

اطلس انگل شناسي

گردآورنده و تهیه کننده : دکتر شهلا فارسي
مسئول آزمایشگاه انگل شناسي

منابع :

- www.dpd.cdc.gov
- Cdfound www.atlas of Medical
- عكسهاي تهيه شده توسط اينجانب با آرمي درگوشه آن مشخص گردیده است

نمادهای روده ای انسان

آسکاریس لومبریکوئیدس

کرم قلاب دار

استرونژیلوئیدس استرکورالیس

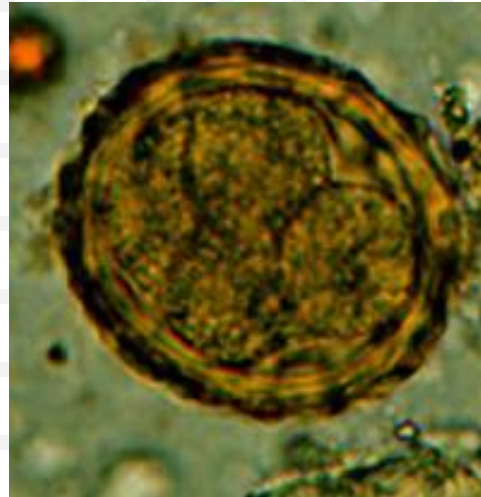
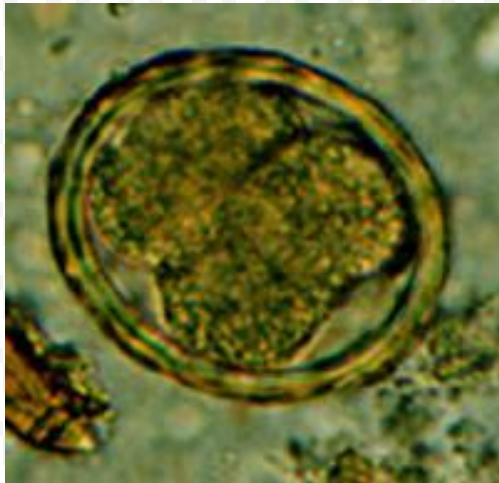
انتروبیوس ورمیکولاریس = کرمک

تریکوسفال = تریکیوریس تریکیورا = کرم شلاقی

دراکونکولوس مدیننسیس

لارومهاجر احشایی (عامل : توکسوکارا)

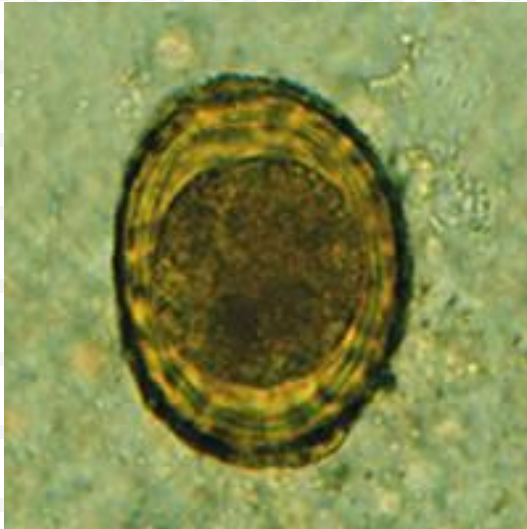
Ascaris lumbricoides



Egg containing a larva
which will be infective if
ingested)

- Two fertilized eggs

Ascaris lumbricoides



A fertilized *Ascaris* egg, still at the unicellular stage

Unfertilized and fertilized eggs (left and right, respectively)

Unfertilized egg with no outer mammillated layer (decorticated egg)

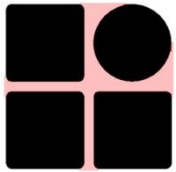
Ascaris lumbricoides



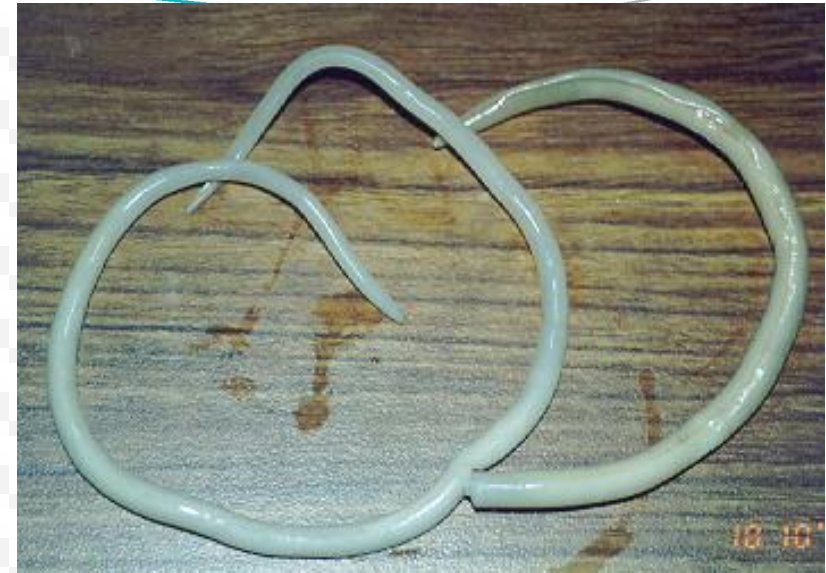
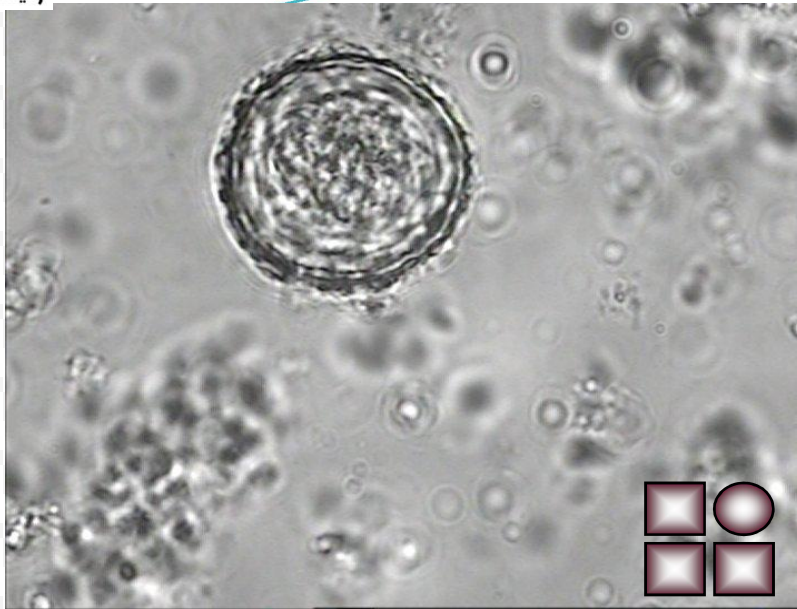
Egg containing a larva, which will be infective if ingested

Larva hatching from an egg .

An adult *Ascaris* worm

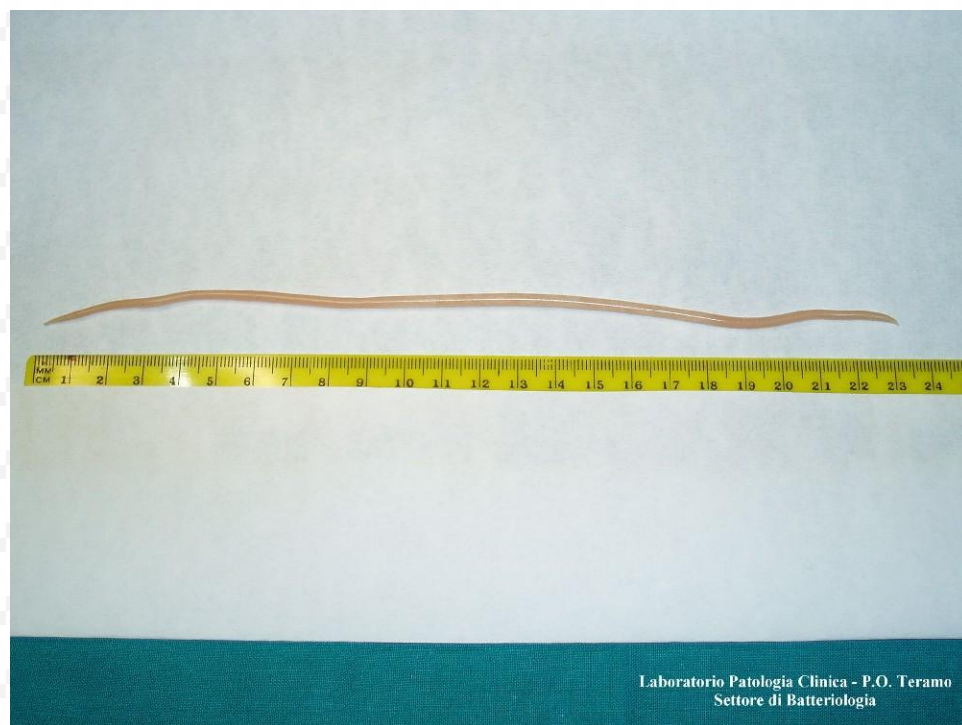


ازمایشگاه علوم سلامت



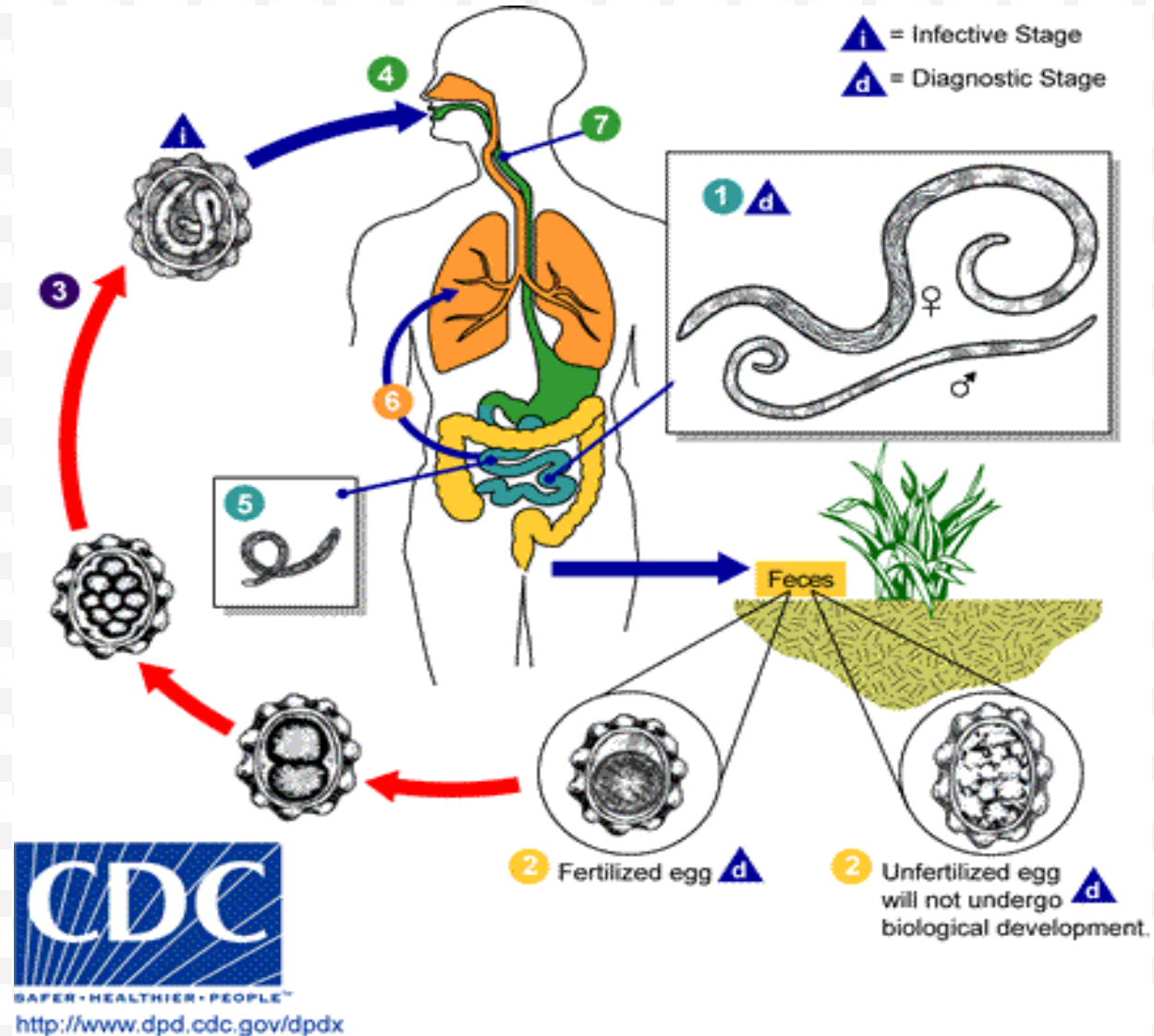


ازمایشگاه مرجع سلامت

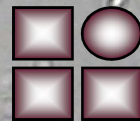


Laboratorio Patologia Clinica - P.O. Teramo
Settore di Batteriologia

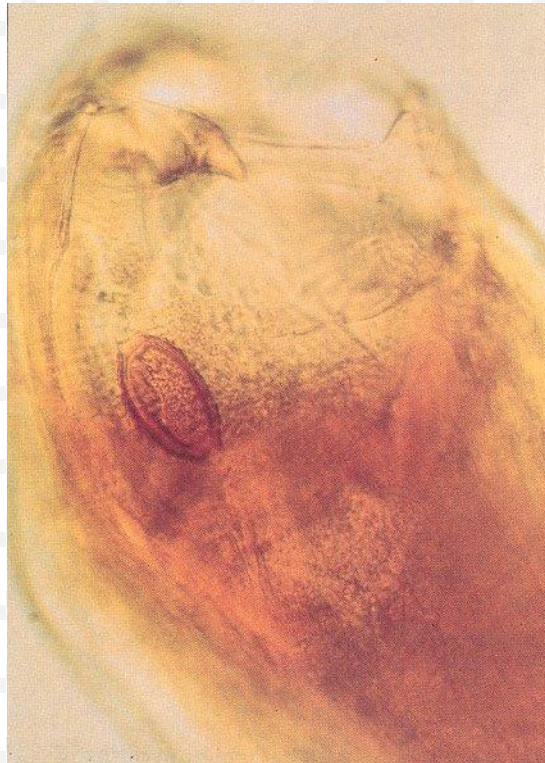
Life cycle of *Ascaris lumbricoides*.



Hookworm



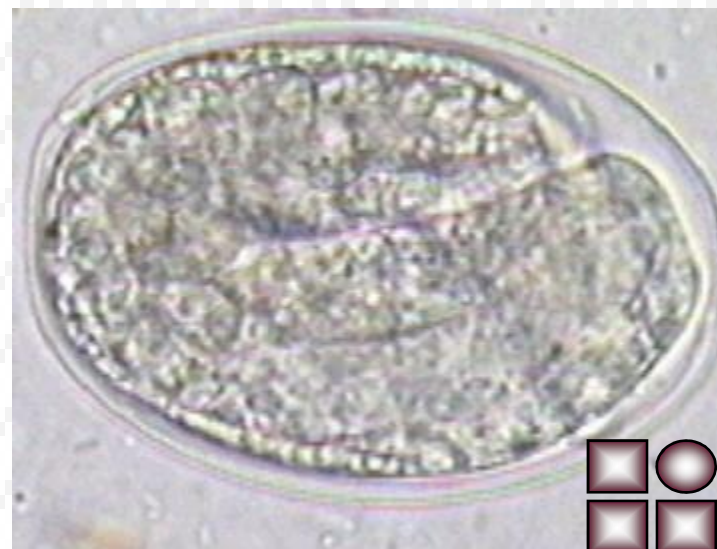
Hookworm

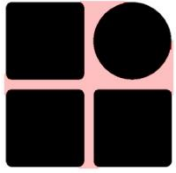




Embryonated hookworm egg.

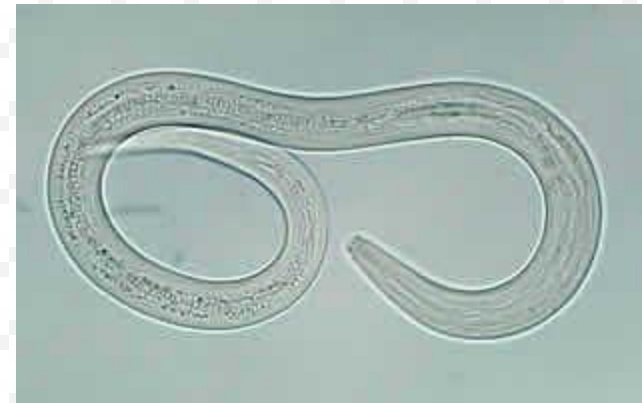
A,B: Hookworm rhabditiform larva (wet preparatio).





انجمن علمی سلامت

Hookworm

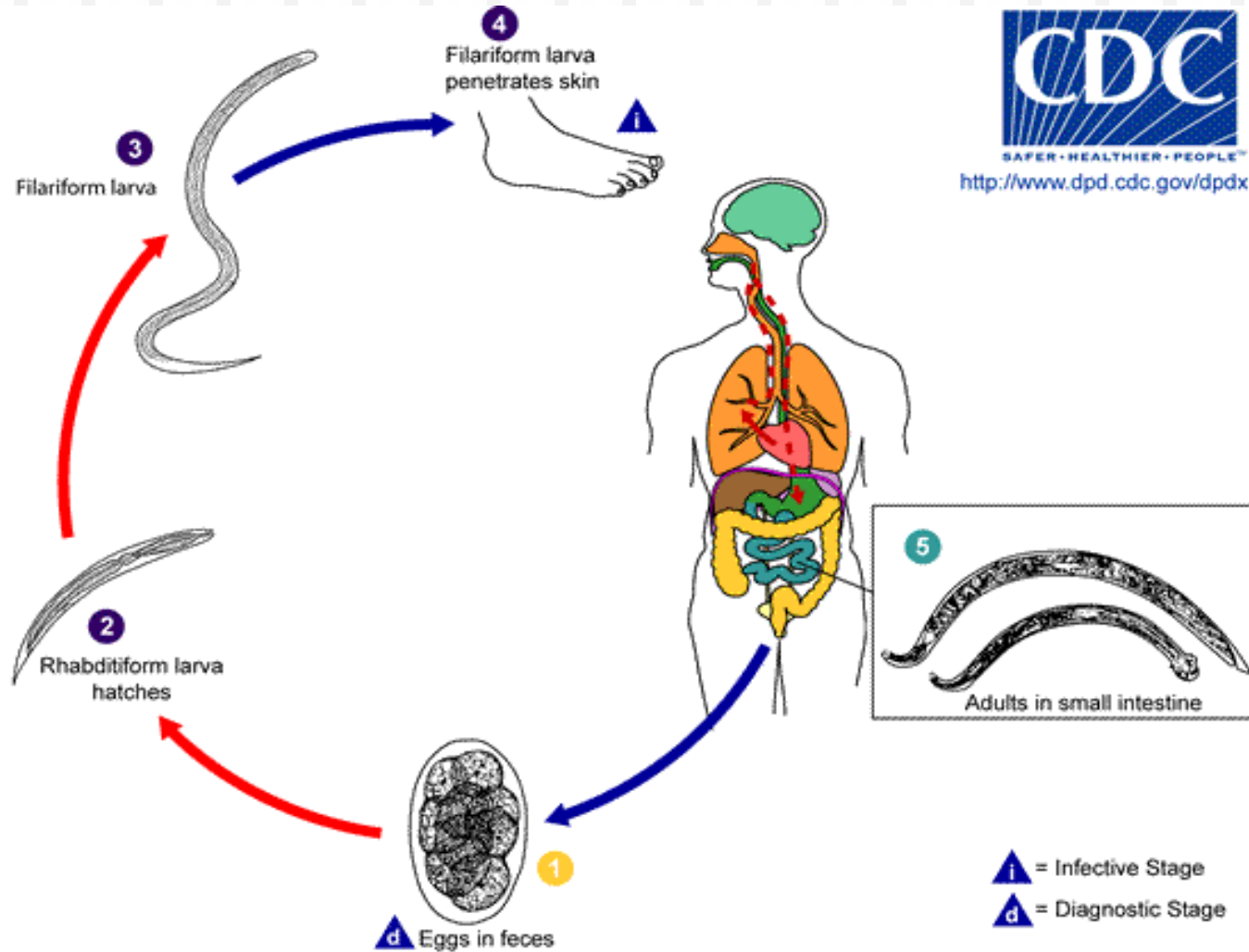


Hookworm filariform larva (wet preparation)

Hookworm filariform larva tail .



Life cycle of Hookworm



Strongyloides stercoralis



S.T.Larva



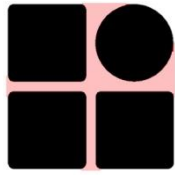
filariform larva tail.

Adult Worm



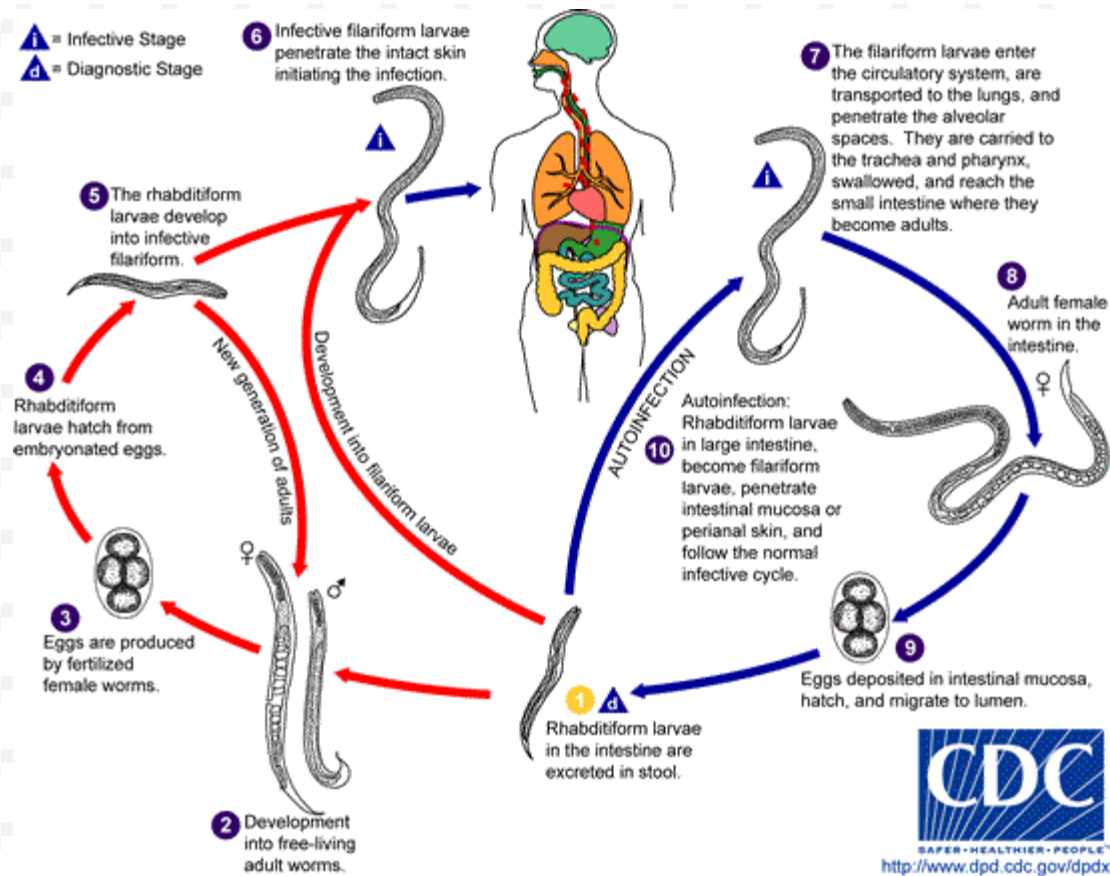
Adult Worm –white Arrow(Coli Cyst)



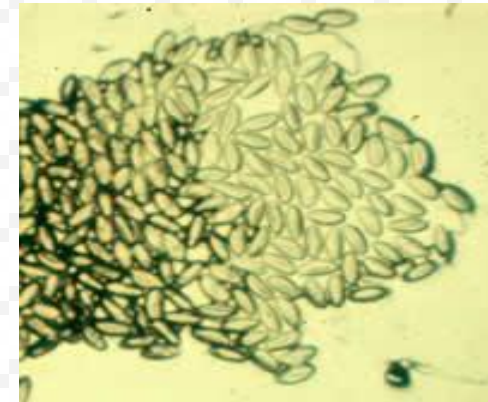


ازمایشگاه سلامت

Life cycle of *Strongyloides stercoralis*



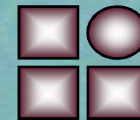
Enterobius Vermicularis eggs



Enterobius Vermicularis egg



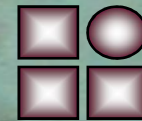
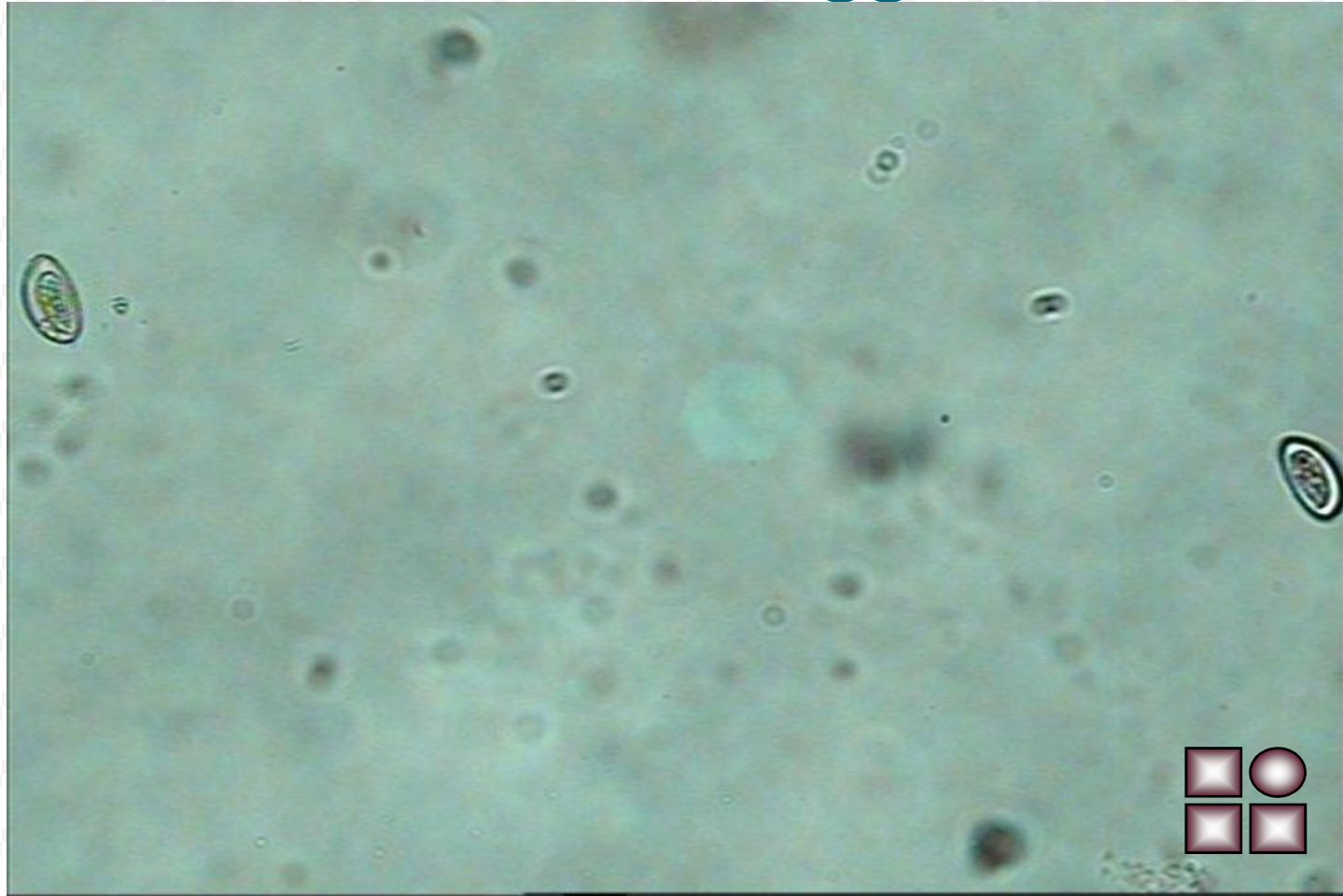
Enterobius Vermicularis egg

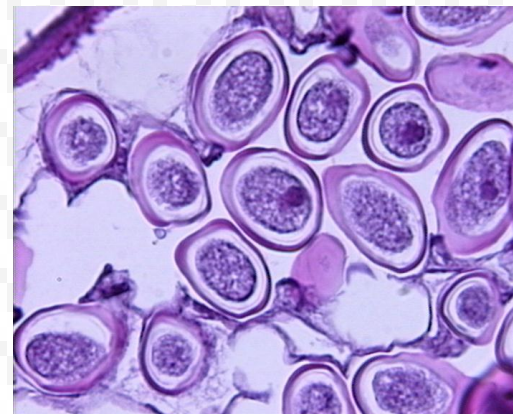
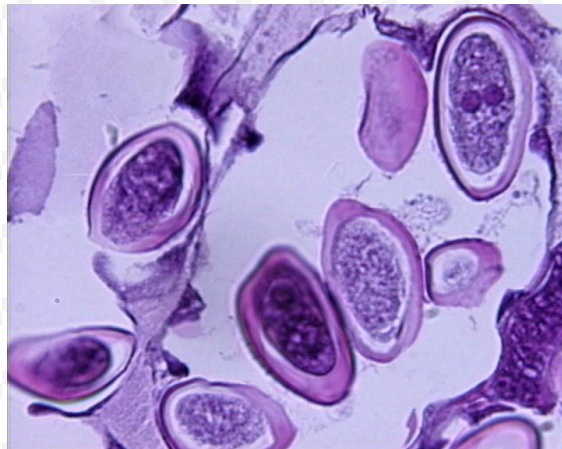
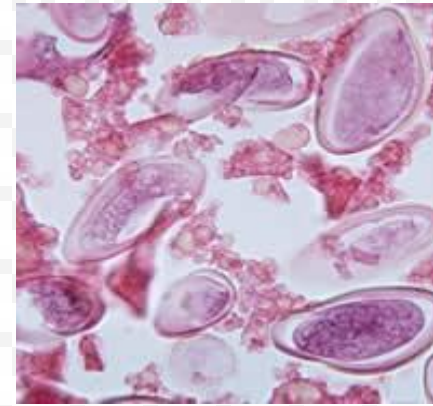


Enterobius Vermicularis eggs

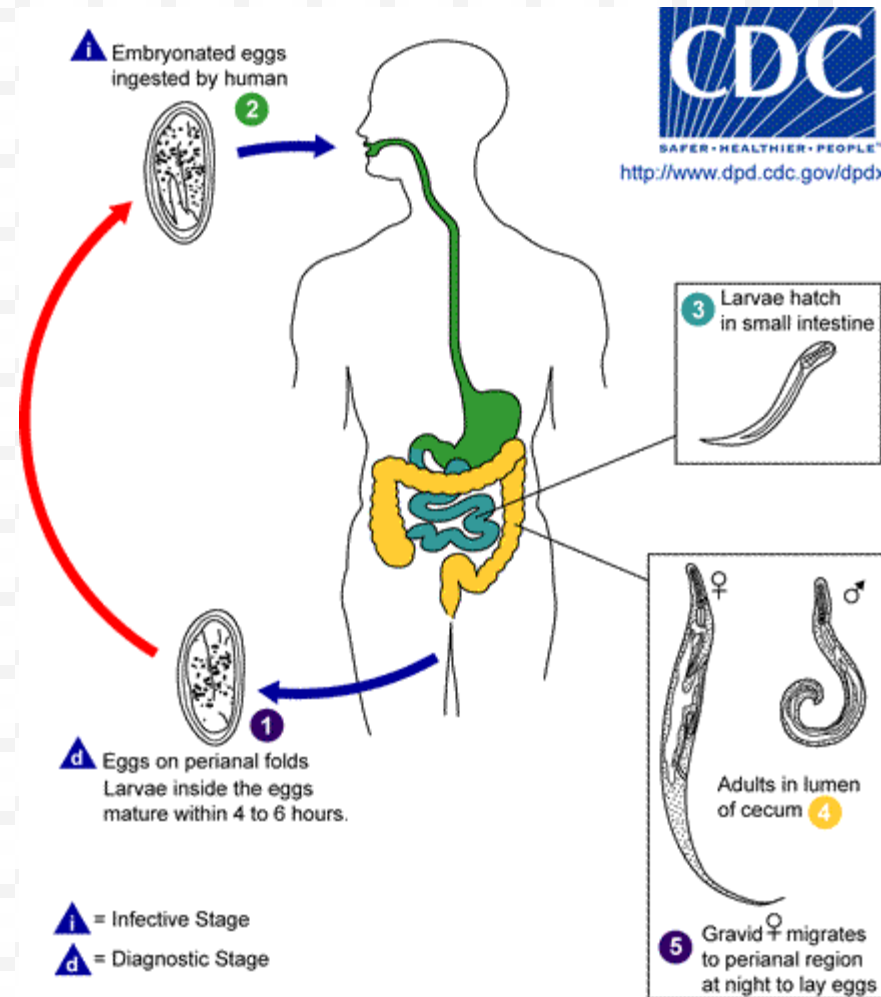


Enterobius Vermicularis eggs

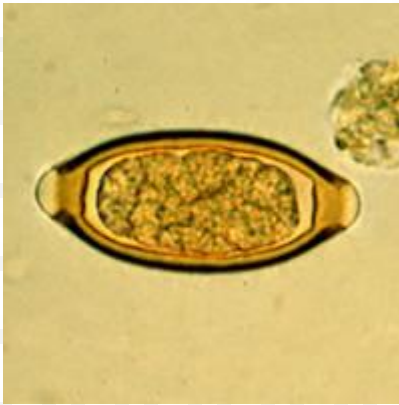




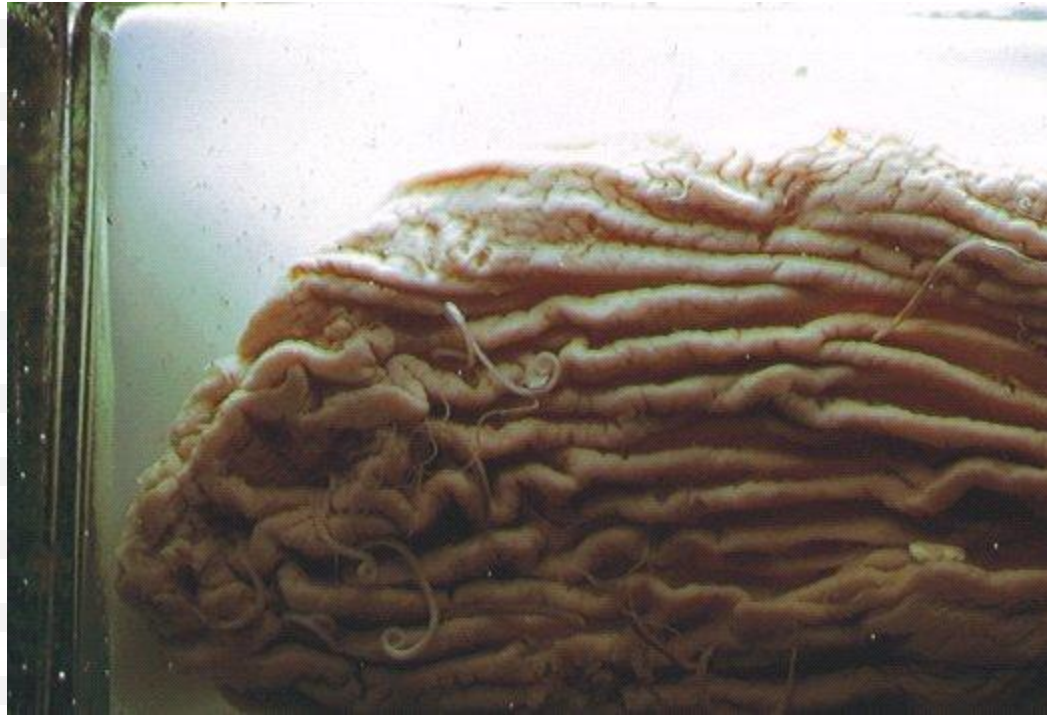
Life cycle of *Enterobius vermicularis*



Trichuris trichiura eggs



Adult Worms

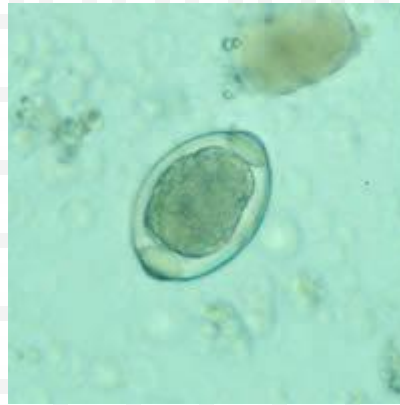


Trichuris trichiura
adults in gut (preserved post mortem specimen)

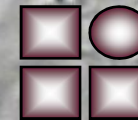
Trichuris trichiura egg

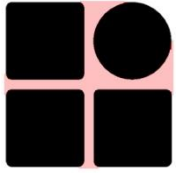


Atypical *Trichuris* sp. eggs.



