



GENITOURINARY SYSTEM

SUBJECT : Micro

LEC NO. : Lec 5

DONE BY : Omar alshanaq

وَقُلْ رَبِّ زِدْنِي عِلْمًا

Genito-Urinary System

Candidiasis & Candida albicans

Fungi infection
Not part of STI

اللهم إني أسألك فهم النبيين وحفظ المرسلين
والملائكة المقربين. اللهم اجعل ألسنتنا
عامرة بذكرك، وقلوبنا بخشيتك، انك على
كل شيء قدير وحسبنا الله ونعم الوكي

■ Candida albicans

- a common inhabitant of the gastrointestinal and genital floras

normal flora

Any imbalance → low immunity → overgrowth → candidiasis

طبيب شو الاشياء الي بتقلل المناعة ؟

DM

Chemotherapy

MANIFESTATIONS

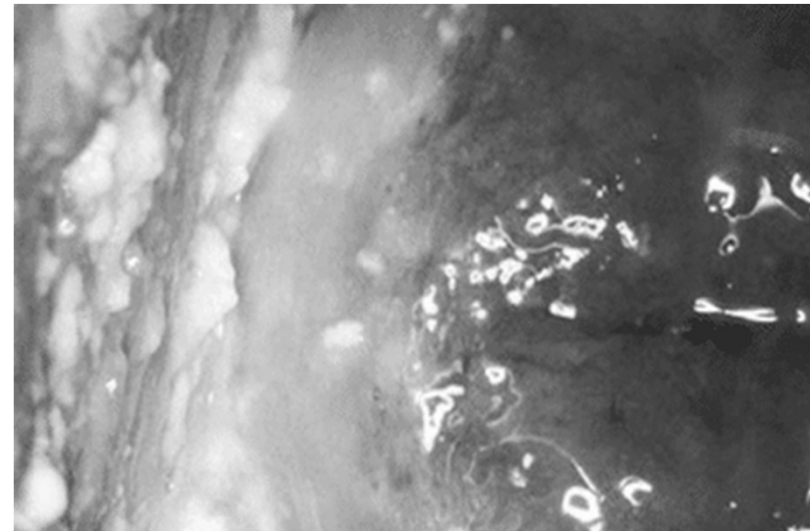
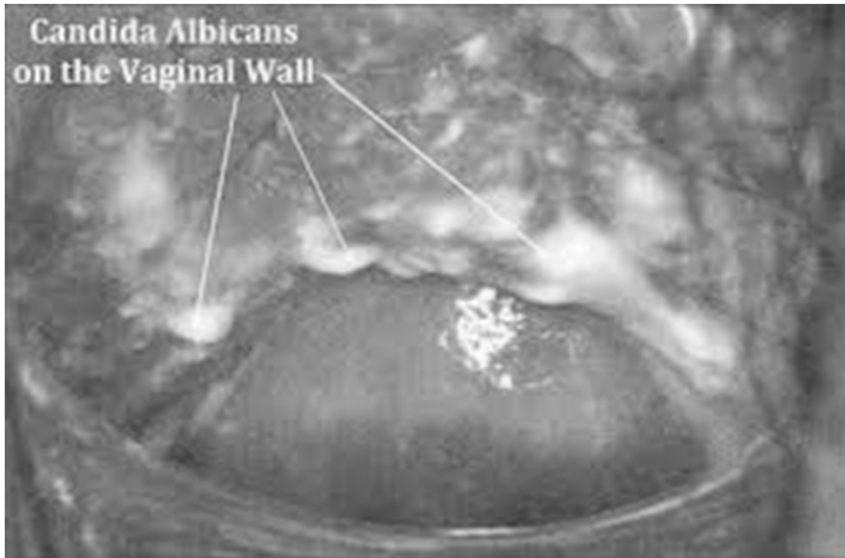
- ② Superficial invasion of the m. membranes produces a usually painless, white, cheesy plaque called thrush that is loosely adherent to the mucosal surface.



MANIFESTATIONS

② **Vaginal candidiasis (vulvovaginitis)** As any female infection produces a **thick, curd-like discharge** and **itching** of the vulva. Vaginitis may be recurrent.

Common in female
risk factor بصيب النساء الي عندهم
Like : Pregnancy ,caner.....



MANIFESTATIONS

- 3 Skin infections occur in crural folds and other areas in which wet, macerated skin surfaces are opposed (Diaber rash).



زي الحساسية الي
بتظهر شكلها

TREATMENT

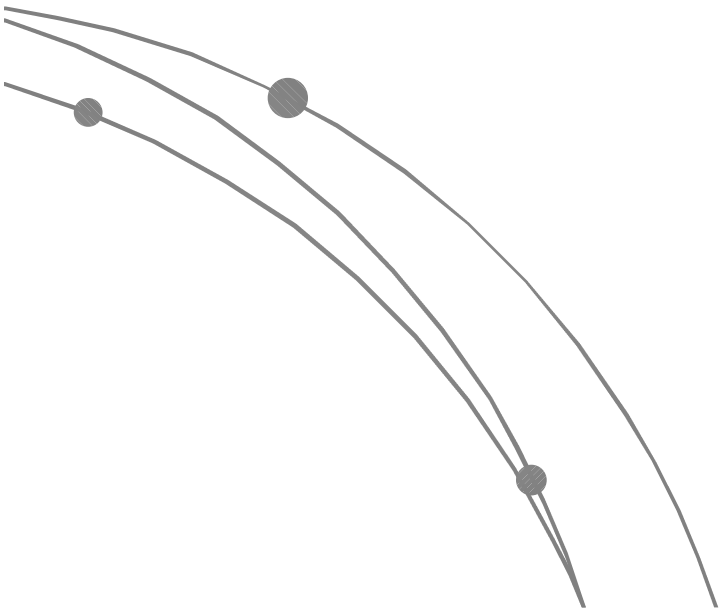
Not antibiotics

- *C. albicans* is usually susceptible to:
 - nystatin, amphotericin B, flucytosine, and the azoles.
- Topical nystatin or azoles generally used for the treatment of superficial lesions.
تبدأ العلاج topically

Trichomoniasis

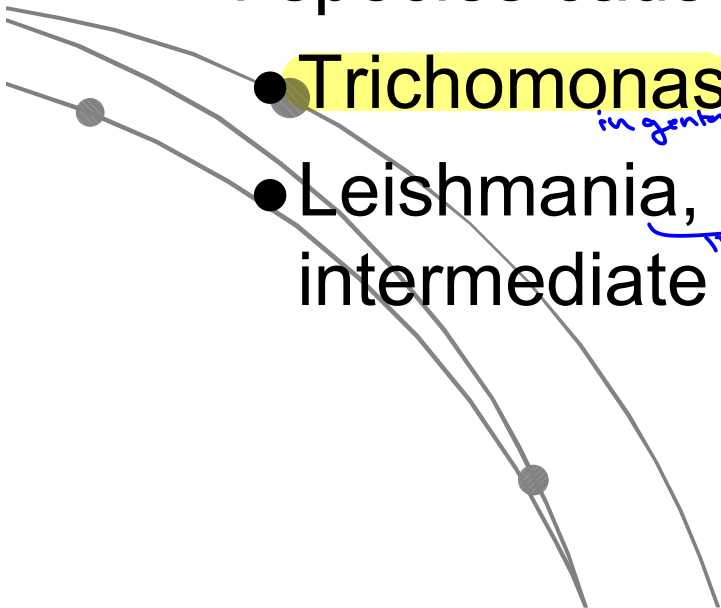
Parasite infection

Is one of common STI



Genus Trichomonas

- Its includes a group of **flagellated protozoa** It infect humans and animal:
 - Multiple by binary fission
 - **Move by flagella**
 - 4 species caused disease
 - **Trichomonas** and Giardia : Non invasive
in genital *in gi*
 - Leishmania, Trypanosoma: Invasive, intermediate *in blood* insect host



Trichomonas vaginalis

- Trichomoniasis is a common sexually transmitted disease with a worldwide distribution.
- transmittable, sexually and through contact with toilet seats and towel.

احتمال انه ينتقل مع الاحتكاك القريب والمباشر
- sexual contact غير ال

- T. vaginalis despite its name, infect both men and women.

