

# Vaginal Discharge

Julie Ann Francis, MD

# Objectives

1. Review the Common Causes
2. Review the Rare Causes
3. Review the Special Cases

# The Approach

Identify the anatomic site of discomfort

Consider that more than one condition may be present

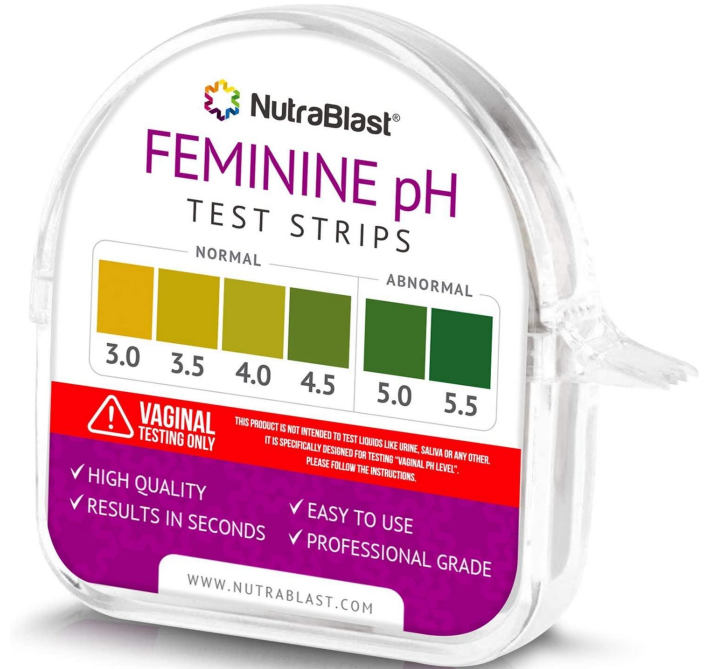
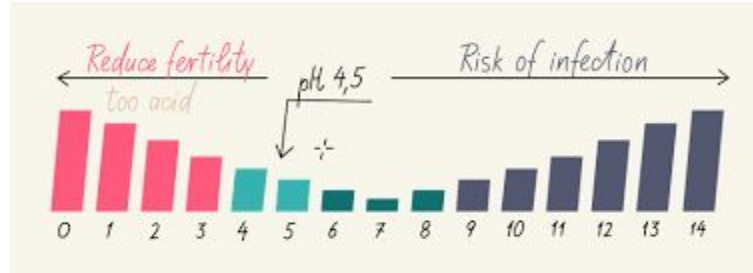
Evaluate each symptom (vaginal discharge, itching, pain) separately

Evaluate vaginal secretions with pH and wet mount

Schedule a follow up visit for 2 to 4 weeks after initial intervention to assess response

In patients whose symptoms persist, reevaluate for additional causes and perform a biopsy

# Testing pH



# Swabs

NAAT swab (Nucleic acid amplification test) --GC and chlamydia

Take one from the cervix and one from the vagina (two in the kit)

Charcoal swab (BV, trichomonas, candida, GBS)

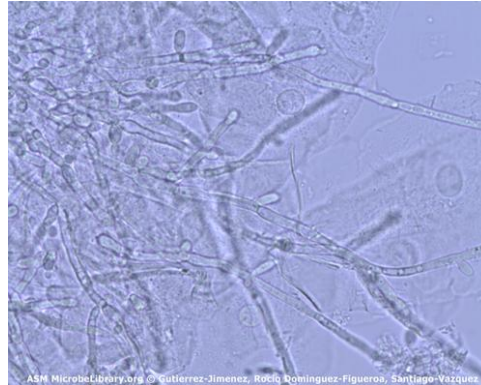
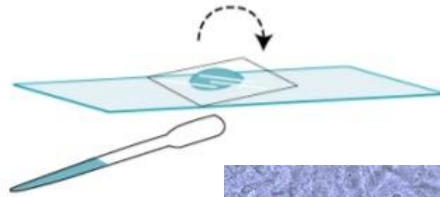
Posterior fornix

Cervical if used for wet mount

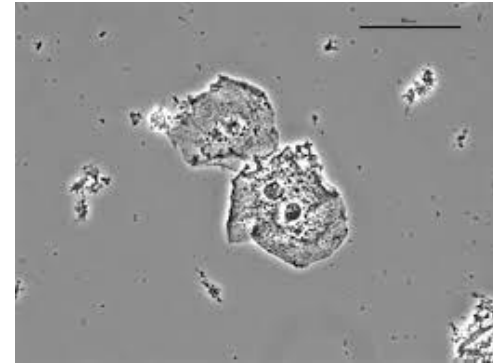


## Making a Wet Mount Slide

- Use a dropper to place one drop of water in the center of a slide.
- Place a small, thin section of sample on top of the drop.
- Place a cover slip over the sample, angling it like a hinge.