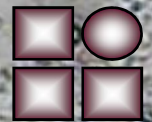
Trichuris trichiura egg



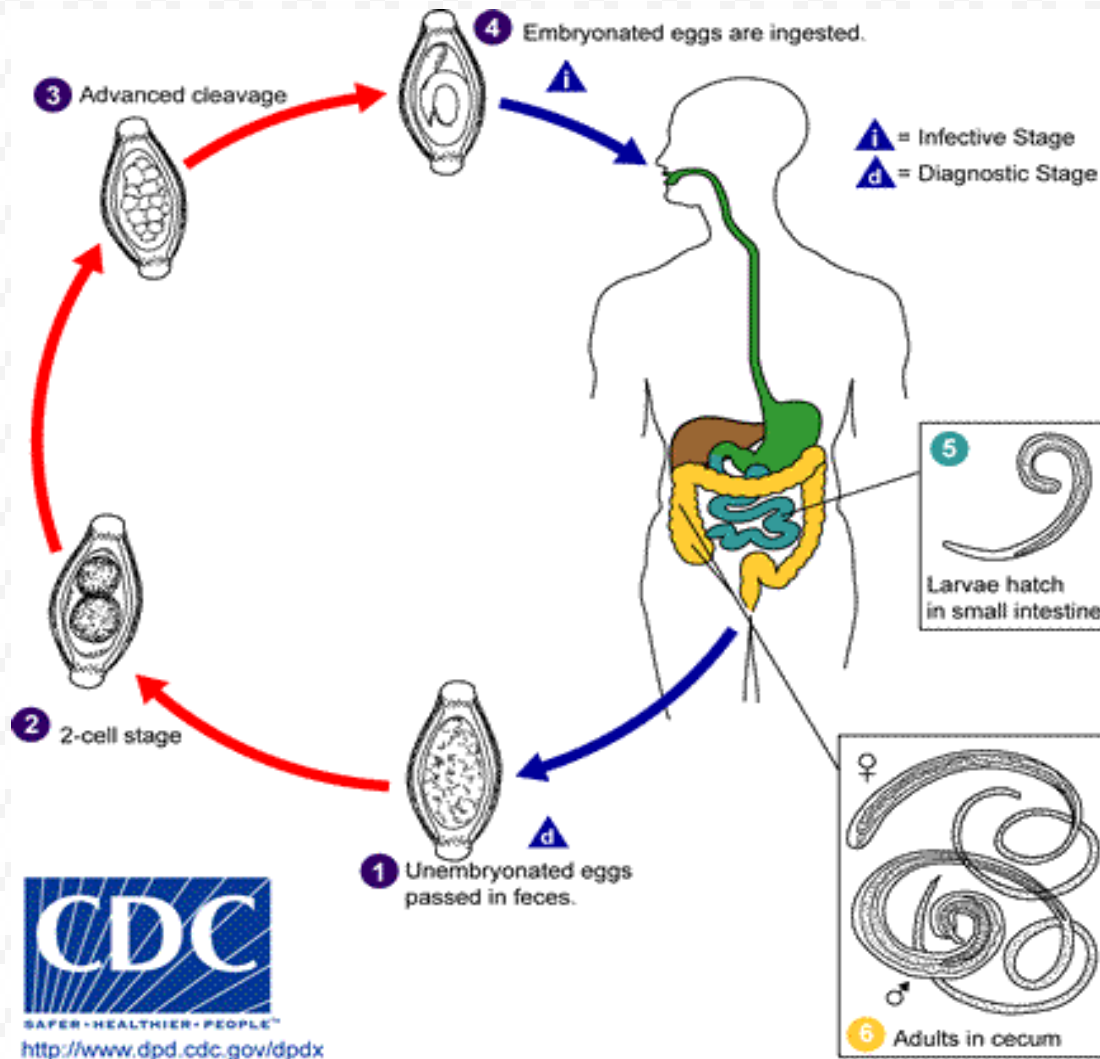


وزارت بهداشت و آموزش پزشکی

Trichuris trichiura egg



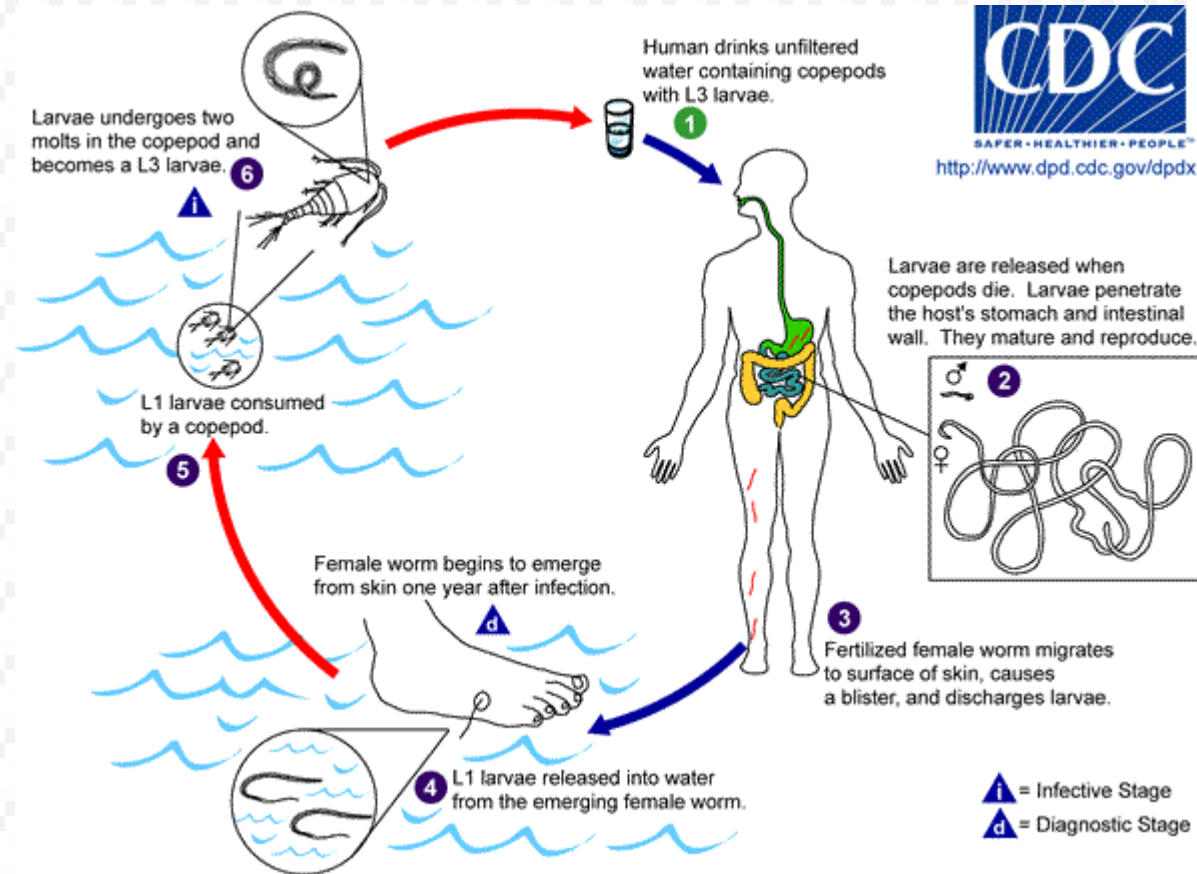
Life cycle of *Trichuris trichiura*



Dracunculus medinensis



Life cycle of *Dracunculus medinensis*

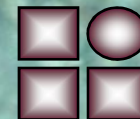


لارو پیوک





ازمایشگاه سلامت





جمهوری اسلامی ایران



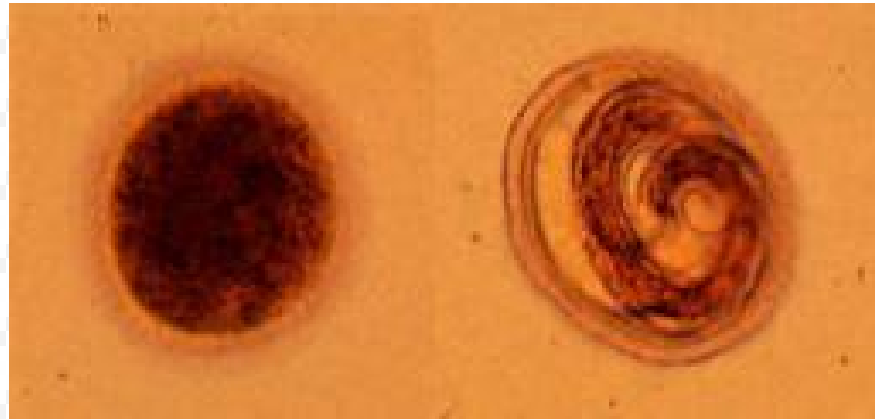


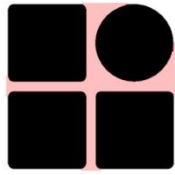


جمهوری اسلامی ایران



Toxocara canis





وزارت بهداشت و آموزش پزشکی

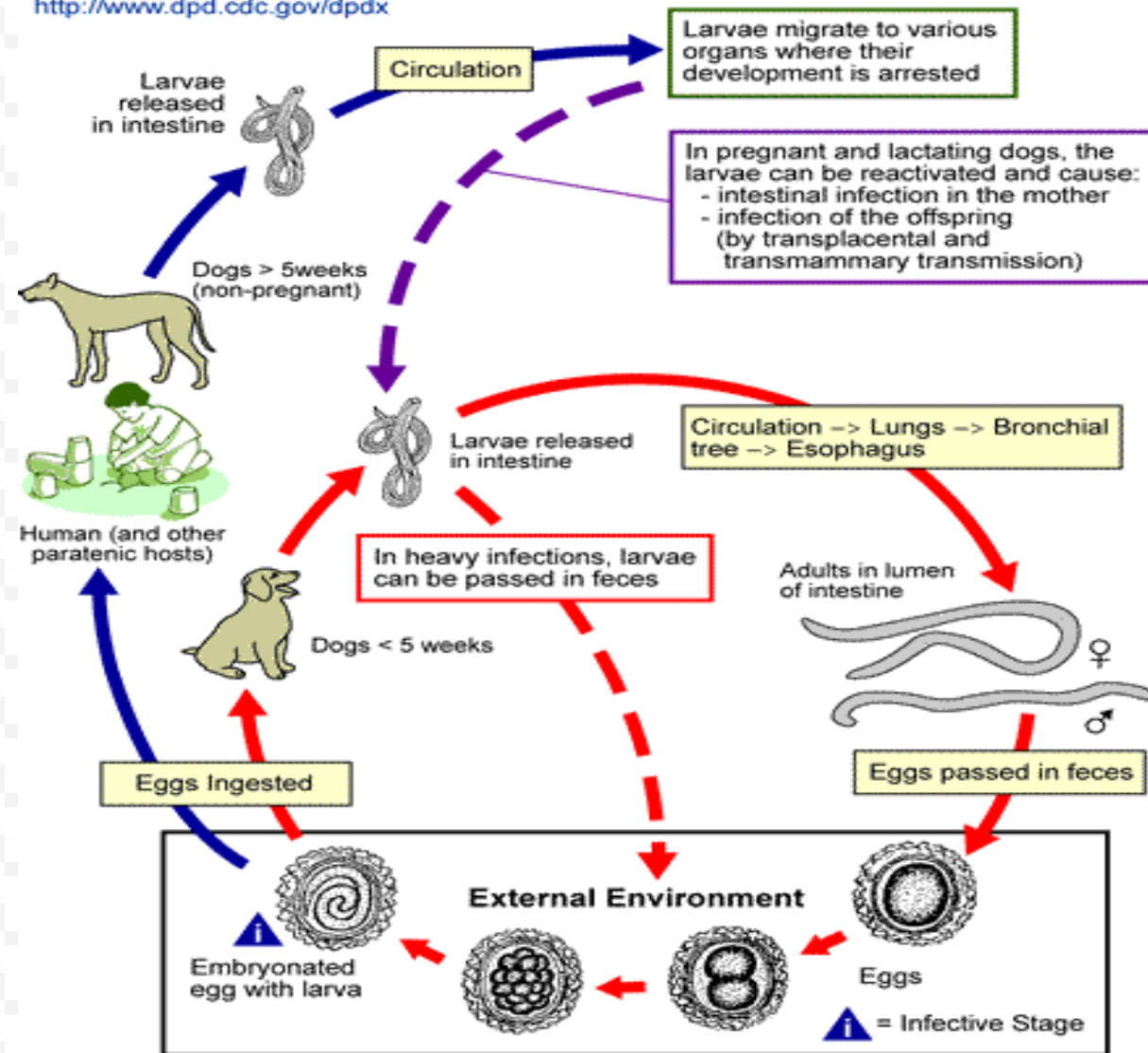


<http://www.dpd.cdc.gov/dpdx>

Toxocara canis

Life cycle of

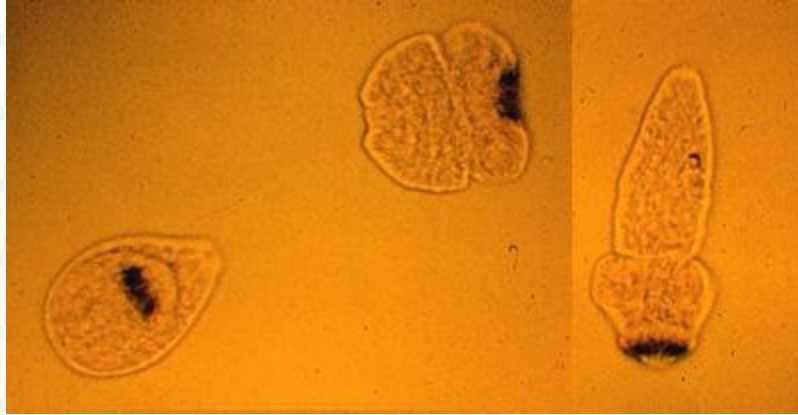
Toxocara canis

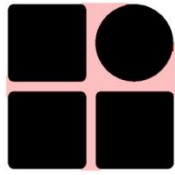


کرم های نواری انسان

اکینوکوکوس گرانولوزوس
تنیا ساژیناتا
هیمنولیپیس نانا
دیفیلوبوتریوم لاتوم = کرم نواری ماهی

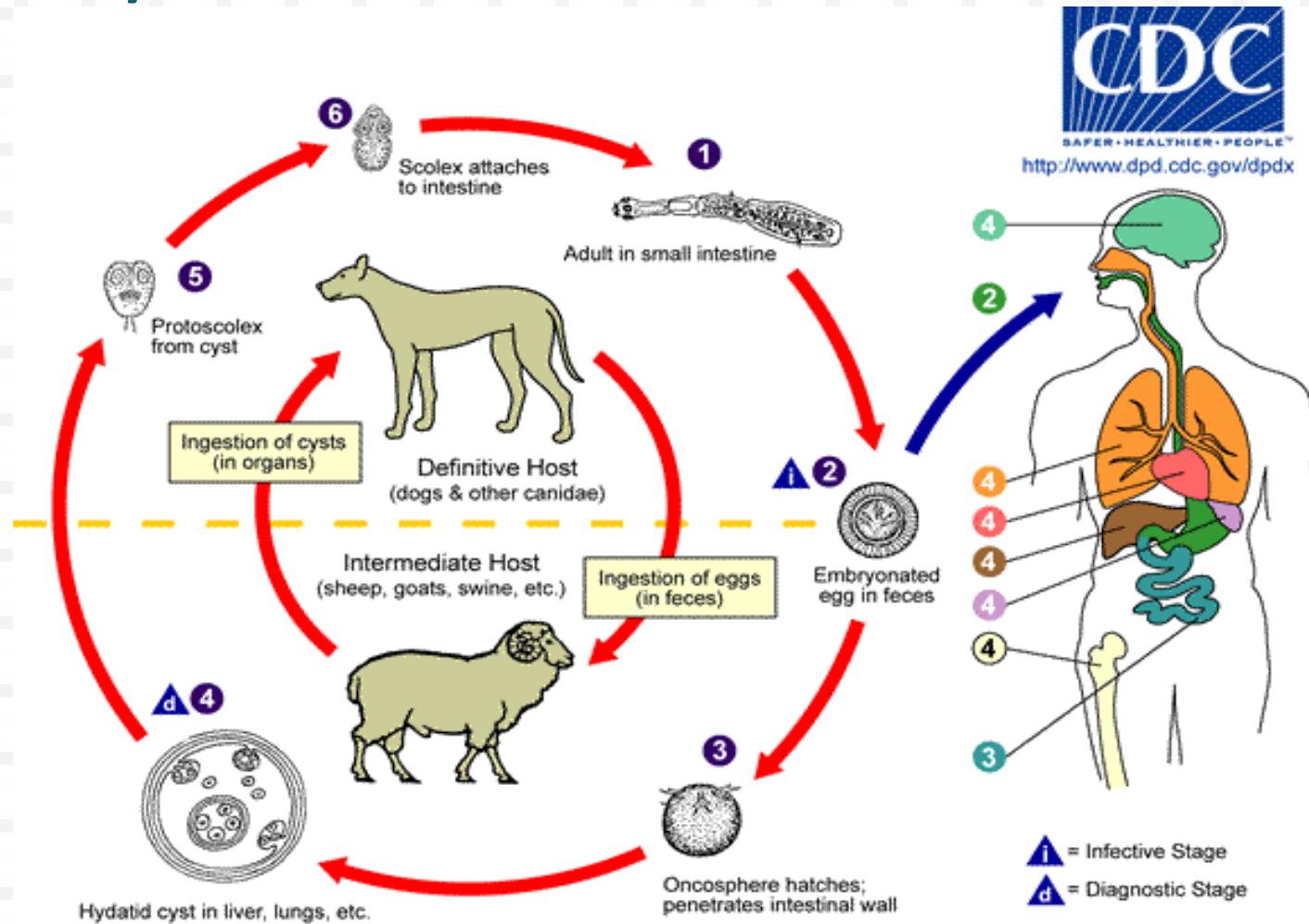
Hydatid sand



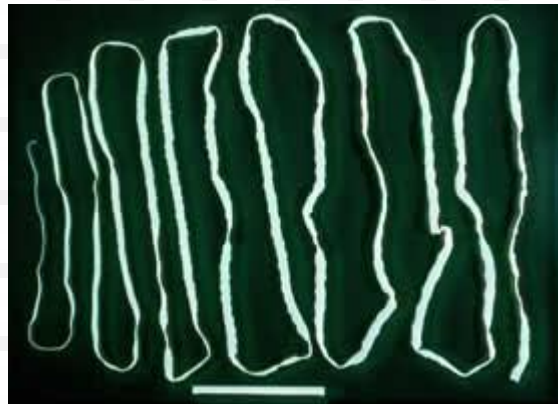
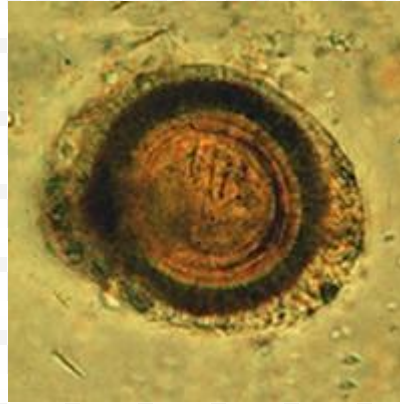


ازمایشگاه سلامت

Life cycle of *Echinococcus*

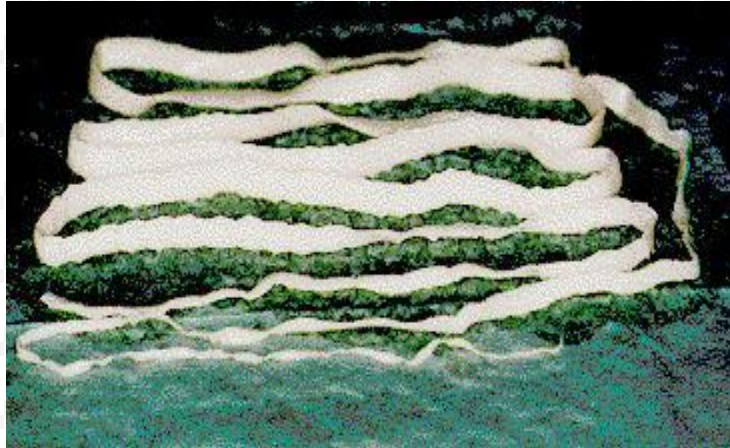


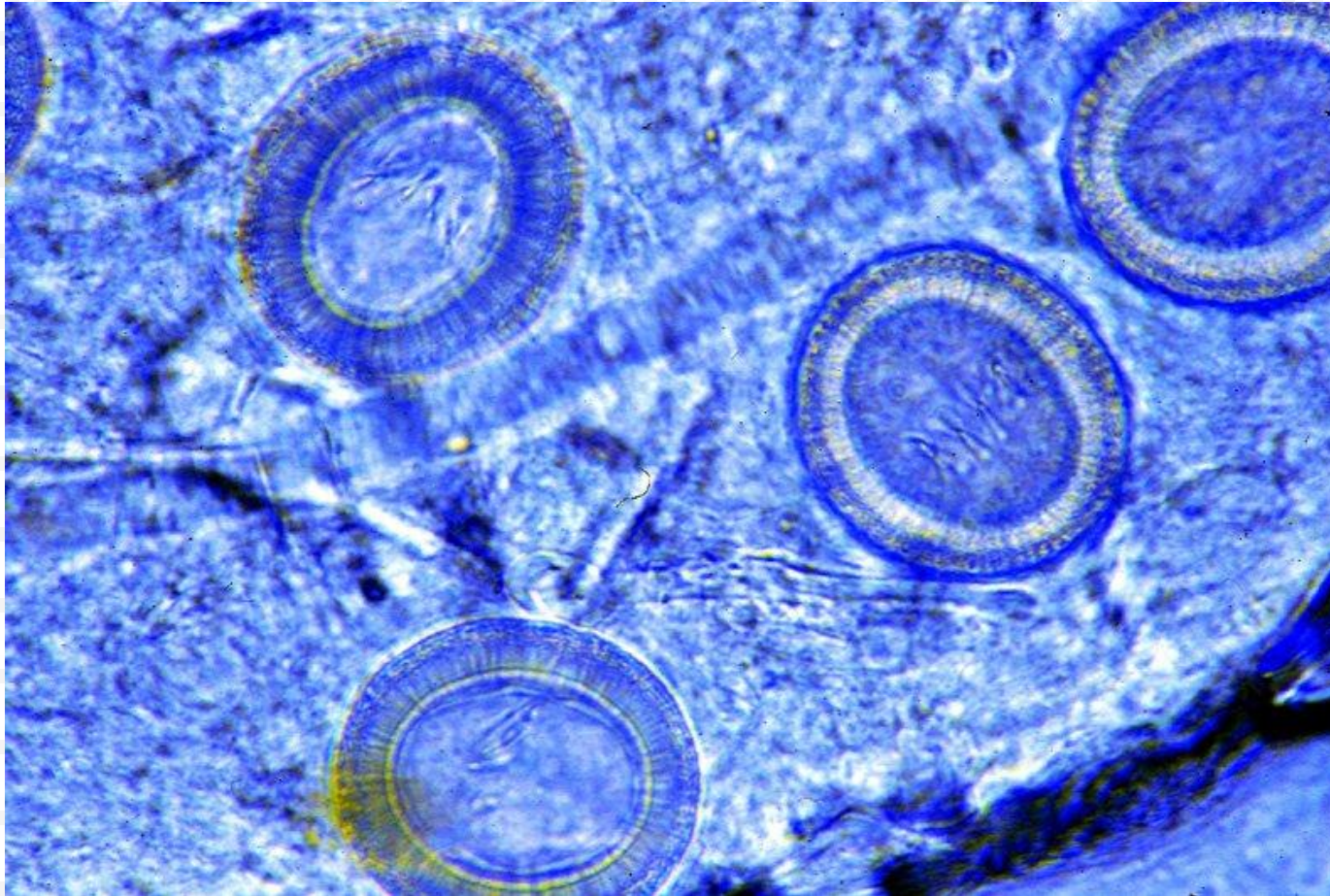
Taenia saginata T. solium

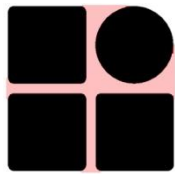




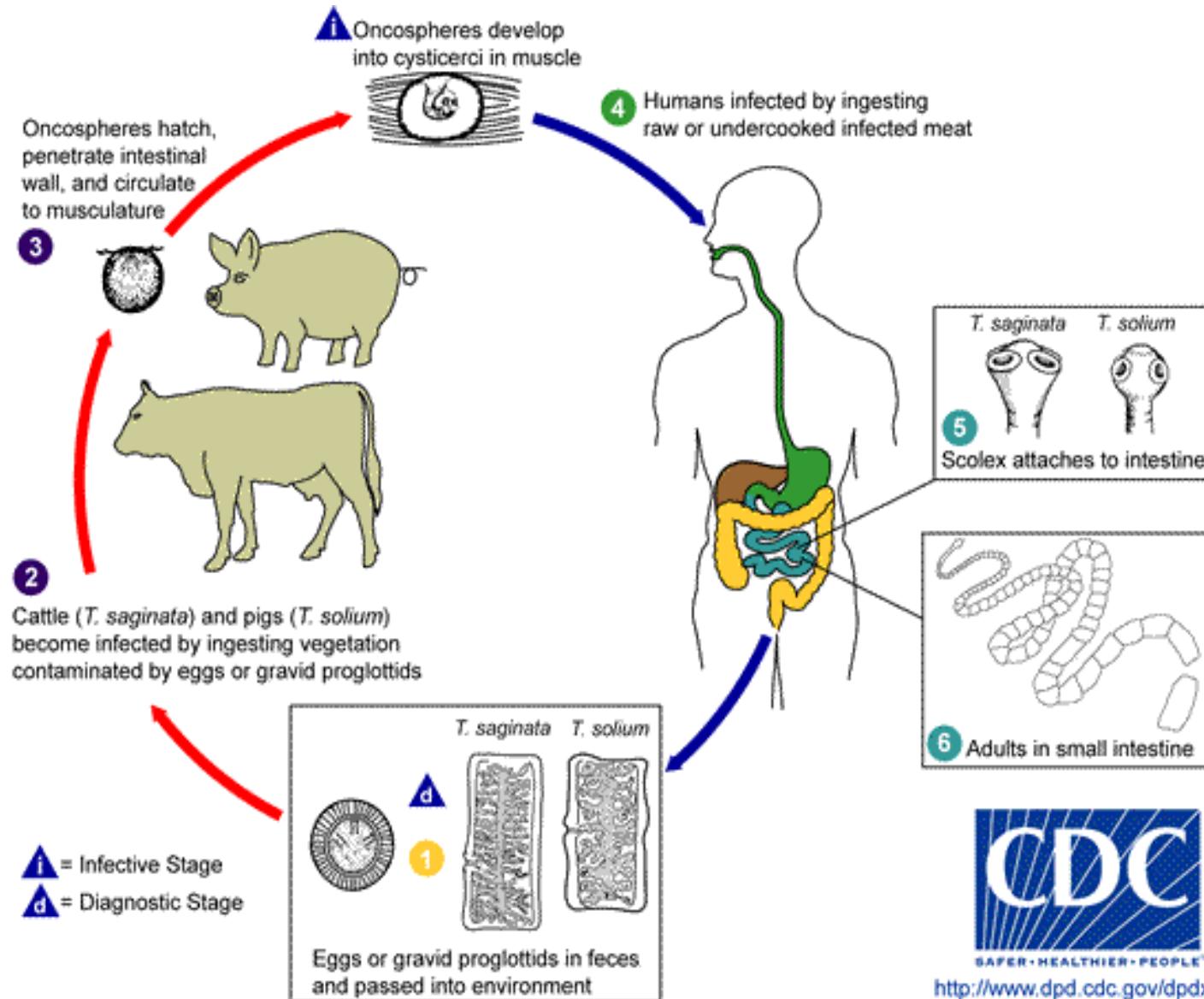
ازمایشگاه سلامت







ازمایشگاه سلامت



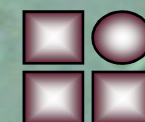


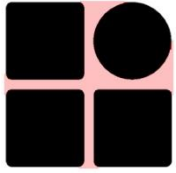
جمهوری اسلامی ایران





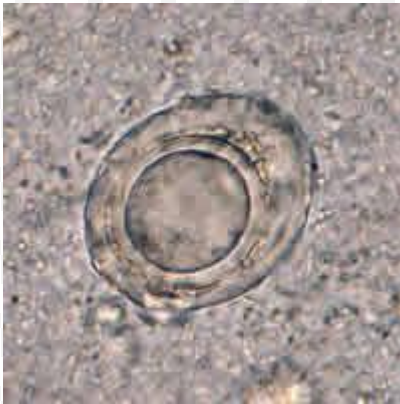
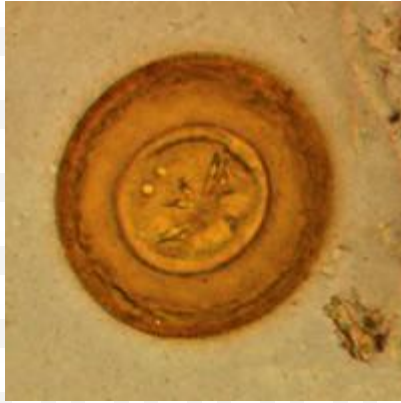
جمهوری اسلامی ایران





