Rewind the VHS: Vaginitis, HPV and STIs

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CEPD continuing education and professional development

Conflict of Interest Declaration: Nothing to Disclose

Presenter: Naana Jumah

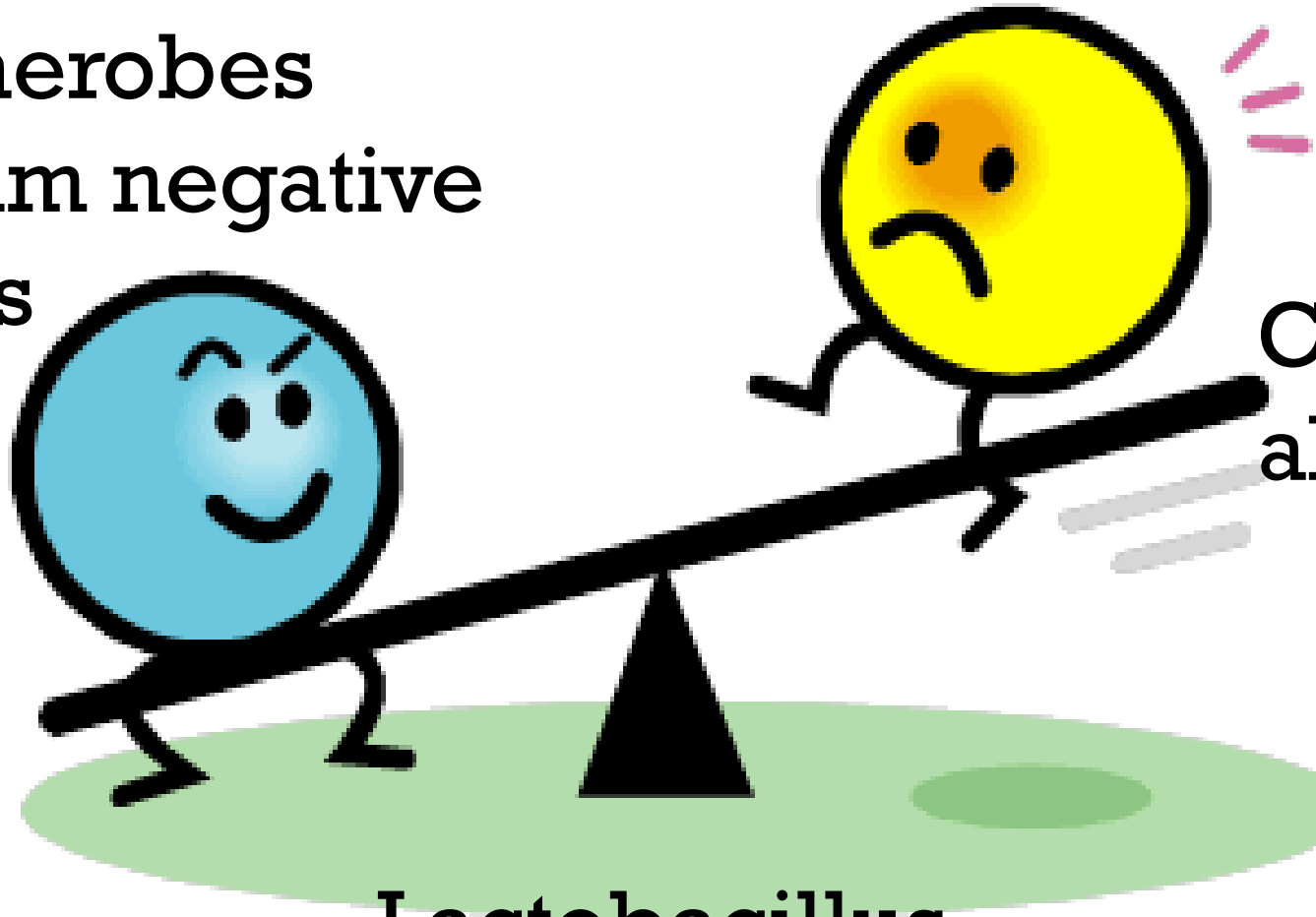
Title of Presentation: _____

I have no financial or personal relationships to disclose

VHS: Vaginits

Vaginal Flora

Anaerobes
Gram negative rods



Candida albicans

Lactobacillus

Vaginitis

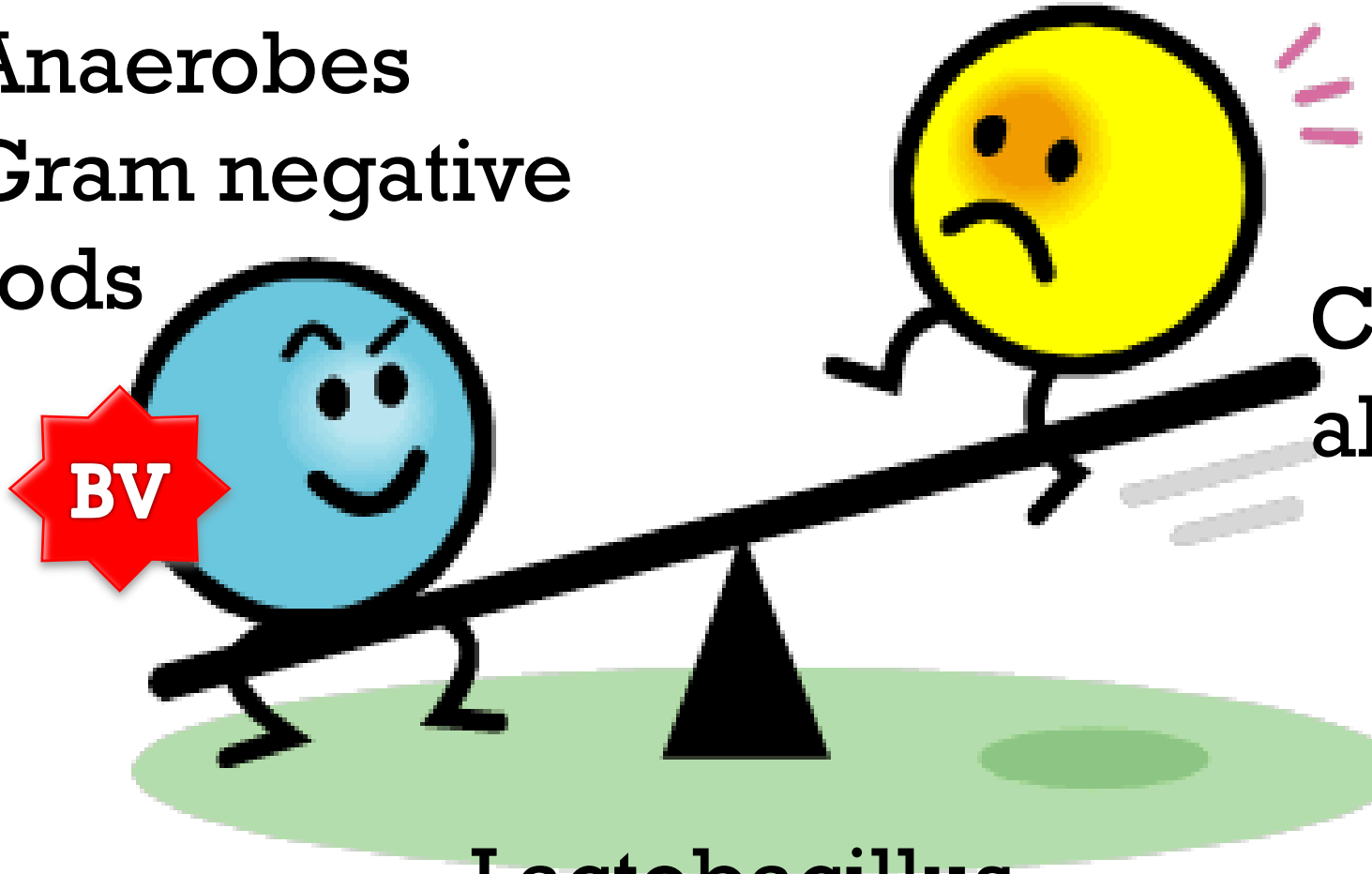
	BV	Yeast	Trichomonas
STI	✗	✗	✔
Risk Factors	• IUD • New partner • None	• Pregnancy • Diabetes • Steroids • Antibiotics • Immuno-compromised	• Multiple partners
Symptoms	• Fishy discharge	• Clumpy discharge • Dysuria • Pruritis	• Frothy discharge
Vaginal pH	>4.5	• <4.5	• >4.5
Wet mount	• Clue cells • PMNs	• Budding yeast • Pseudohyphae	• Flagellated protozoa
Whiff test	✔	✗	✗

Case 1:
24 yo G1P0 who, for the past year, gets a fishy odour the week before her period

- You tried your usual treatment and now she's back . . .

