

## AEROBIC VAGINITIS

### INTRODUCTION

Aerobic vaginitis (AV) is a newly defined clinical entity that is distinct from candidiasis, trichomoniasis and bacterial vaginosis (BV). Because of the poor recognition of AV, this condition can lead to treatment failures and can be associated with severe complications, such as pelvic inflammatory disease, infertility, preterm birth and fetal infections. AV is a bacterial infection with vaginal discharge that is often mistaken for bacterial BV. AV is a disruption in the normal vaginal flora characterized by a decrease in *Lactobacilli* as the predominant species, and an increase in aerobic flora accompanied by malfunctioning white blood cells and high levels of inflammatory biochemicals. In AV, aerobic bacteria such as those frequently found in the intestines, including *Escherichia coli*, *Staphylococcus aureus*, *Streptococcus agalactiae* (group B *Streptococcus* (GBS)), and *Enterococcus faecalis* are recovered. However, intermediate forms of AV may exist with a mixed flora type.

### TREATMENT

Based upon diagnosis, combined treatment with any of the following: antibiotic (infectious component), steroids (inflammatory component), and/or estrogen (atrophy component). In cases with *Candida* also present, antifungals should be tried first. Antibiotics most suitable include kanamycin and clindamycin. GBS and *E. faecalis* are typically treated with ampicillin. Vaginal rinsing with povidone iodine can provide rapid relief of symptoms but does not provide long-term reduction of bacterial loads.

### PREVENTION

Measures that may be considered to prevent AV include enhancing education to improve women's knowledge related to reproductive health, encouraging condom use, avoiding long-term use of antibiotics and limiting vaginal douching.



### TRANSMISSION

Prevalently by sexual contact with partner. In addition, caused by Bacterial Vaginosis, Vulvovaginal candidiasis, and Trichomoniasis. There are reports that a drop in estrogen may trigger the development of AV in menopausal women, as well as postpartum nursing women.

**INDICATIONS FOR TESTING:** Traditional diagnosis is based on microscopic criteria including the relative number of leucocytes, percentage of toxic leucocytes, and lactobacillary grade: *Grade I* - numerous lactobacilli; no other bacterial species present, *Grade II* - mixed flora, with varying percentage lactobacilli, *Grade III* - lactobacilli severely depressed or absent because of overgrowth of other bacteria

Traditional methods are subjective and lack sensitivity and specificity. DNA testing can accurately quantify proportion of various bacterial species present

**CAUSE:** A bacterial infection of the vagina that is distinct from the more common bacterial vaginosis. Aerobic Vaginosis is caused by a displacement of the healthy Lactobacillus species with aerobic pathogens such as Escherichia coli, Staphylococcus aureus, and Enterococcus faecalis.

**PATHOGENS TESTED:** Enterococcus Faecalis, Escherichia Coli, and Staphylococcus Aureus.

**METHODOLOGY:** Traditionally, cell based and microscopic assays were used to identify bacterial, yeast and parasitic infections. Alternatively, Retrogen carries out real-time molecular PCR on DNA extracted from vaginal swabs to screen for microorganisms. This quantitative approach uses TaqMan chemistry from Life Technologies to detect pathogen specific gene sequences. Retrogen offers early & accurate detection, rapid turnaround times, and only requires a single, non-invasive sample collection. Your referring physician will be provided with a detailed, comprehensive report that leads to actionable decisions and forward treatment options.

**ANALYTICAL SENSITIVITY AND SPECIFICITY:** 99 percent.

### **ORDERING**

Test ID: #8006

Turn-around Time: 24-48 hours

Preferred Specimen: Vaginal swab.

### **BILLING**

CPT Codes: 87653,87798x2, 87640

Billing Information: [LINK TO BILLING INFO ON WEBSITE](#)

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### **WEB RESOURCES**

Mayo Clinic Staff (Updated 2012 February 25). Vagina: What's normal, what's not.

<http://www.mayoclinic.com/health/vagina/MY01913/METHOD=print> through <http://www.mayoclinic.com>. Accessed March 2013.

Gore, H. (Updated 2011 October 27). Vaginitis. <http://emedicine.medscape.com/article/257141-overview> through <http://emedicine.medscape.com>.

Samra-Latif, O. (Updated 2012 January 13). Vulvovaginitis. <http://emedicine.medscape.com/article/270872-overview> through <http://emedicine.medscape.com>. Accessed March 2013.

### **REFERENCES**

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Verstraelen H, Verhelsy R. Bacterial vaginosis: An update on diagnosis and treatment. Expert Rev Anti Infect Ther 7(9):1109-1124, 2009.