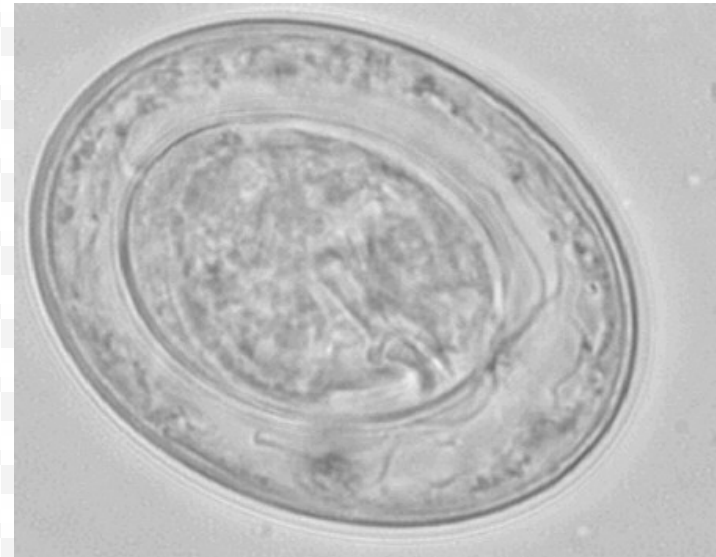
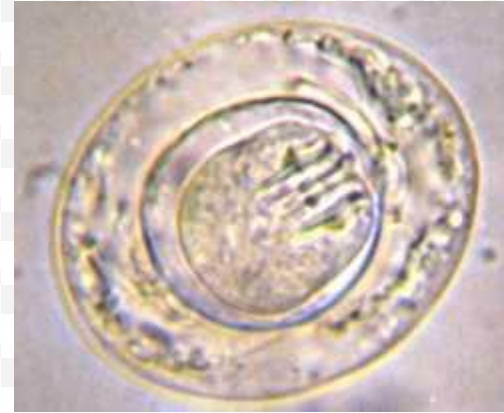
ازمایشگاه علوم سلامت

Hymenolepis nana

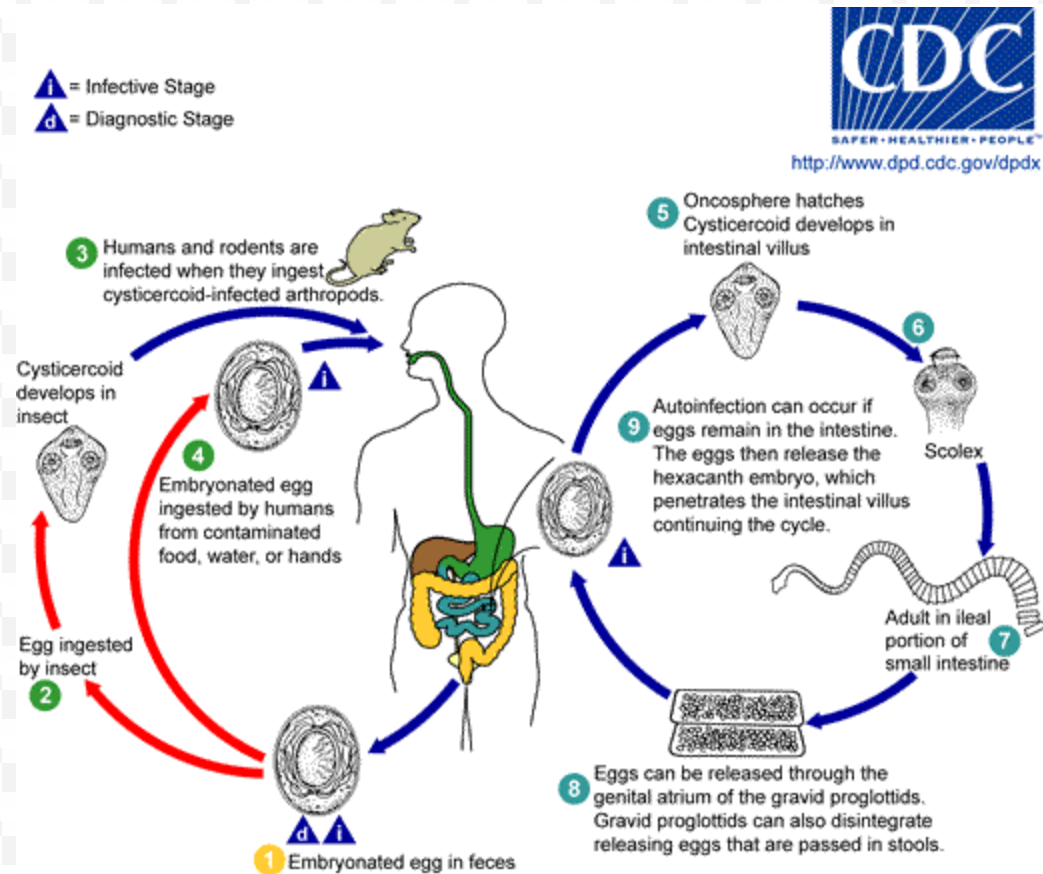




الجامعة الإسلامية بالمدينة



Life cycle of *Hymenolepis nana*





جمهوری اسلامی ایران



Diphyllobothrium latum egg



Diphyllobothrium latum

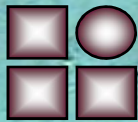
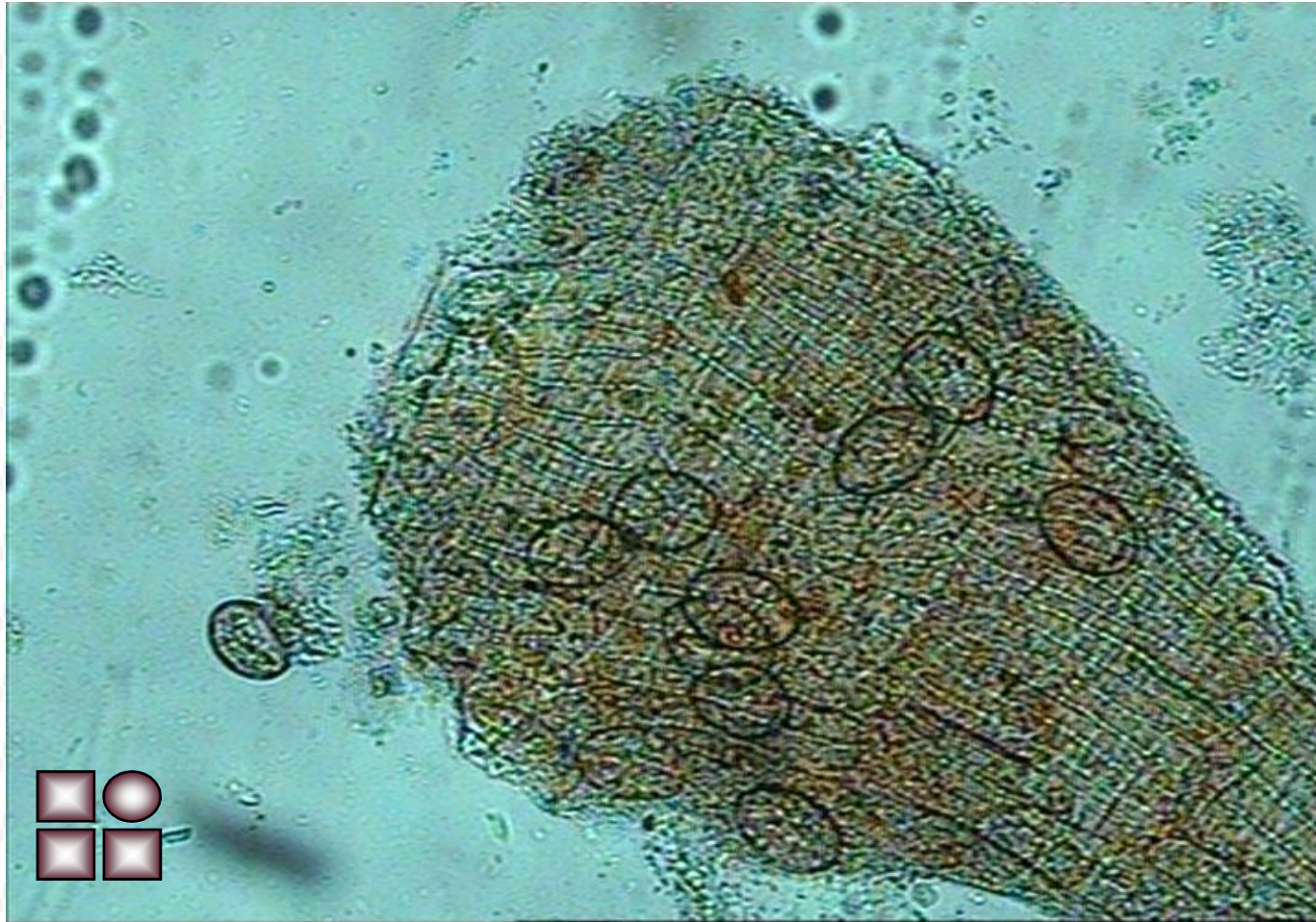
Proglotid



Diphyllobothrium latum egg



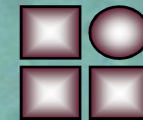
Diphyllobothrium latum egg



Diphyllobothrium latum egg



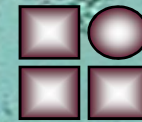
Diphyllobothrium latum egg

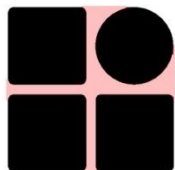


Diphyllobothrium latum egg



Diphyllobothrium latum egg



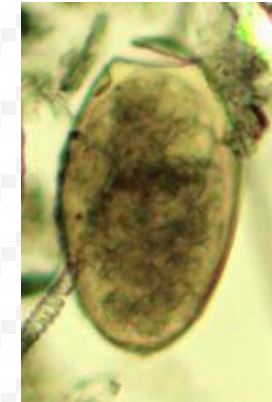
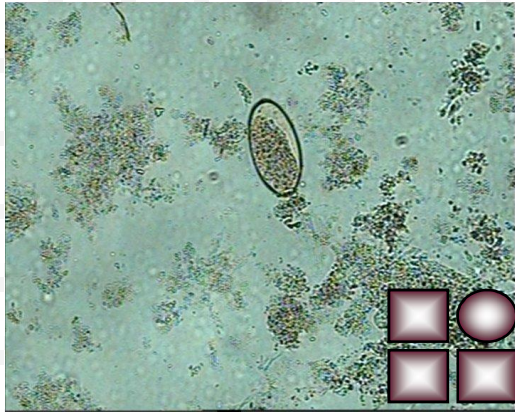


آزمایشگاه مرجع سلامت

کرمهای پهن یا فلوک های روده ای انسان

فاسیولا هیپاتیکا = کرم کبدگوسفند = کیلک
دیکروسولیوم دندریتیکوم

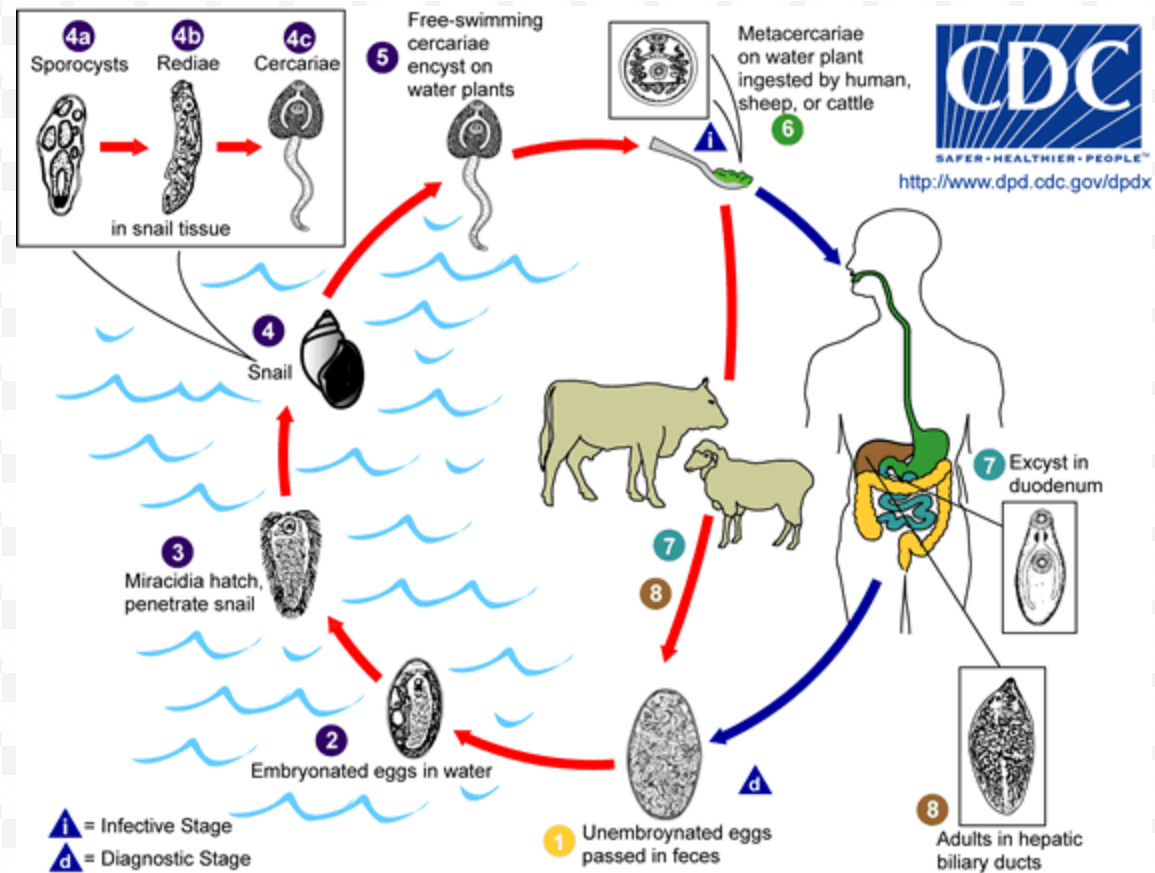
Fasciola hepatica eggs



Fasciola hepatica & *Dicrosolium dendriticum* egg



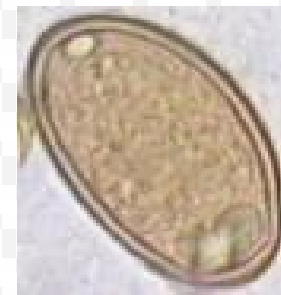
Life cycle of *Fasciola hepatica*



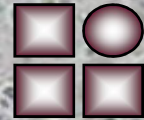
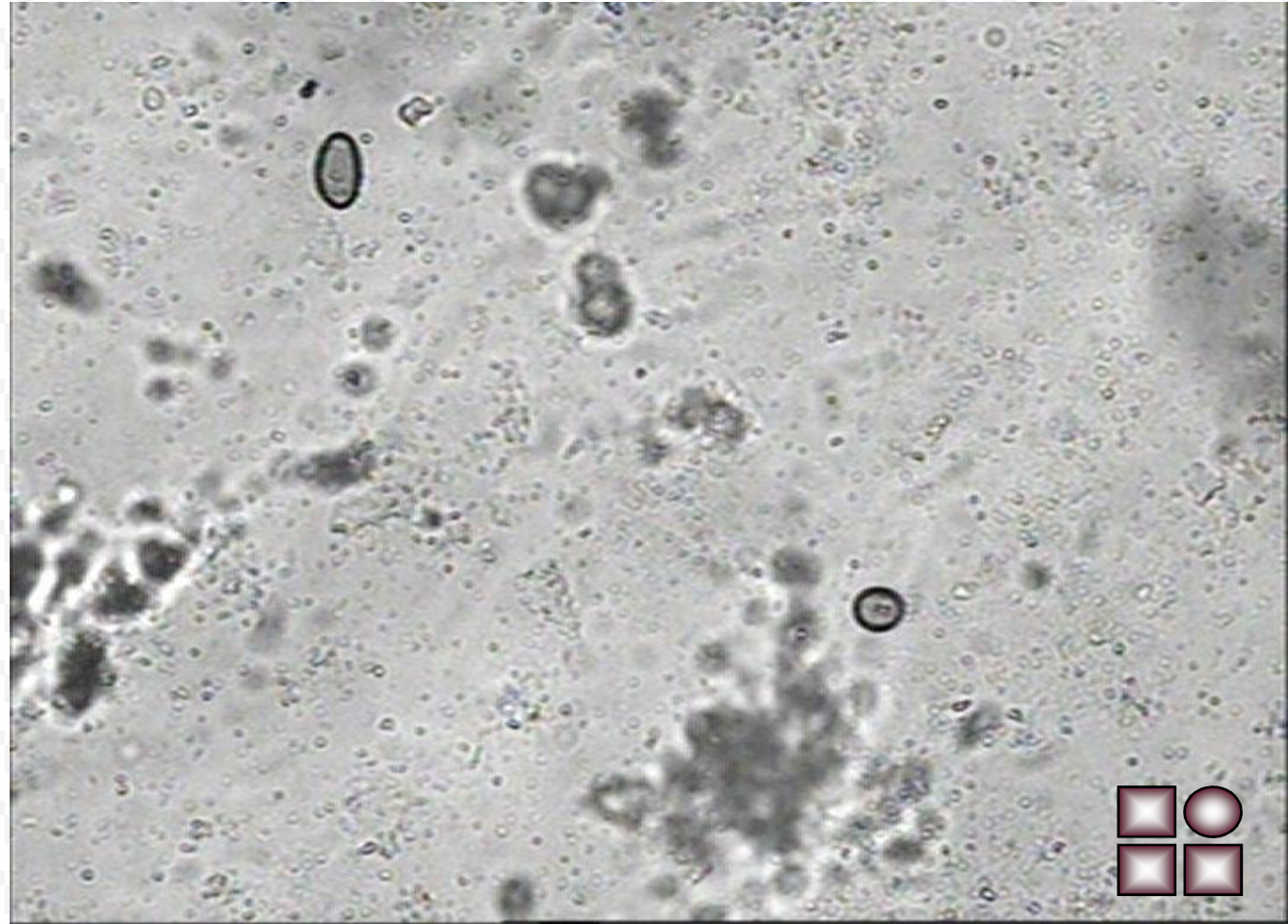
Dicrosolium dendriticum egg



Dicrosolium dendriticum egg



Dicrosolium dendriticum egg



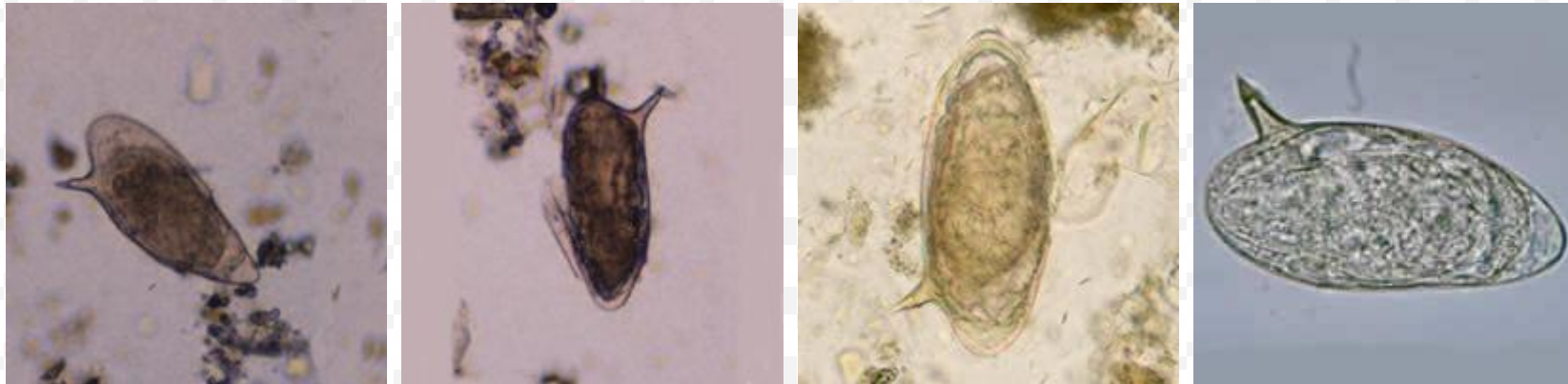
کرمهای پهن یا فلوک های خونی انسان

شیستوزوما هماتوبیوم
شیستوزوما مانسونی
شیستوزوما ژاپونیکوم

Schistosoma haematobium eggs



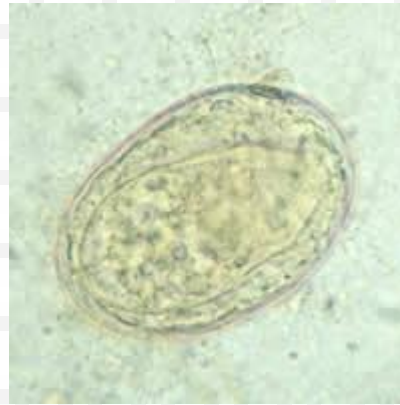
Schistosoma mansoni eggs



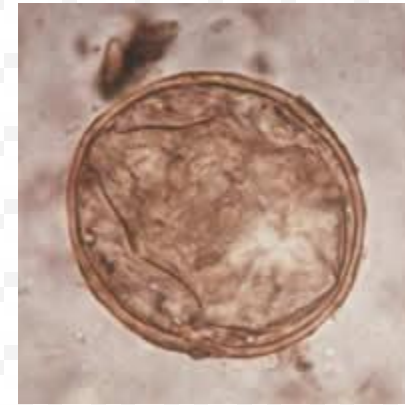
Schistosoma japonicum eggs



A

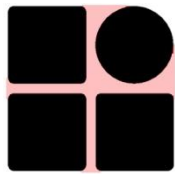


B



C

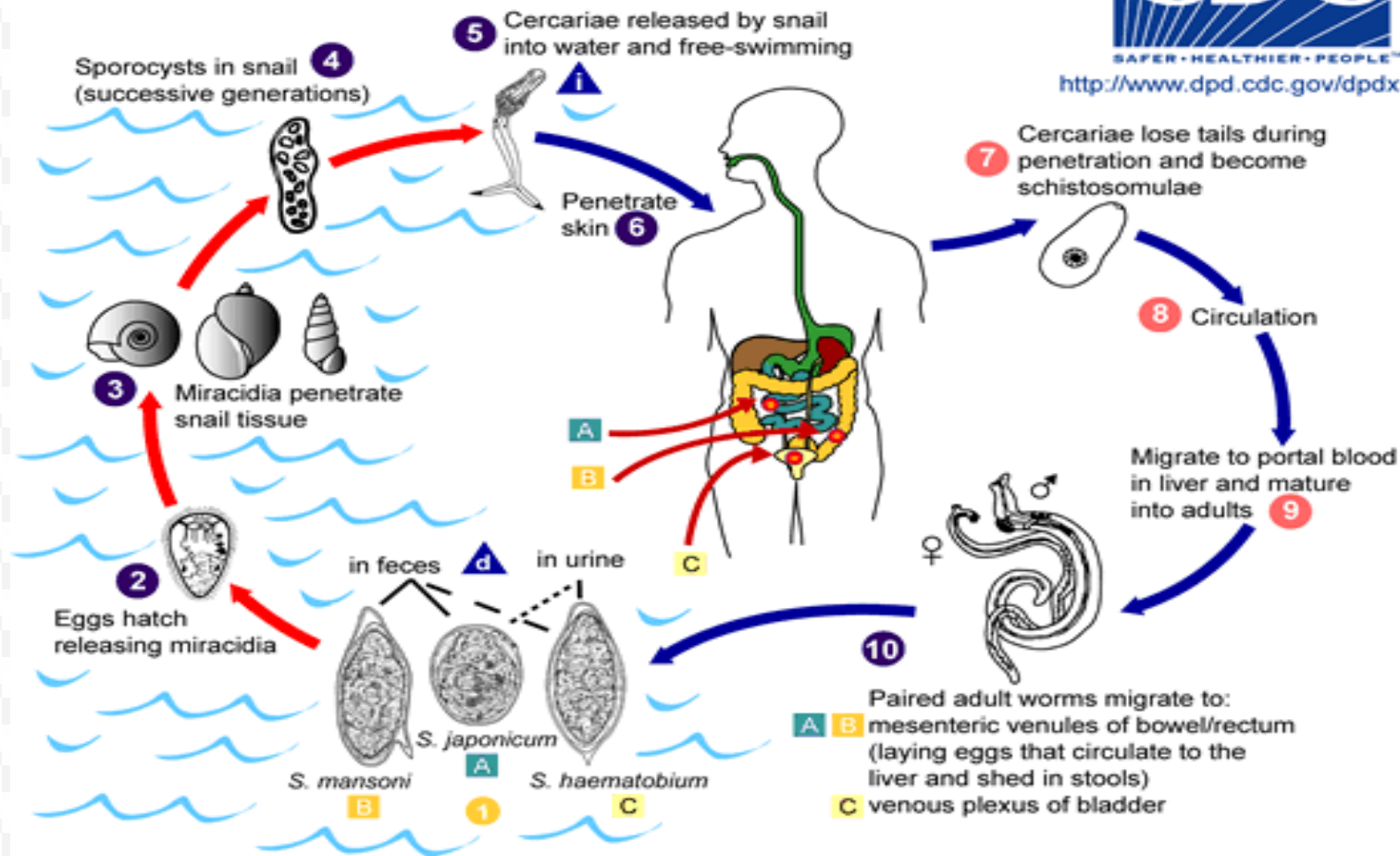
shows a visible spine The egg in Figure C



وزارت بهداشت و آموزش پزشکی

Life

i = Infective Stage
d = Diagnostic Stage



آمیب های روده ای انسان

انتاموبا هیستولیتیکا / انتاموبا دیسپار

انتاموبا کلی

انتاموبا هارتمانی

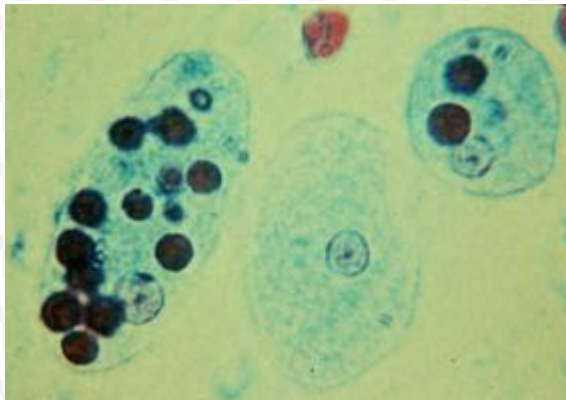
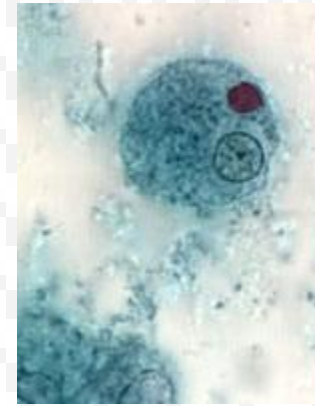
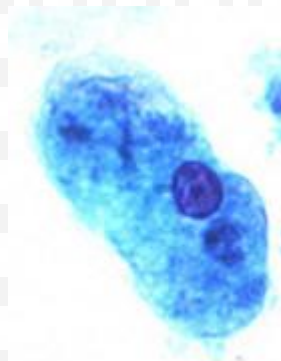
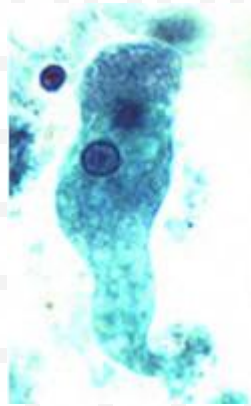
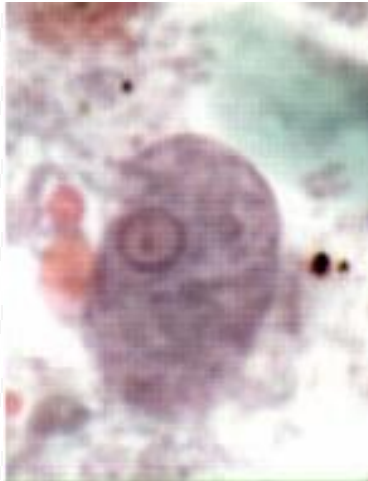
اندولیماکس نانا

یداموبا بوتچلی

دانتاموبا فراجیلیس

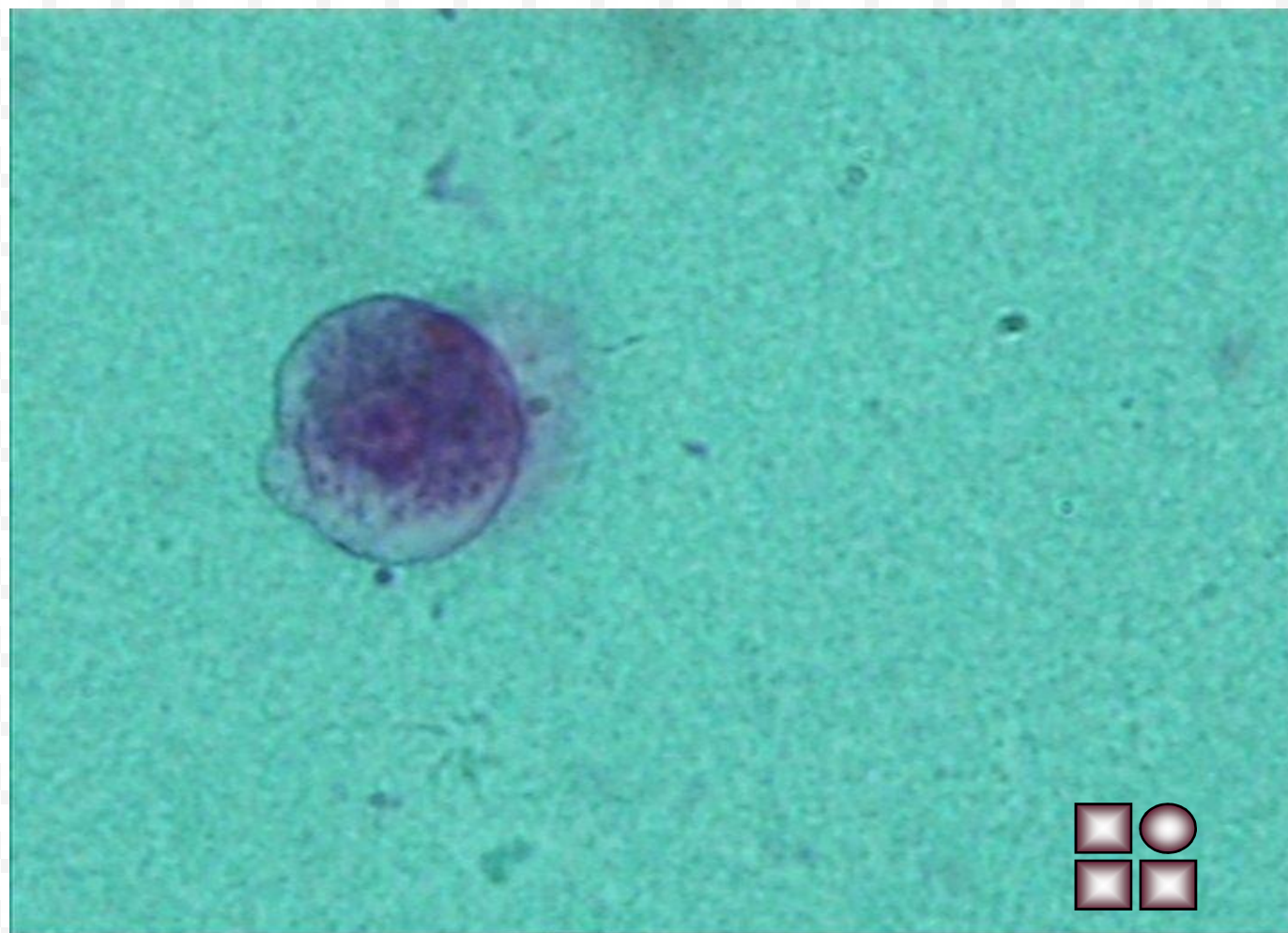
Trophozoites of

Entamoeba histolytica/*E. dispar*





انستیتو ملی تحقیقات سلامت





جمهوری اسلامی ایران



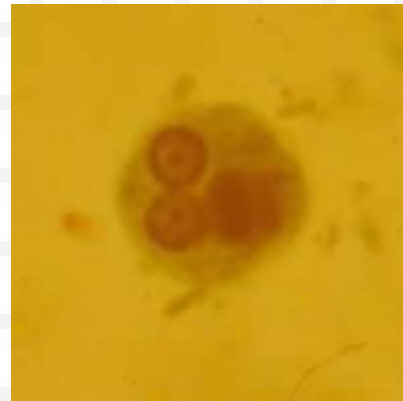
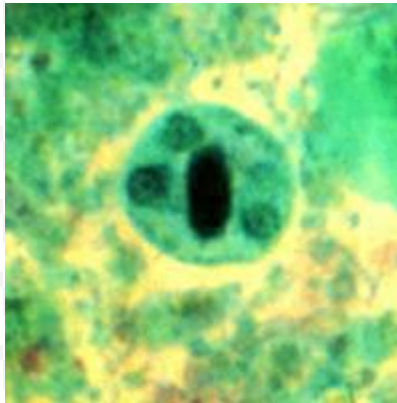
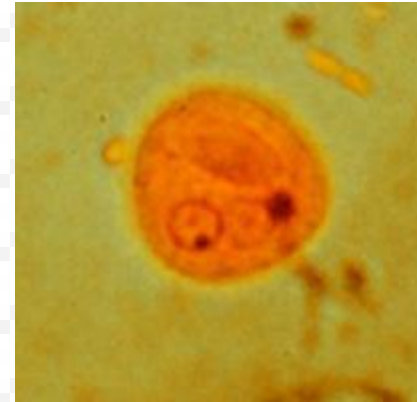
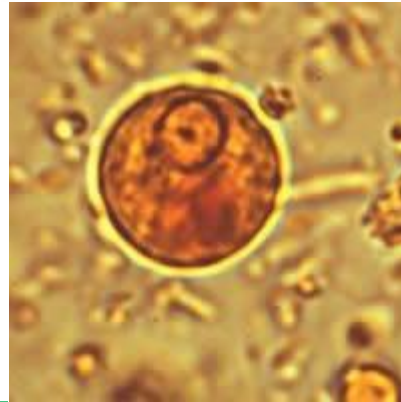