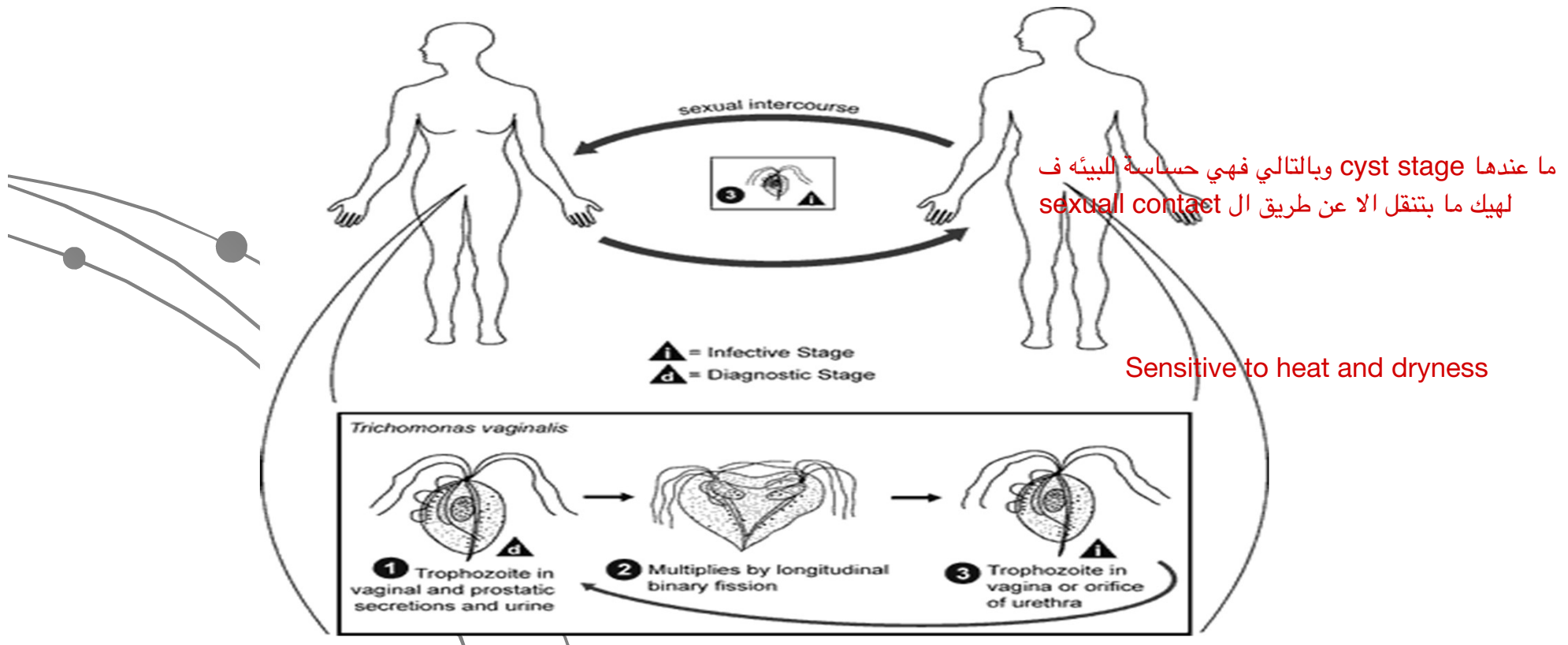
● In females the organism inhabits the vagina and urethra

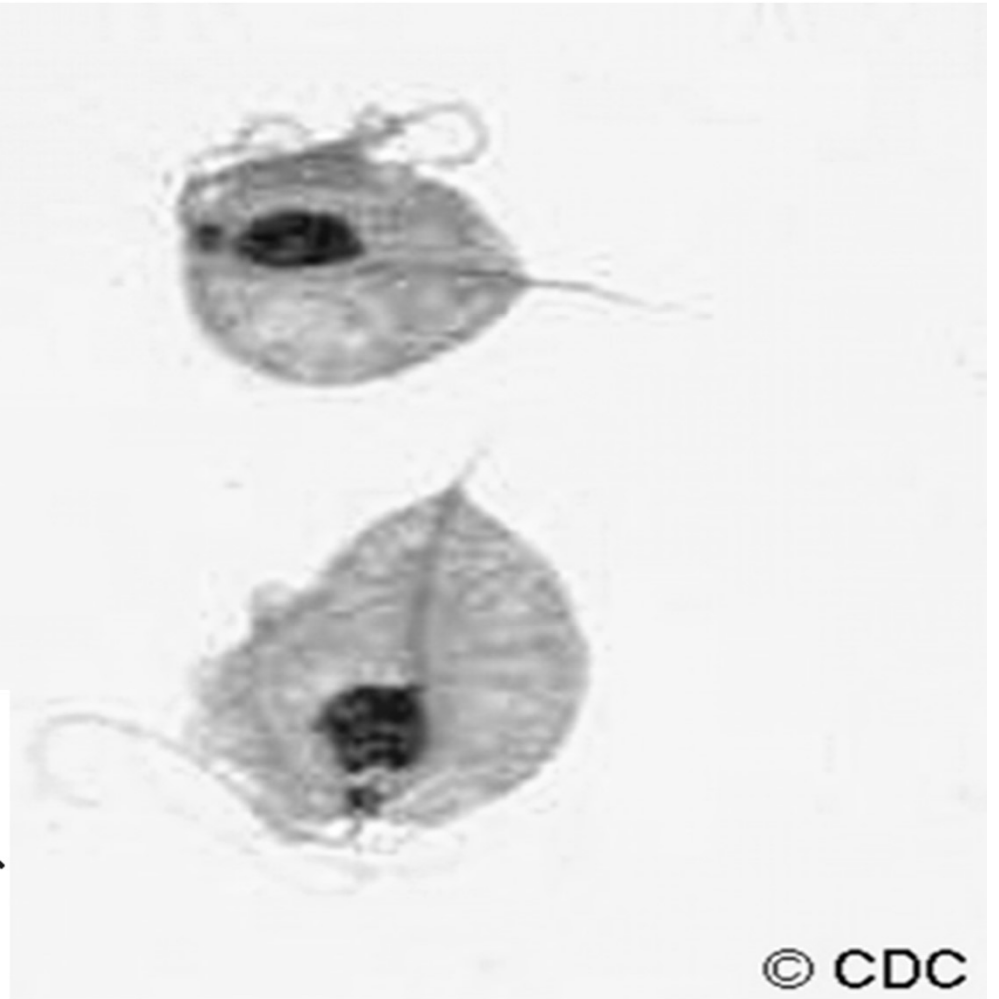
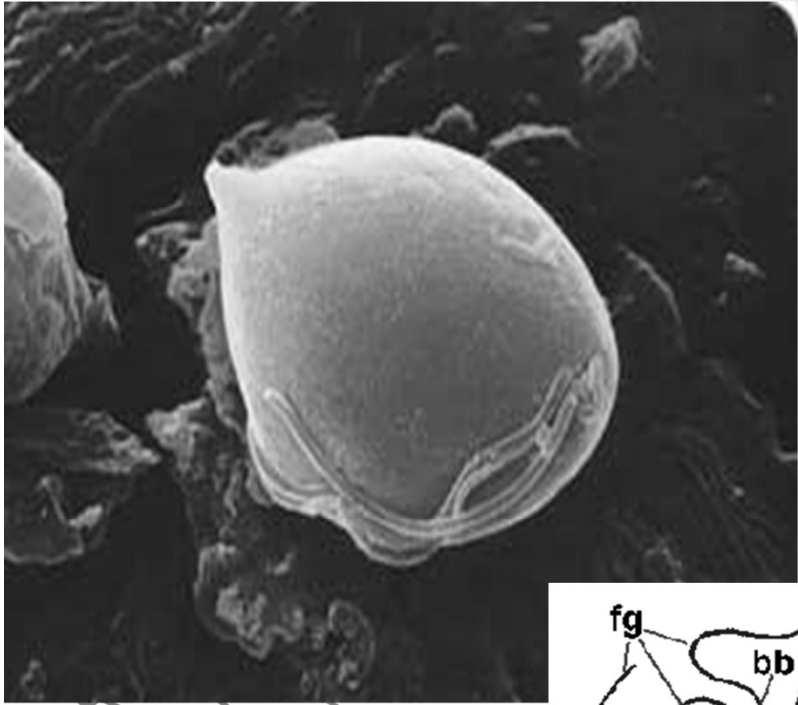
vaginitis

التهاب
المهبلية

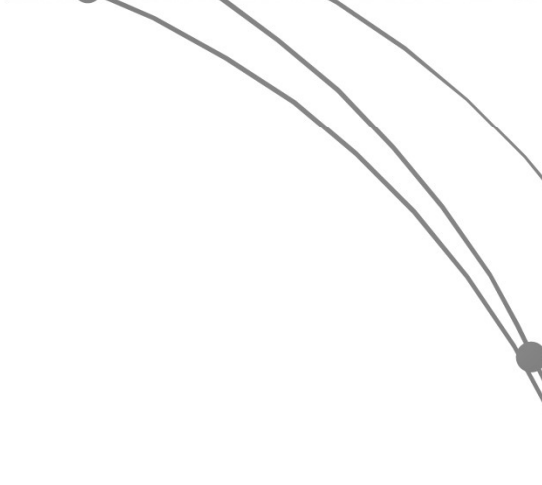
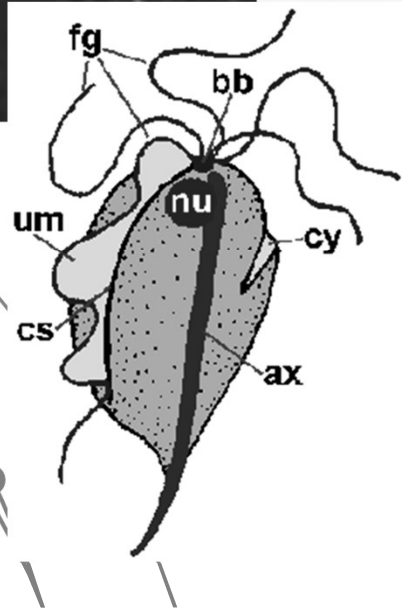
● In males it is found in the urethra, prostate or, seminal vesicles.