Imbalance – Bacterial Vaginosis

Anaerobes
Gram negative rods



Candida albicans

Lactobacillus

BV Treatment

Preferred
Metronidazole 500mg PO BID x 7 days
Metronidazole gel 0.75%, one applicator (5 g) PV daily x 5 days
Clindamycin cream 2%, one applicator (5 g) PV daily x 5 days

Alternate
Metronidazole 2g PO x 1
Clindamycin 300 mg PO BID x 7 days

***Cure rates of 75 – 80% with oral and vaginal metronidazole

Recurrent BV

*** 30% of women recur within 3 months

Step 1: Confirm the diagnosis with a vaginal culture

Step 2: Prolonged oral therapy

- Metronidazole 500mg PO BID x 10-14 days

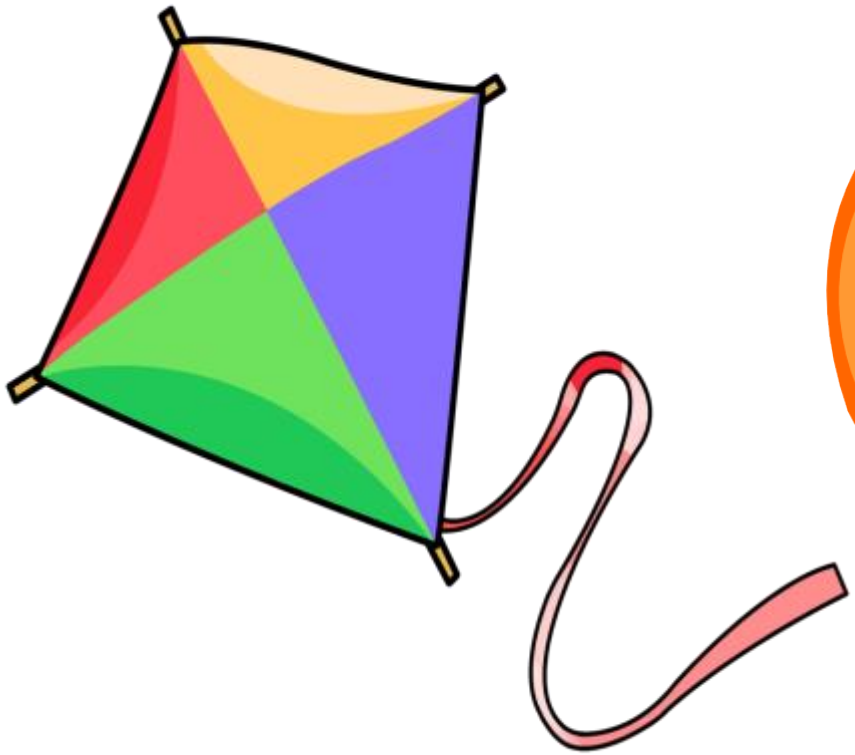
Step 3: Suppressive therapy

- Metronidazole vaginal gel 0.75%, one applicator (5g) PV for ten days then twice weekly for 3 to 6 months

Step 4: Consider alternate treatments

- Vaginal probiotics eg FloraFemme, Probaclac
- Partner treatment

Trich and Treat (ment)



Which is not true about Trichomonas?

a) It is a reportable infection to Public Health

b) It is often diagnosed on Pap tests

c) Partner screening is recommended

d) Half of men and women are asymptomatic

Which is not true about Trichomonas?

- ☒ It is a reportable infection to Public Health
- ☑ It is often diagnosed on Pap tests
- ☑ Partner tracing is recommended
- ☑ Half of men and women are asymptomatic

What is the treatment for trichomonas?

a. Metronidazole 500mg PO BID for 7 days
b. Amoxicillin 500mg PO BID for 7 days
c. Azithromycin 1g PO x1
d. Metronidazole 2g PO x1

What is the treatment for trichomonas?

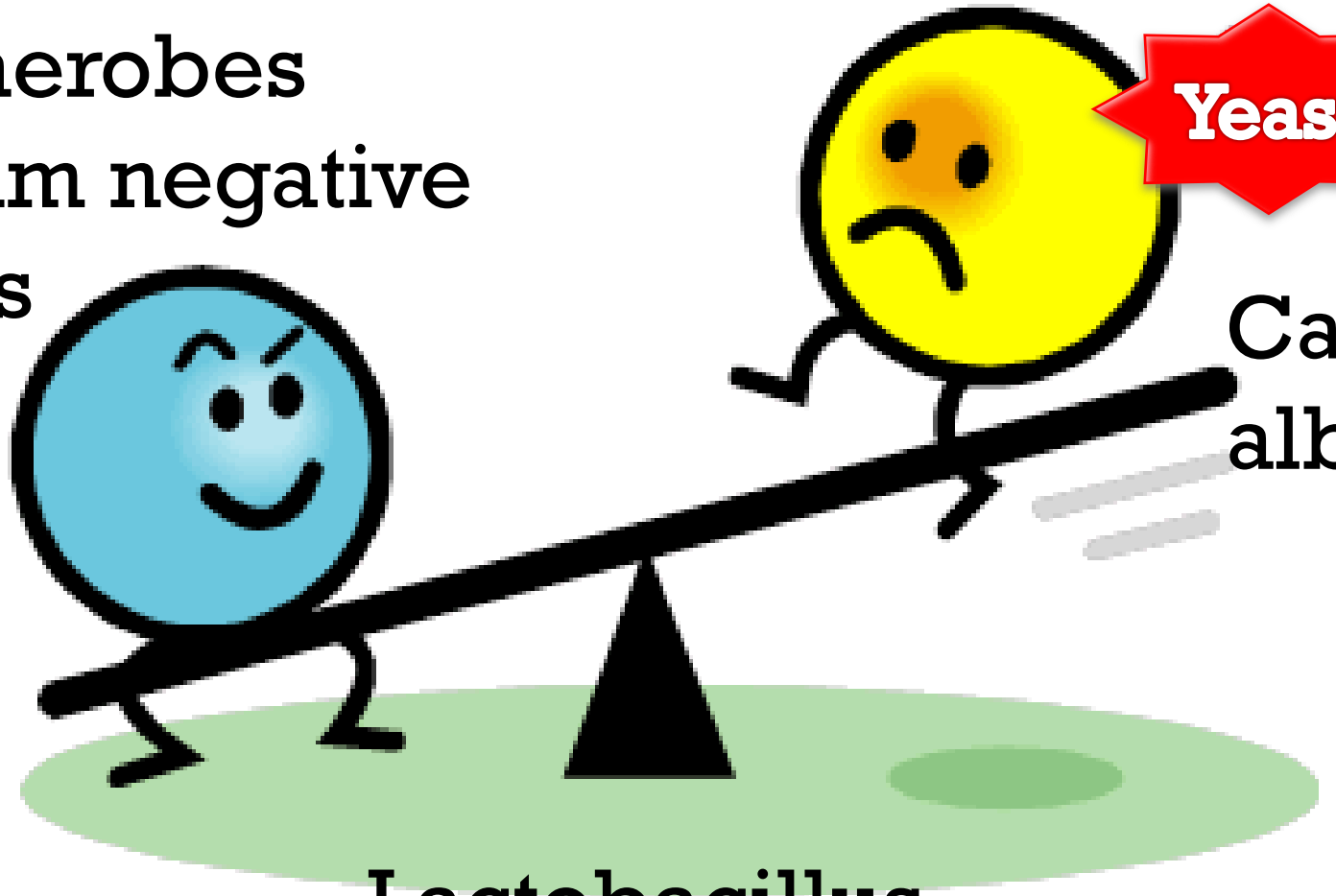
- ☑ Metronidazole 500mg PO BID for 7 days
- ☒ Amoxicillin 500mg PO BID for 7 days
- ☒ Azithromycin 1g PO x1
- ☑ Metronidazole 2g PO x1

Case 2:
35 yo G4P3 who, for the past year, experiences vulvar burning and pruritis as well as a clumpy discharge the week after her period

- The patient tried multiple over the counter medications with no success . . .