ازمایشگاه علوم سلامت



Settore di Batteriologia
Laboratorio Patologia Clinica - P.O. Teramo

Cysts of *Entamoeba histolytica*/*E. dispar*



1 2 3 4 5 6 7 8 9

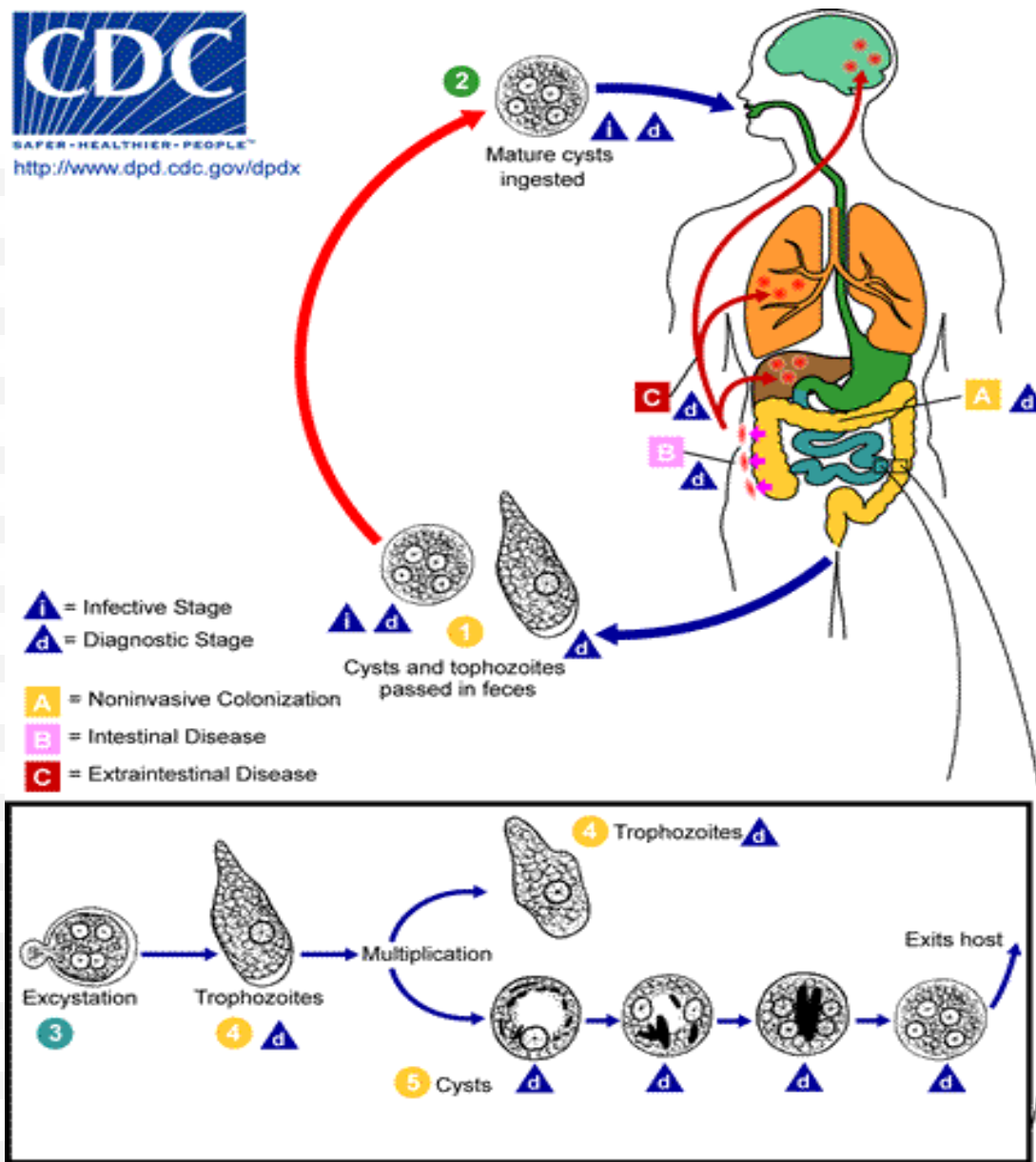




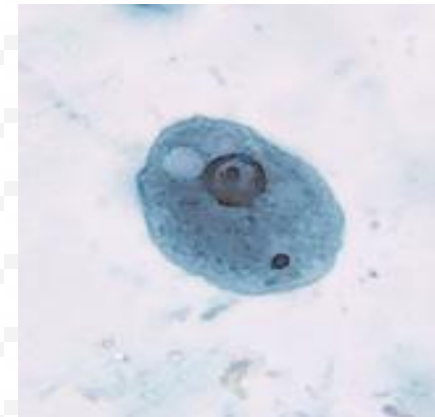
ازمایشگاه سلامت



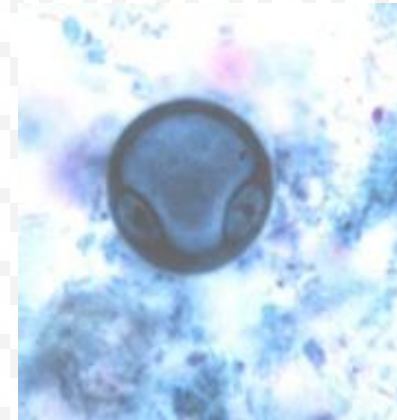
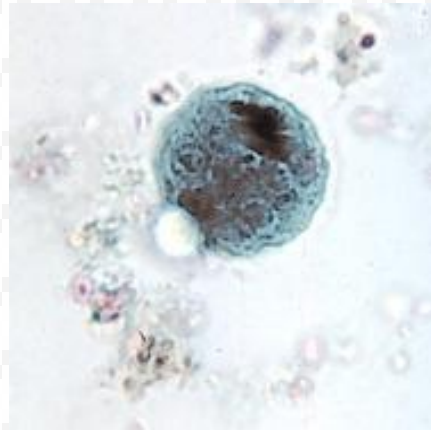
<http://www.dpd.cdc.gov/dpdx>



Entamoeba coli

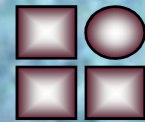


Cysts of *Entamoeba coli*

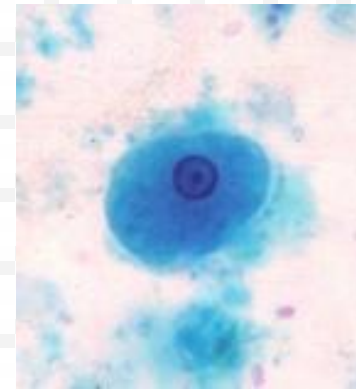
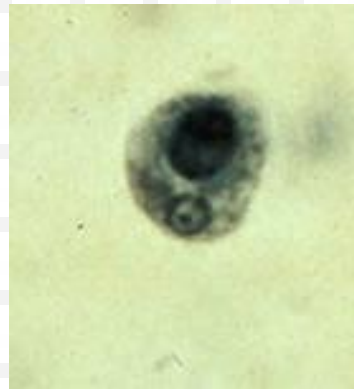


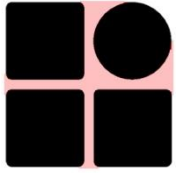


ازمایشگاه سلامت



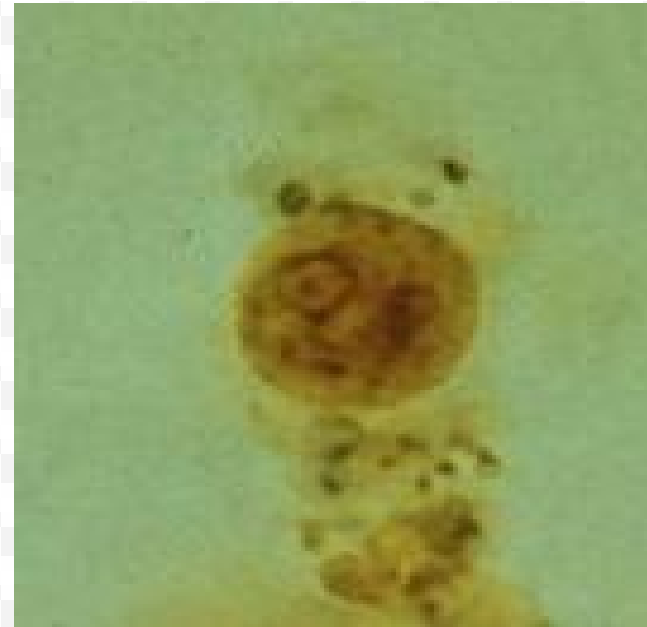
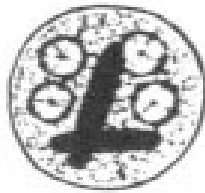
Trophozoites of *Entamoeba hartmanni*



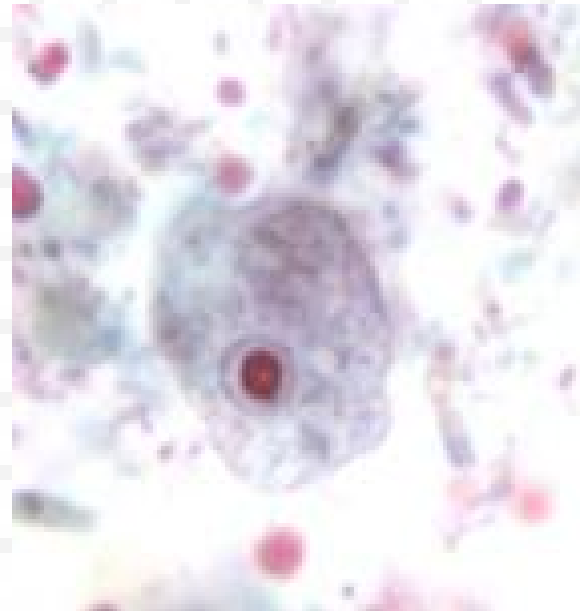
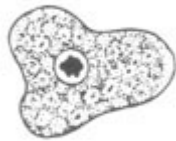


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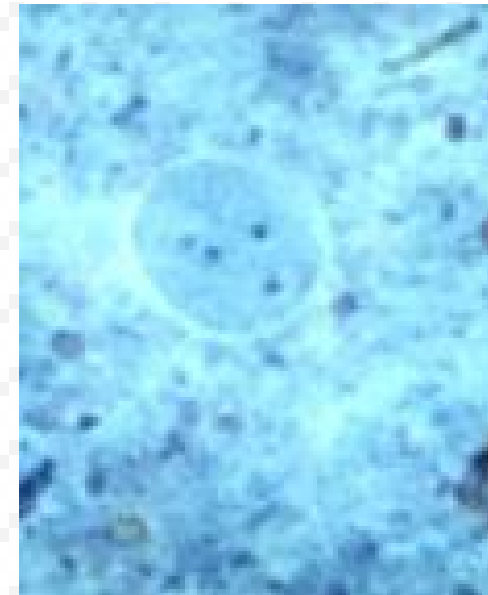
Cysts of *Entamoeba hartmanni*



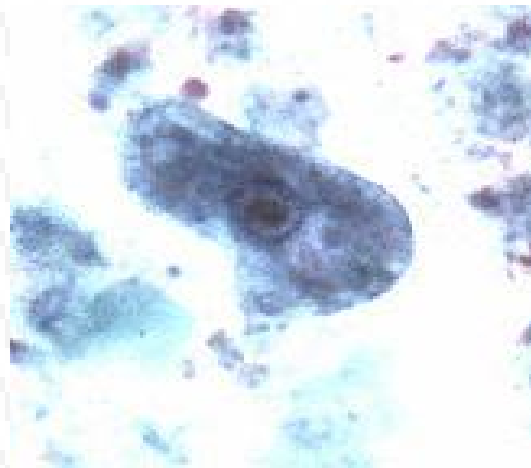
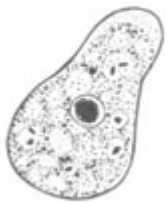
Endolimax nana trophozoites

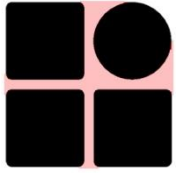


Endolimax nana cysts



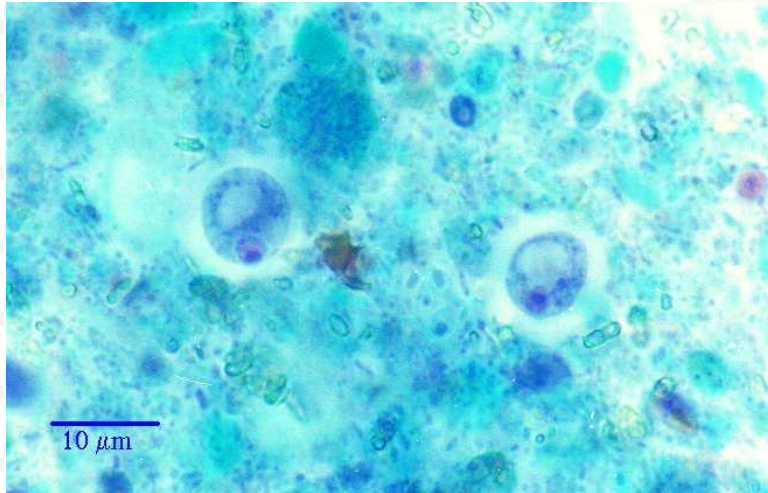
Iodamoeba buetschlii trophozoites





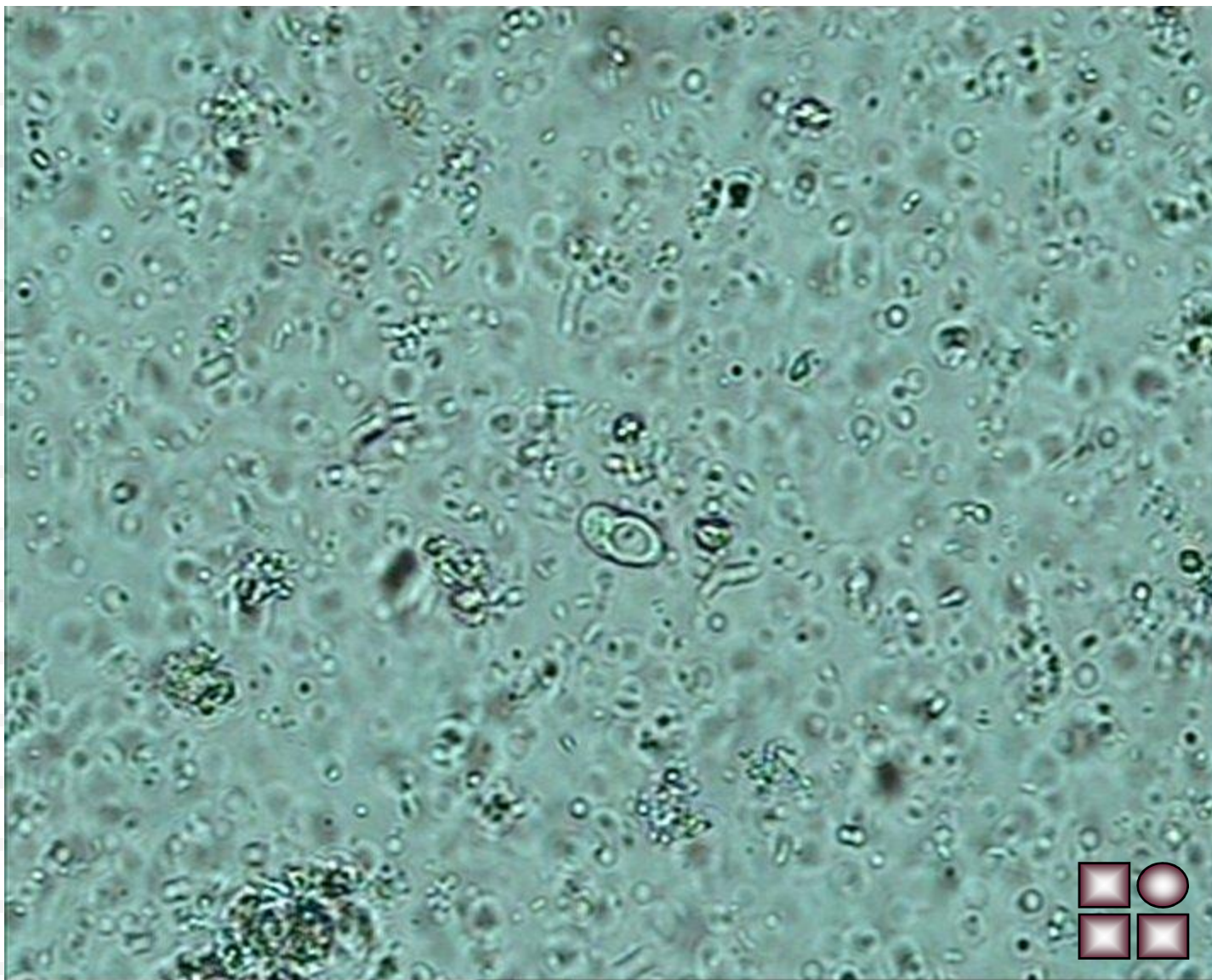
اگرچہ اسلامیات

Iodamoeba buetschlii cysts



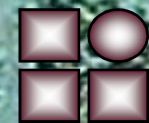
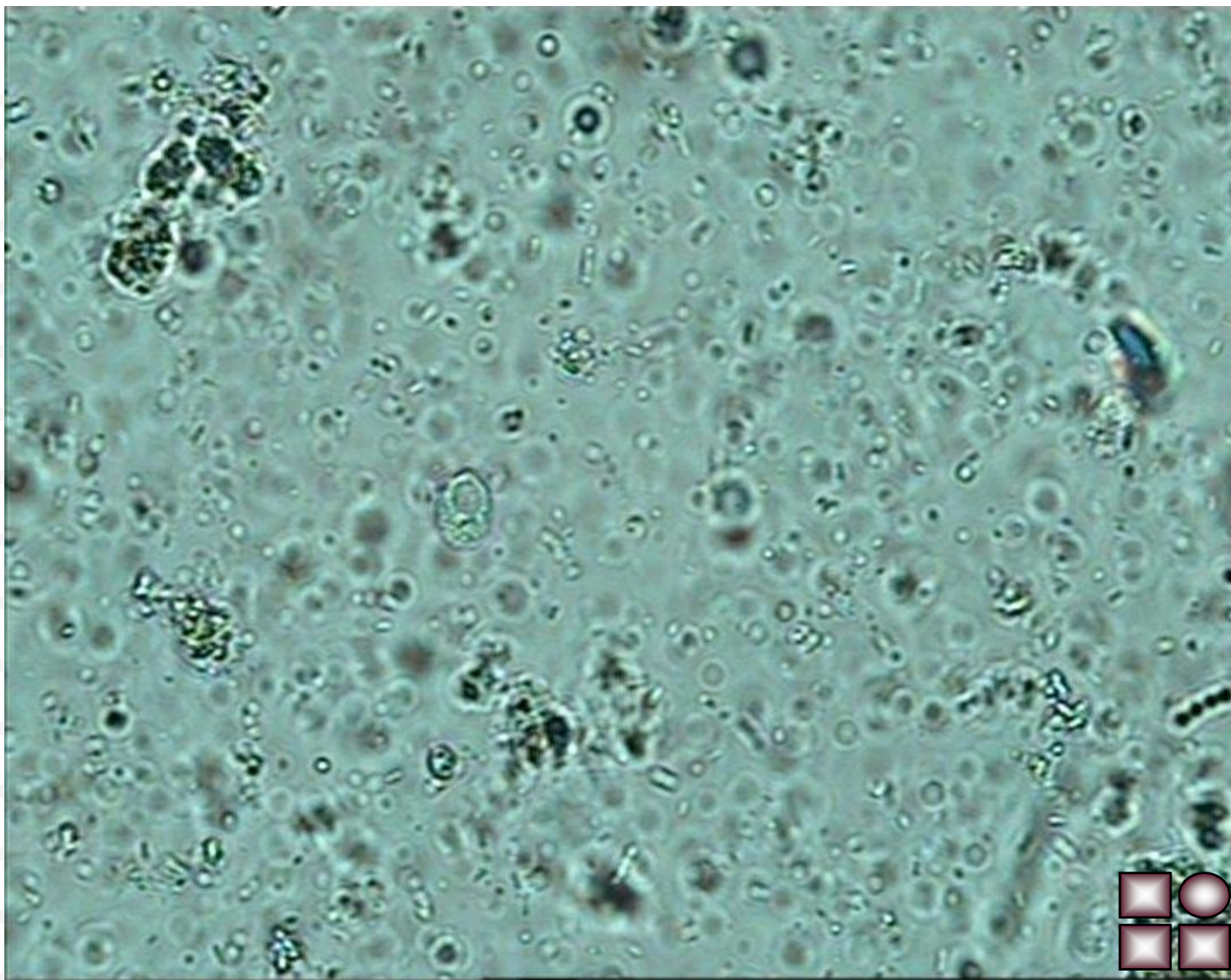


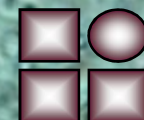
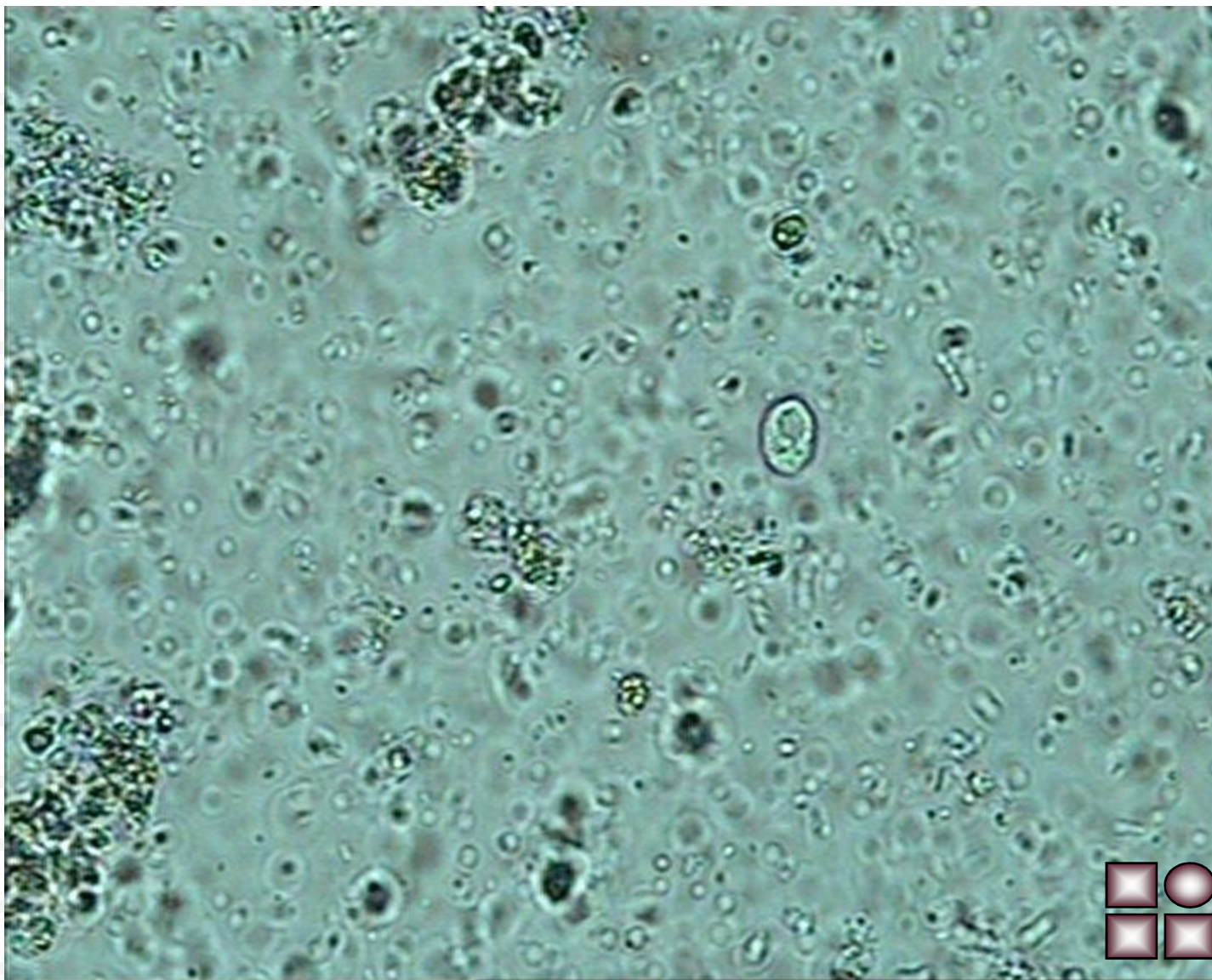
ازمایشگاه علوم و سلامت





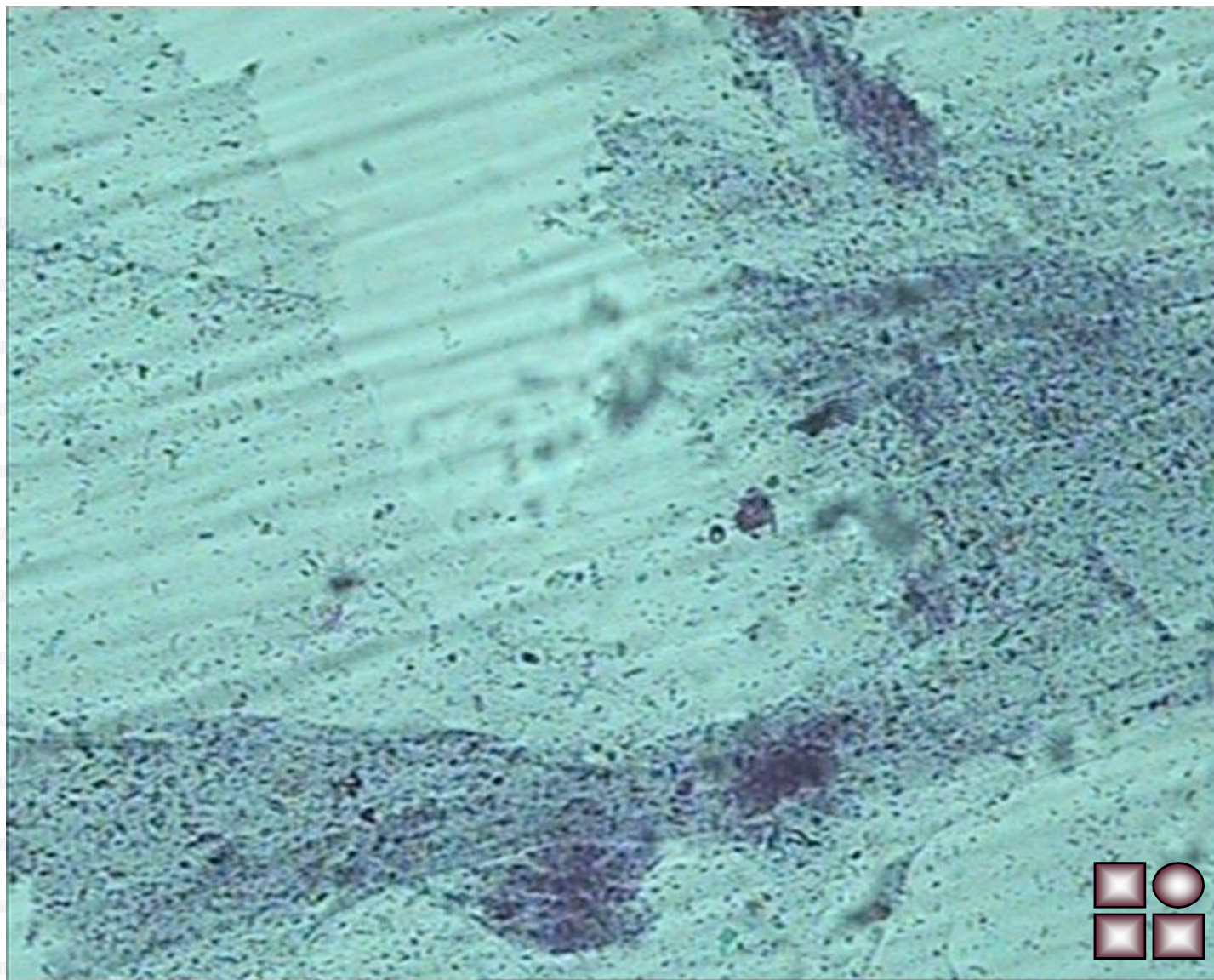
ازمایشگاه مروری سلامت





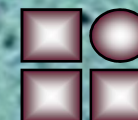
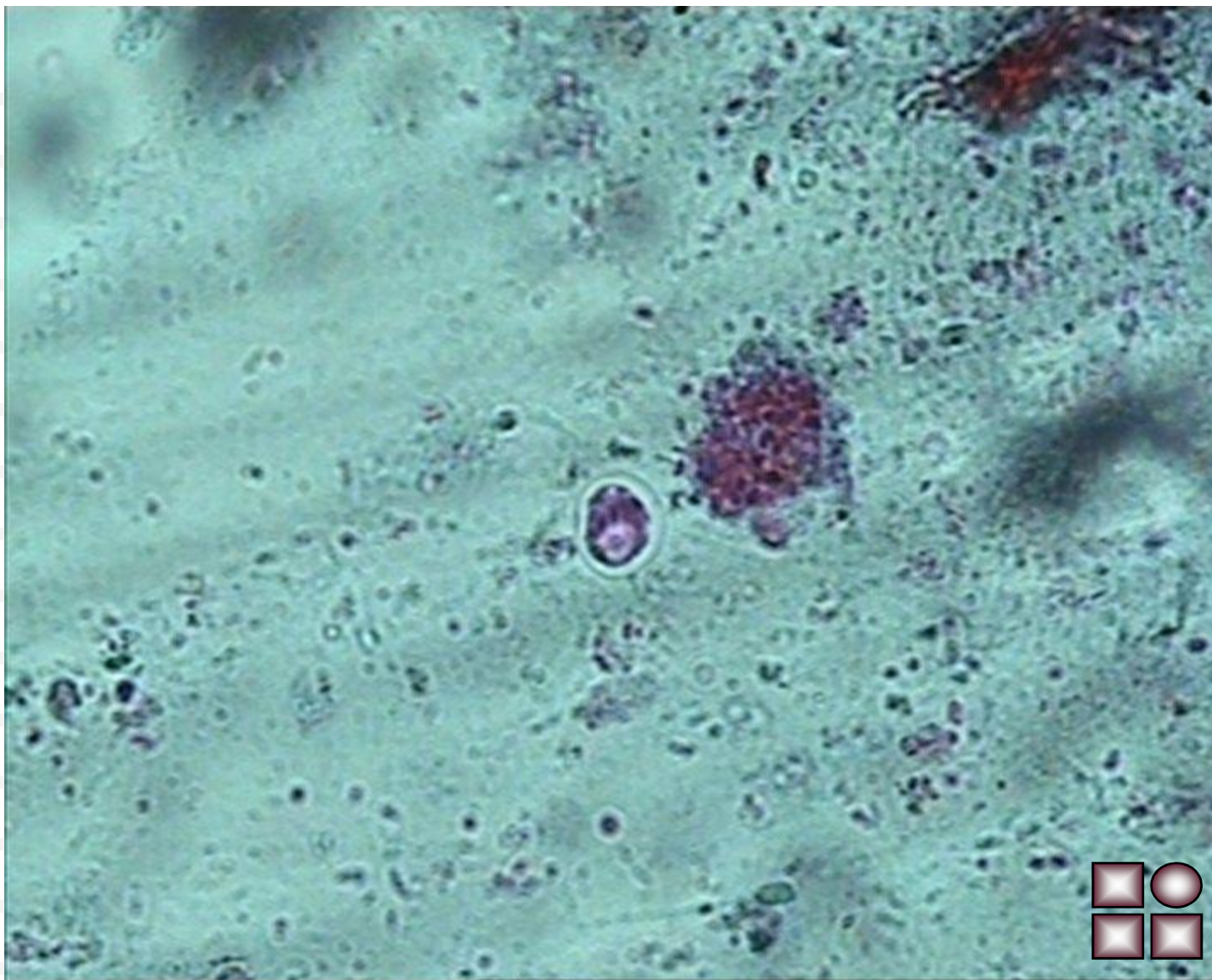