- The life cycle consist only of a trophozoite stage
- It lacks cyst form but the trophozoite survives 1-2 hours outside host on moist surfaces.
- In urine, semen, water, it is viable for up to 24h



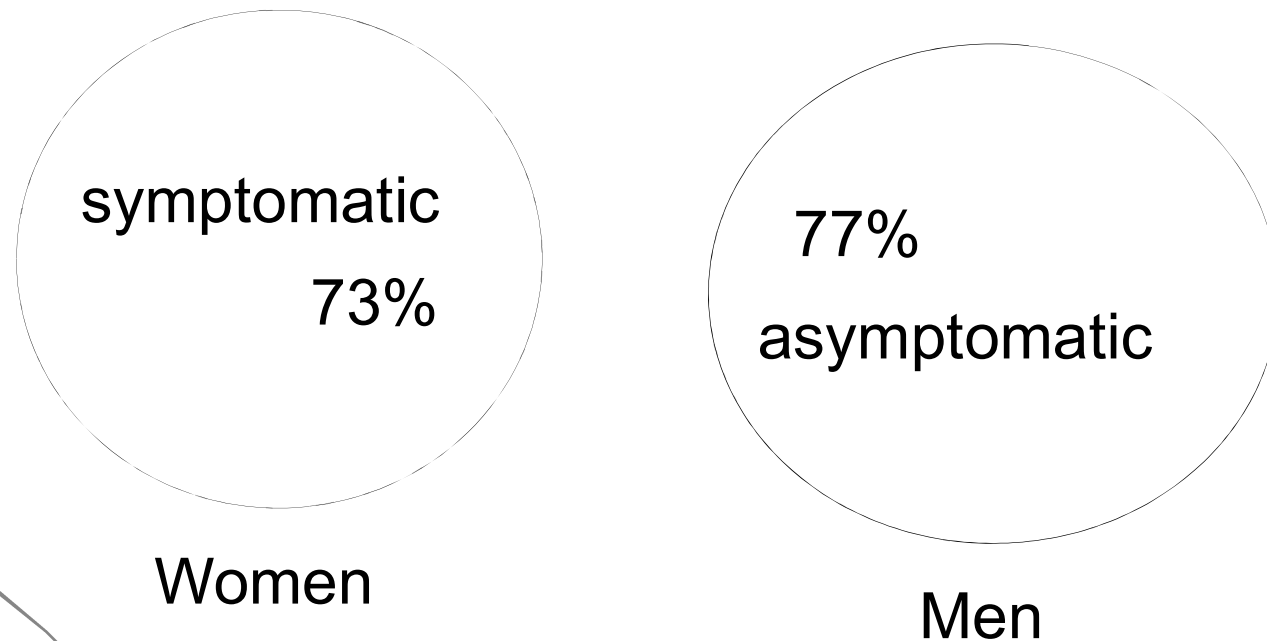


© CDC



Proportion of asymptomatic trichomoniasis

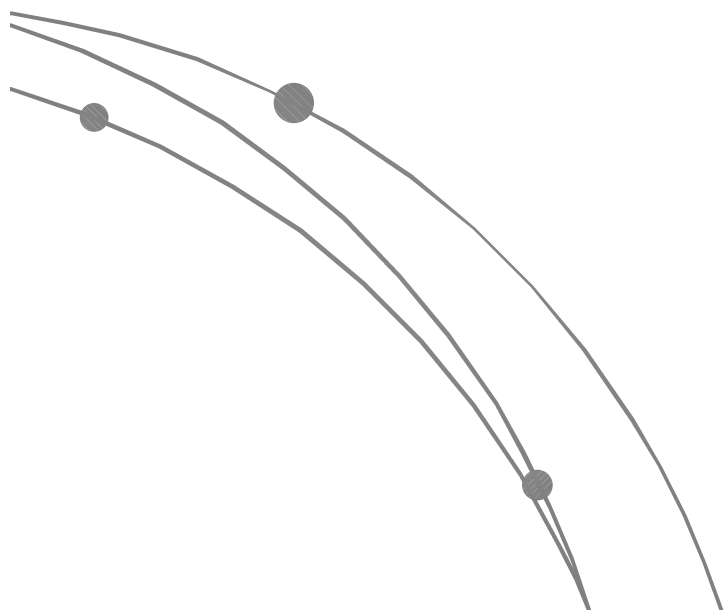
عكس البكتيريا انفكشن هه



Symptoms included penile or vaginal discharge or itching, dysuria, or lower abdominal pain.

Symptoms

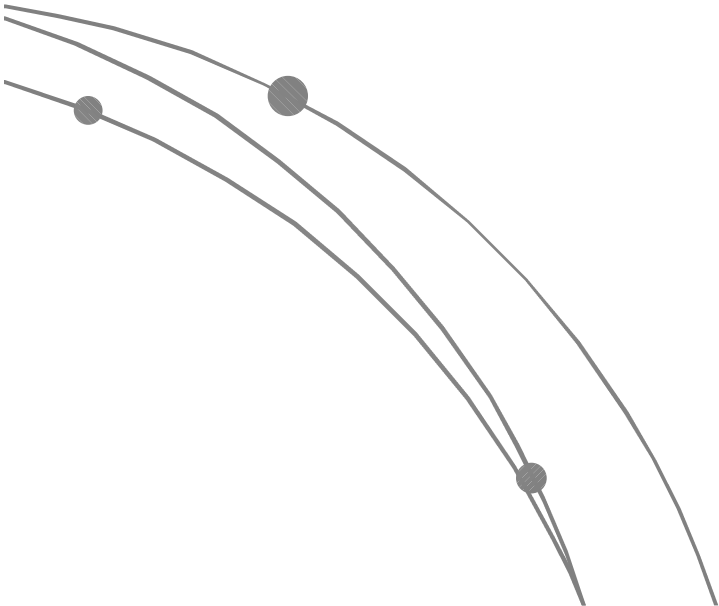
- Symptoms are nonspecific and cannot be used to differentiate trichomoniasis from other genital infections.



Clinical Aspects

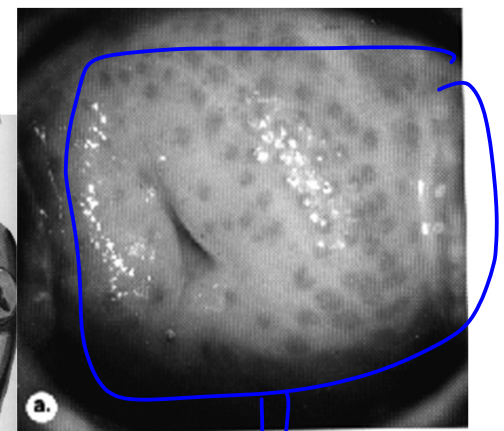
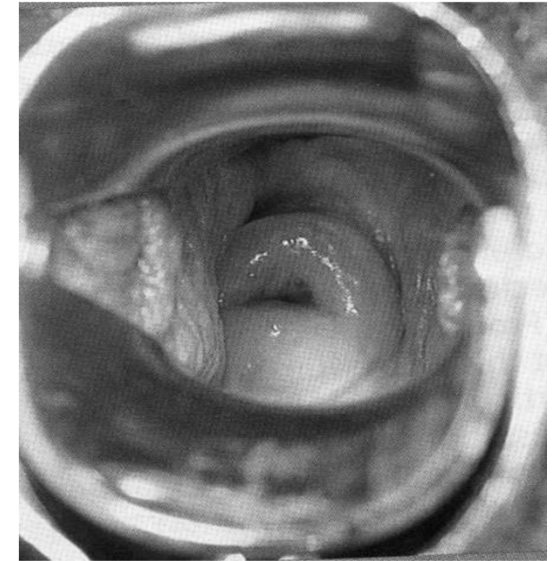
- **Males:**
 - Asymptomatic.
 - Urethritis and Prostatitis.
 - Dysurea.
 - Non purulent discharge.