Imbalance - Yeast

Anaerobes
Gram negative rods



Candida albicans

Lactobacillus

Recurrent Yeast

*** 4 or more episodes in one year

Step 1: Confirm the diagnosis with a vaginal culture

Step 2: Induction phase

Step 3: Maintenance therapy

Step 4: Screen for non-albicans species

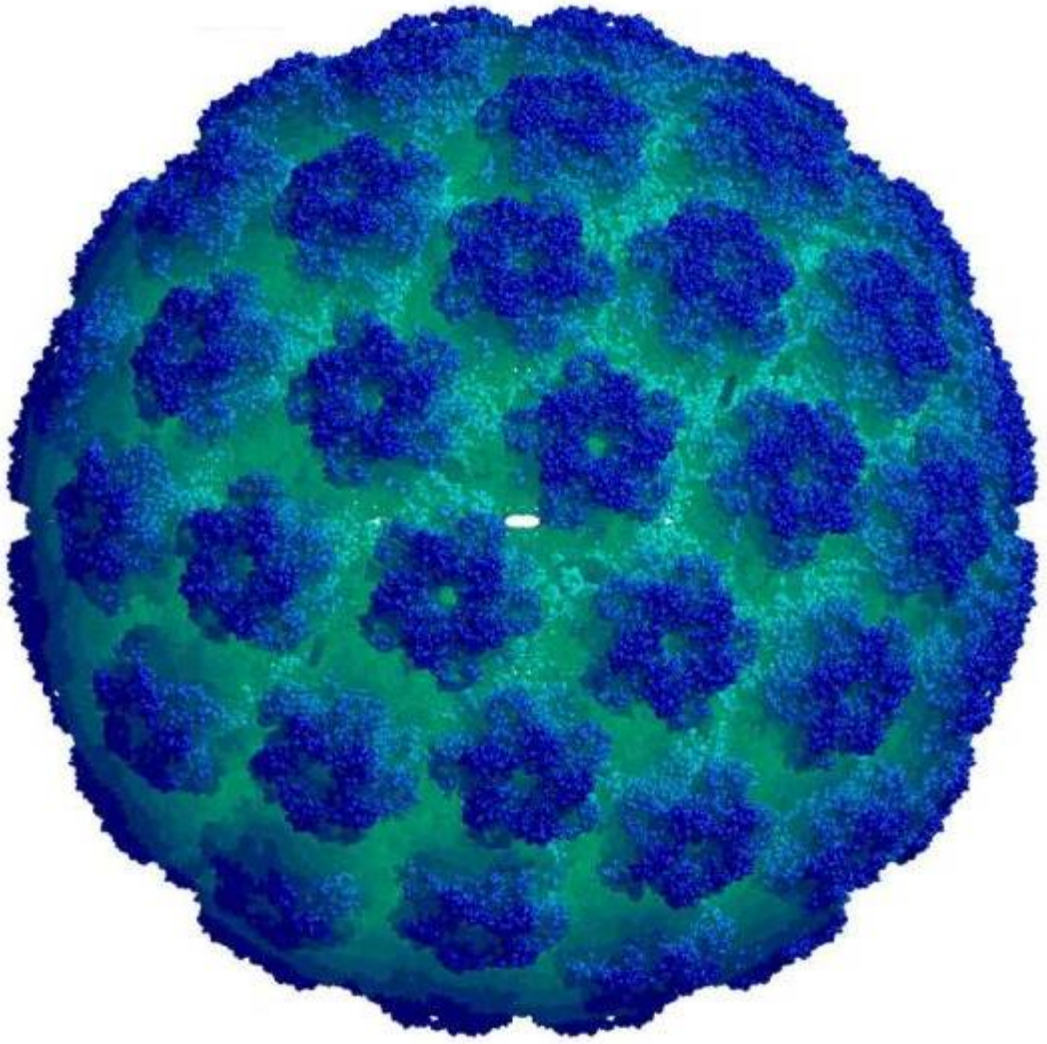
Yeast Treatment

Induction
Clotrimazole or Miconazole cream, one applicator PV x 10-14 days
Fluconazole 150mg PO q72h x 3 doses
Boric acid 300-600mg vaginal suppository x 14 days

Maintenance (6 months)
Clotrimazole 500mg vaginal suppository qMonth
Fluconazole 150mg PO once per week
Boric acid 300mg vaginal suppository x 7 days at the beginning of each menstrual cycle
Ketoconazole 100mg PO daily

vHs: HPV

Human Papilloma Virus



HPV Facts

- Transmission through receptive and penetrative vaginal, anal and oral sex, and non-penetrative sex (digital-vaginal sex and skin-to-skin contact)
- Infection with multiple types is common
- Infection with one HPV type does not appear to provide protection against infection with related HPV types
- High rates of infection in women under the age of 25 and in men of all ages
- Lifetime risk of infection is 75%

HPV vaccine

- Genital warts
  - Low risk types 11 and 16
  - Associated with 90% of genital warts
- Cervical dysplasia
  - High risk types 16 and 18
  - Associated with 70% of cervical cancers
  - Addition of high risk types 31, 33, 45, 52, and 58 will protect against 90% of cervical cancers

Who is eligible for the vaccine?

Girls and women

- Ages 9 to 45
- School based program in grade 8
- Catch up program to age 18

Boys and men

- Ages 9 to 26

***Side effects - Pain and redness at injection site

What is the schedule for the HPV vaccine?

a) 0, 3 and 8 months

b) 0, 2 and 6 months

c) 0, 6 and 12 monts

d) 0 and 6 months

What is the schedule for the HPV vaccine?

- ☒ 0, 3 and 8 months
- ☑ 0, 2 and 6 months
- ☒ 0, 6 and 12 monts
- ☑ 0 and 6 months

Spontaneous clearance of HPV

Ano-genital warts

- Incubation time of 3 week to 8 months
- 30% clearance over 3 months, median time 6 months

Cervical dysplasia

- Women under the age of 25 can spontaneously clear infections over 18 to 24 months
- Women over the age of 30 are less likely to have spontaneous resolution

Women who were vaccinated don't need Pap tests

True or False

Women who were vaccinated don't need Pap tests

False

- Routine Pap screening starting at age 21
- Pap tests every three years if negative
- ASCUS and LSIL Paps should be repeated in 6 months
- HSIL and repeat Paps showing ASCUS or LSIL should be referred to colposcopy
- Stop screening at age 70 if no abnormal Paps within the last 10 years of routine screening

Which is not a risk factors for development of HPV related precancerous lesions?

a) HIV infection
b) Multiple sexual partners
c) Smoking
d) Anal intercourse
e) Ano-genital warts

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a) HIV infection

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VHS: STIs

Give yourself a round of applause!

You've all got the clap!!! Now what is it …?

a) Chlamydia

b) Gonorrhea

c) Trichomonas

d) Syphilis

You've all got the clap!!! Now what is it …?

a) Chlamydia

b) Gonorrhea

c) Trichomonas

d) Syphilis

Gonorrhea

Organism	• Neisseria gonorrhea • Gram negative diplococci
Incubation	• 2-7 days
Discharge	• Purulent • Spotting
Odour	None
Cervix	Edematous ectropion
Diagnosis	• Cervical or throat swab for culture • Nucleic acid amplification test (NAAT) from cervix or urine

Gonorrhea Treatment

Preferred
*Ceftriaxone 250 mg IM x1 + Azithromycin 1g PO x1
Cefixime 800mg PO x1 + Azithromycin 1g PO x1

Alternate
Spectinomycin 2g IM x1** + Azithromycin 1g PO x1
Azithromycin 2g PO x1

* Preferred treatment for oropharyngeal infections
** Available through Health Canada Special Access Program

True of False: How is the optimal urine sample for GC/chlamydia collected?

T	F	Any time of day
T	F	First void of the day
T	F	Midstream sample
T	F	Initial 20cc of void
T	F	Void after two hours
T	F	Void after four hours

True of False: What is the optimal urine sample for GC/chlamydia?

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Antibiotic resistance

Obtain a culture:

- To determine antimicrobial sensitivities prior to treatment
- As a test of cure for suspected treatment failure
- For symptomatic men who have sex with men
- In the case of sexual abuse/sexual assault (rectal, pharyngeal, vaginal)
- To evaluate pelvic inflammatory disease (PID)
- If the infection was acquired in countries or areas with high rates of antimicrobial resistance

Prevention and control

- Reportable STI
- Case finding and partner notification
- Avoid unprotected sexual intercourse until at least 3 days after completion of treatment and until partners have been treated and are asymptomatic

What percentage of gonococcal infections have co-infection with chlamydia?

a) 23%

b) 34%

c) 46%

d) 52%

e) 68%

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a) 23%

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c) 46%

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e) 68%

Chlamydia

Organism	• Chlamydia trachomatis • Obligate intracellular, gram negative bacteria
Incubation	2-6 weeks
Discharge	• Purulent • Spotting
Odour	None
Cervix	Edematous ectropion
Diagnosis	• Cervical or throat swab for culture • Nucleic acid amplification test (NAAT) from cervix or urine

Common signs and symptoms of gonorrhea and chlamydia

- Urethritis / dysuria
- Proctitis
- Cervicitis
- Abnormal bleeding
- Vaginal discharge
- Pharyngitis
- Conjunctivitis
- Dyspareunia
- Lower abdominal pain