ازمایشگاه سلامت



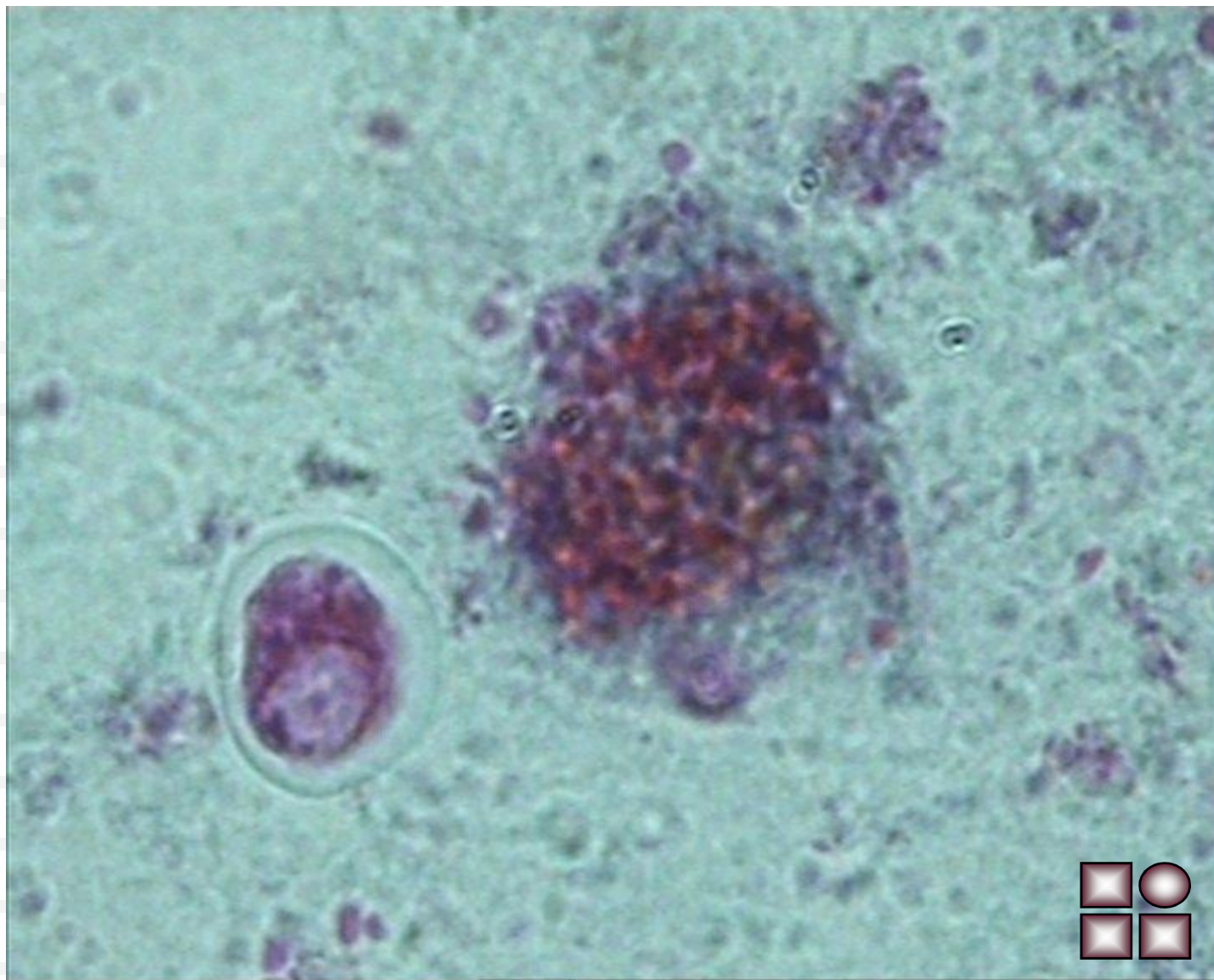


جمهوری اسلامی ایران

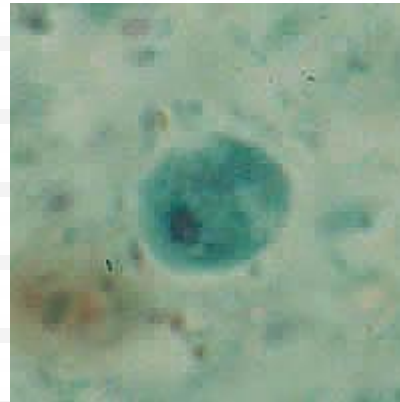
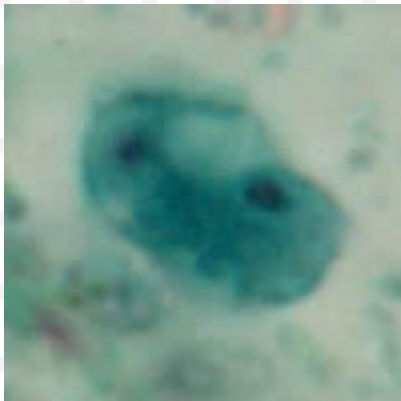
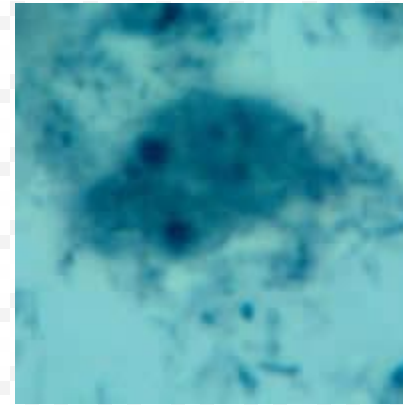
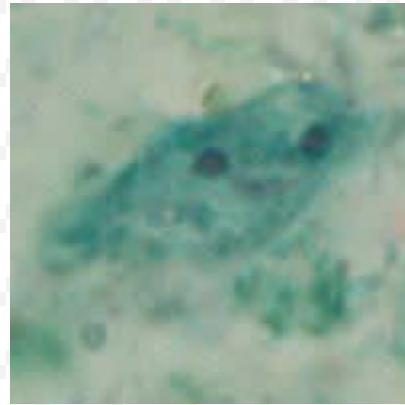




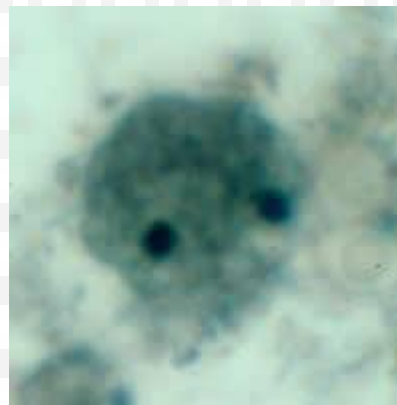
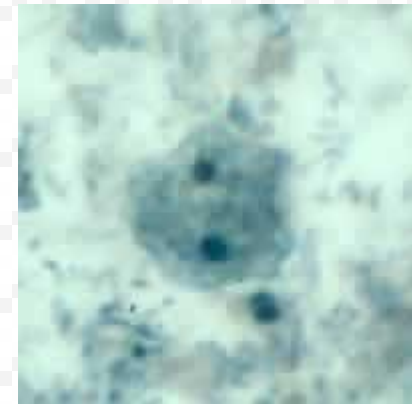
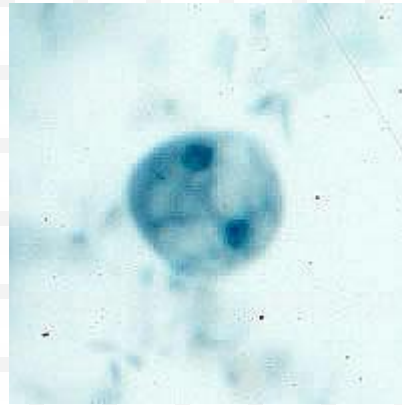
ازمایشگاه سلامت



Dictyostelium discoideum has no cyst stage,
While most trophozoites are typically binucleate, some have only one
nucleus



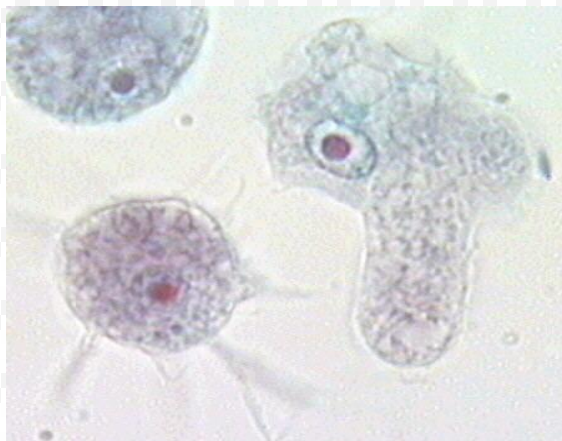
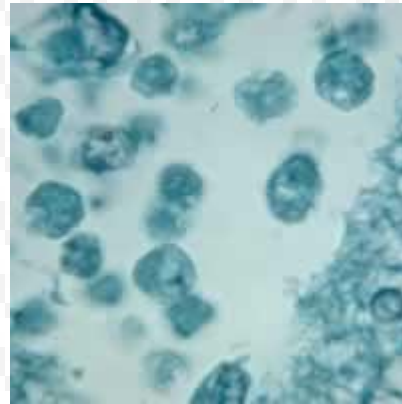
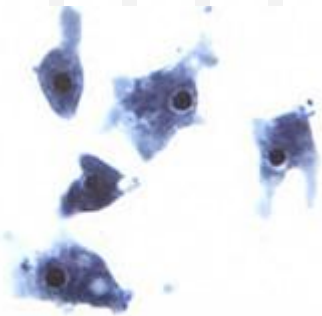
Dientamoeba fragilis binucleated trophozoites

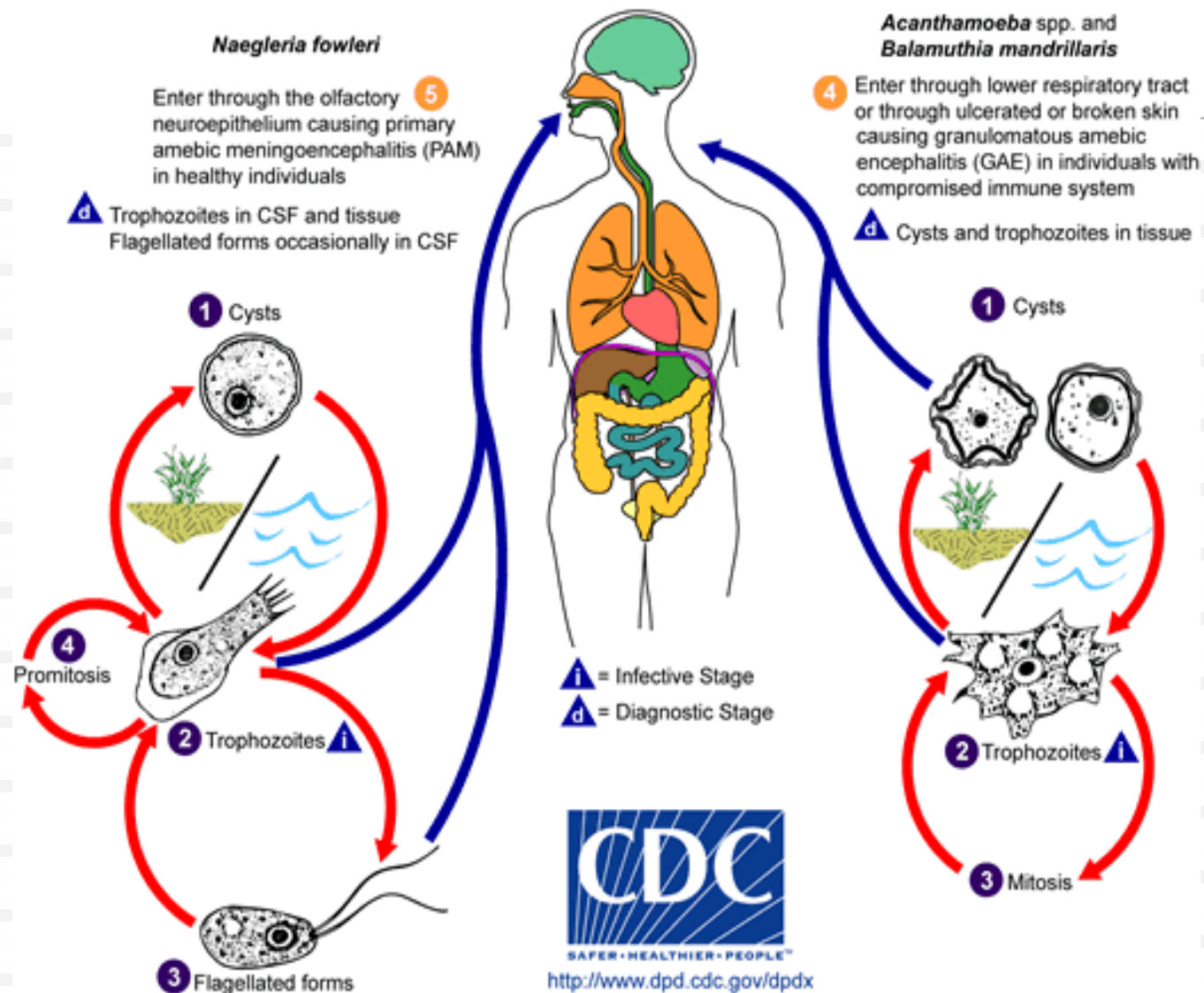


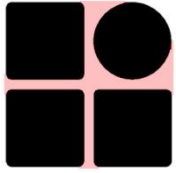
آمیبه‌های بازندگی آزاد

نگلریا
آکانتوموبا

Naegleria fowleri trophozoites



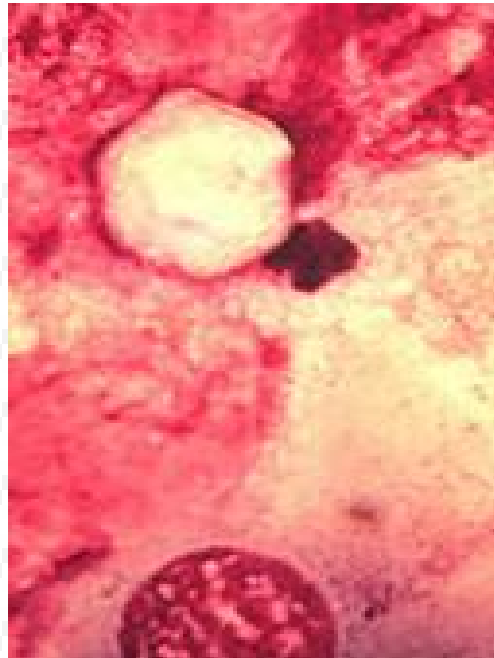




وزارت بهداشت و آموزش پزشکی

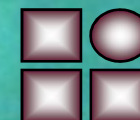
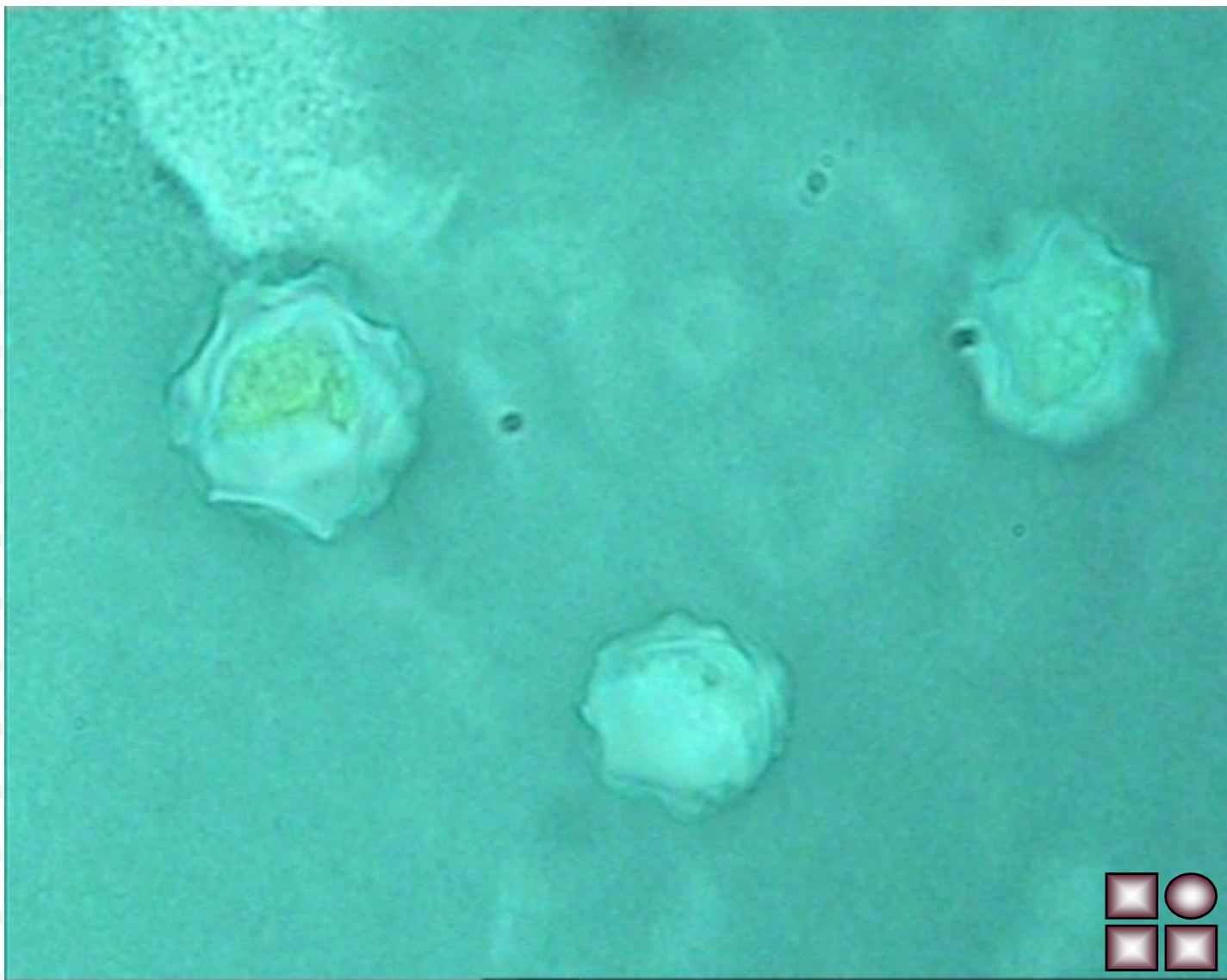
Acanthamoeba sp. keratitis.

B : Cyst with the characteristic stellate shape, in corneal scraping.



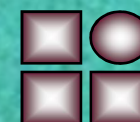
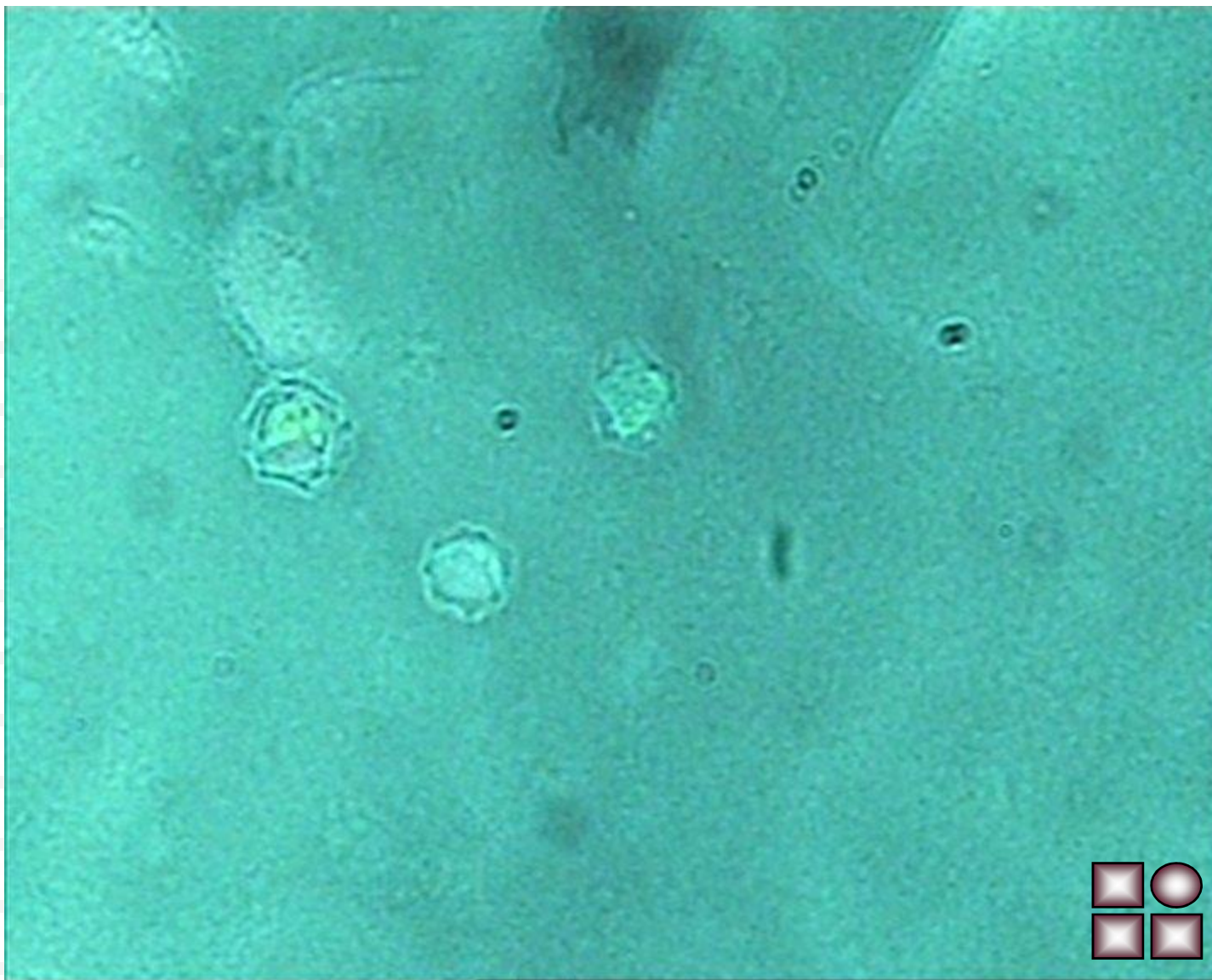


ازمایشگاه سلامت





انستیتو ملی تحقیقات و توسعه سلامت





ازمایشگاه سلامت



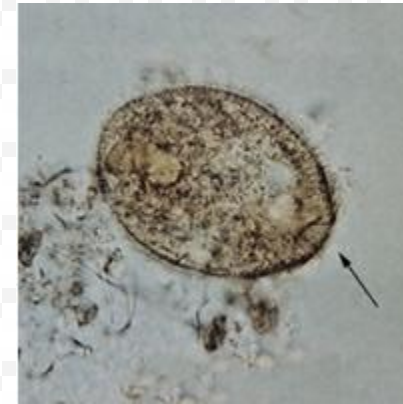
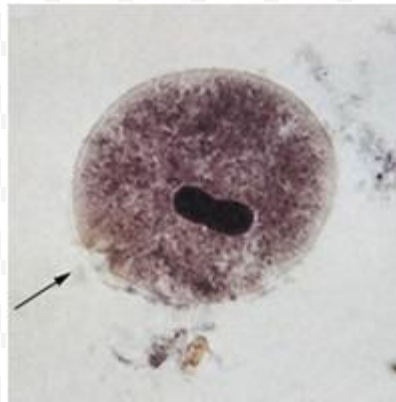
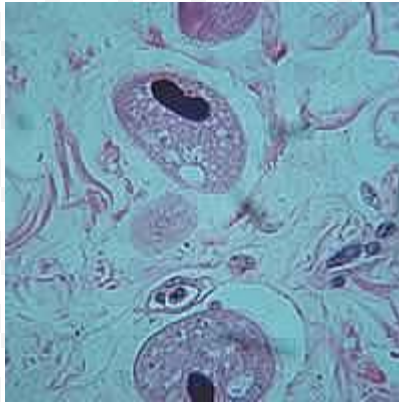


آزمایشگاه مرجع سلامت

مژکداران

بالانتی دیوم کلی

Balantidium coli



***Balantidium coli* trophozoites in tissue, hematoxylin and eosin stain.**

***Balantidium coli* trophozoites.**

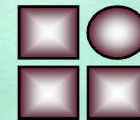
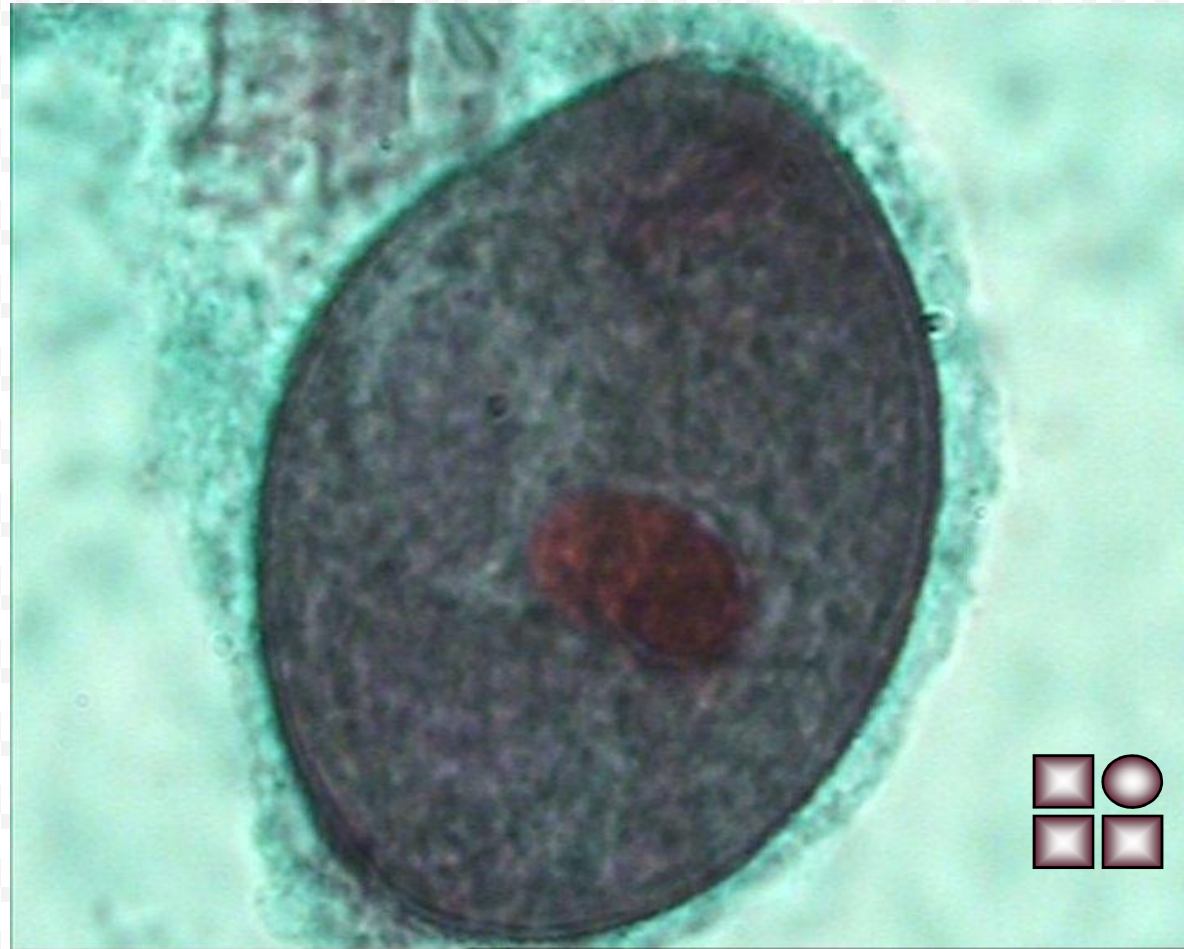
the presence of cilia on the cell surface

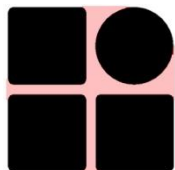
macronucleus which is often visible

And a smaller

less conspicuous micronucleus

***Balantidium coli* trophozoites**





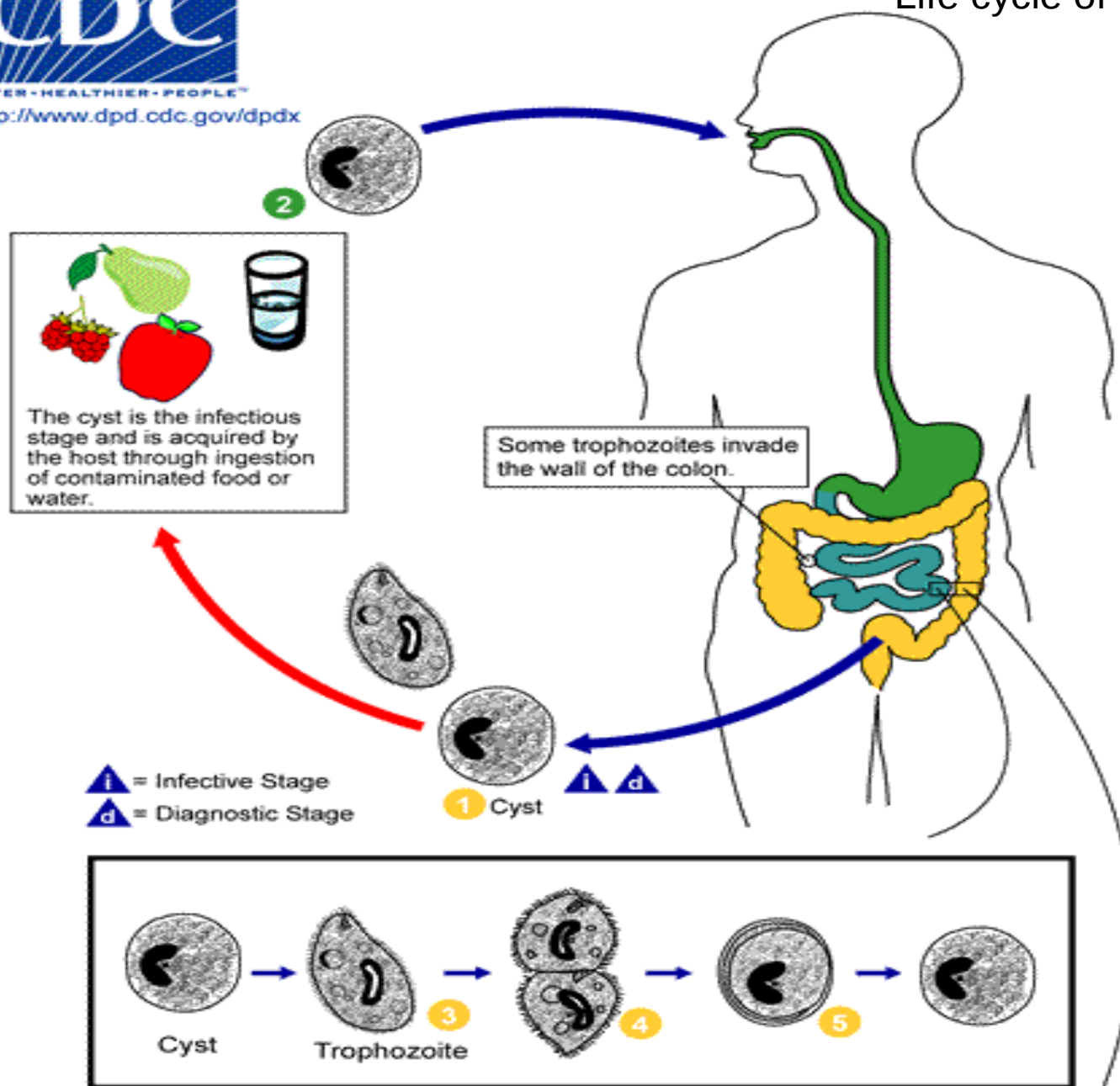
وزارت بهداشت و آموزش پزشکی



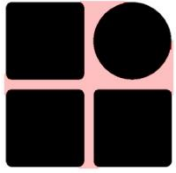
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Life cycle of *Balantidium coli*

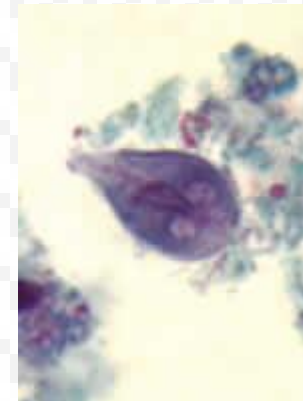
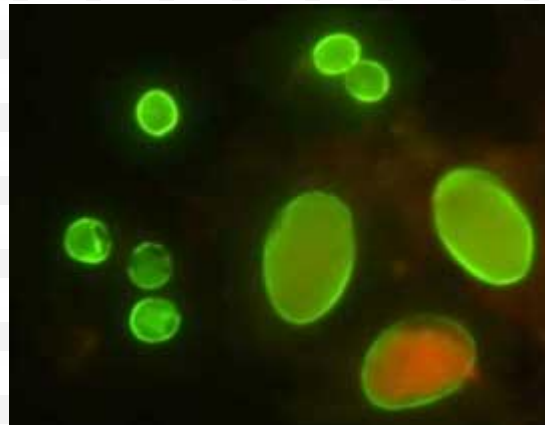
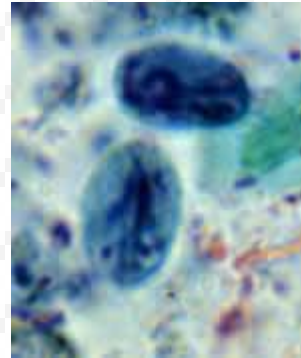