ما في اشي يميزهن عن الباقي
من STI



Vaginitis - Trichomoniasis

- **Reddened vaginal and endocervical mucosa**
- Profuse, **frothy discharge, yellow-greenish in color**
- foul odor, vulvar pruritus
- Patchy vaginal erythema and hemoragage
- (strawberry cervix 2%)



يتميزه الفردلة.

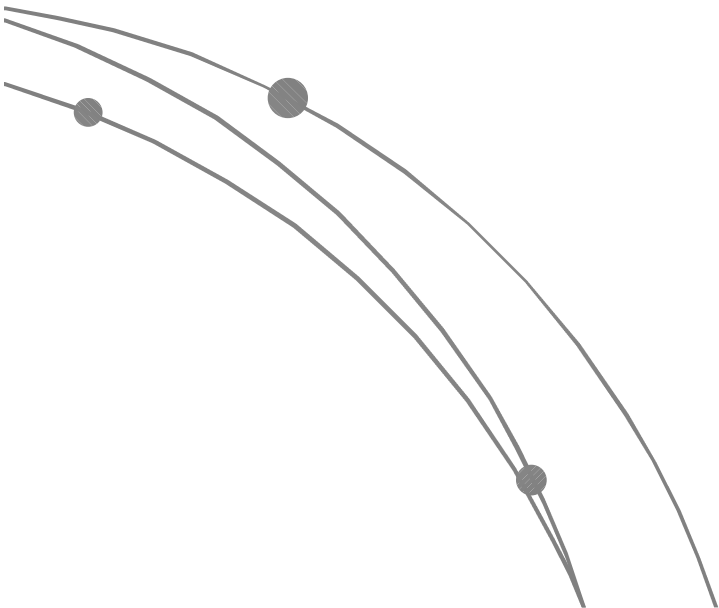


Diagnosis:

Specimens:

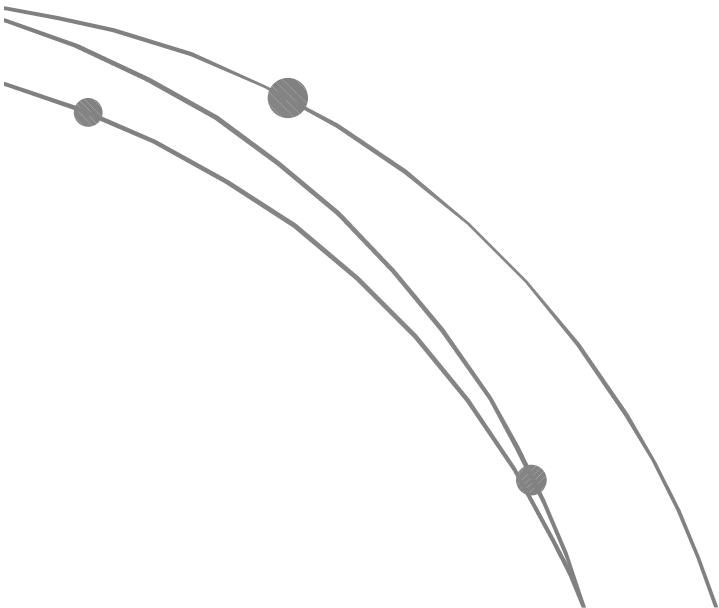
- **Vaginal discharge (female)**
- **Urethral discharge**

As any STI
بدنا نوخذ ال discharge



Vaginitis

- Vaginal discharge and pruritus
 1. BV Bacterial
 2. Candidiasis Fungal
 3. Trichomonas vaginalis Parasitic



Vaginitis

الخطوات الي بمشي عليها عشان
اشخص الfemale

1. Vaginal pH (normally 3.8-4.5):

3. Wet mount (Vaginal smear)

2. Potassium hydroxide (10% KOH) amine test (Whiff test)

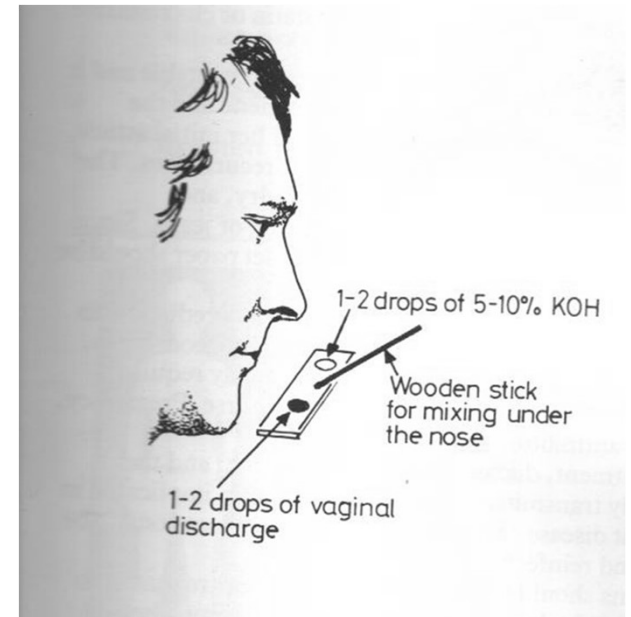
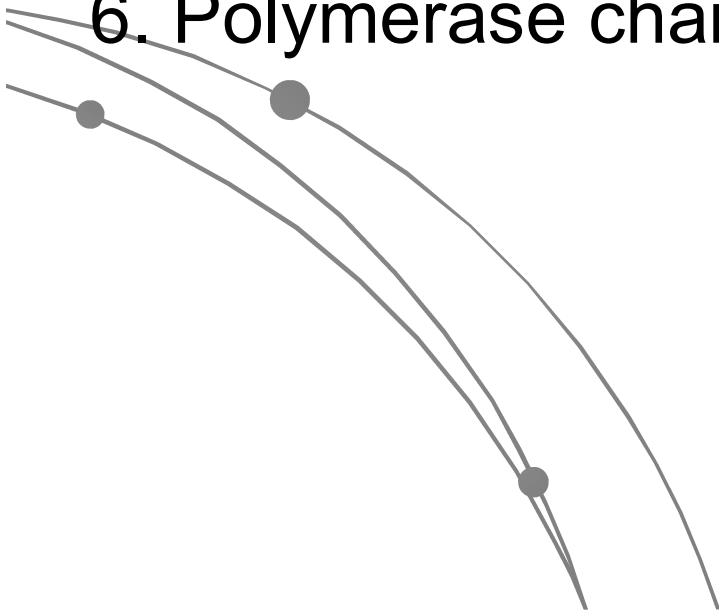
↳ Add to discharge

↓
عالرائحة

4. Culture

5. Direct immunofluorescence assay

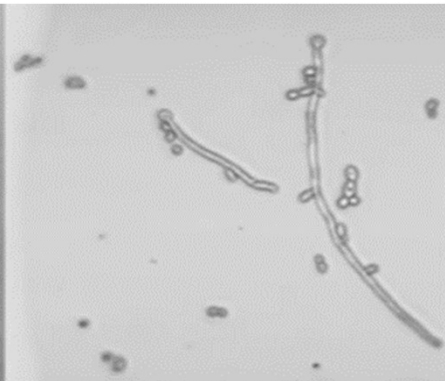
6. Polymerase chain reaction



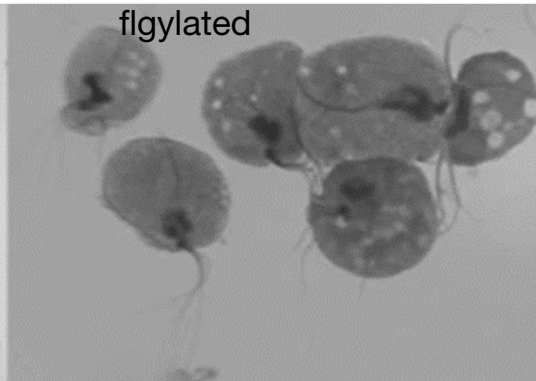
	BV	Trich	Candida
Organism <i>(causes)</i>	G vaginalis	T vaginalis	C albicans
Discharge	Gray, fishy <i>grey</i>	Yellow- green, Frothy, erythema of cervix	White <i>thick</i>
pH	More than 4.5	More than 4.5	Less than 4.5 <i>more acidic</i>
Wet mount	Clue cells	Motile trichomonade, flagylated	Yeast, hyphae
KOH	Fishy (+)	Fishy(+)	Negative
<i>2. yeast</i>	Metronidazole	Metronidazole (partener) <i>STI</i>	fluconazole
STD	No	Yes	No