Chlamydia Treatment

Preferred
Doxycycline 100mg PO BID x 7 days
Azithromycin 1g PO x1

Alternate
Ofloxacin 300mg PO BID x 7 days
Erythromycin base 500mg PO four times per day x 7 days
Erythromycin base 250mg PO four times per day x 14 days

What is the treatment for chlamydia in pregnancy?

a. Metronidazole 500mg PO BID for 7 days
b. Amoxicillin 500mg PO BID for 7 days
c. Azithromycin 1g PO x1
d. Metronidazole 2g PO x1

What is the treatment for chlamydia in pregnancy?

a. Metronidazole 500mg PO BID for 7 days
b. Amoxicillin 500mg PO BID for 7 days
c. Azithromycin 1g PO x1
d. Metronidazole 2g PO x1

Prevention and control

- Screen at risk groups
  - Sexually active women under the age of 25
  - Infected men under the age of 25
  - Pregnant women
- Repeat screening for all infected individuals at 6 months
- Case finding and partner notification
- Avoid unprotected sexual intercourse until at least 7 days after completion of single dose treatment and after completion of 7-day treatment

Who does not need a test of cure?

a. Pregnant women
b. Adolescents
c. Pre-pubertal children
d. Alternate treatment regimen
e. Suboptimal compliance

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d. Alternate treatment regimen
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Case 3: 34 yo G3P2 with pelvic pain and discharge and a history of two previous chlamydia infections

- I think she has PID . . . Can I treat her as an outpatient or should she go to the hospital?

Do a pregnancy test

- If the pregnancy test is positive the woman needs immediate evaluation for ectopic pregnancy

Outpatient evaluation

- Pregnancy test
- Abdominal exam
- External genitalia exam
- Pelvic exam
  - Bimanual exam
  - Speculum exam
- Cervical and vaginal swabs
- Requisition for an ultrasound

Diagnosis

Minimum diagnostic criteria

- Pelvic pain
- Adnexal tenderness
- Cervical motion tenderness

Additional diagnostic criteria

- Temperature >38 C
- WBCs on saline wet mount of vaginal secretions
- Elevated ESR or CRP
- Documented chlamydia or gonococcal infection

Definitive diagnosis

- Endometrial biopsy showing endometritis
- Ultrasound showing thick, fluid-filled tubes or a tubo-ovarian abscess
- Laparoscopy

Criteria for hospitalization

- Surgical emergencies cannot be excluded e.g. ectopic, appendicitis
- Pregnancy
- Severe illness, nausea and vomiting, or high fever
- Tubo-ovarian abscess on ultrasound
- HIV infection
- Adolescent
- Suspected non-compliance with treatment

Case 3:

- Well appearing
- Afebrile
- CMT
- Always attends appointments
- Understands proposed treatment
- Willing to follow up

Trial of outpatient treatment

PID is a polymicrobial infection

STIs	Endogenous	Anaerobe	Aerobes
Gonorrhea	Mycoplasma hominis	Bacteroides	E coli
Chlamydia	Mycoplasma genitalium	Peptostreptococcus	Gardnarella vaginalis
HSV	Ureaplasma urealyticum	Prevotell	Haemophillus influenzae
Trichomonas			Streptococcus

Outpatient PID Treatment

Preferred: Doxycycline 100mg PO BID x 14 days +
Ceftriaxone 250mg IM x1
Cefoxitin 2g IM x1 with Probenecid 1g PO x1
Ceftizoxime 1g IM x1 (?discontinued)
Cefotaxime 500mg IM x1

Alternate
Ofloxacin 400mg PO BID x 14 days
Levofloxacin 500mg PO daily x 14 days

**Metronidazole 500mg PO BID x14 days can be added to all of these regimens

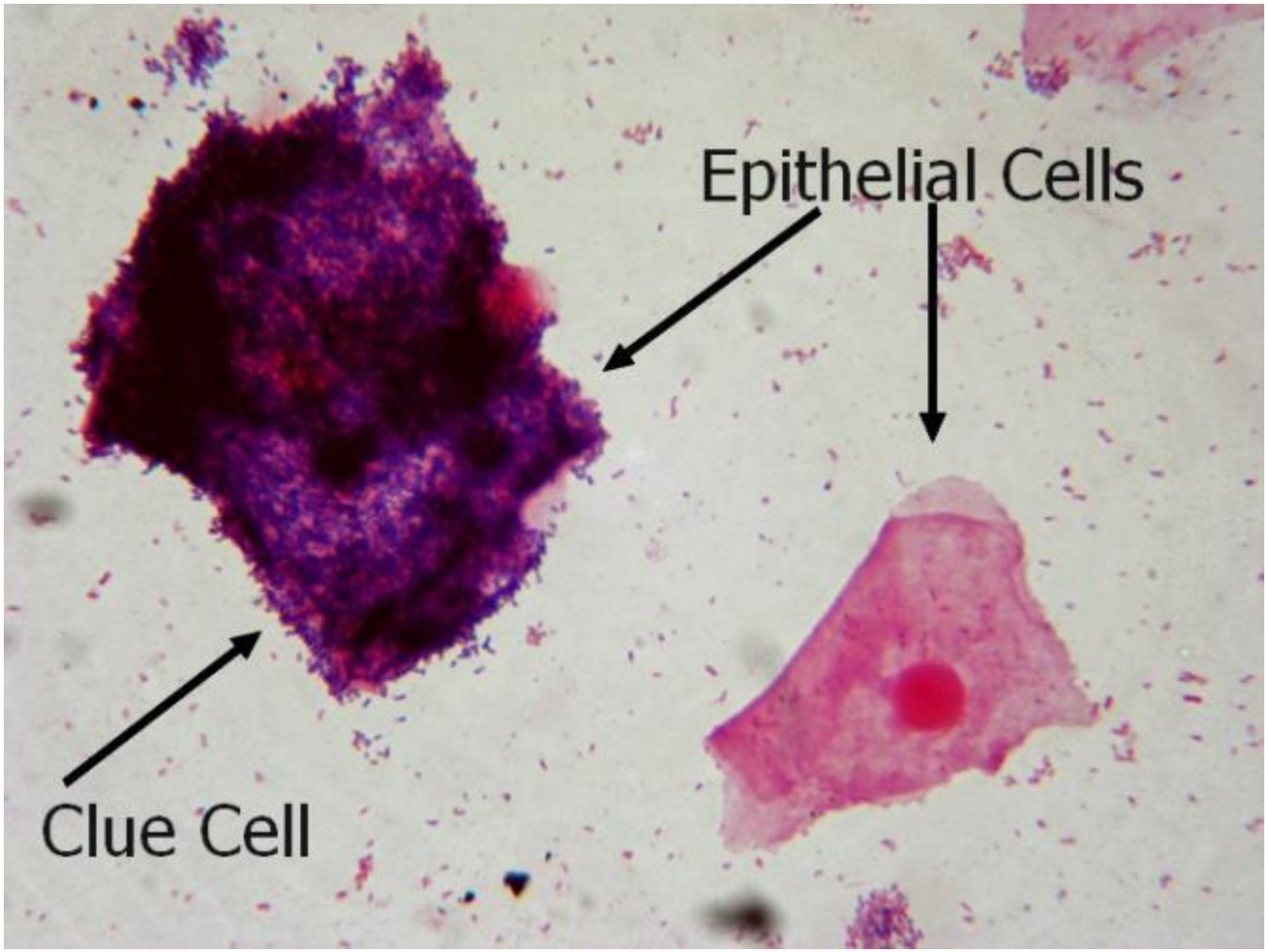
Follow up appointment three days later . . .