ژیا ردیا لامبلیا تری کوموناس واژینالیس

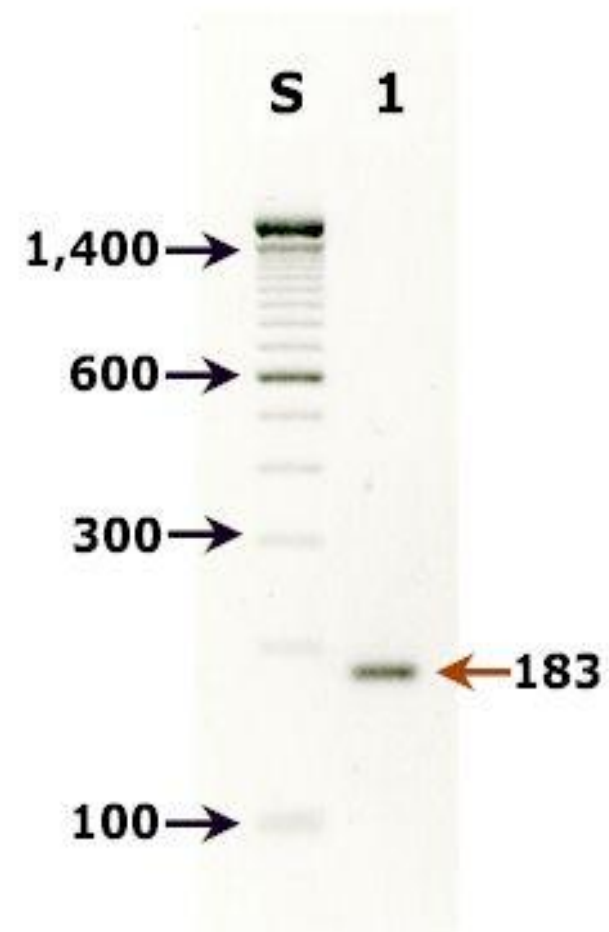


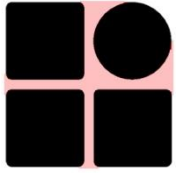
انجمن علمی سلامت

Cysts & Trophozoite of *Giardia intestinalis*



- **A :**Agarose gel (2%) analysis of a PCR diagnostic test for detection of *Giardia* DNA. PCR was performed using primers JW1/JW2 .¹
- **Lane S :**Molecular base pair standard (100-bp ladder). Black arrows show the size of standard bands .
- **Lane 1 :***Giardia intestinalis* positive fecal specimen. The red arrow shows the diagnostic band for *G. intestinalis*) size: 183 bp



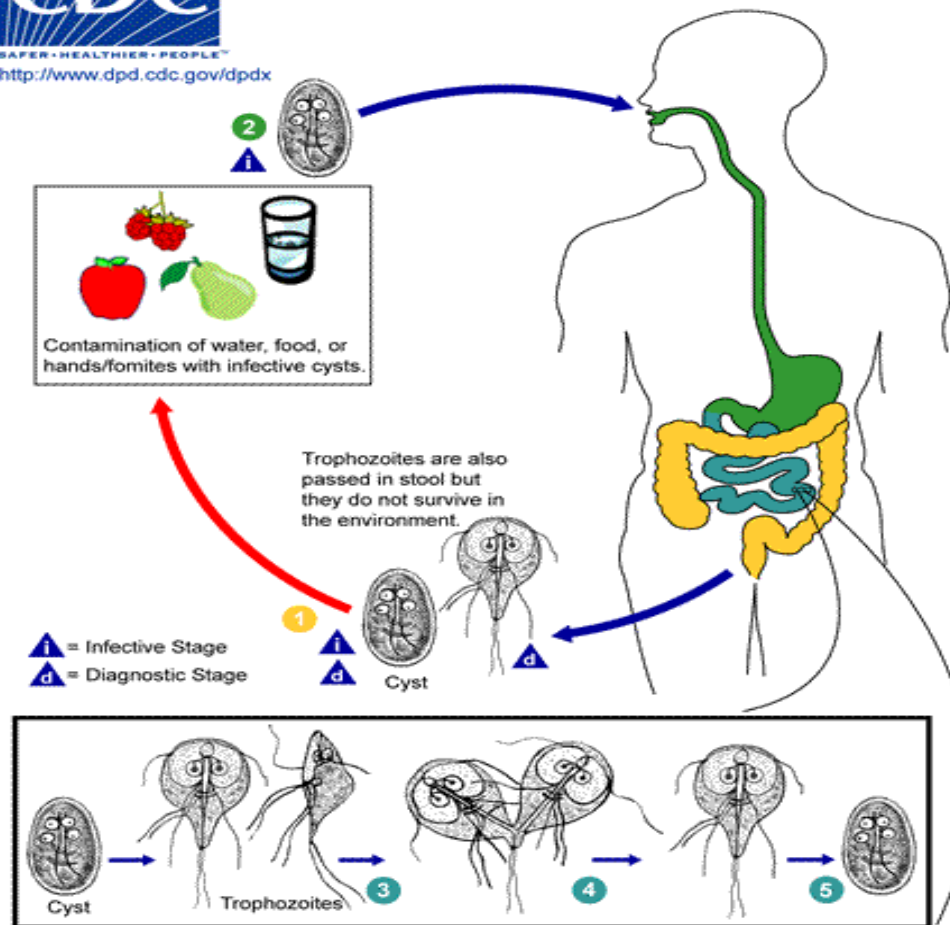


جمهوری اسلامی ایران

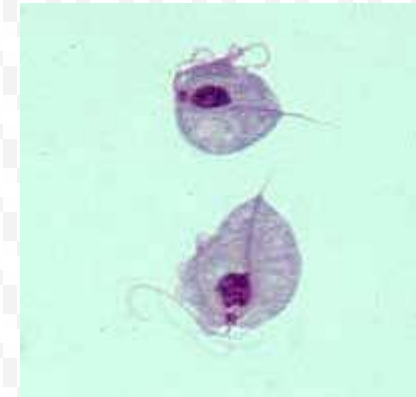
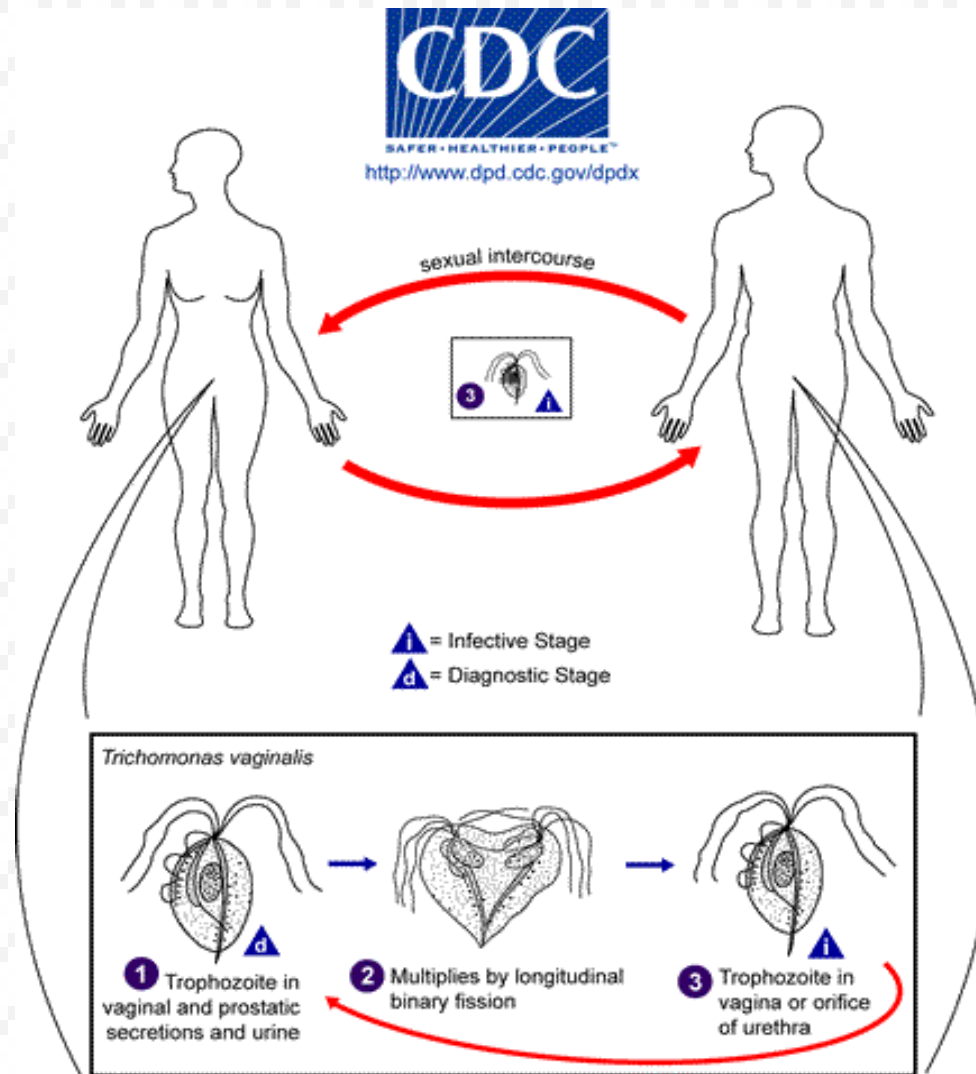
Life cycle of *Giardia intestinalis*



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<http://www.dpd.cdc.gov/dpdx>



Life cycle & trophozoites of *Trichomonas vaginalis*

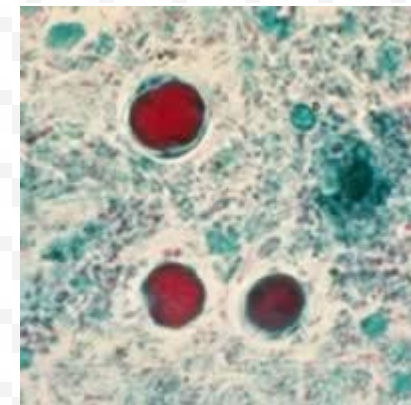
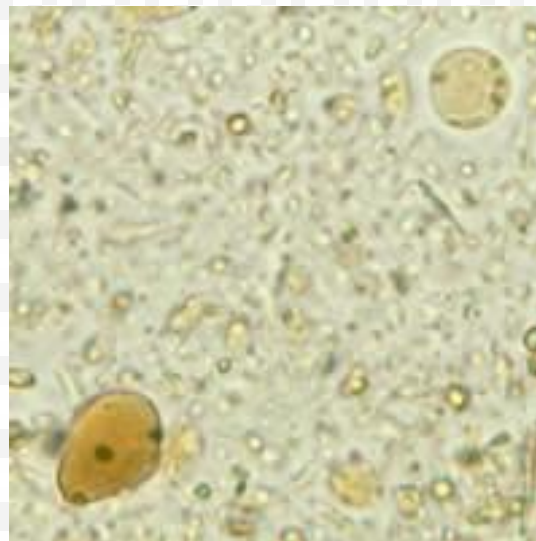
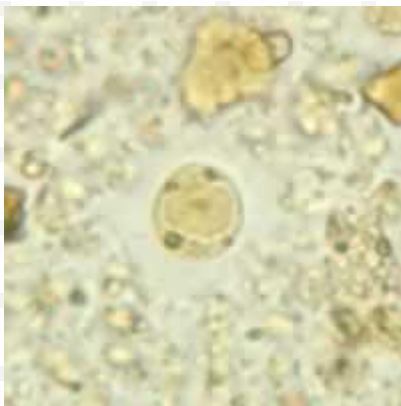
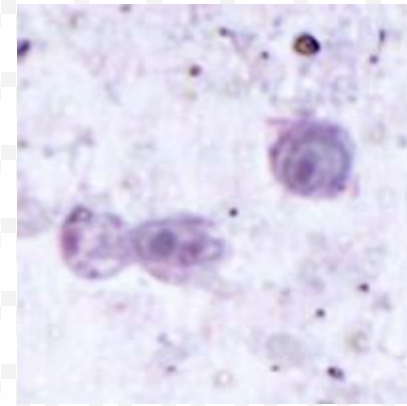
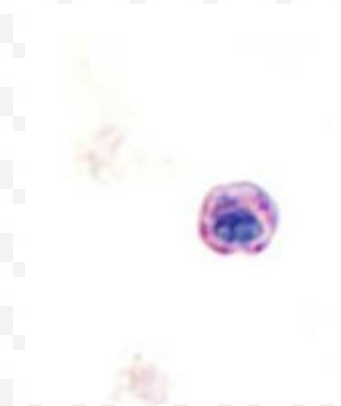
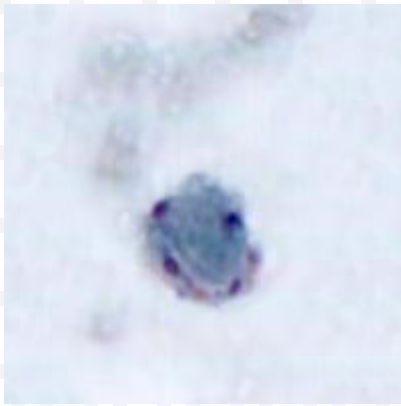


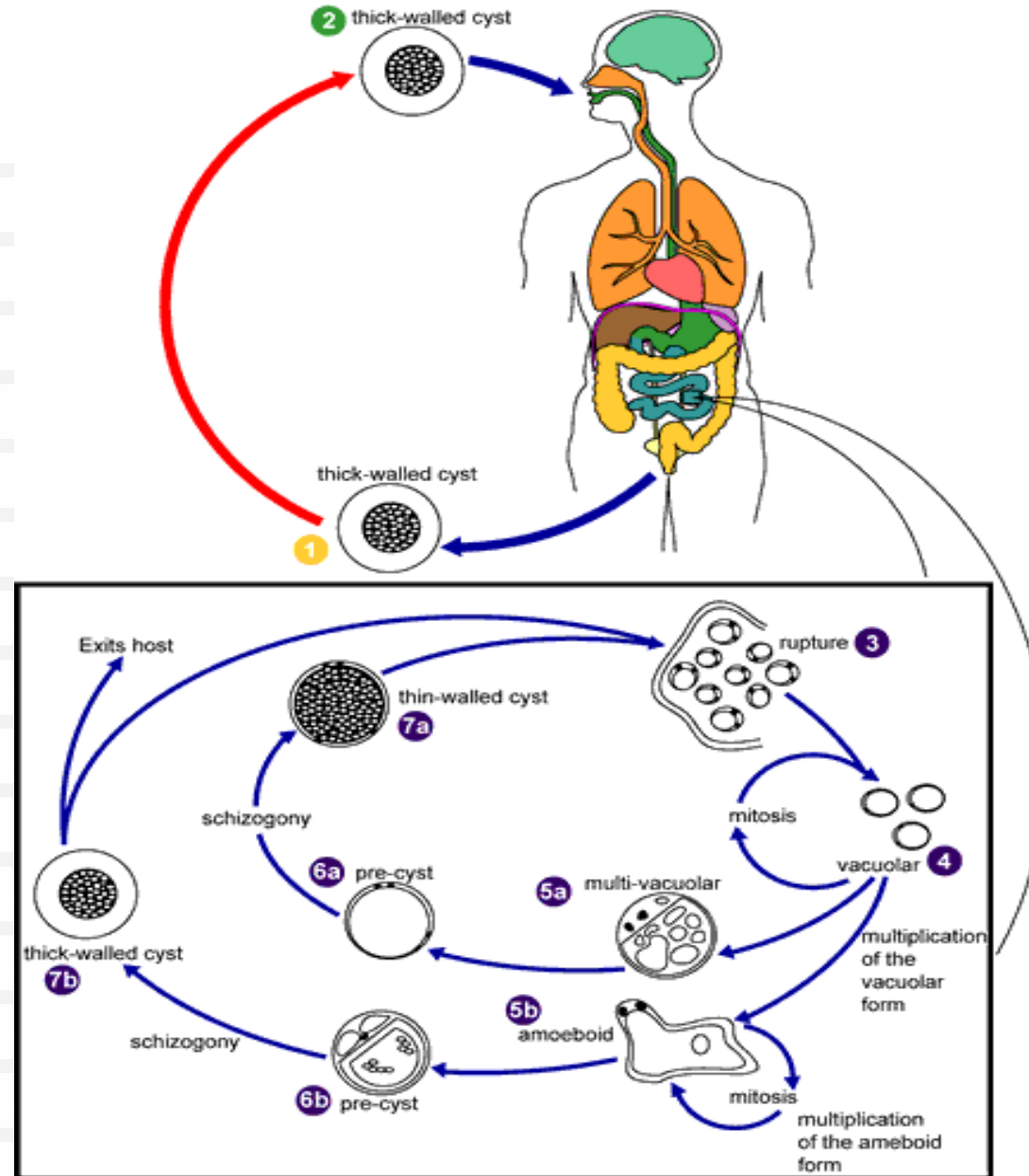


آزمایشگاه مرجع سلامت

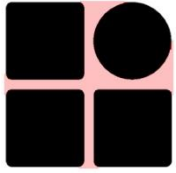
• بلاستوسیستیس هومینیس

Blastocystis hominis



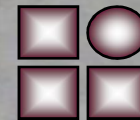
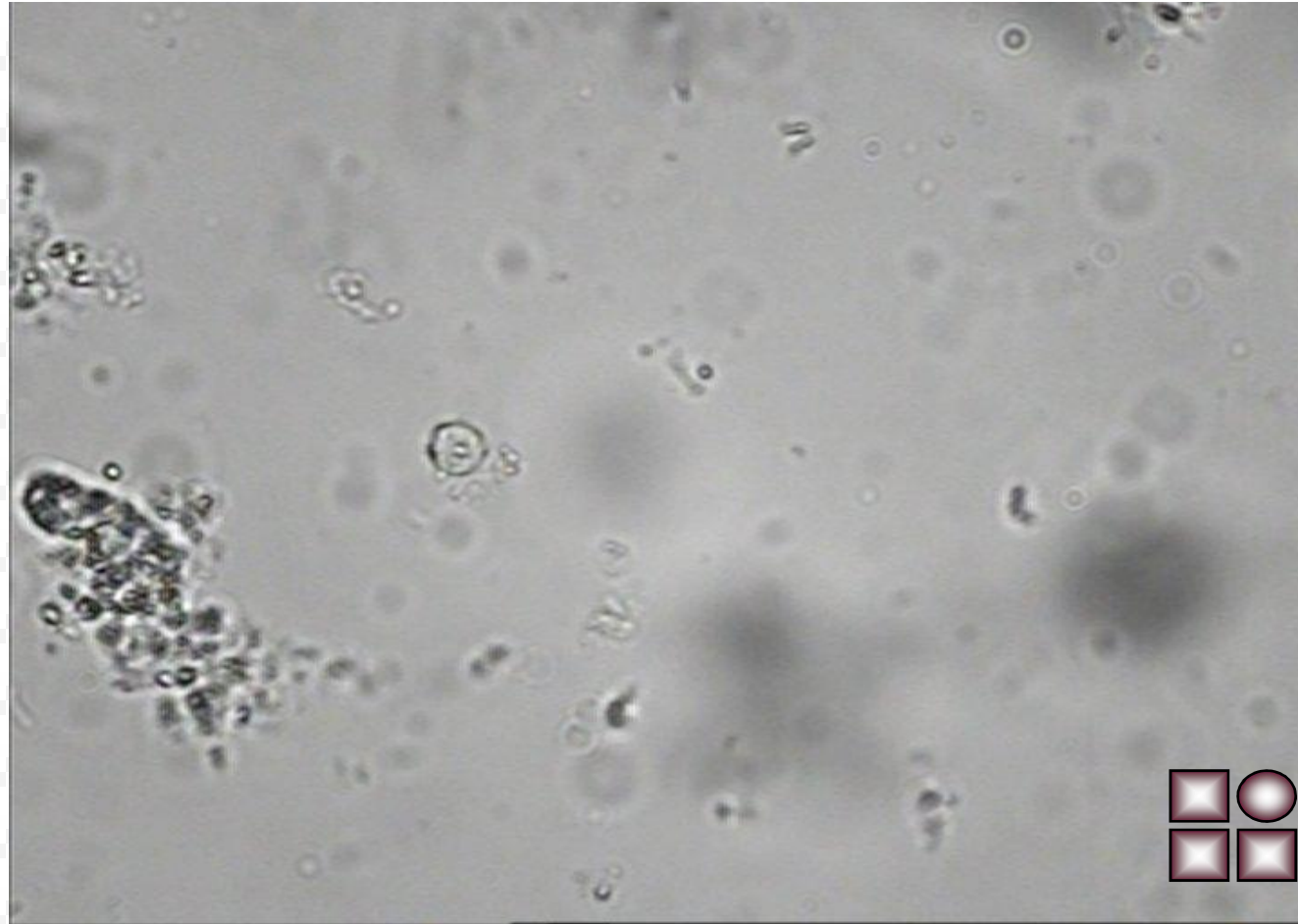


Proposed life cycle of *Blastocystis hominis*

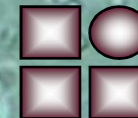
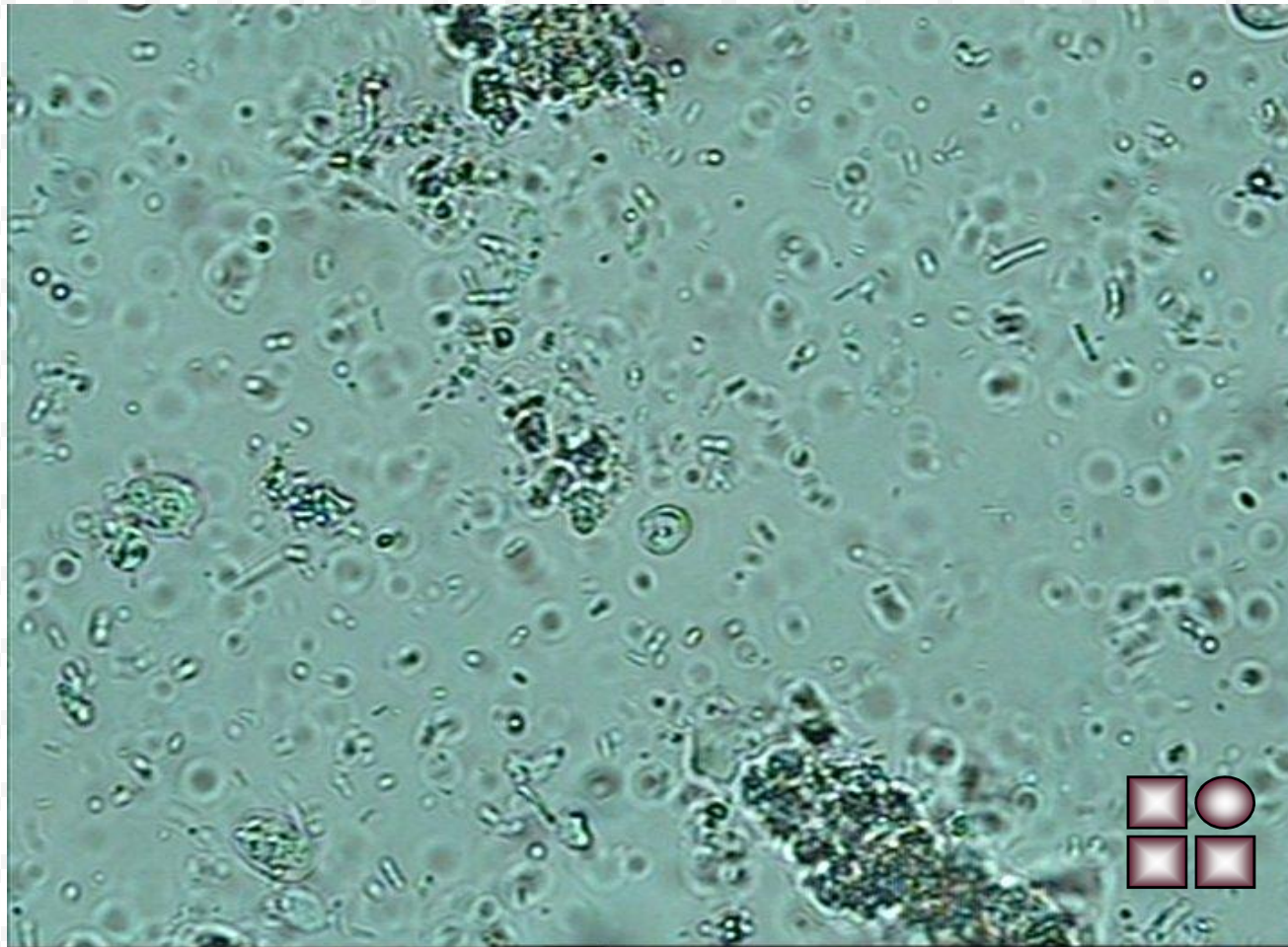


ازمایشگاه سلامت

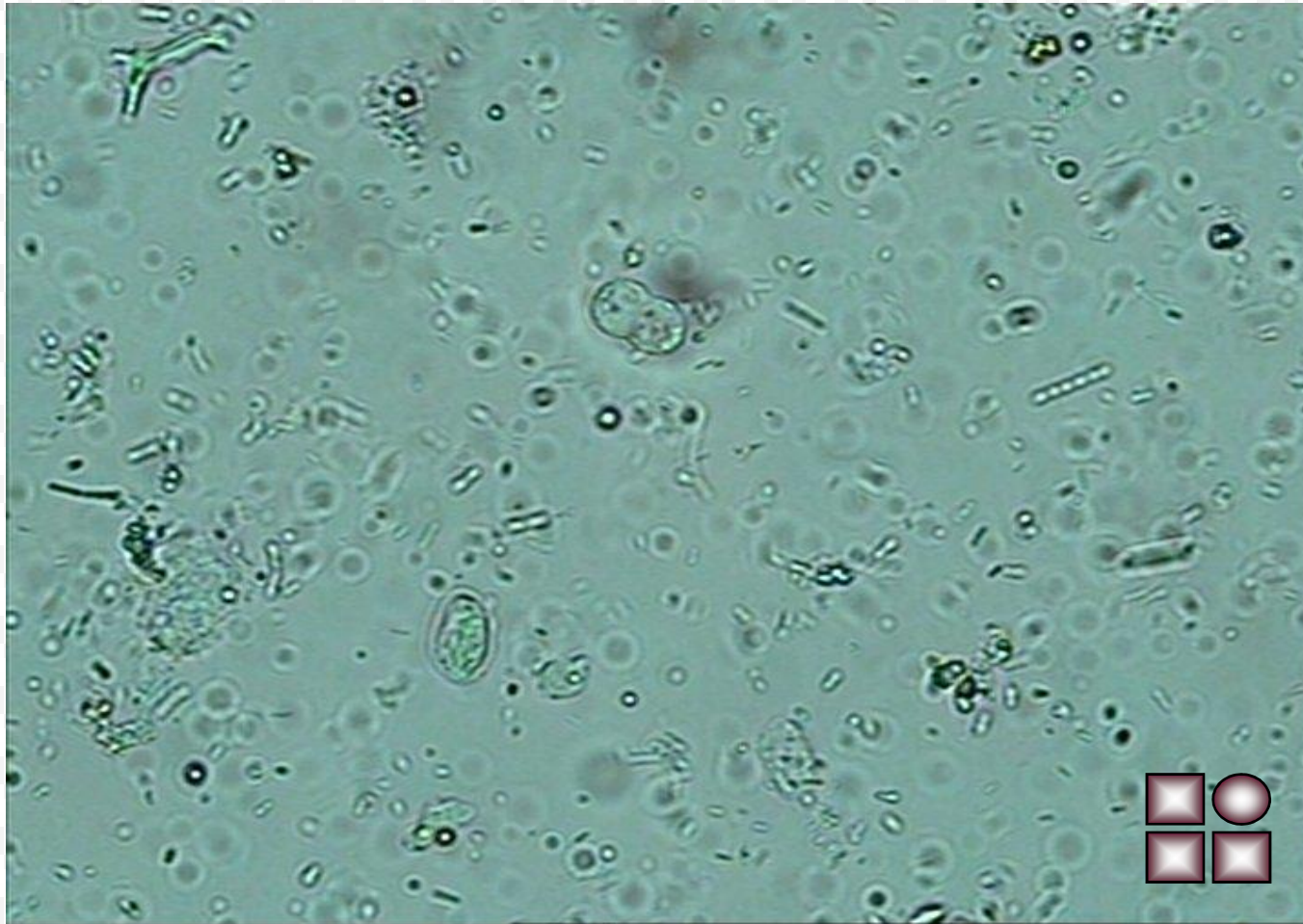
Diastocystis hominis



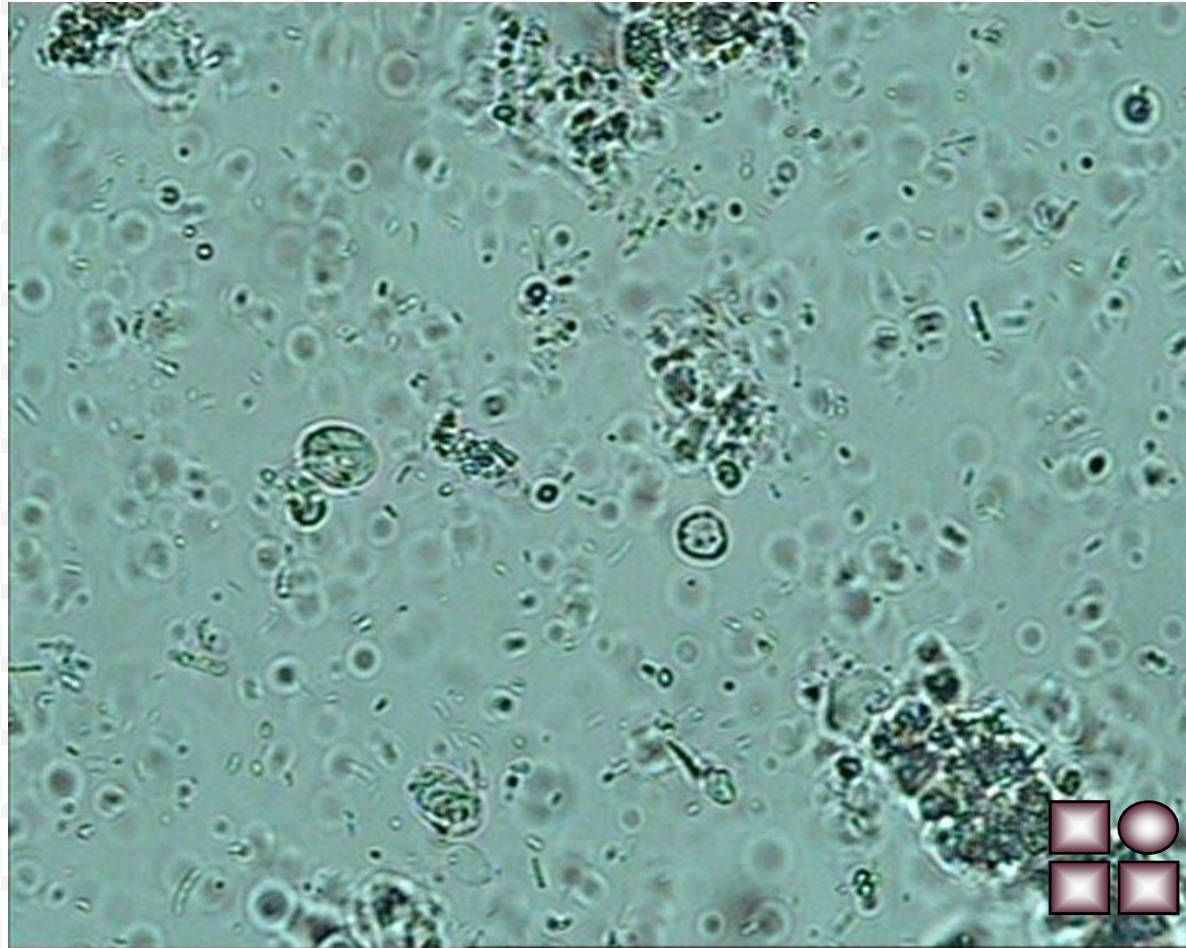
Blastocystis hominis



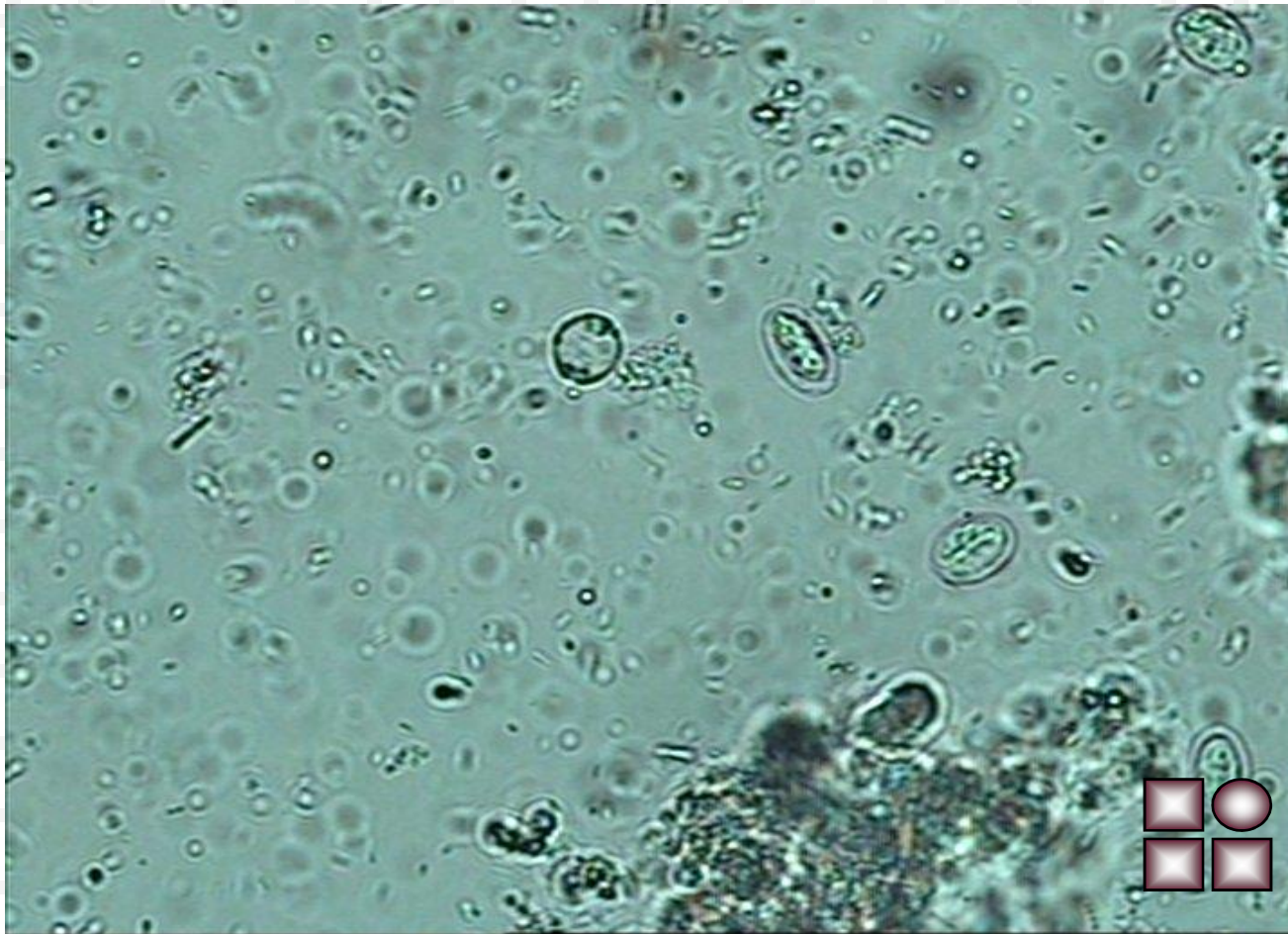
Cysts of *Giardia* & *Blastocystis hominis*



Blastocystis hominis & cysts of giardia

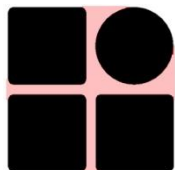


Cysts of Giardia & blastocystis Hominis



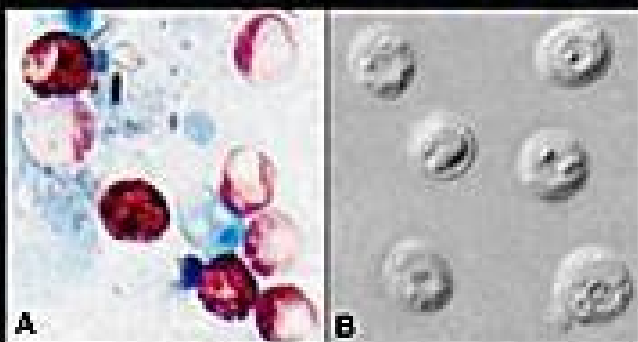
کوکسیدیا

کریپتوسپوریڈیوم پارووم
ایزوسپورا بلی
سایکلوسپورا کایتنسیس
سارکوسیستیس



جمهوری اسلامی ایران

Cryptosporidium parvum



A

B

Cyclospora spp.