ASM Microbelibrary.org © Gutierrez-Jimenez, Rocío; Robinson-Figueroa, Santiago; Vazquez



# Causes of Abnormal Discharge

Antibiotic/Steroid Use

BV

OCP

Cervical CA

STD

Diabetes

Douches, scented soaps, locations, bubble bath

PID

Trichomoniasis

Vaginal atrophy

Vaginitis

Yeast infections

# The Common Causes



# Bacterial Vaginosis

Most common cause of abnormal vaginal discharge accounts for 40-50% of cases

Complex change in vaginal biota

Reduction in hydrogen peroxide producing bacteria

Increase in anerobic gram negative rods

Change in pH to >4.5

Affected by ethnicity and age

*Gardnerella vaginalis*

*Prevotella*

*Mycoplasma hominis*

*Bacteriodes*

*Porphyromonas*

*Ureaplasma urealyticum*

*Mobiluncus*

*Megaspheara*

*Sneathia*

*Fusobacterium*

*Atopobium vaginae*

*Clostridiales*

# BV

Risk factors include:

Sexual activity

STIs

Race and Ethnicity

Douching

Cigarette smoking

Fishy odour and thin white discharge

Does not independently cause pain

Vaginal culture does not play a significant role in diagnosis

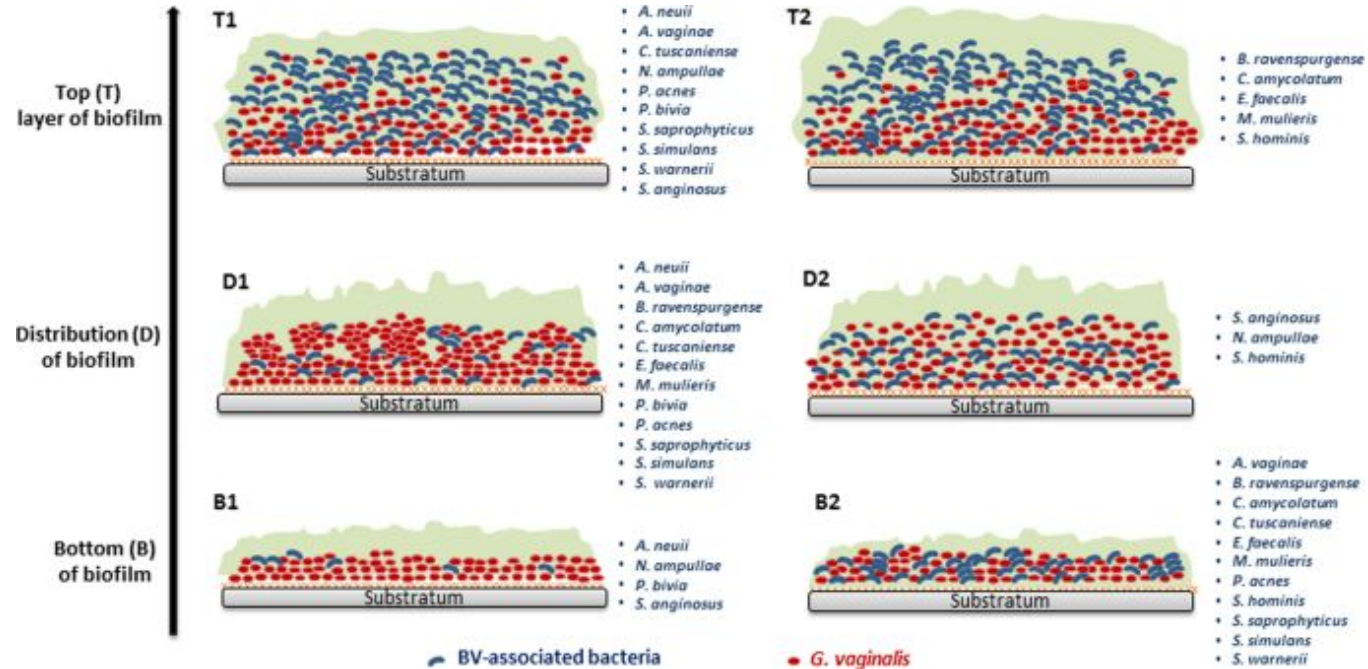
(Whiff test, gram stain, Clue cells on wet mount)