clue cell

Yeast, hyphae



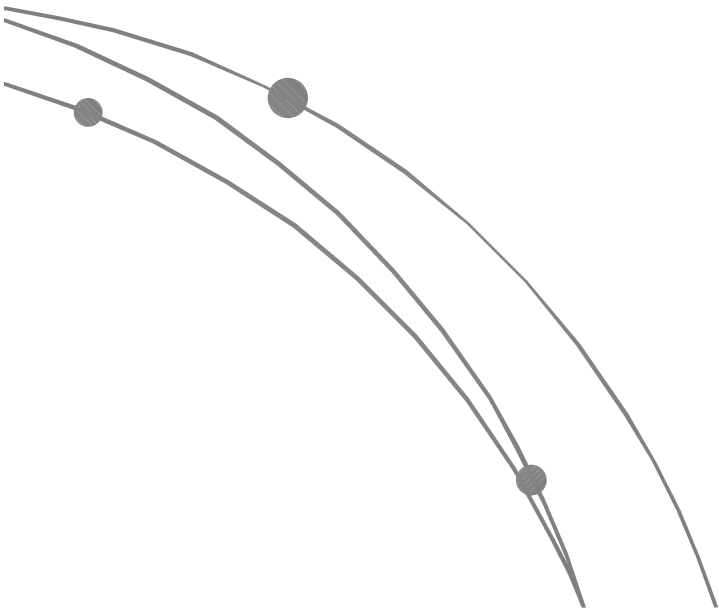
Motile trichomonade,
flagylated



pear-shaped
trophozoites, with
"bobbling" jeky
motility

T. vaginalis culture

- **Diamond's medium** with antifungal and antibacterial additives

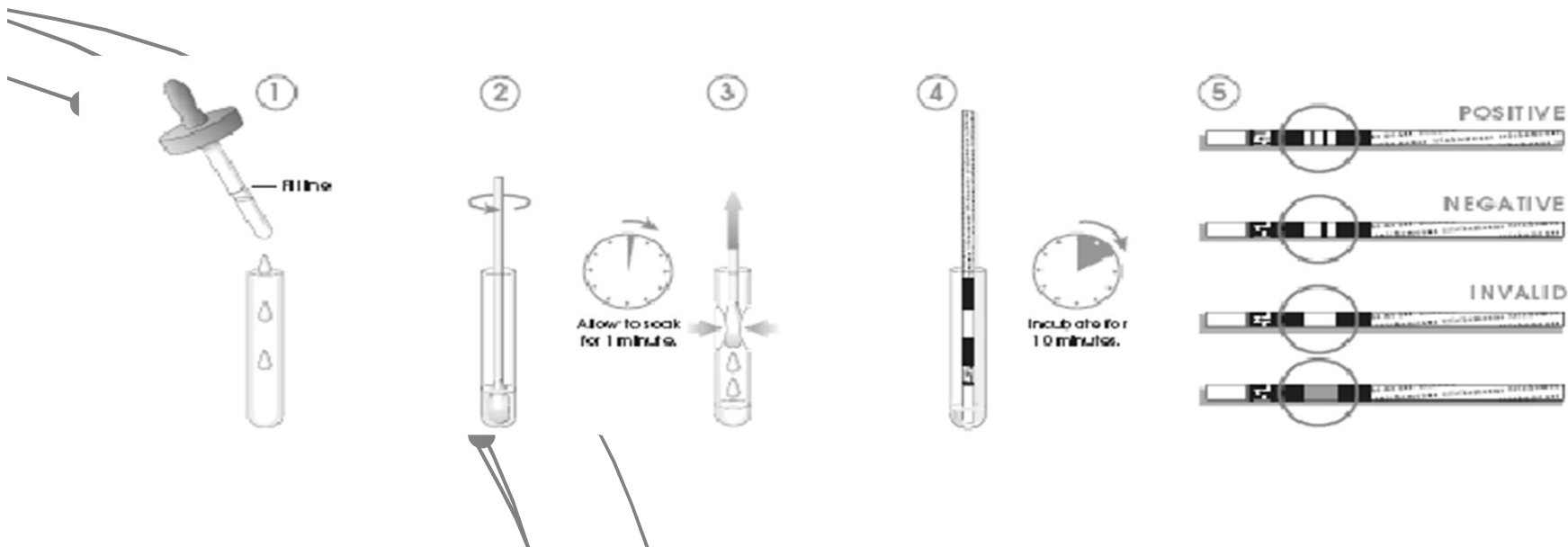


Rapid antigen detection

هناك اختبار سريع زلي فحص
الحمل بنحط عليه العينه
وينشوف اذا + او -



- Dipstick from Genzyme
- Antibodies on stick capture *T. vaginalis* antigen in specimen
- Sensitivity slightly better than wet mount microscopy ~80%
- Only validate in women

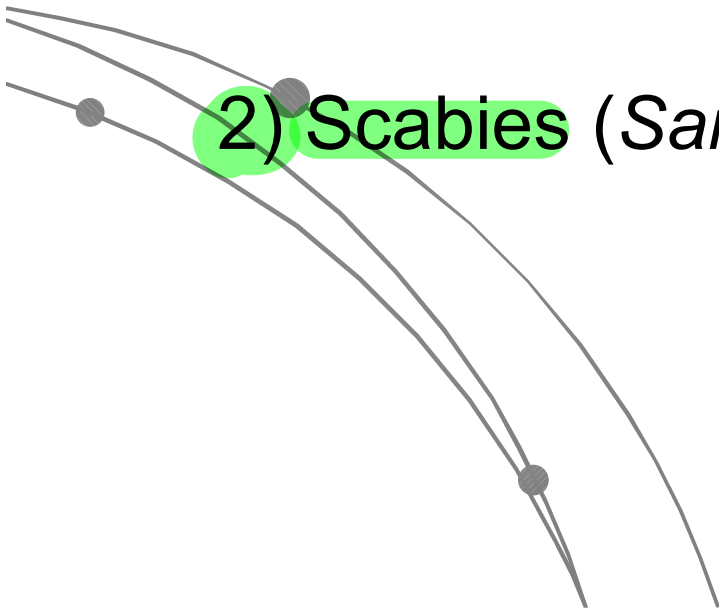


⇒ Ectoparasitic infections

هي بتعيش على السطح الخارجي للجلد

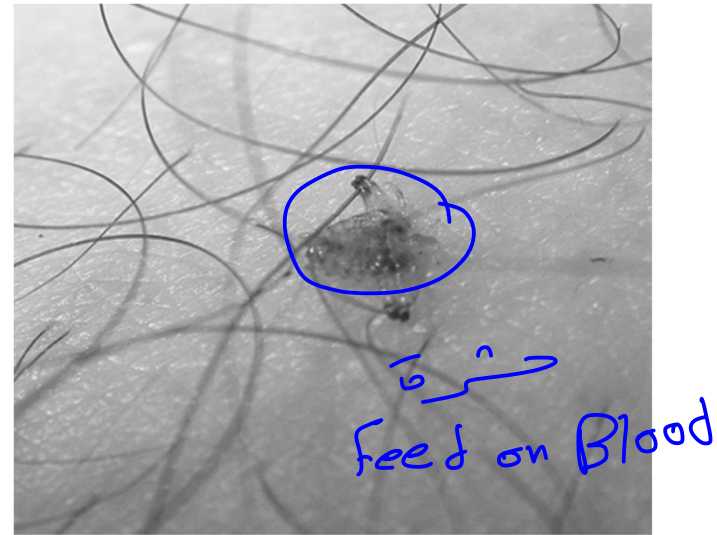
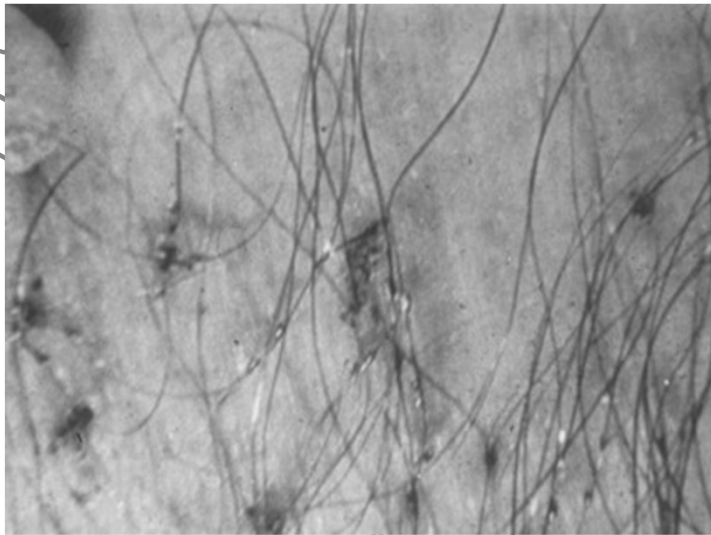
- Ectoparasites: parasitic organisms that live on the outer skin surfaces
- 2 common STIs caused by ectoparasites:
 - 1) pubic lice (*Phthirus pubis*)

2) Scabies (*Sarcoptes scabiei*)



① *Phthirus pubis*: Pubic louse

- a parasitic insect which spends its entire life on human hair and skin,
- Feeds exclusively on blood 4-5 times daily.
- Humans are the only known host.