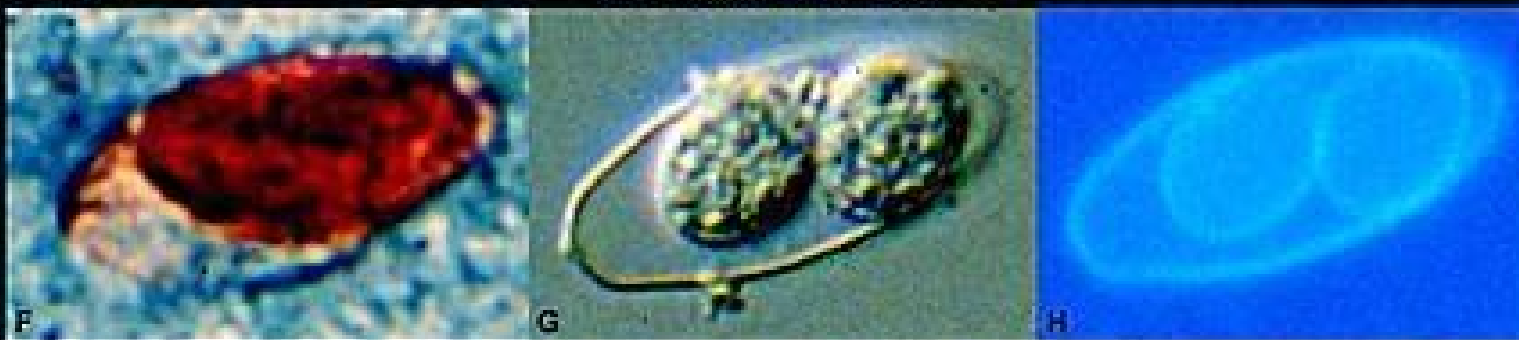
C

D

E

10 μ m

Isospora belli



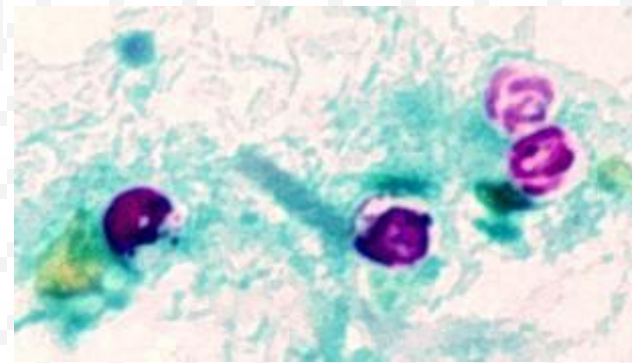
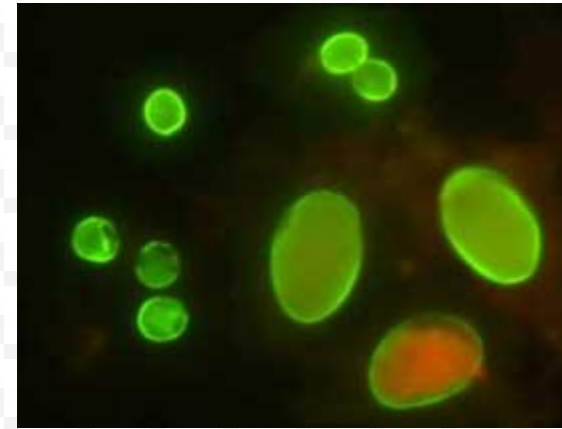
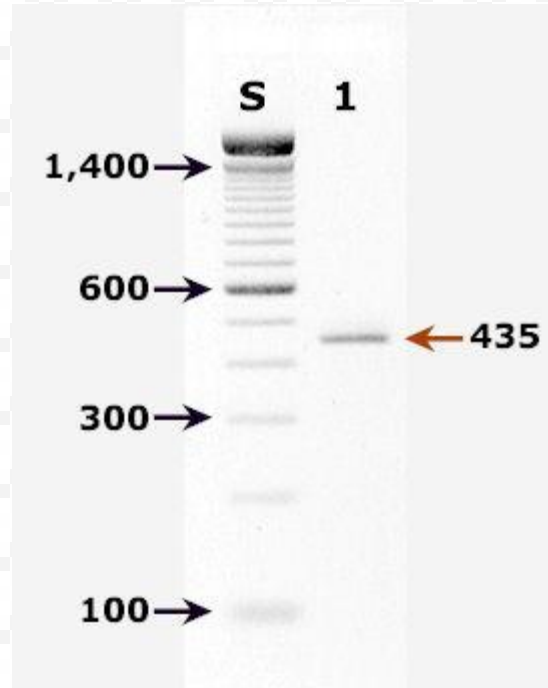
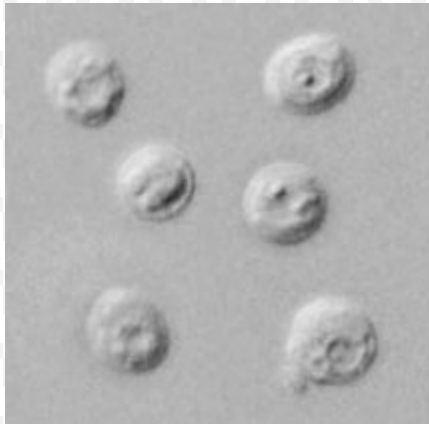
F

G

H

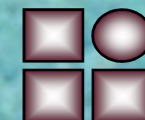
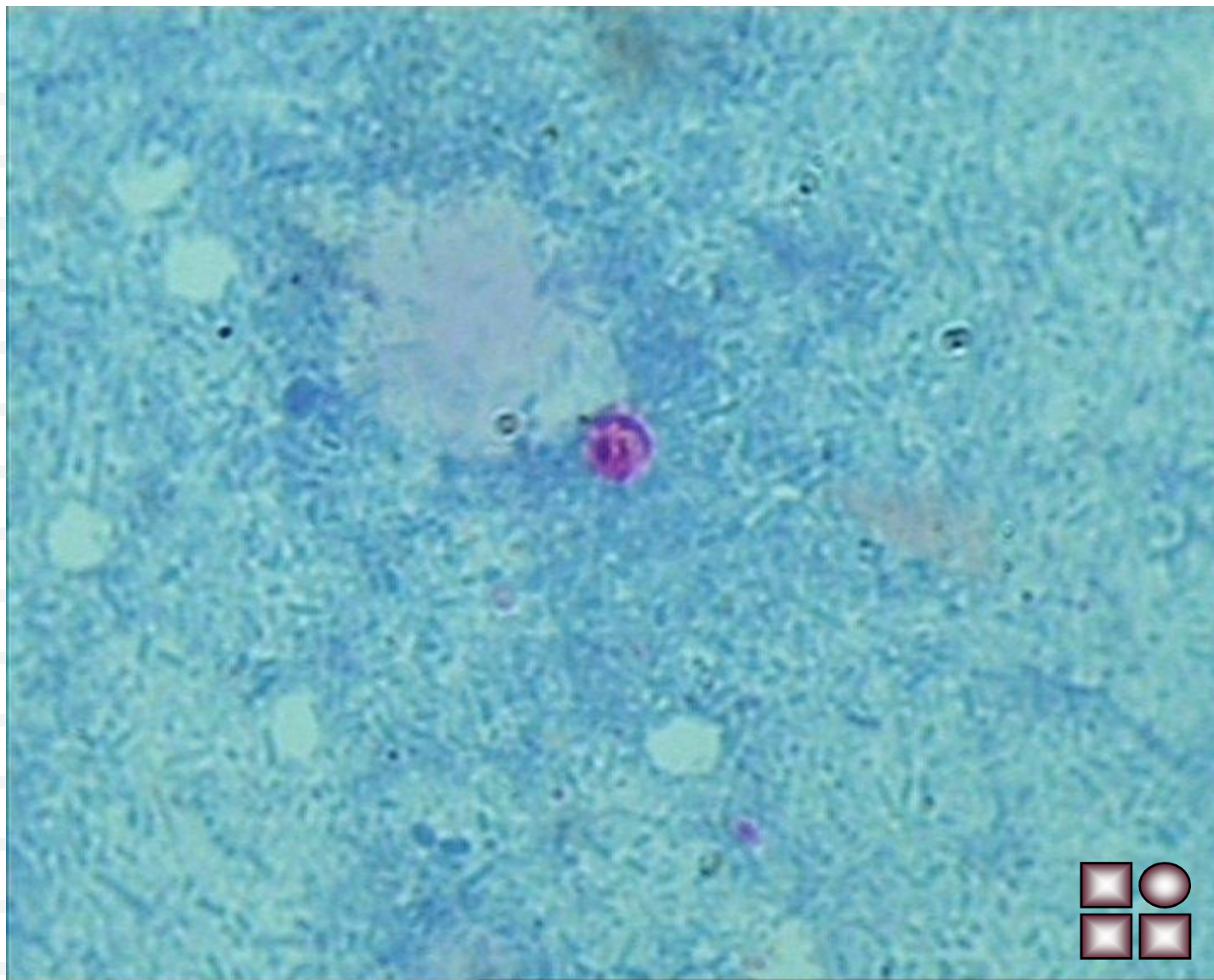
CDC
Centers for Disease Control and Prevention

Oocysts of *Cryptosporidium parvum*



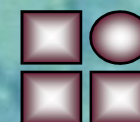
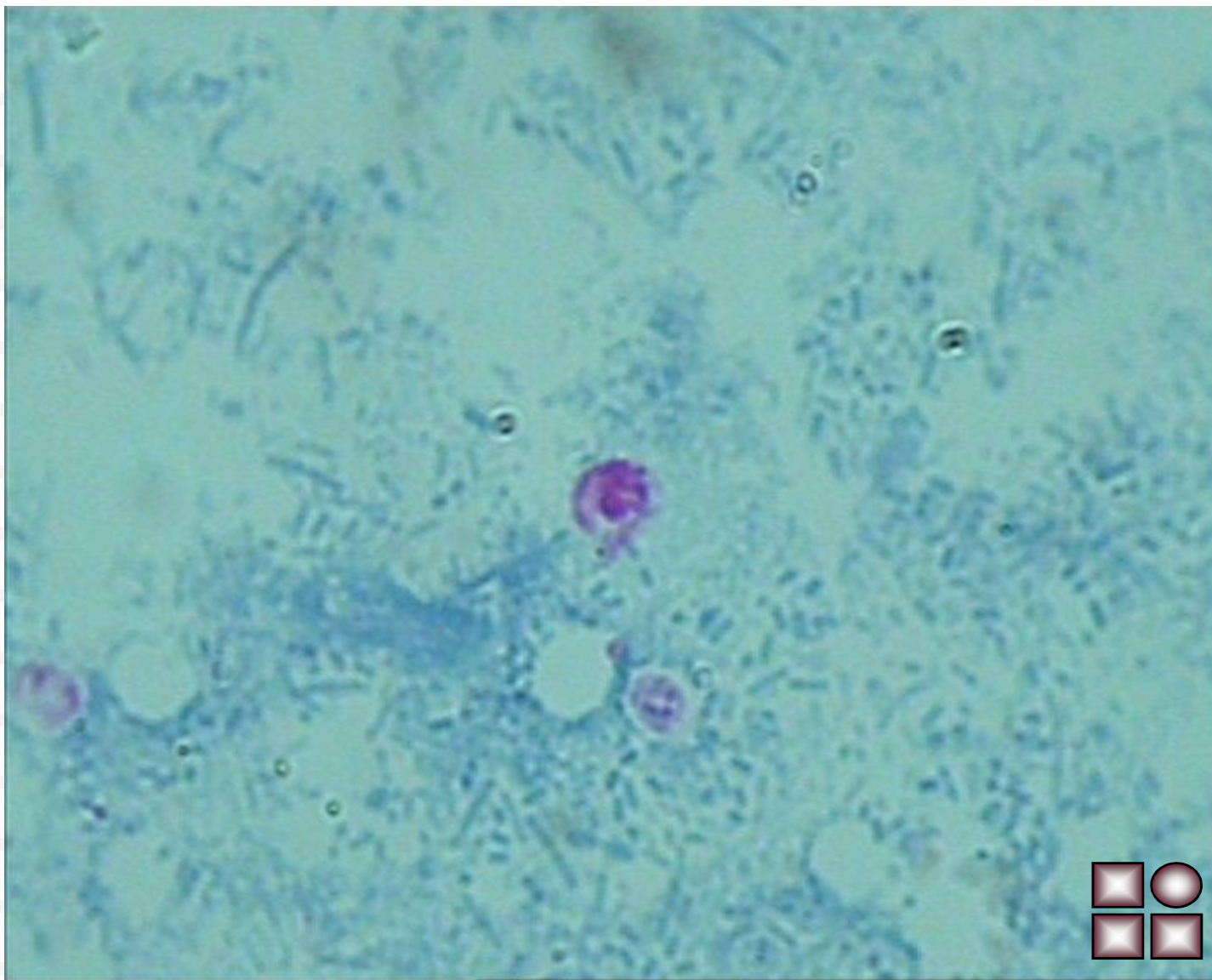


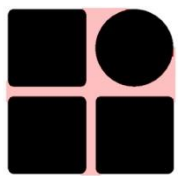
آزمایشگاه میکروسکوپ



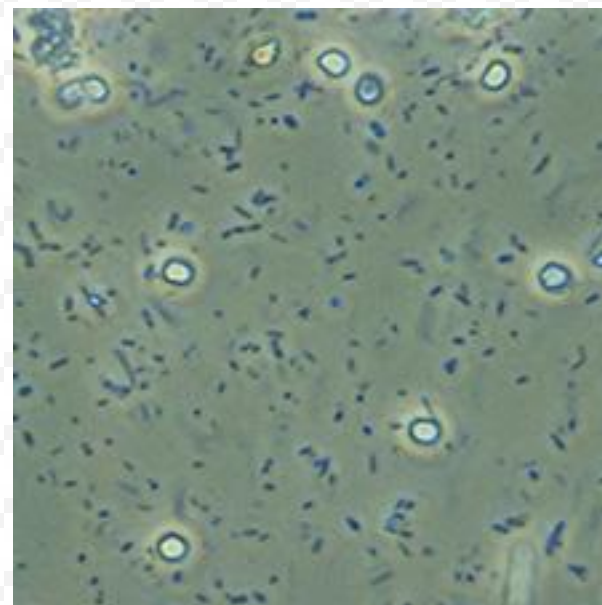
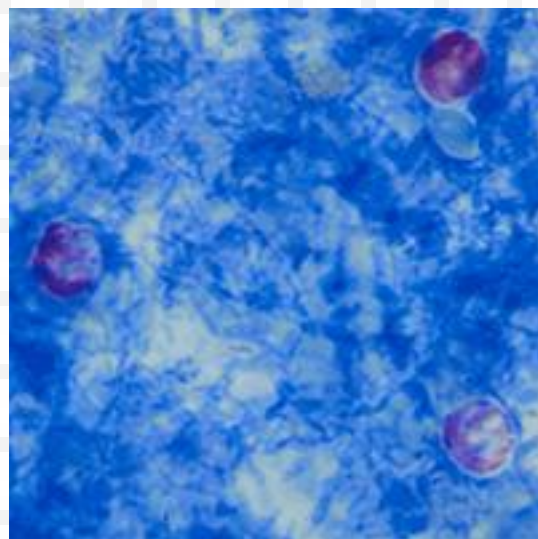


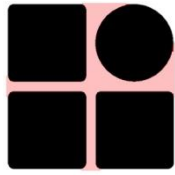
جمهوری اسلامی ایران





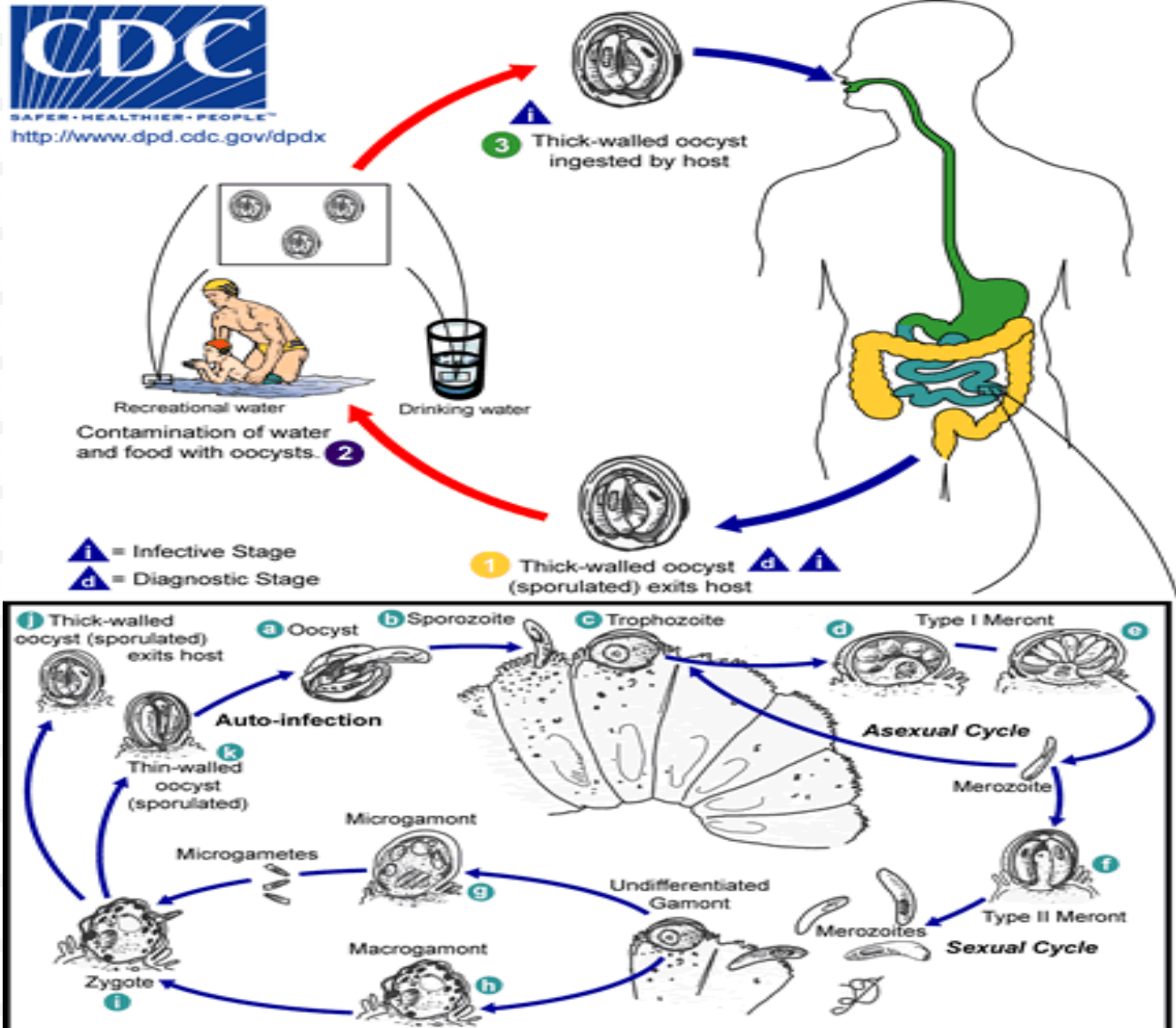
آزمایشگاه میکروبیولوژی



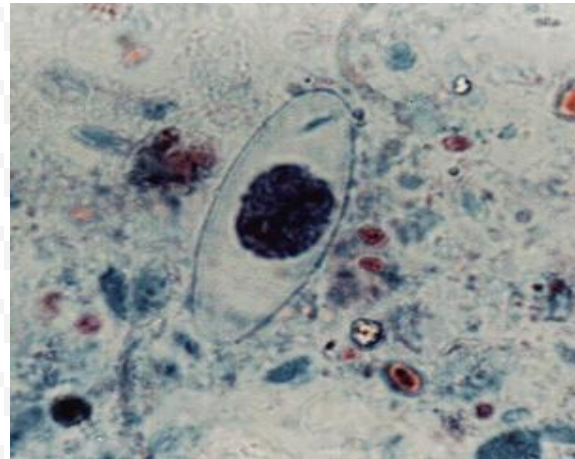
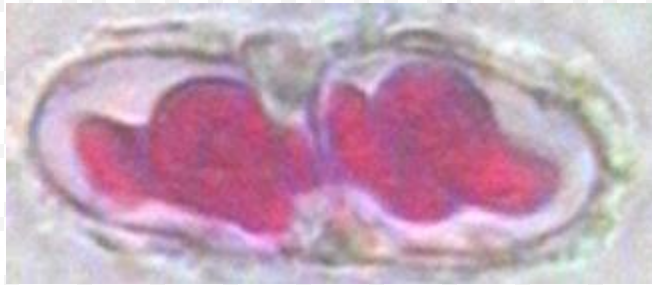


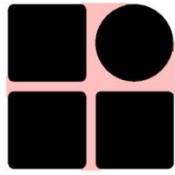
وزارت بهداشت و آموزش پزشکی

Life cycle of *C. parvum*



Isospora belli



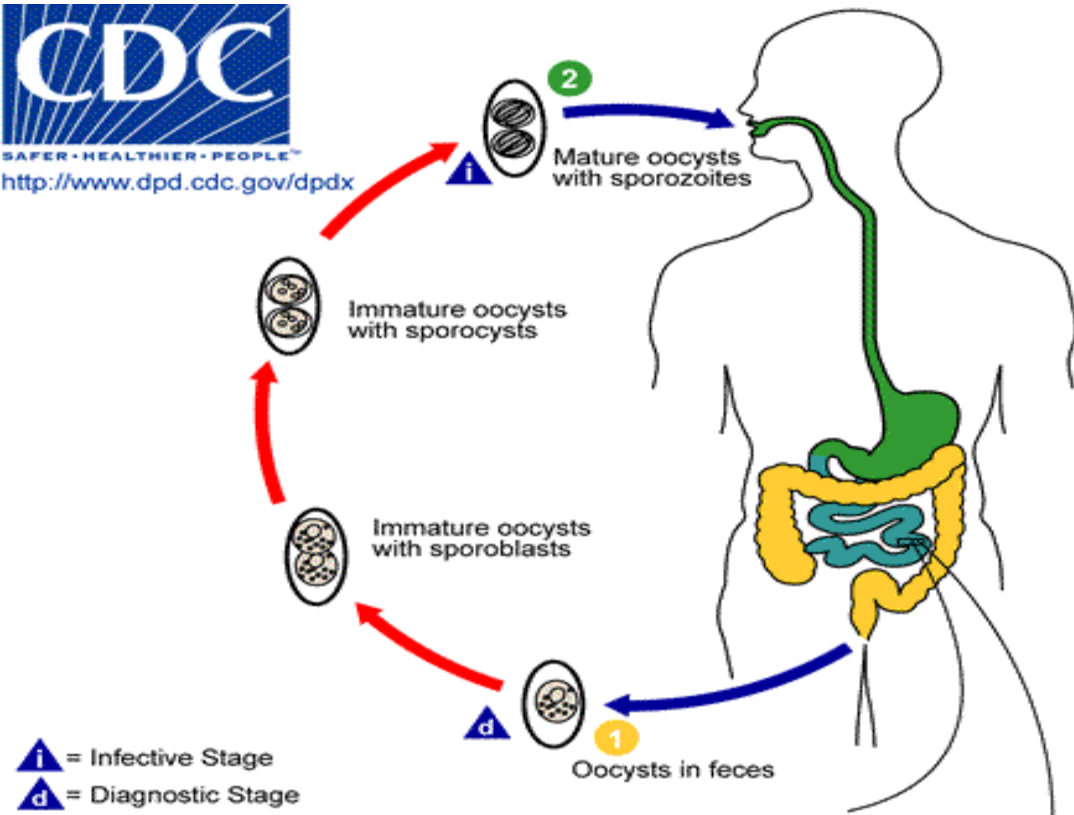


وزارت بهداشت و آموزش پزشکی

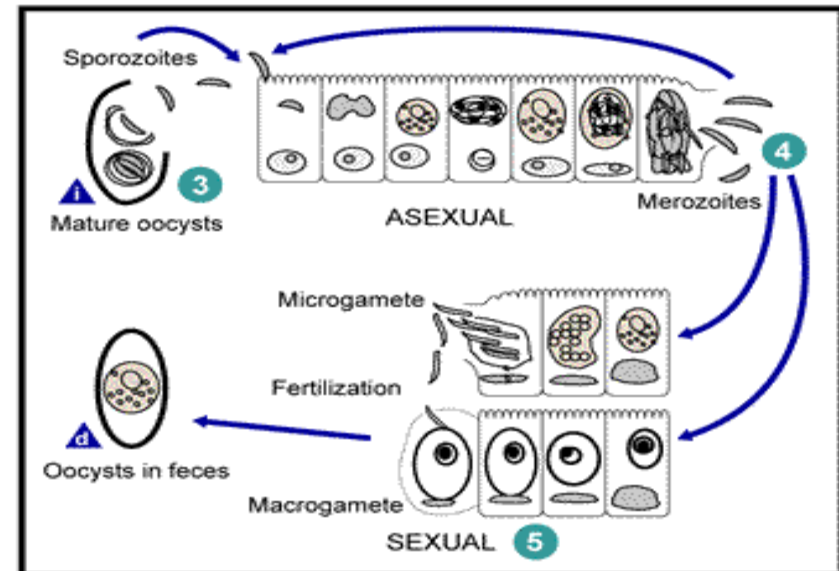


<http://www.dpd.cdc.gov/dpdx>

Life cycle of *Isospora belli*



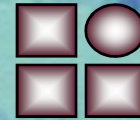
i = Infective Stage
d = Diagnostic Stage



Oocysts of *Isospora belli*

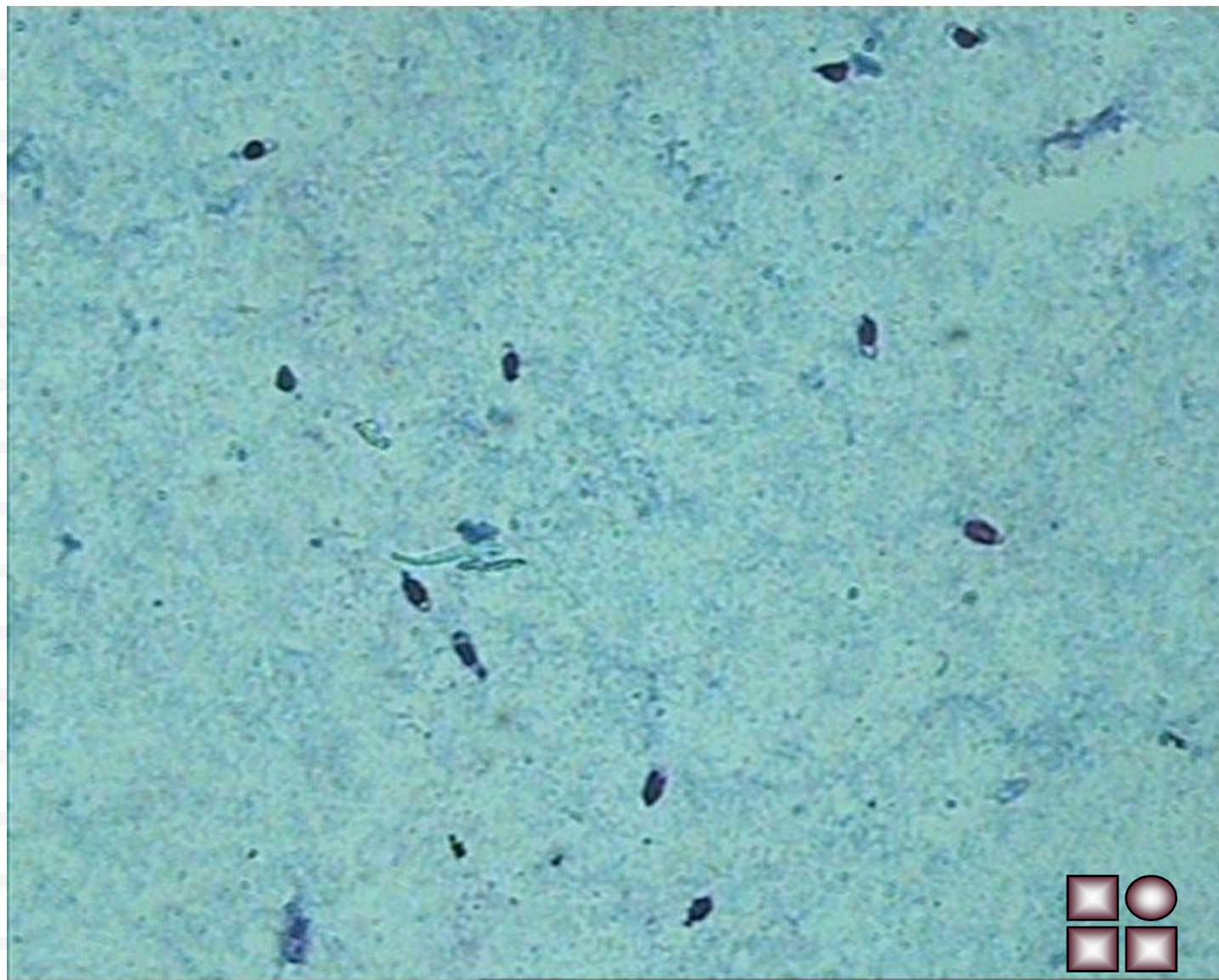


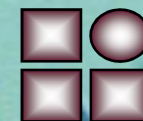
Oocysts of *Isospora belli*





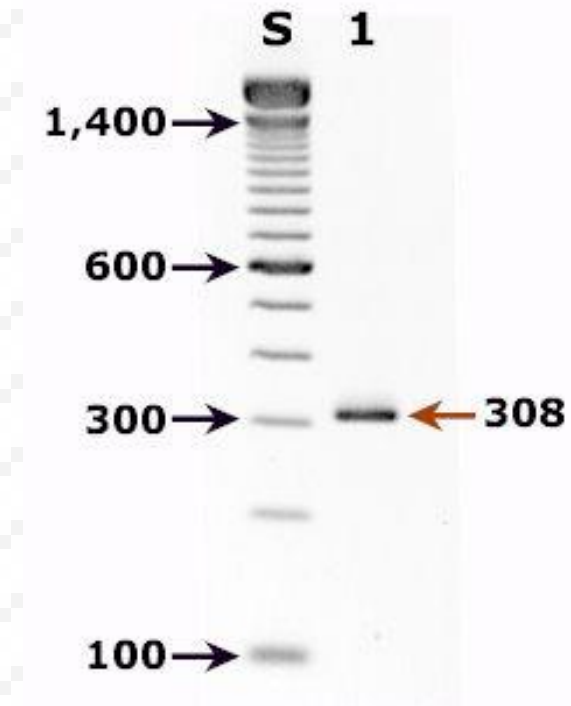
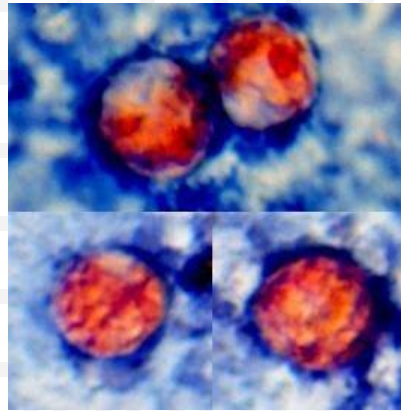
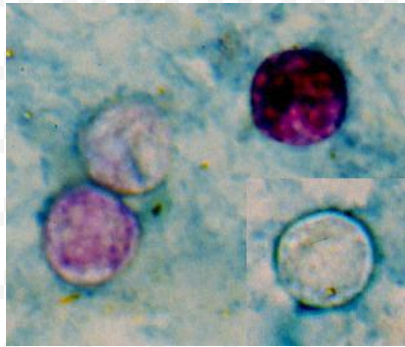
ازمایشگاه سلامت