Commercial tests are available

# BV

## Biofilm

Created by *G. vaginalis* which develops a scaffolding to which other organisms can adhere



# Candida

Itching and discharge

10-20% of patients are asymptomatic

Topical and oral treatments have similar effectiveness

Topical is better tolerated

If topical treatment is chosen the treatment must be vaginal

Recurrent disease is present in about 15% of patients

Complicated treatments are more convenient to treat orally

If persistent consider less common variants

Less common variants require treatments other than fluconazole

Some effect has been had with boric acid

Phone a friend

Flucytosine, Amphotericin B

Recurrent disease may need to be treated weekly for up to 6 months

# Trichomoniasis

Most common cause of vaginal discharge after BV and Candida

Affects approximately 5-7% of patients in low risk settings

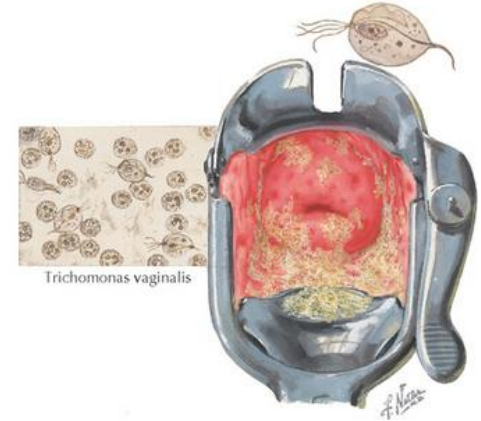
Upt to 16% in high risk settings

Bimodal distribution affecting women in their 20s and 50s

Burning, pruritus, dysuria, lower abdominal pain

10-20% of infected women present with symptoms

Co-infection is common



# Gonorrhoea

Typically presents within 10 days of exposure

Mucopurulent discharge

Vaginal pruritus

Cervicitis (70% asymptomatic)

Extremely high rates in certain aboriginal communities

(greater than 10x population)



# Chlamydia

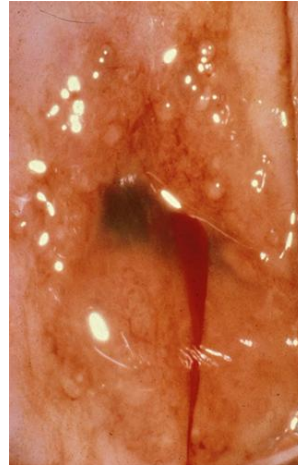
## Cervicitis

85% of patients are asymptomatic

If present purulent discharge

Consider routine screening in active females

May have recurrent episodes after initial infection



*Reproduced from the Centers for Disease Control and Prevention.*

# Atrophic Vaginitis

Declining estrogen levels

pH>4.6

Lubricants - water or silicone based

Extra virgin coconut oil

Olive oil

Estrogen - all topical forms are similar

Phone a friend:

SERMS Ospemifene (Osphena), bazedoxifene (Duavive)

prasterone (Gynetrof)

Radiofrequency thermal therapy



# Diabetes

High blood sugar levels cause glucose to be

Excreted via the urine

Fertile breeding ground for yeast infections

# The Rare Causes

# Desquamative inflammatory vaginitis

8% of patients with symptoms of chronic vaginitis

Often misdiagnosed as trichomoniasis

(yellow greenish discharge, itching and burning)

Redness and dyspareunia

pH >5

Microscopy reveals leucorrhea

4-6 week course of 2% intravaginal clindamycin

Introduction of vaginal estrogen (consider

Compounding with clindamycin)

10% hydrocortisone cream

May require maintenance therapy (phone a friend)

# Graft vs Host Disease

25%-50% VMT recipients

Itch

Dryness

Dyspareunia

Burning with urination

Non hormonal lubricants

Topical and vaginal steroids

Estrogens

Surgery

Phone a friend

# The Special Cases

# Prepubertal children

- Problems arise from
  - Congenital abnormalities
  - Infection
  - Poor hygiene
  - Bubble baths, shampoos, other irritants
  - Obesity
  - Foreign bodies
  - Dermatologic conditions