عنا ثلاث انواع من هاي الحشرة

Three types of lice:

- ① ● Head lice
- ② ● Body lice:
- ③ ● Pubic lice (crabs)

①

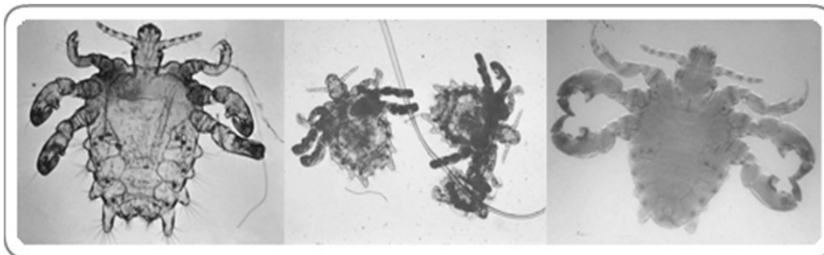


الفصل

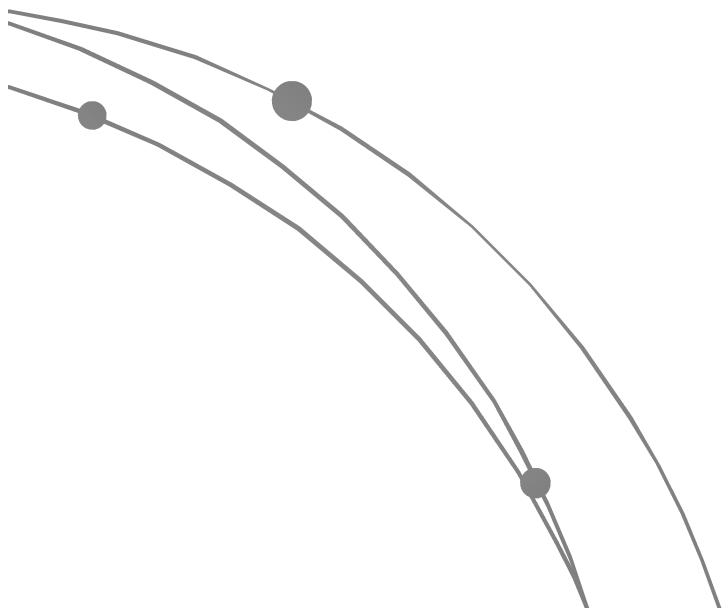
②



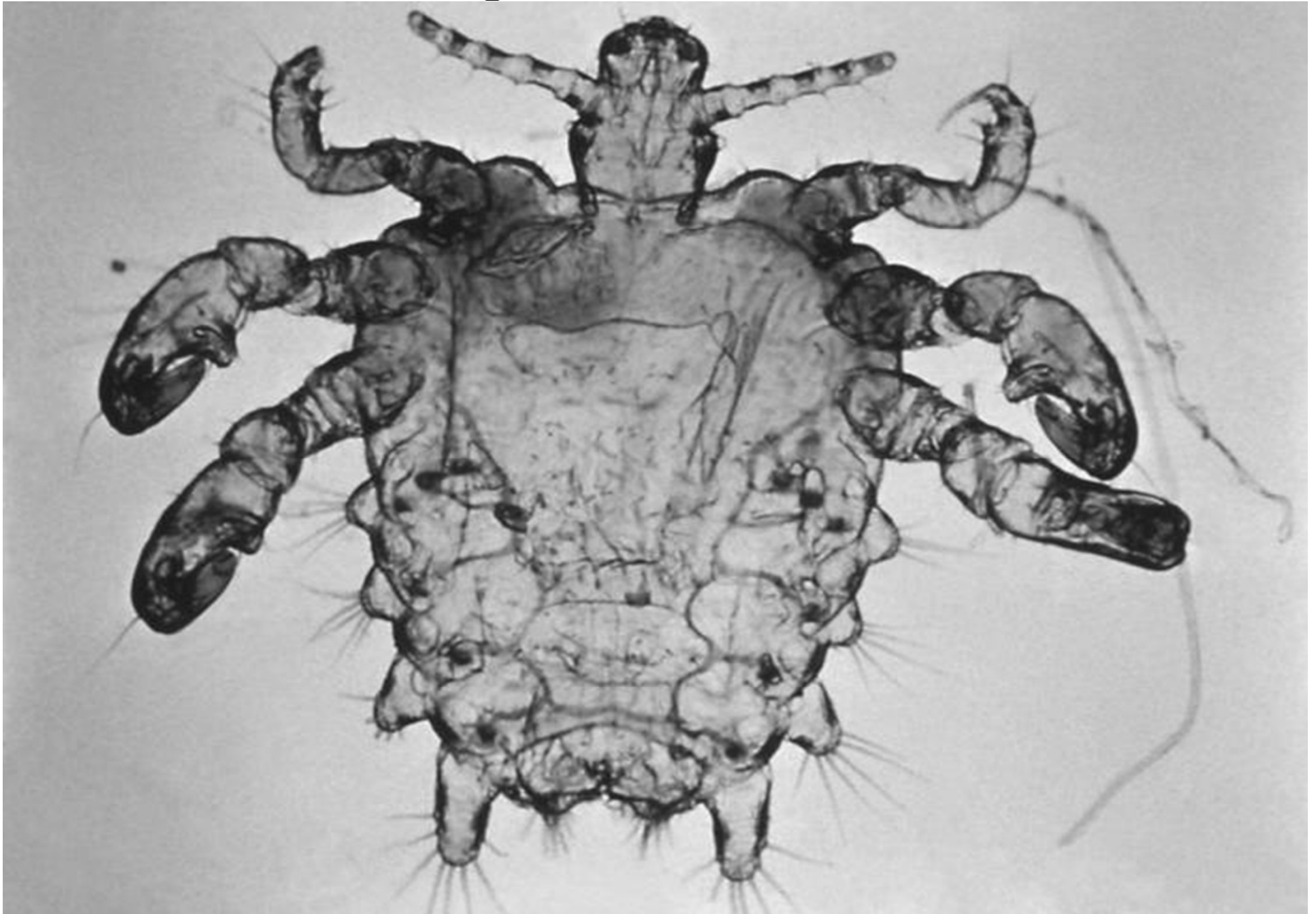
③



Transmitted sexually



A magnified crab louse



All three types of lice:

- Are ectoparasites: lice live on the surface of the host
- Move by crawling, as opposed to flying
- Have humans as their only host
- Have similar life cycles



Head Lice



Body Lice



Pubic Lice

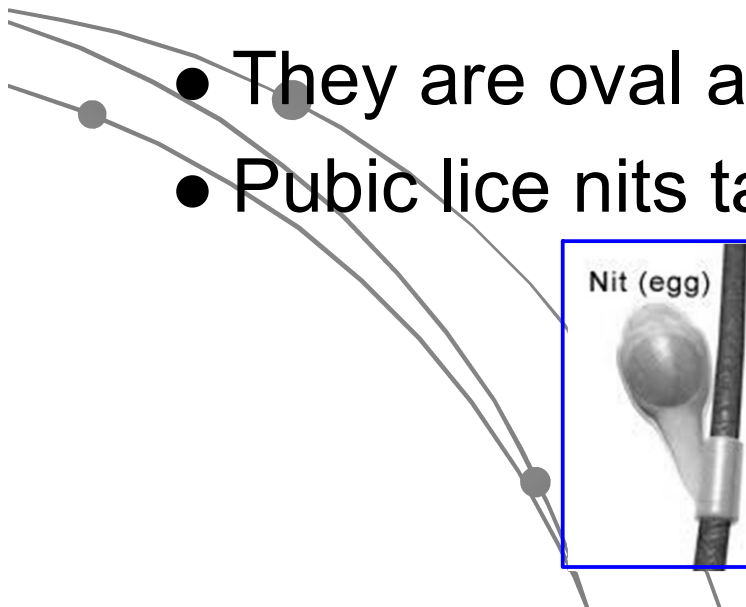
What Do Pubic Lice Look Like?

- Pubic lice have forms: **the egg** (also called a **nit**), the nymph, and the adult.

- **Nit**

المرحلة الاولى

- Nits are lice eggs.
- Hard to see and are found firmly attached to the hair shaft.
- They are oval and usually **yellow to white**
- Pubic lice nits take about **6-10 days to hatch**.