Failure of outpatient treatment

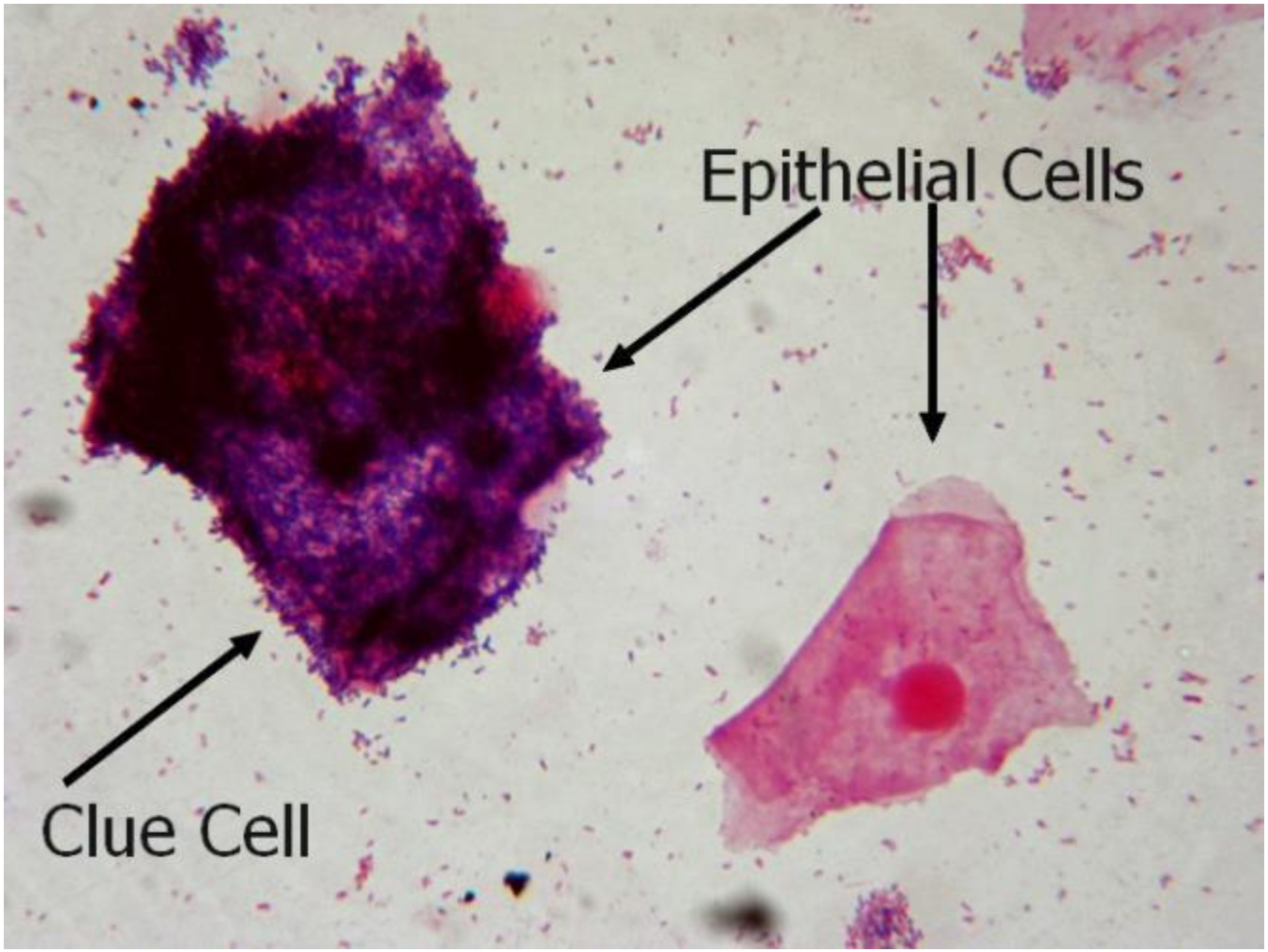
- Pain is worsening
- Doxycycline makes her nauseated and she throws up often after taking her dose
- Hospital admission and parenteral therapy

Quiz Time!

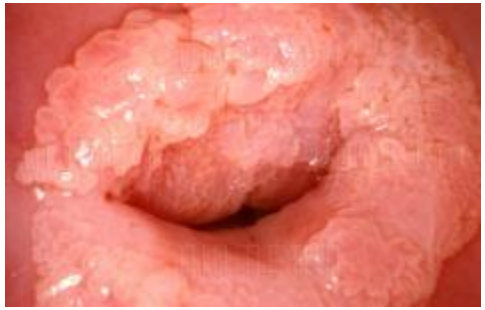
Gram stain



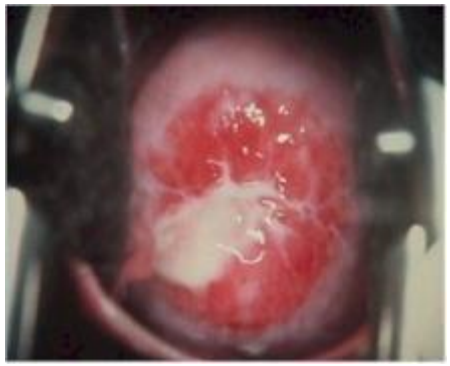
Bacterial vaginosis



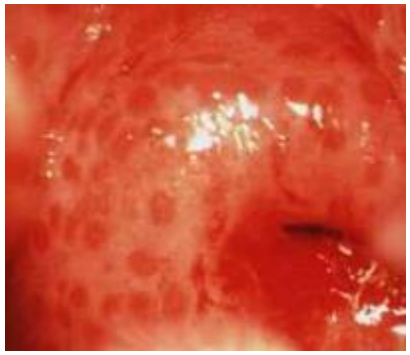
Cervix



Trichomonas

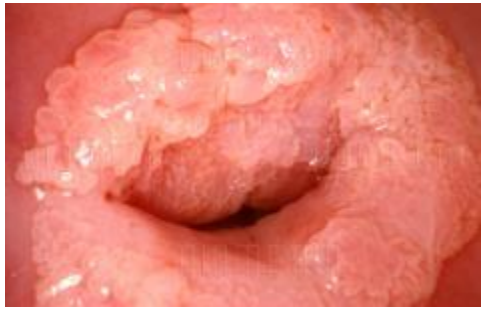


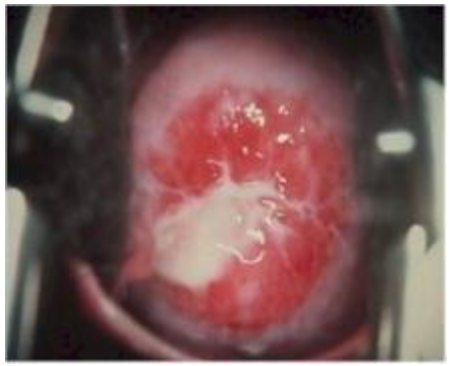
GC / Chlamydia

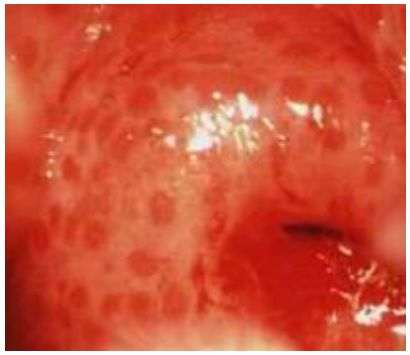


HPV

Cervix







Trichomonas

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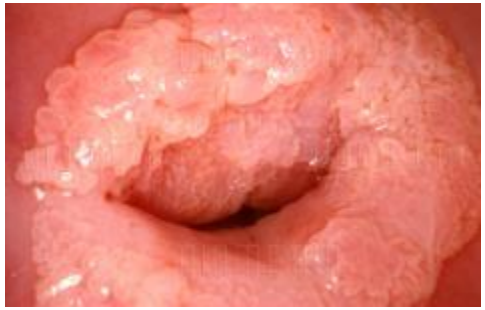
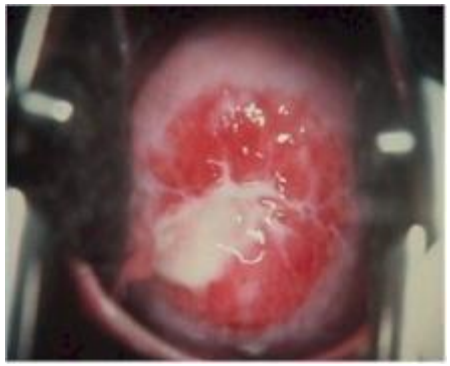
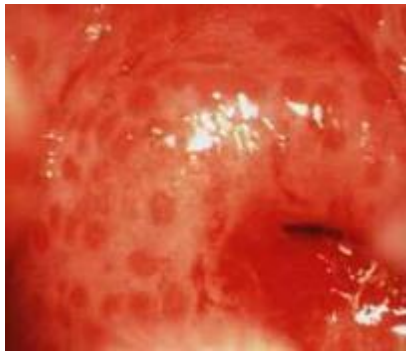
Cervix







