatment and 24-48 hours post-treatment with metronidazole. 6. Metronidazole 500mg PO BID for 7 days is acceptable and safe to administer in breast-/chest-feeding clients. Consult/refer for other first choice or alternate treatment recommendations in pregnant clients.
Alternative Treatment Metronidazole 2g PO in a single dose OR Clindamycin 300mg PO BID for 7 days OR Clindamycin ovules 100mg intravaginally once at bedtime for 3 days	

Pregnant or Breast-/Chest-Feeding Adults

For clients who are pregnant consult with or refer to physician or NP. For clients who are breast-/chest-feeding, metronidazole 500mg PO BID for 7 days is acceptable and safe to administer.

Partner Counselling and Referral

Where relevant (clients with vaginas, clients with vaginoplasty), sexual partners of people diagnosed with BV benefit from assessment and testing for BV. If clinical assessment and/or lab testing results are positive for BV, treat as per *DST 904: Care and Treatment Plan: Bacterial Vaginosis.*

Monitoring and Follow-up

If symptoms resolve, follow-up is not required. If symptoms persist following initial treatment, ensure treatment compliance and re-evaluate to re-confirm diagnosis.

Potential Complications

- Presence of BV during an invasive procedure (e.g., dilation and curettage), has been associated with post-procedure pelvic inflammatory disease (PID)
- BV may be associated with premature rupture of membranes in clients with a history of previous complicated pregnancy

Client Education

Counsel client regarding:

- The appropriate use of medications (dosage, side effects, and need for re-treatment if dosage not completed, or symptoms do not resolve).
- Special precautions for taking metronidazole: avoid alcohol 12 hours prior to starting treatment, during the course of treatment and for 24-48 hours after treatment completion.
- Refraining from sexual activity or use condoms consistently during treatment.
- Vaginal flora and pH balance. Advise that certain practices such as intra-vaginal cleansing (douching) can alter vaginal flora and pH balance.
- Promising results in the investigation of available probiotic (lactobacillus or lactic acid formulations), antiseptics, and boric acid preparations for use in the treatment of BV; however, their exact efficacy as treatments for BV is unknown.
- IUD use being associated with BV.
- Cleaning sex toys between use and using condoms if sharing sex toys.
- The presence of BV can increase the likelihood of HIV transmission.
- The presence of BV can increase the likelihood of STI acquisition (e.g., HIV, GC, CT, HSV).
- If symptoms do not resolve with treatment, they will require referral to a physician or NP.
- BV may occur without having had sexual contact.

Consultation and/or Referral

Consult with or refer to a physician or NP in the following situations:

- Whenever first choice and alternate treatment is contraindicated
- If the client is unable to abstain from alcohol during treatment period
- When prescription for treatment is required
- If the client is pregnant
- Recurrent BV (RBV); RBV is defined as persistent symptoms after treatment of:
    - 2 or more episodes of BV within a 4-week time frame
    - 4 or more episodes of BV within a 1-year period
- For breast-/chest-feeding clients where metronidazole first choice treatment is not being used

Documentation

- BV is not reportable
- As per agency policy

References

More recent editions of any of the items in the References List may have been published since this DST was published. If you have a newer version, please use it.

Australasian Sexual Health Alliance (ASHA). (2016). Australian STI management guidelines for use in primary care: Bacterial vaginosis.

Bradshaw, C.S. & Brotman, R.M. (2015). Making inroads into improving treatment of bacterial vaginosis: Striving for long-term cure. BMC Infectious Diseases.15; p.292.

British Association for Sexual Health and HIV (BASHH). (2012). UK national guideline for the management of bacterial vaginosis.

Centers for Disease Control and Prevention (CDC). (2015). Sexually transmitted diseases treatment guidelines: Diseases characterized by vaginal discharge – bacterial vaginosis. MMWR Recommendations and Reports. 64:3; pp.104-110.

Forcey, D.S., Vodstrcil, L.A., Hocking, J.S., Fairley, C.K., Law, M., McNair, R.P. & Bradshaw, C.S. (2015). Factors associated with bacterial vaginosis among women who have sex with women: A systematic review. PLOS ONE | DOI:10.1371/journal.pone.0141905.

Heczk, P.B., Tomusiak, A., Adamski, P., Jakimiuk, A.J., Stefański, G., Mikołajczyk-Cichońska, A., Suda-Szczurek, M. & Strus, M. (2015). Supplementation of standard antibiotic therapy with oral probiotics for bacterial vaginosis and aerobic vaginitis: A randomised, double-blind, placebo controlled trial. BMC Women's Health. 15:115.

Machado, D., Castro, J. & Palmei, A. (2016). Bacterial vaginosis biofilms: Challenges to current therapies and emerging solutions. Frontiers in Microbiology. 6:1528.

Madden, T., Grentzer, J.M., Secura, G.M., Allsworth, J.E., & Peipert, J.F. (2012). Risk of bacterial vaginosis in users of the intrauterine device: A longitudinal study. Sexually Transmitted Diseases. 39(3); pp.217-222.

Mullins, M.Z. & Trouton, K.M. (2015). BASIC study: is intravaginal boric acid non-inferior to metronidazole in symptomatic bacterial vaginosis? Study protocol for a randomized controlled trial. Mullins and Trouton Trials (2015). 16:315 DOI 10.1186/s13063-015-0852-5.

Nyirjesy, P. (2014). Management of persistent vaginitis. Obstetrics and Gynecology. 124:6

Provincial Health Services Authority (PHSA) & Trans Care BC. (2017). Caring for trans and gender diverse clients in BC: A primary care toolkit.

Public Health Agency of Canada (PHAC). (2010). Vaginal discharge (bacterial vaginosis, vulvovaginal candidiasis, trichomoniasis). In: Canadian guidelines on sexually transmitted infections.

PHAC. (2014). Supplementary statement for recommendations related to the diagnosis, management, and follow-up of vaginal discharge. In: Canadian guidelines on sexually transmitted infections.

Reichman O, Akins R & Sobel J (2009). Boric acid addition to suppressive antimicrobial therapy for recurrent bacterial vaginosis. Sexually Transmitted Diseases. 36:11.

Sobel, R. & Sobel, J.D. (2015). Metronidazole for the treatment of vaginal infections. Expert Opinion on Pharmacotherapy. 16:7; pp.1109-1115.

Society of Obstetricians & Gynecologist of Canada (SOGC). (2014). Best practices to minimize risk of infection with intrauterine device insertion. J Obstet Gynaecol Can 2014; 36 (3); pp.266–274.

van Schalkwyk, J. & Yudin, M.H. (2015). Vulvovaginitis: screening for and management of trichomoniasis, vulvovaginal candidiasis, and bacterial vaginosis. Journal of Obstetrics and Gynaecology of Canada. 37(3); pp.266–274.

Weyers, S., Verstaelen, H., Gerris, J., Monstrey, S., dos Santos Lopes Santiago, G., Sarens, B., De Backer, E., Gerrt, C., Vaneechoutte, M., Verhelst, R. (2009). Microflora of the penile skin-lined neovagina of transsexual women. BMC Microbiolody. 9:102. doi: 10.1 186/1471-2180-9-102.