Adult Pubic Louse



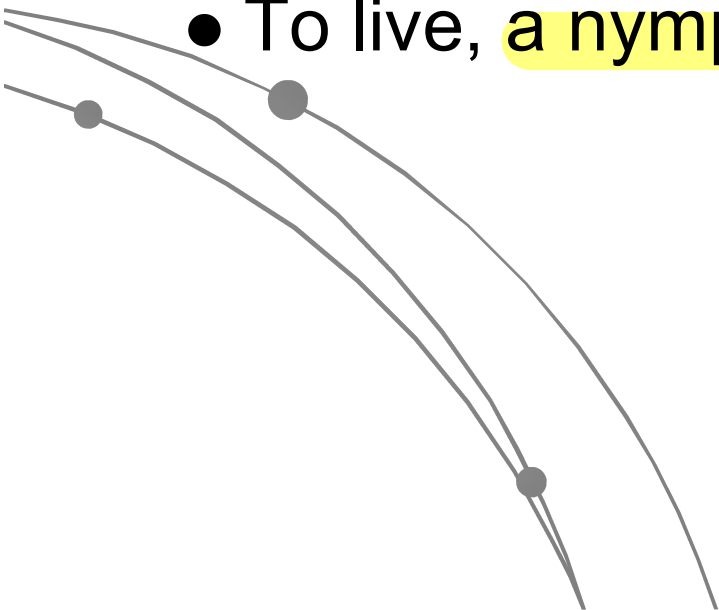
As adult but small
in size

● Nymph:

المرحلة الثانية

- **immature** louse that hatches from the nit (egg). A nymph looks like an adult pubic louse but it is smaller.
- Pubic lice nymphs take about **2-3 weeks after hatching to mature into adults** capable of reproducing.
- To live, **a nymph must feed on blood.**

To grow in size

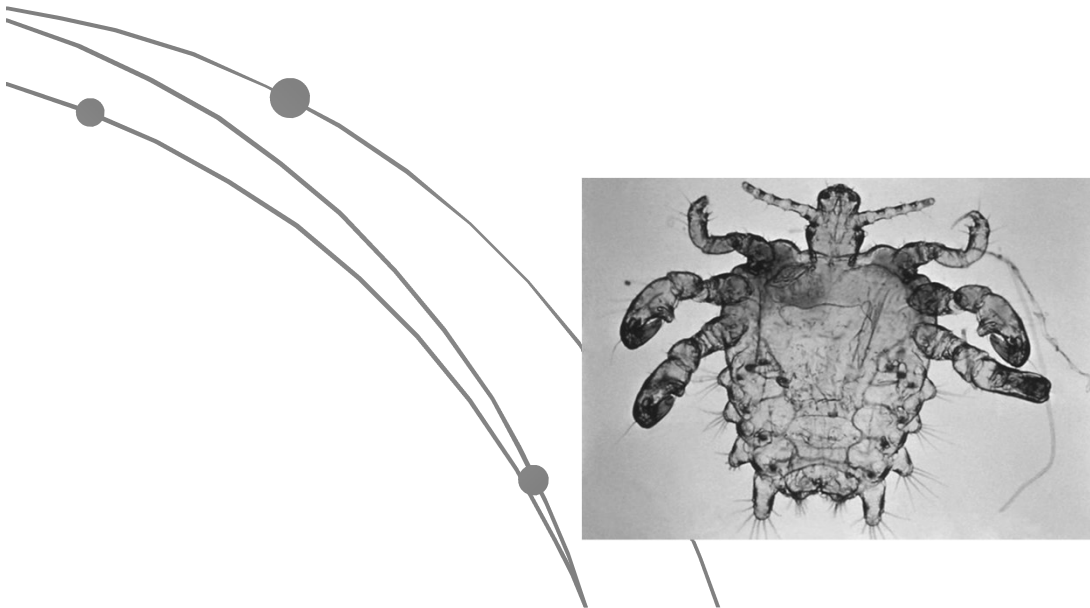


● Adult:

المرحلة الثالثة

- Adult pubic louse resembles a miniature **crab** when viewed through a strong magnifying glass.
- Pubic lice **have six legs**
- Pubic lice are tan to grayish-white in color.
- To live, **lice must feed on blood.**
- If the louse falls off a person, **it dies within 1-2 days.**

إذا ما تغذى عا لدم لمدة يومين
بموت

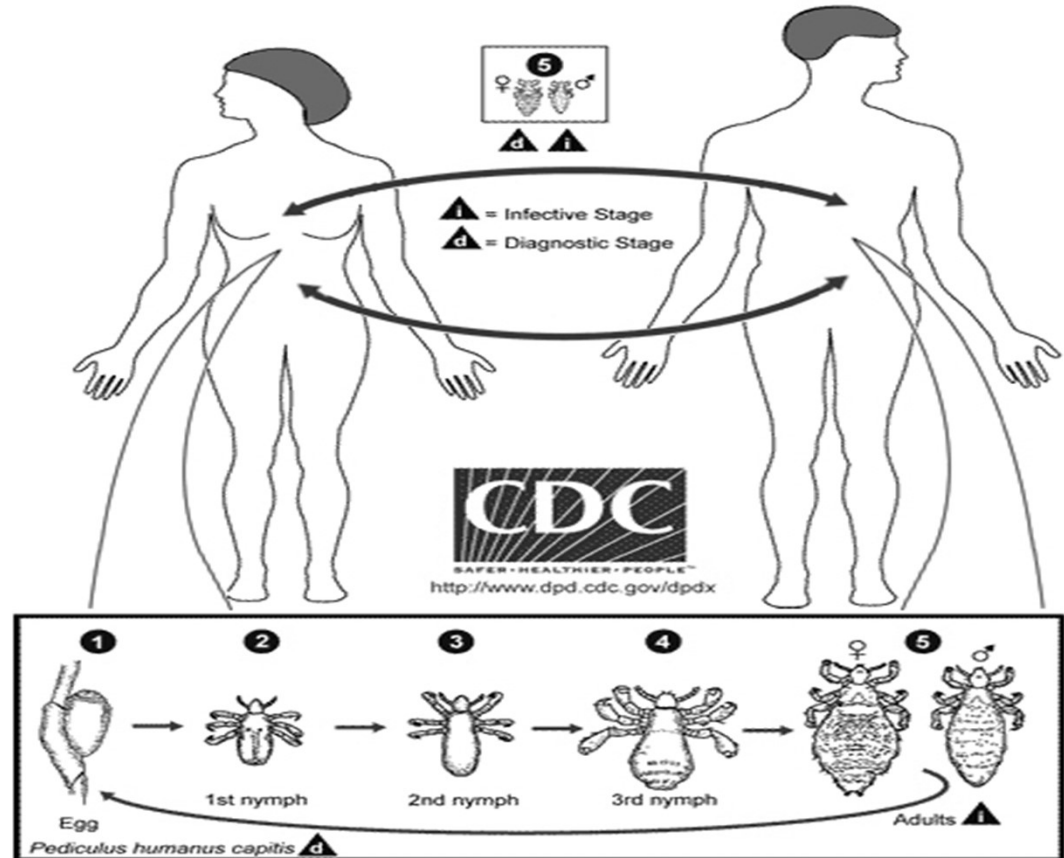
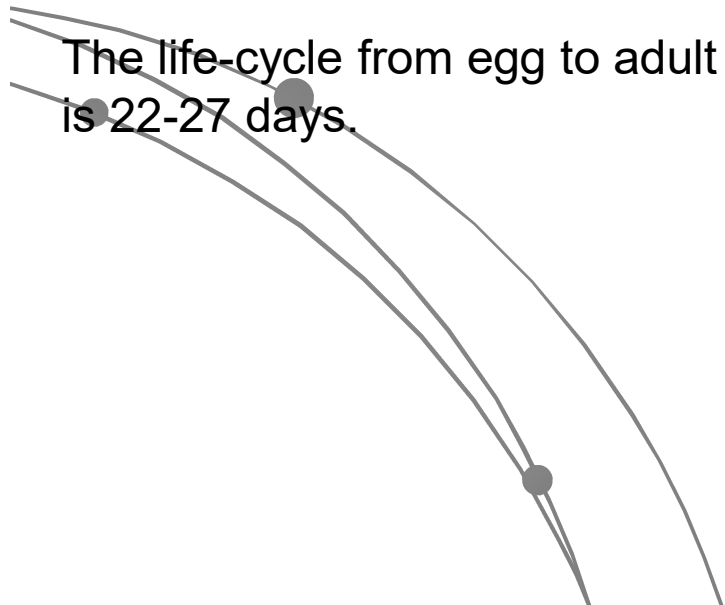