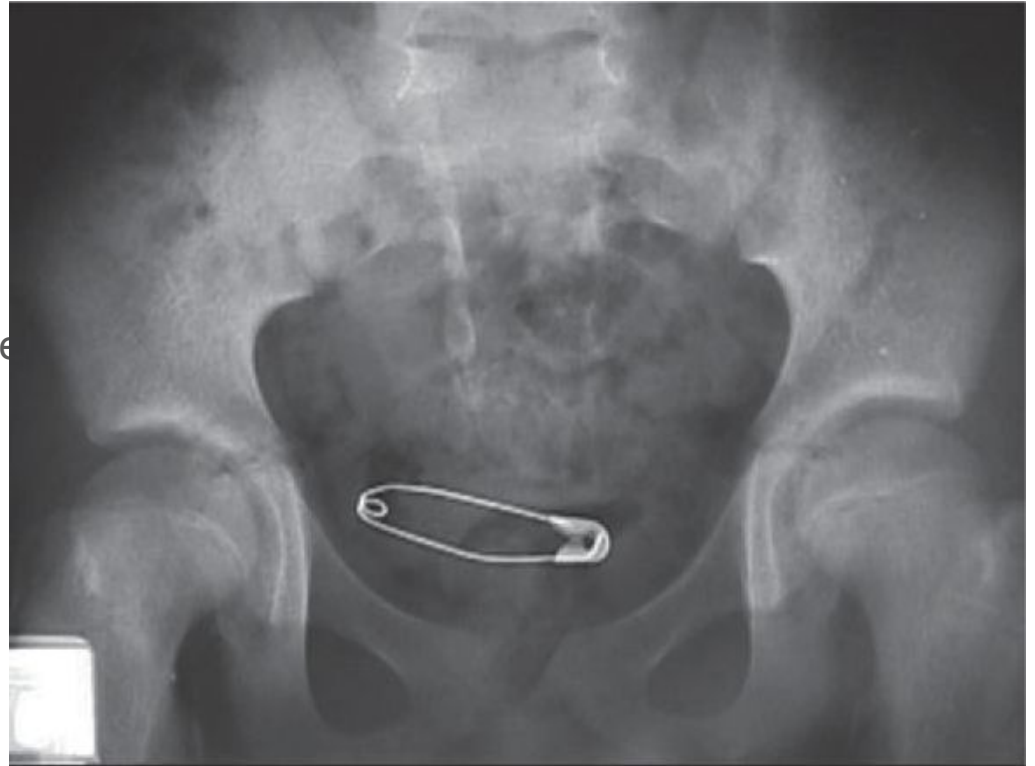


Fig 1. Pelvic X-ray demonstrating safety pin in vagina

# Prepubertal children

Non specific vulvovaginitis

25-75% of cases

Lack of labial development

Hypoestrogenization

Alkaline ph >7

Obesity

Foreign bodies

Choice of clothing leotards



# Pre pubertal children

Avoid sleeper pyjamas choose night gowns

Cotton underpants

Avoid tights, leotards, leggings

Daily warm baths

Candida

Gardnerella

STDs associated with sexual abuse



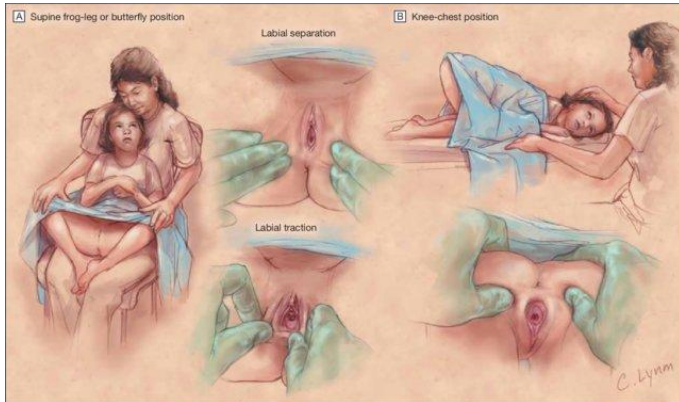


# Prepubertal children

## Foreign bodies

Can be removed by irrigation

Sometimes surgical removal



## Systemic Illness

Measles

Chicken Pox

EBV

Scarlett Fever

Mycoplasma pneumonia

# Pregnancy

Leukorrhea increases in pregnancy

- Prevents ascending infections

- Increases towards end of pregnancy

- Late in pregnancy patients may have jelly like discharge (show)



# Pregnancy

Increased risk of pregnancy with many of the usual pathogens

Screening is critical

Gonorrhea - chorioamnionitis, PROM, preterm birth, low birth weight, SGA

Chlamydia- PROM, preterm birth, LBW

Trichomonas - PROM, preterm birth LBW

Candida - not associated with high risk outcomes (treat topically because of risk of miscarriage with fluconazole)

**THANKS!**