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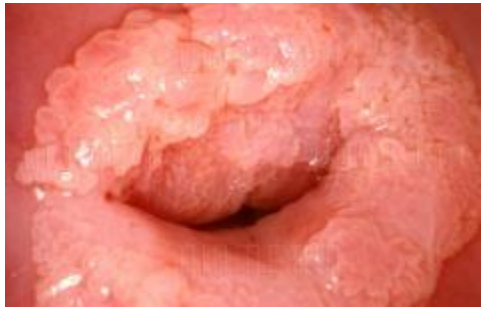
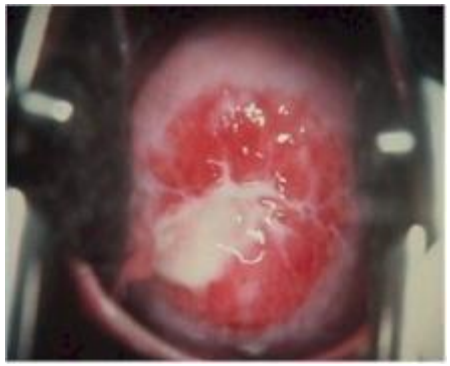
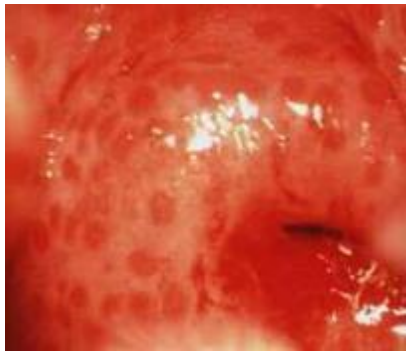






Trichomonas

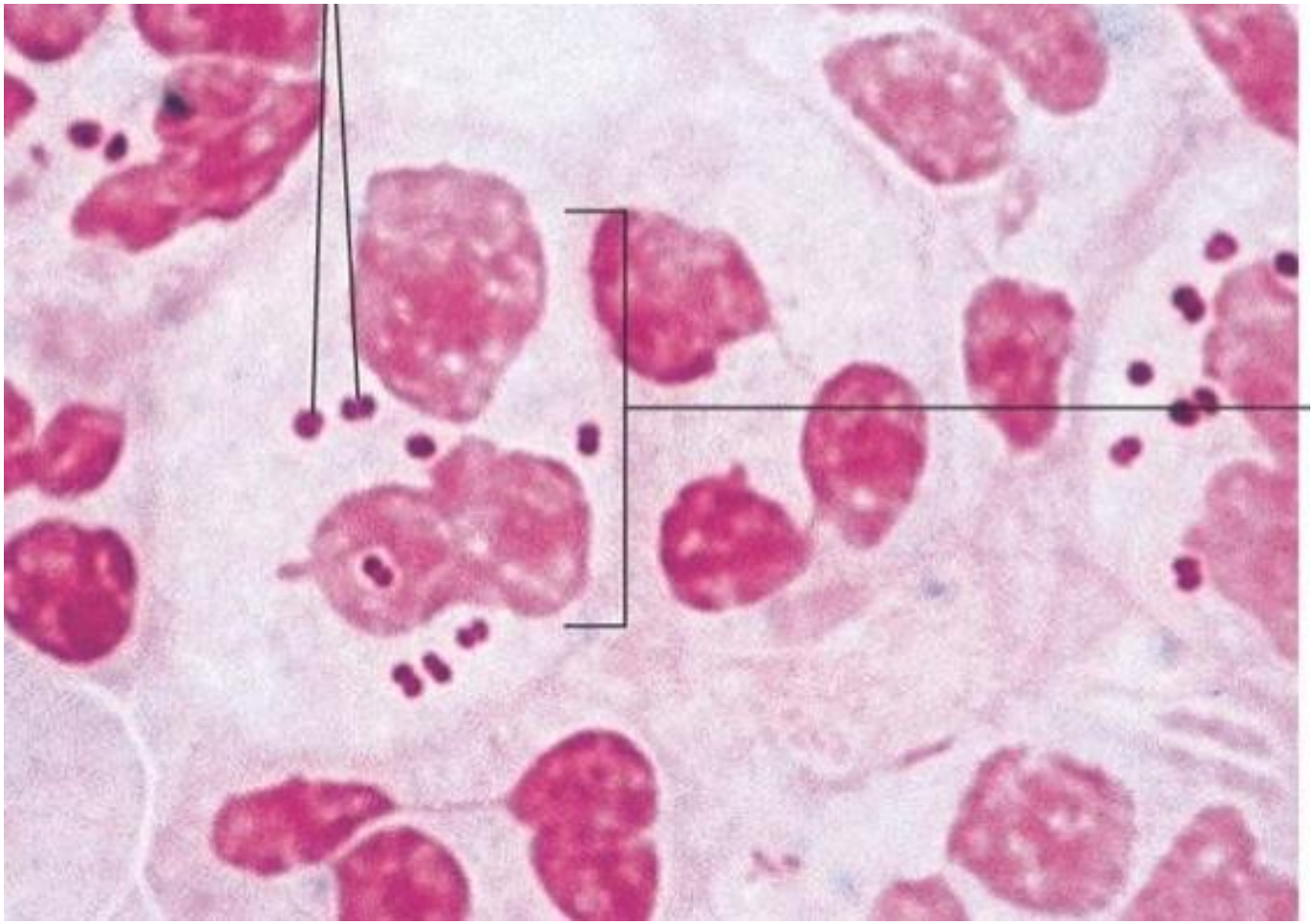
GC / Chlamydia

HPV

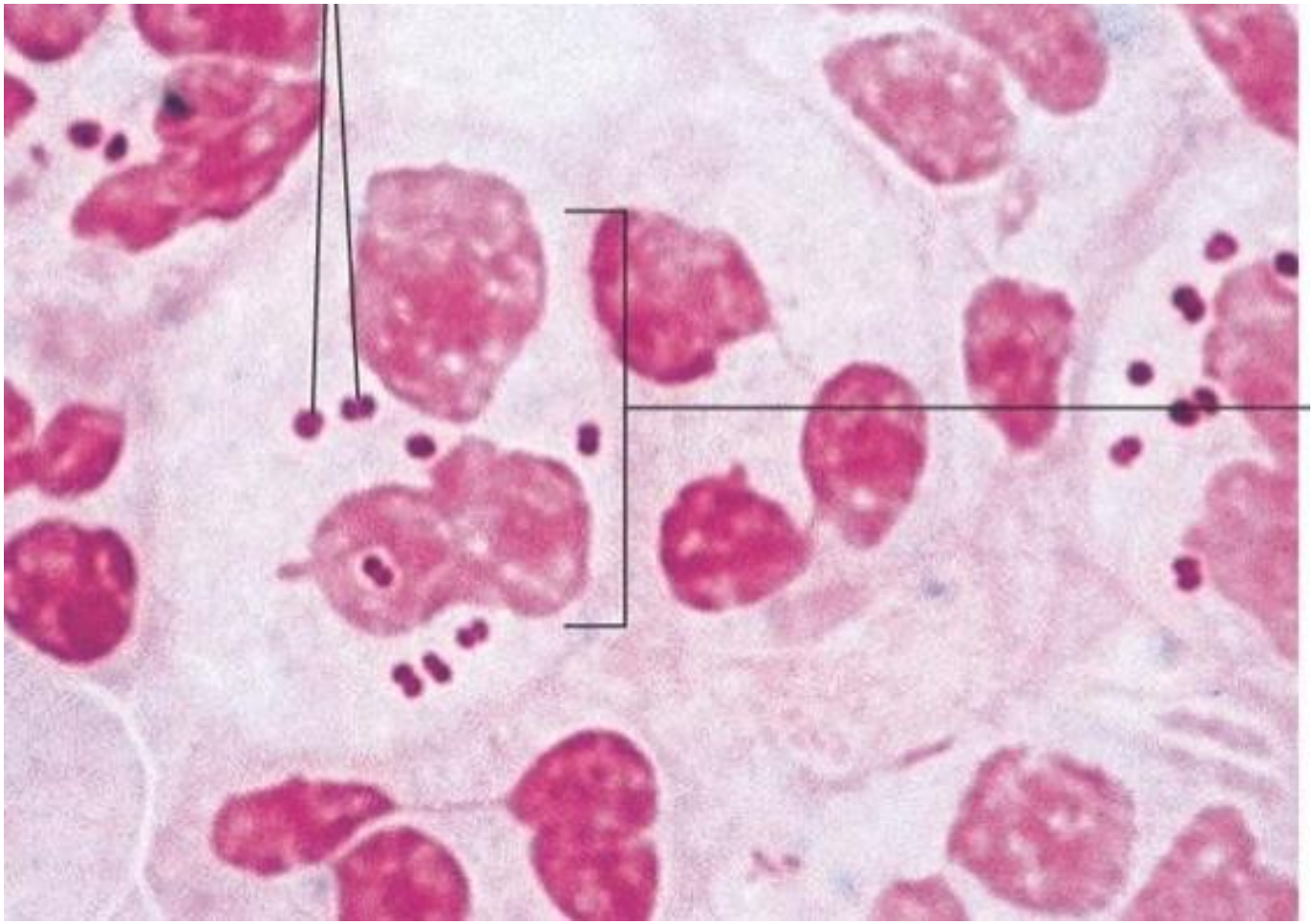
Who should be screened for STIs?