Lice Life Cycle

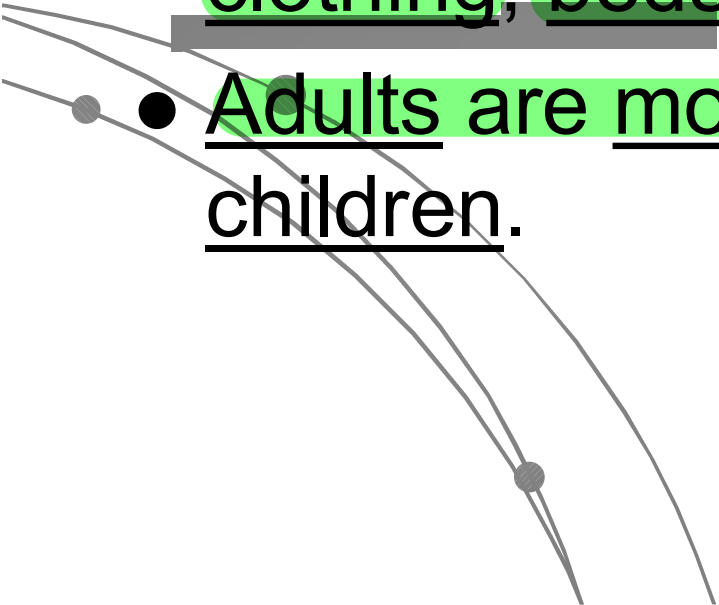
Lice stages:

1. Egg/nit
2. Nymph (3 molts)
3. Adult

Both nymphs and adults take blood meals from the human host.



Epidemiology

- Pubic lice : close contact between individuals, usually through sexual contact. For pubic lice
 - Parent to child infestations are more likely to occur through routes of shared towels, clothing, beds or closets.
 - Adults are more frequently infested than children.
- 

Transmission

- During **sexual contact** when two people bring their pubic areas together

بس يحكي لي اشي انتقل اليه علاقة بال sexual لحالي
يعرف انه بحكي عن ال pubic lice

- **Lice** can live away from the body for up **to 2 days**--
can drop off onto underclothes, bedsheets, etc,

بقدر يعيش لحد يومين
خارج الجسم وممكن
في حالة ينتقل من
cloes contant not
sexual

- eggs deposited by female louse can survive for several days

- Therefore, it is possible to get pubic lice **by sleeping**
in someone's bed or **wearing someone's clothes**

- **Condoms** **do not prevent the spread of pubic lice.**

- Nonsexual transmission of public lice **is also**
possible

هيها بالنوت فوق كيف ممكن ينتقل

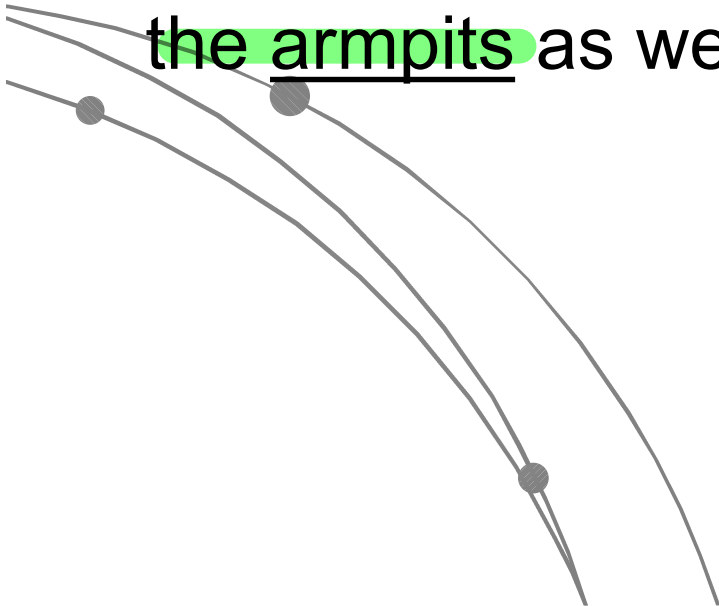
غير فعال لانها
بتكون موجودة
عالشعر والجلد
في ال genital
area

Clinical Manifestations

يطلق عالشخص المصاب

- Infestation with pubic lice is called Phthiriasis or Pediculosis pubis.
- Although any part of the body may be colonized, crab lice favour the hairs of the genital and peri-anal region.
- Especially in male patients, pubic lice and eggs can also be found in hair on the abdomen and under the armpits as well as on the beard.

ينتقل بالجسم حسب وجود الشعر
لانه حكينا اماكن تواجد الشعر
والجلد



- The main symptom is itching, usually in the pubic hair area. It results from hypersensitivity to louse saliva, and it becomes strong enough two or more weeks following initial infestation.
- In the majority of infestations a characteristic grey-blue or slate coloration appears (maculae caeruleae) at the feeding site, which may last for days and is also characteristic for the infestation.

سبب الحكة لانها بتتغدى من الدم ف مكان ما رح توخذ الدم من الجسم
 رح يصير عندي hypersensitivity ويسب حكة ويسمي هاي المنطقة ب
 change of color or maculae caeruleae وبصير فيها
 discoloration



Diagnosis

خذ عينة من الـ hair وتستخدم magnifying glass or
a stereo-microscope ورح تشوفها باي مرحلة كانت

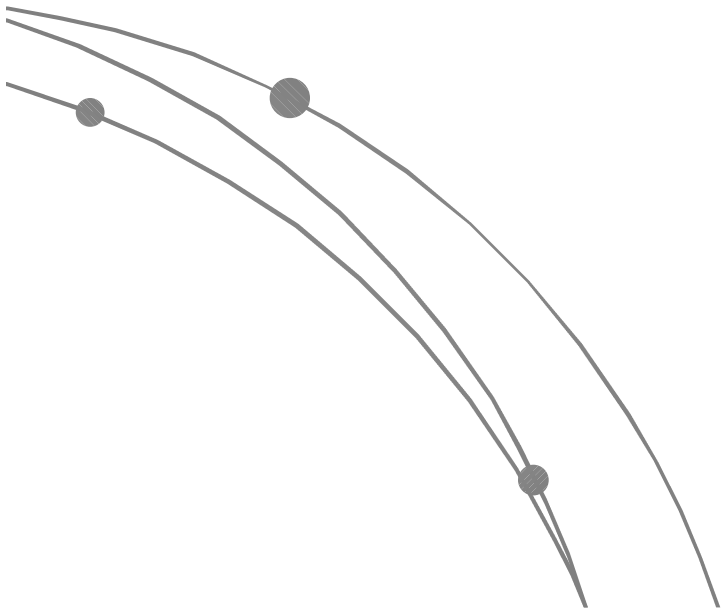
- carefully examining pubic hair for nits, nymphs and adults.
- Lice and nits could be removed either with **forceps** or by **cutting the infested hair** with scissors.
- A magnifying glass or a stereo-microscope can be used for the exact identification.
- If lice are detected in one family member, the entire family needs to be checked and only those who are infested with living lice should be treated.

اذا حدا مصاب من العيلة لازم نفحص العيلة كلها ولازم نعالج العيلة كلها

بالسلايد عكس المعلومة مثل ما انتو شايقين، المحاضرة الي بعدها حكالنا بالوجاهي رح يعدل السلايد وتصير نعالج كل العيلة

Treatment

- **medicinal lotion** (1% permethrin or pyrethrin) applied to all affected areas + all areas w/body hair (genitals, armpits, scalp, even eyebrows);
- **Ivermectin** paralyzes and kills lice and their eggs



- Shaving off or grooming any hair in the affected areas with a fine-toothed comb is necessary to ensure full removal of the dead lice and nits, though it does not suffice as treatment on its own.

- Wash all clothes and bedding that were exposed

● لا تنسوني من صالح دعائكم واي اشني

اكيد احنا جاهزين❤️❤️❤️

زميلتنا بتول عملت سكتشي للمحاضرة
الله يعطيها الف عافية

* Candida albicans *



1. Part of the normal flora (eg, mouth, skin, vagina, intestines)
2. The lesions in oral thrush can be easily scraped off
3. candida infections can be treated with nystatin
4. Causes vulvovaginitis
5. Thick "cottage cheese" discharge
6. Candida infections causing vulvovaginitis can be treated with azoles
7. Can cause an erythematous diaper rash in children

* Trichomonas Vaginalis *



1. The pH of the vaginal discharge $\text{pH} > 4.5$
2. Has motile trophozoites
3. Causes cervicitis resulting in a "strawberry red" cervix
4. Protozoa
5. Yellow, frothy vaginal discharge
6. Diagnosed on saline microscopy
7. Treat both partners with metronidazole
8. Sexually transmitted disease