Who should be offered screening for STIs?

Gram stain



Gonorrhea

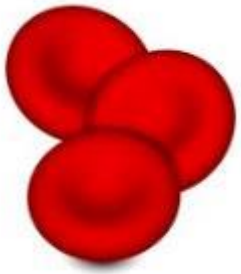


QUIZ – Vaginal Discharge

Trichomonas

GC / Chlamydia

Yeast



Bacterial vaginosis

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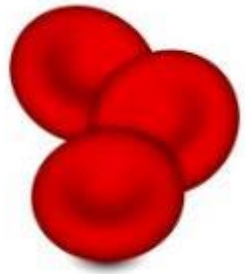

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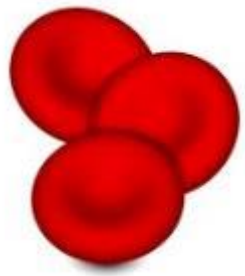

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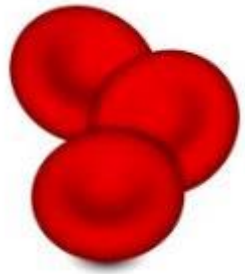

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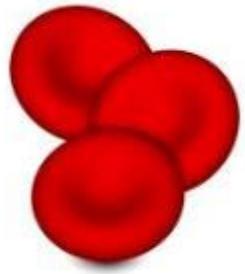

Trichomonas

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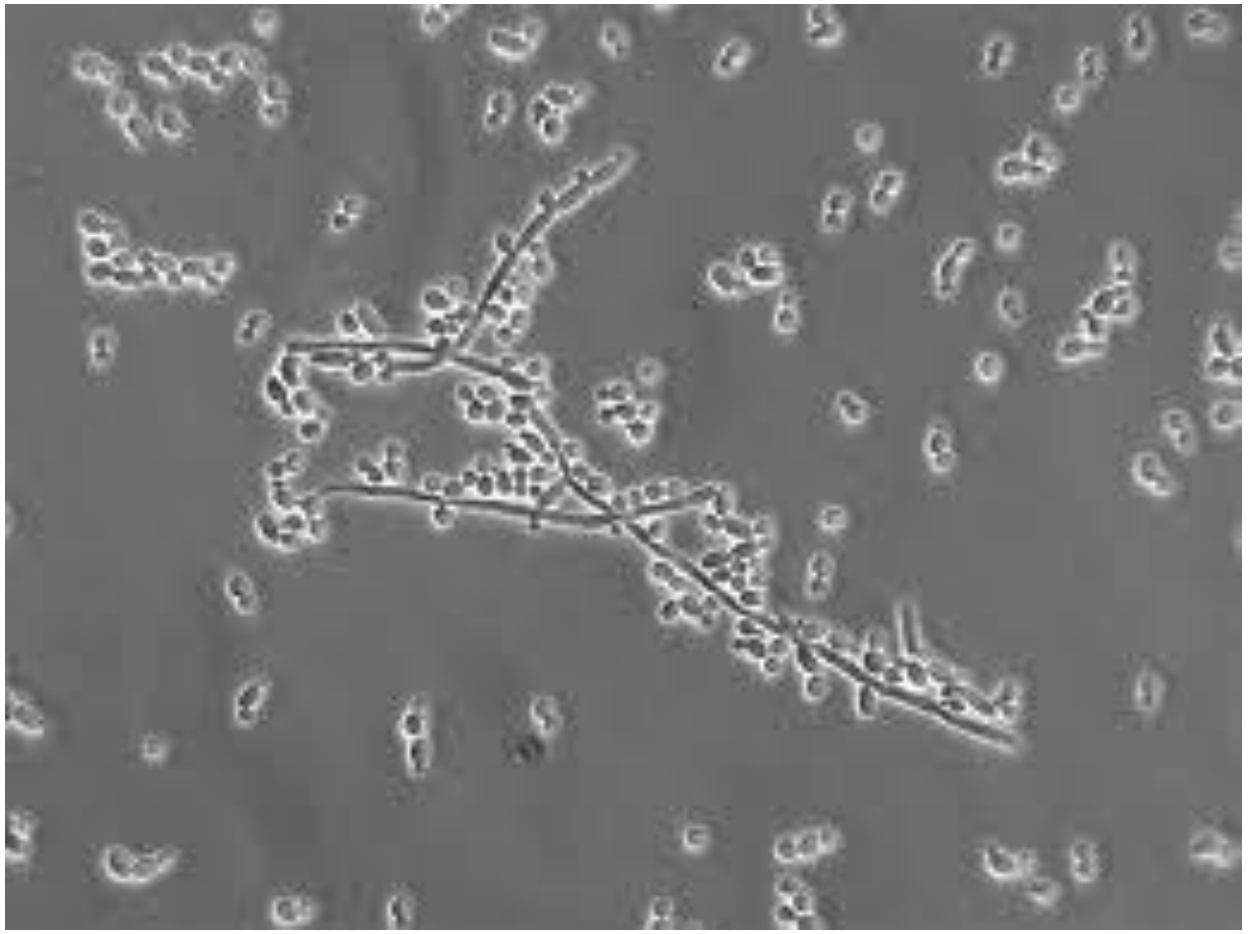
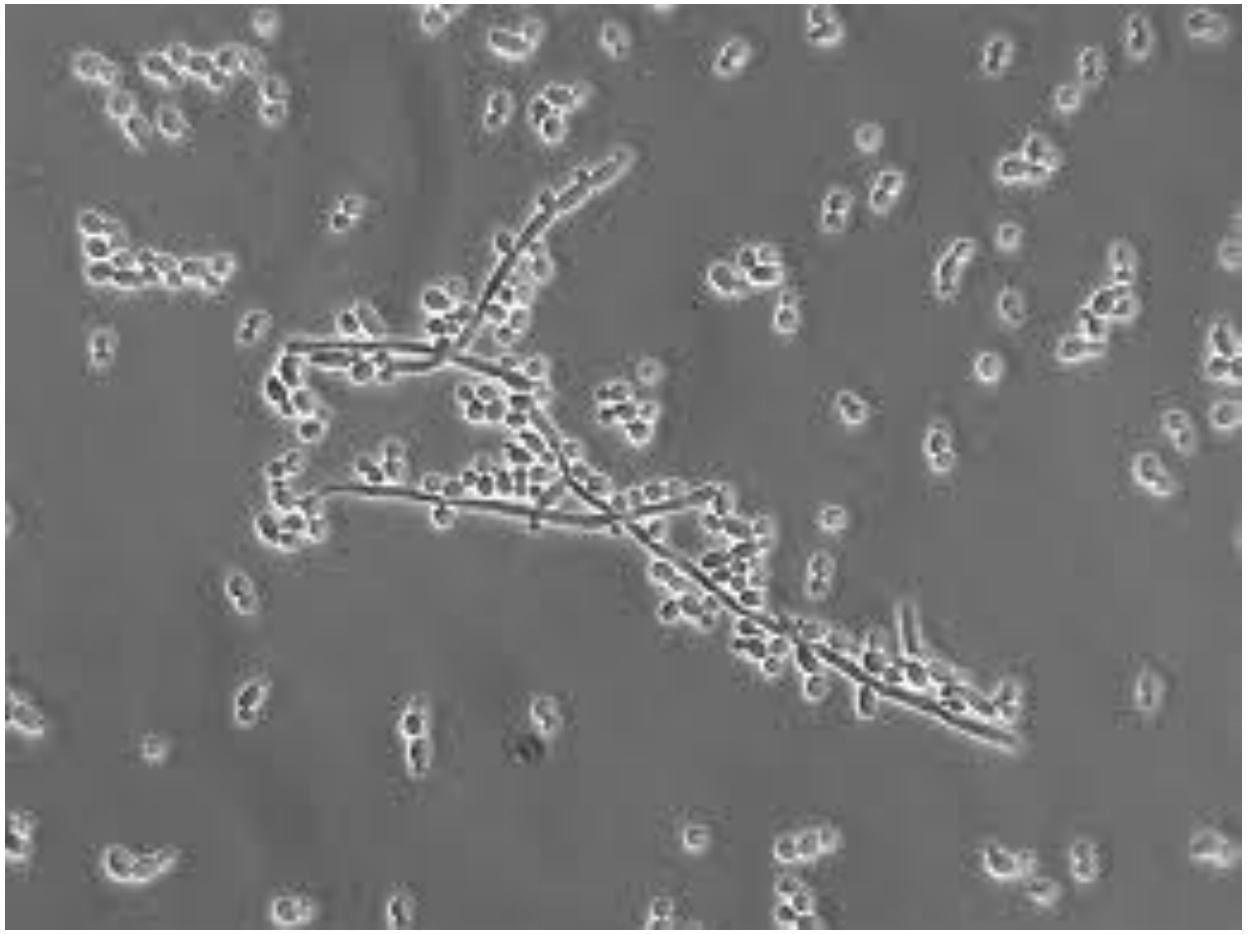
Bacterial vaginosis

Wet Mount



Yeast



Name the two vaccine preventable STIs.

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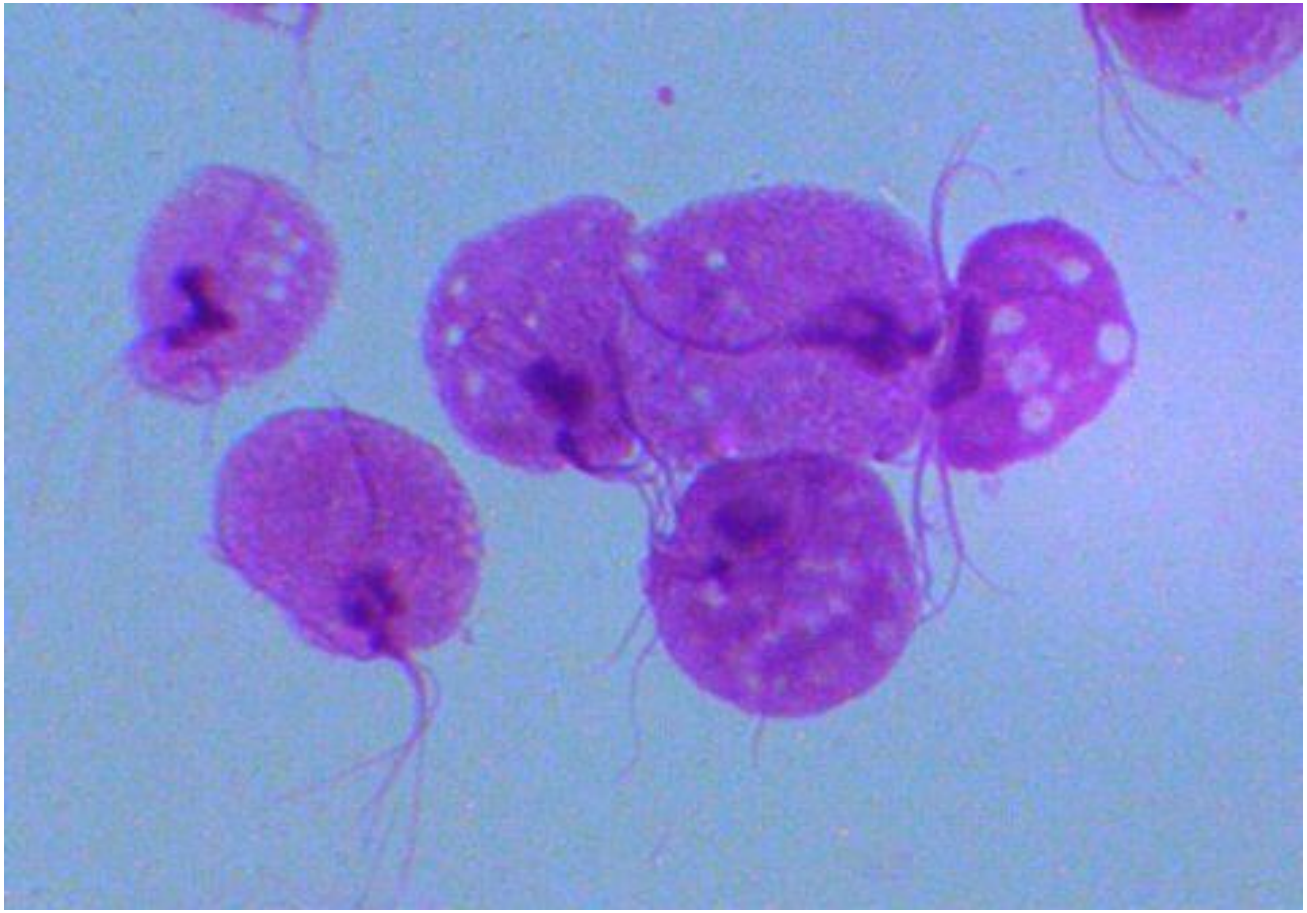
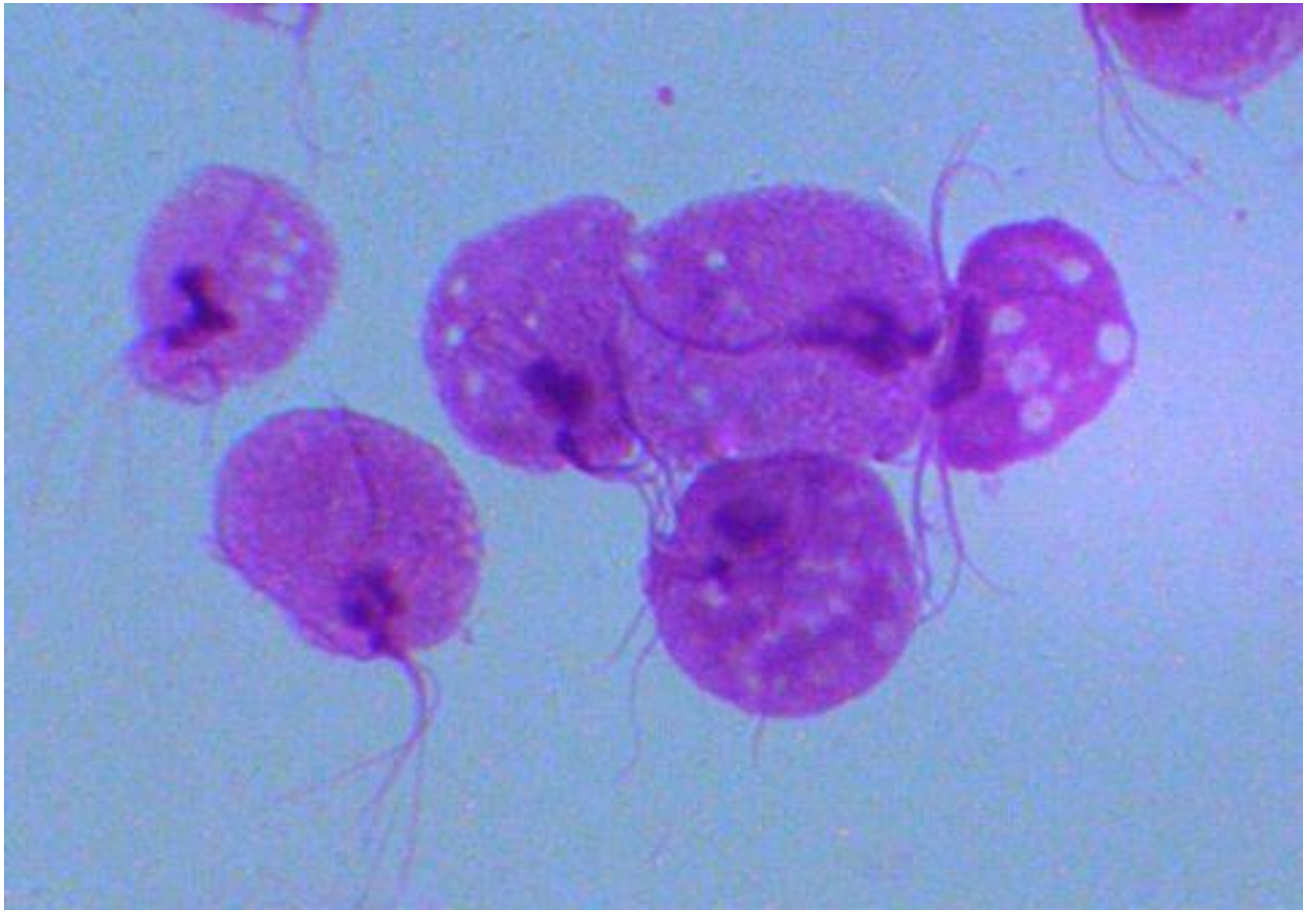
- HPV
- Hepatitis B

Wet Mount



Trichomonas



If a patient has one STI, which other STI should we screen for?

a) HIV
b) Syphilis
c) Hepatitis C
d) Gonorrhea
e) Chlamydia
f) Hepatitis B
g) Trichomonas

If a patient has one STI, which other STI should we screen for?

a) HIV

b) Syphilis

c) Hepatitis

e) Chlamydia

f) Hepatitis B

g) Trichomonas

All of them!

+

Thank you!

+

Questions?

Resources

Patient resources

- www.hpvinfo.ca
- www.sexualityandu.ca

Clinician resources

- www.sogc.org
- Public Health Agency Canada STI guidelines