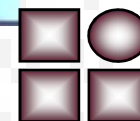
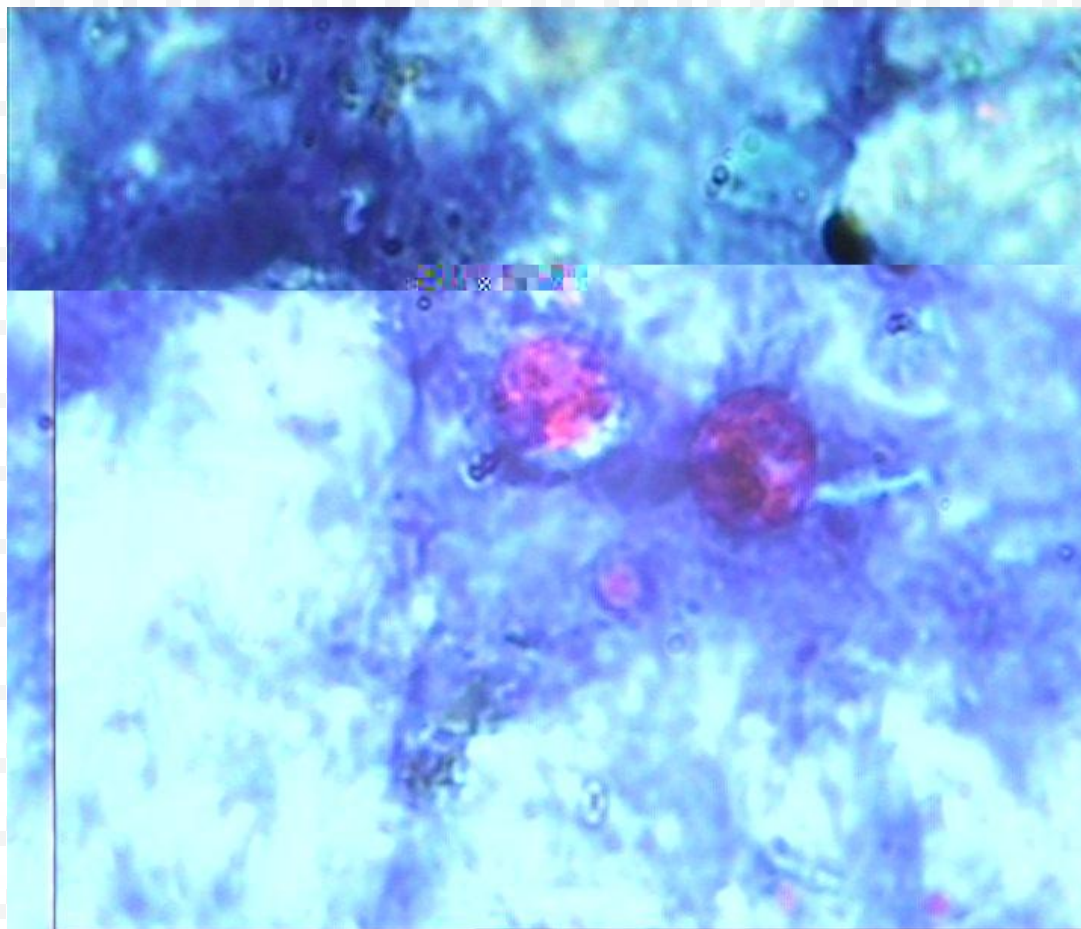


oocyst Of *Cyclospora*



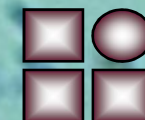
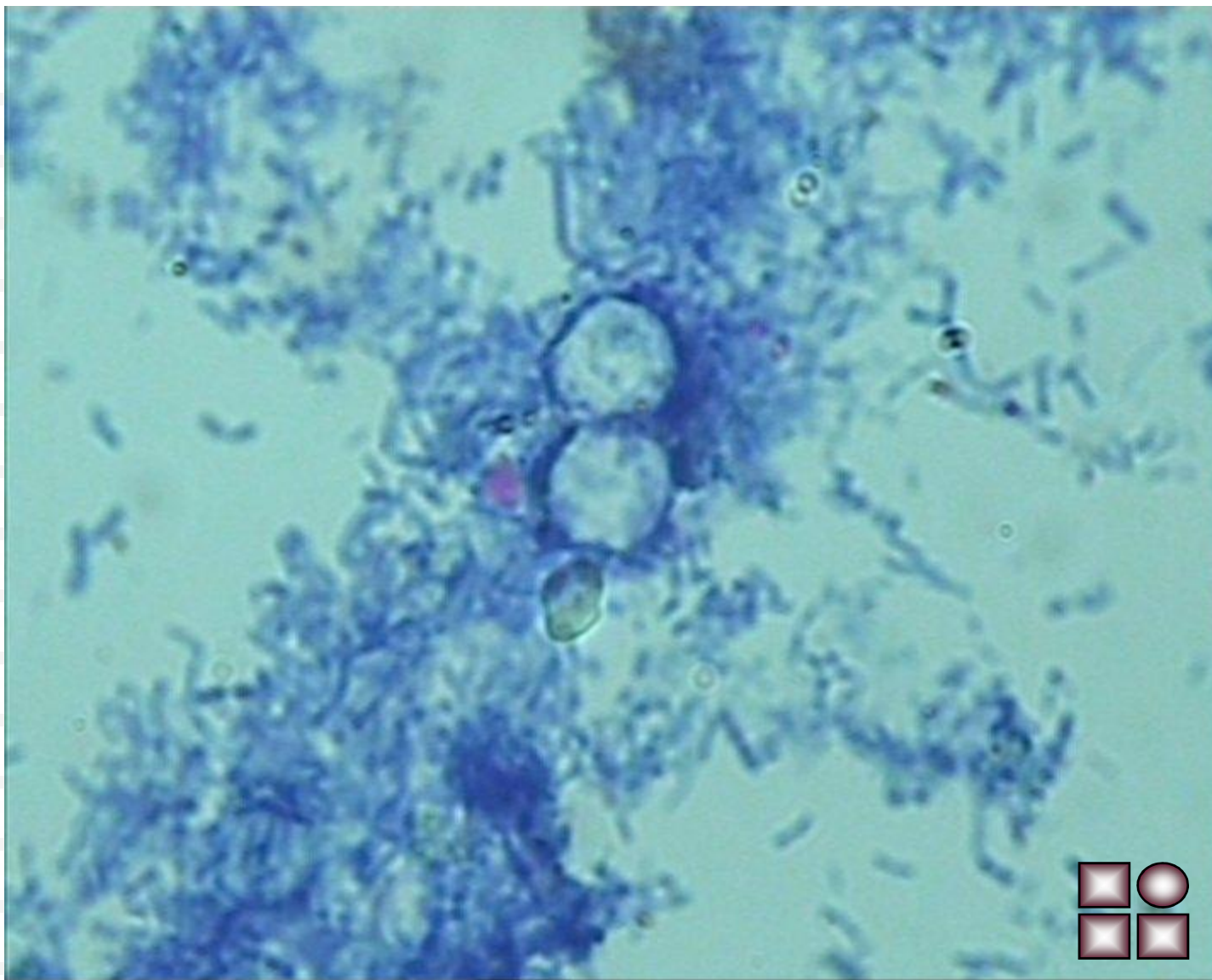


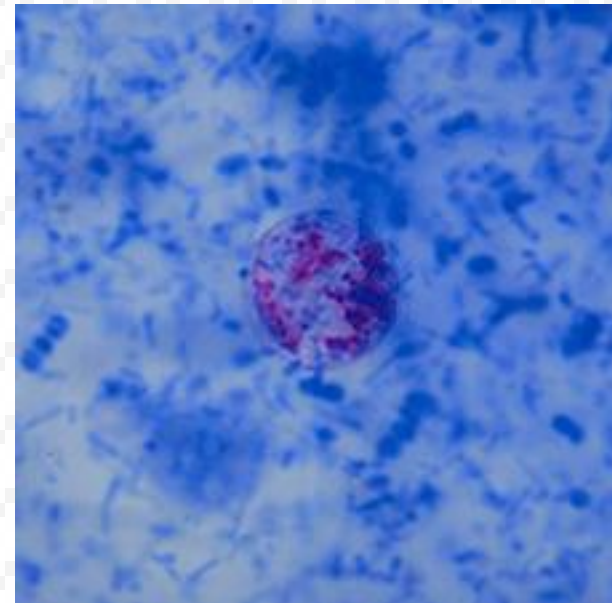
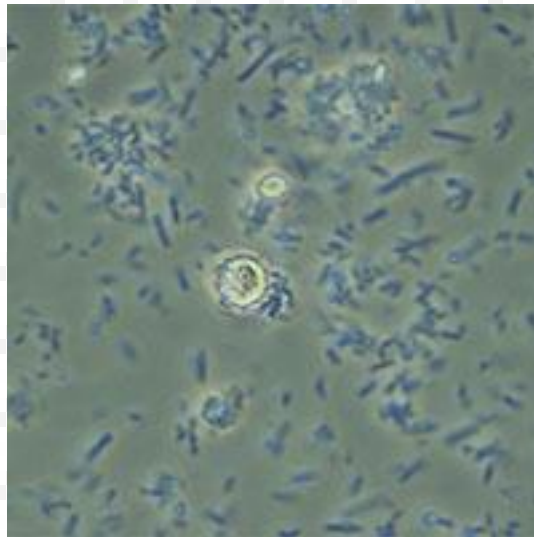
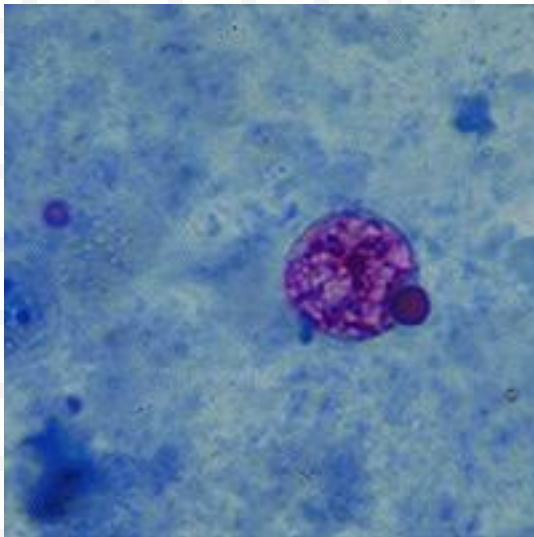
آزمایشگاه میکروسکوپ

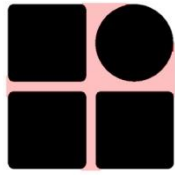




ازمایشگاه میکروسکوپ

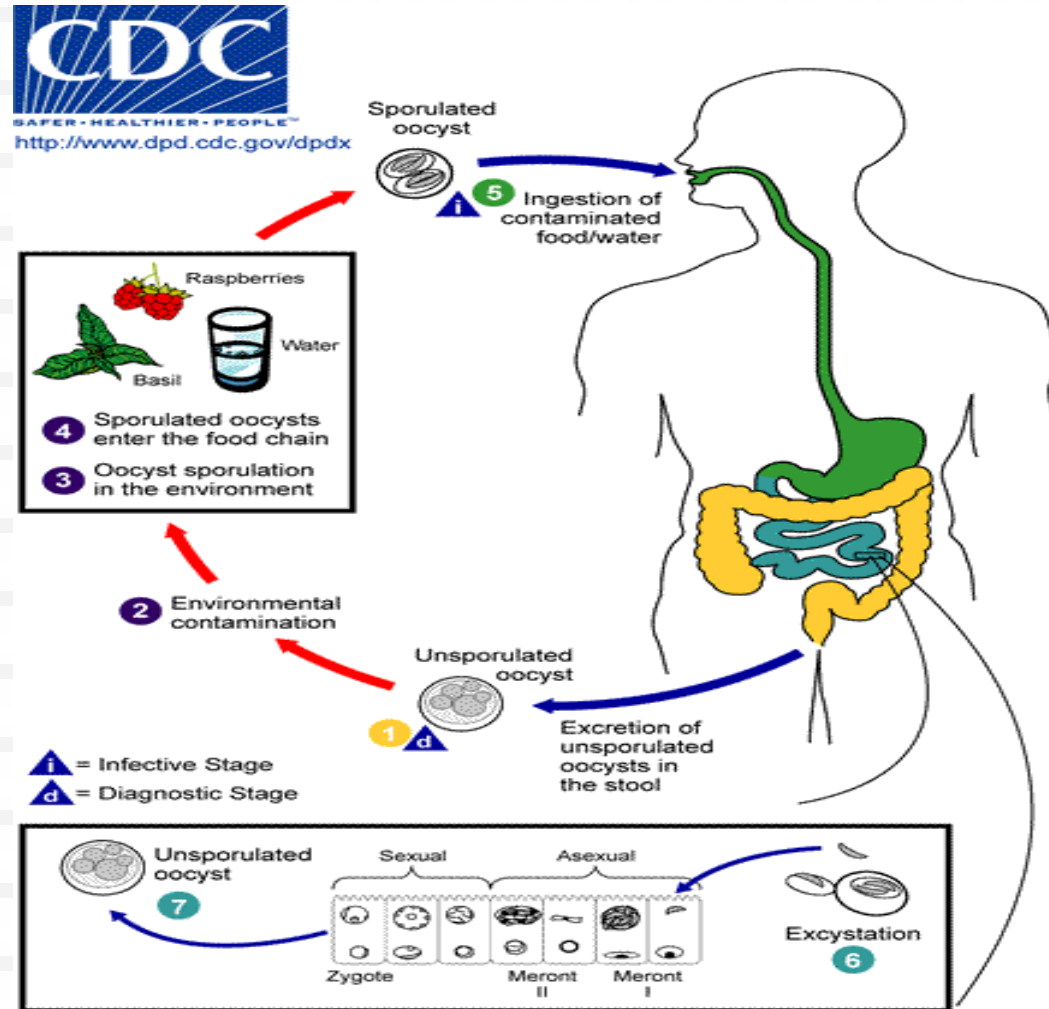




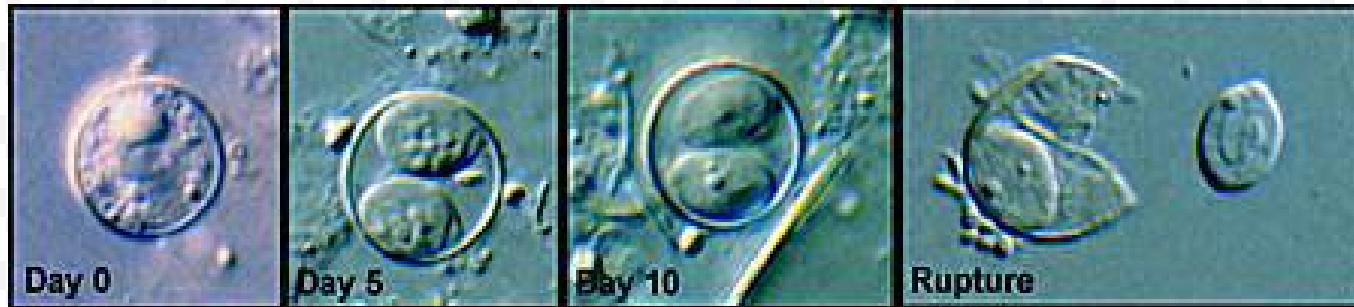


جمهوری اسلامی ایران

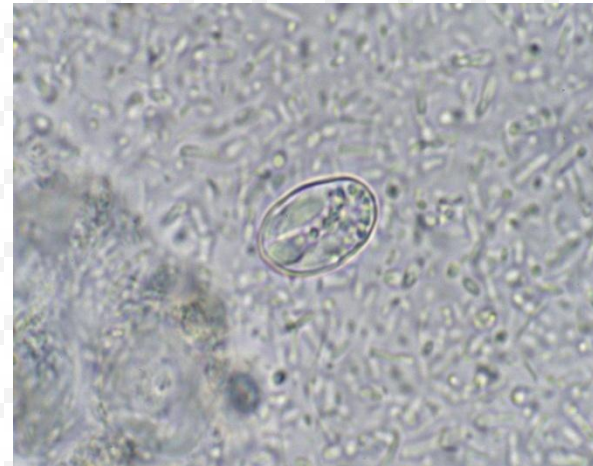
Life cycle of *Cyclospora cayetanensis*



Sporulation of *Cyclospora* oocysts

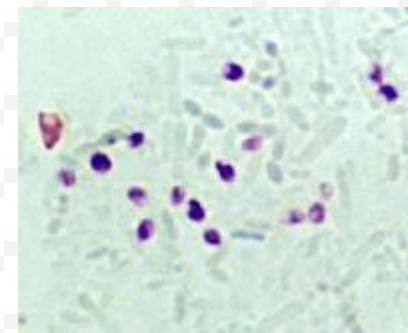
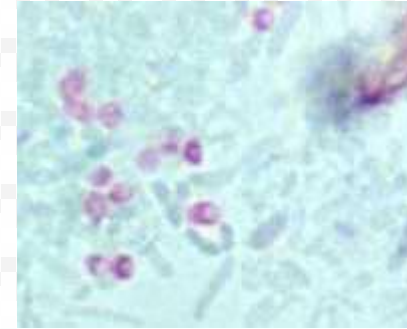
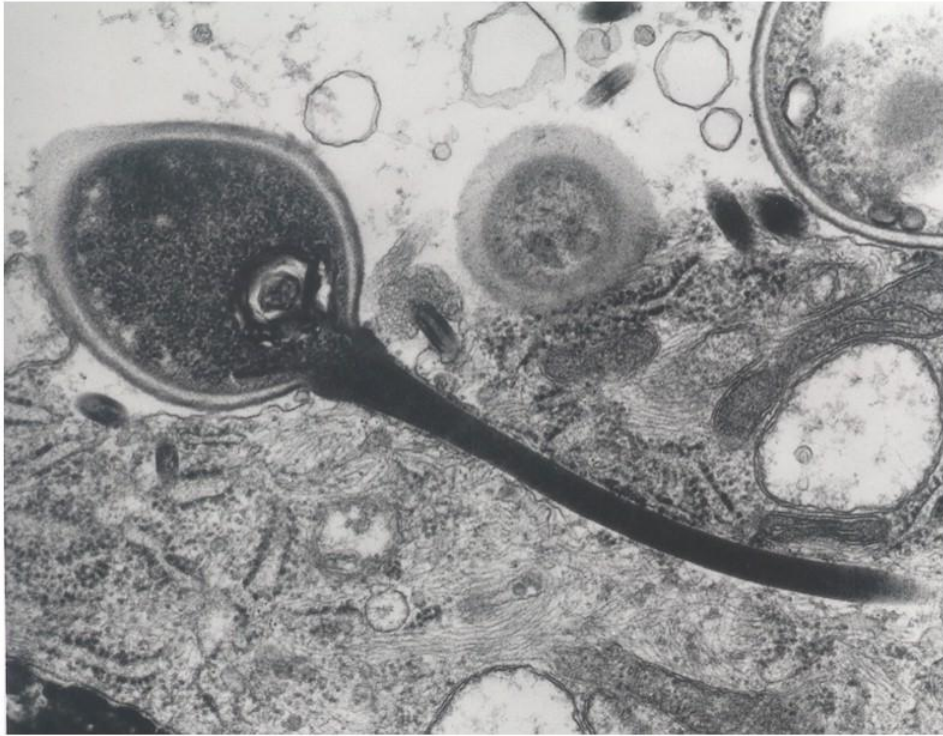


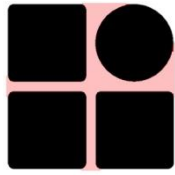
Carcocystis



میکروسپوریدیا

microsporidian spores



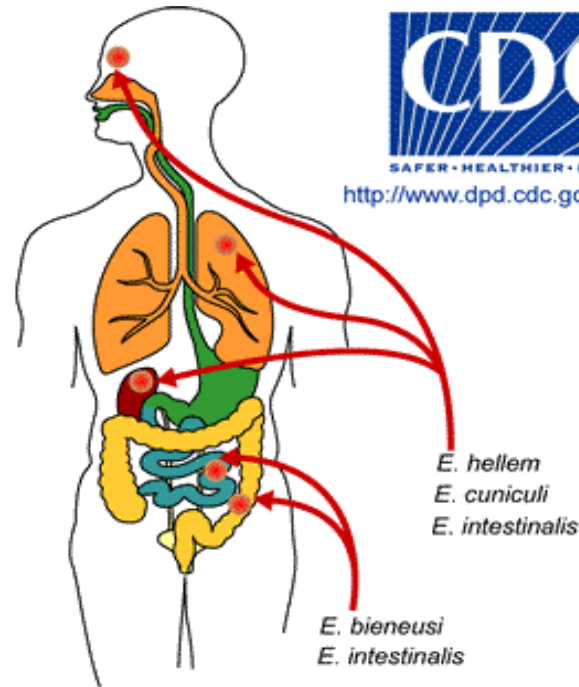


وزارت بهداشت و آموزش پزشکی

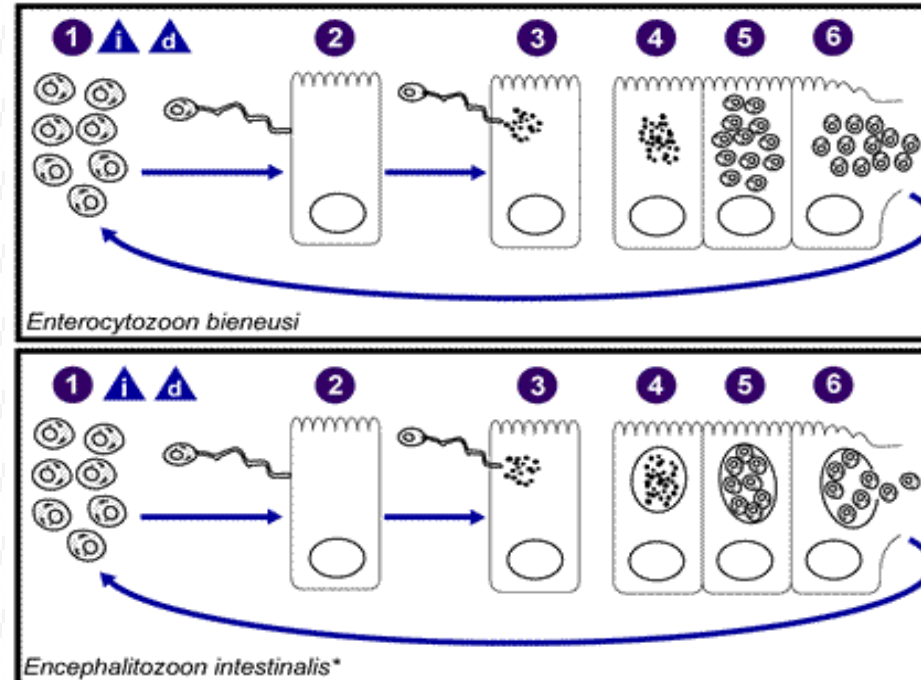
i = Infective Stage
d = Diagnostic Stage



<http://www.dpd.cdc.gov/dpdx>



Intracellular development of *E. bienersi* and *E. intestinalis* spores.



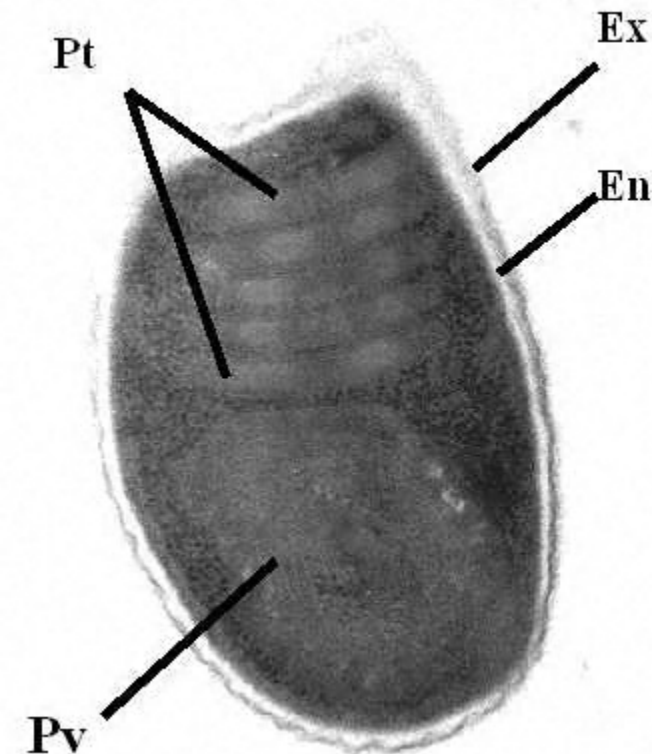
*Development inside parasitophorous vacuole also occurs in *E. hellem* and *E. cuniculi*.

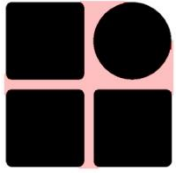
Agarose gel (2%) showing the diagnostic bands for species-specific PCR diagnostic primers designed for microsporidia that infect humans .



Transmission electron micrograph showing ultrastructural features of a mature microsporidian spores

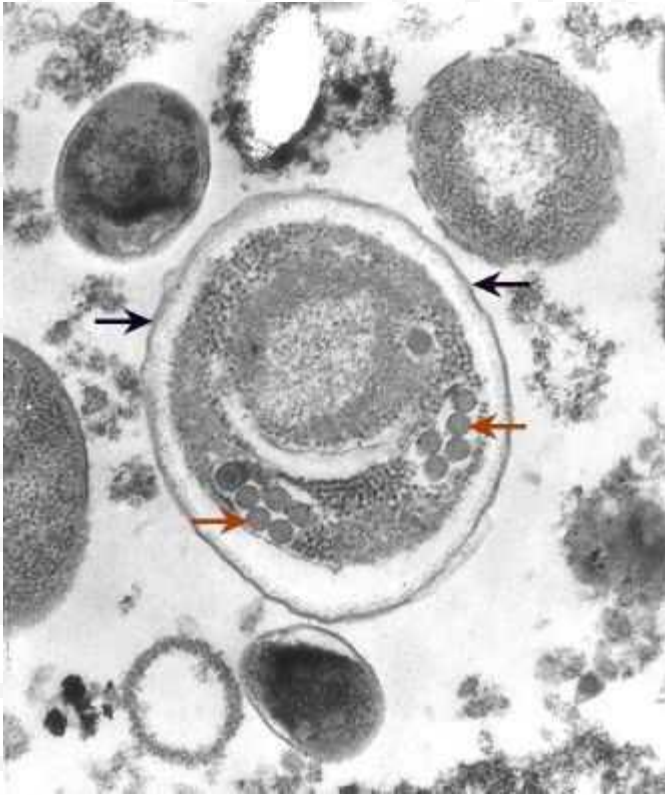
- .
- **Legend :**
 - Pt :Portion of coiled polar tubule
 - Ex :Electron dense exospore
 - En :Electron lucent endospore
 - Pv :Posterior vacuole





جمهوری اسلامی ایران

Scanning electron micrograph of a microsporidian spore with an extruded polar tubule inserted into a eukaryotic cell. The spore injects the infective sporoplasms through its polar tubule.

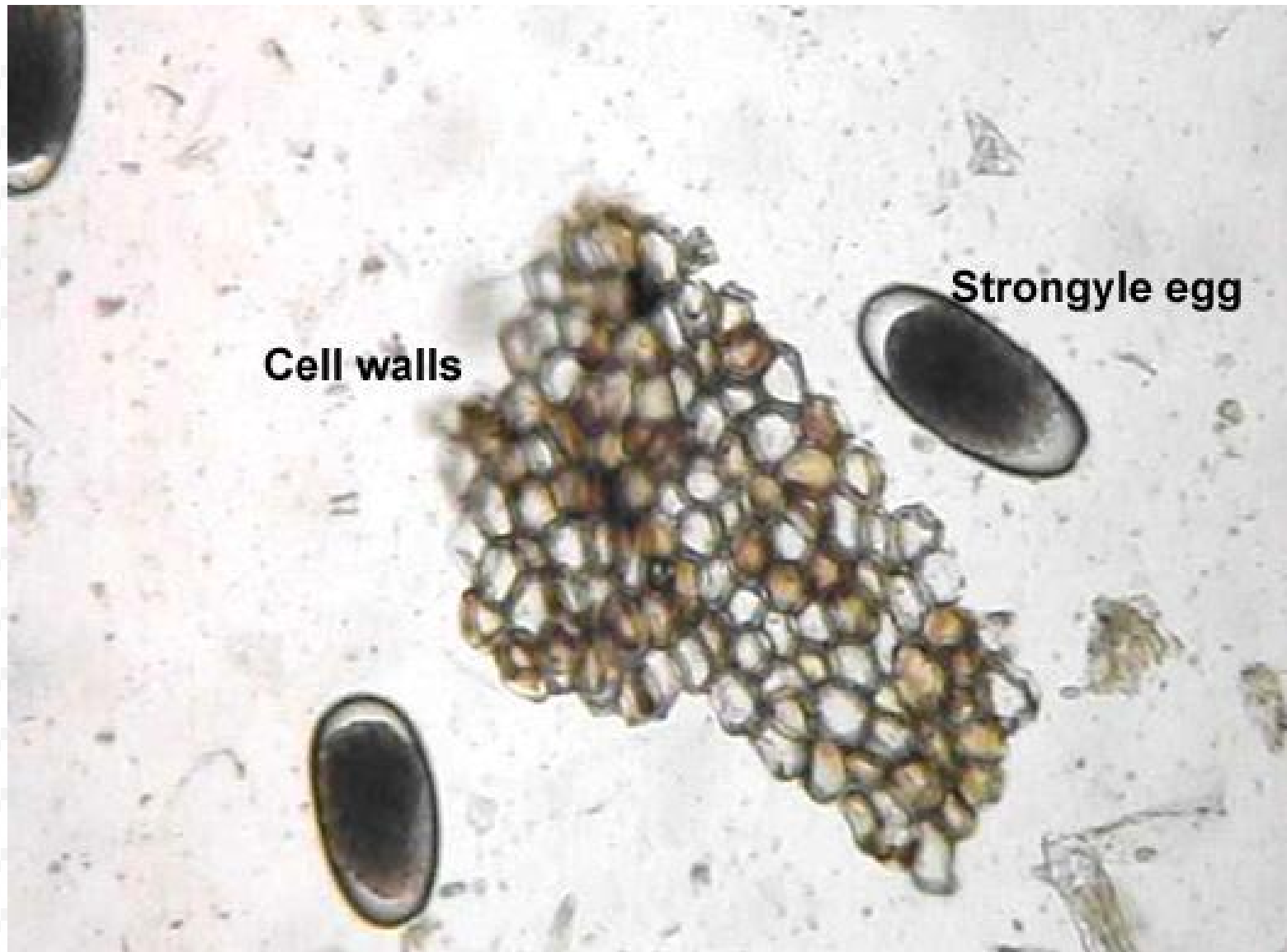


Artifacts

عناصر مشابه انگلها



ازمایشگاه میکروسکوپ





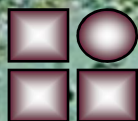
ازمایشگاه سلامت



Fungal spore

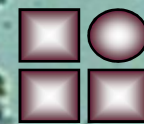


جمهوری اسلامی ایران





جمهوری اسلامی ایران





ازمایشگاه سلامت



Pollen grain



Pecan pollen grain



Pollen grain

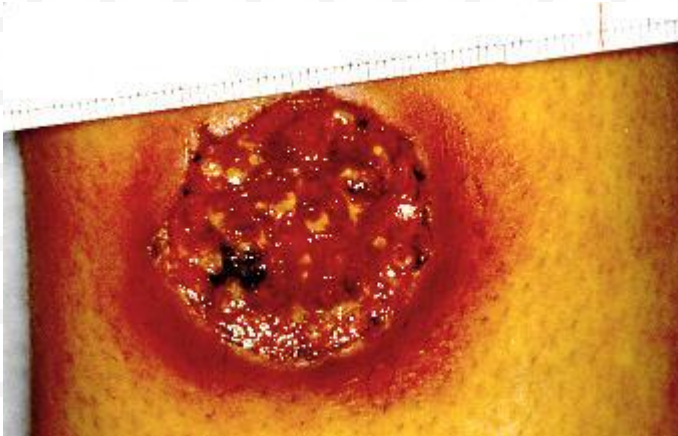
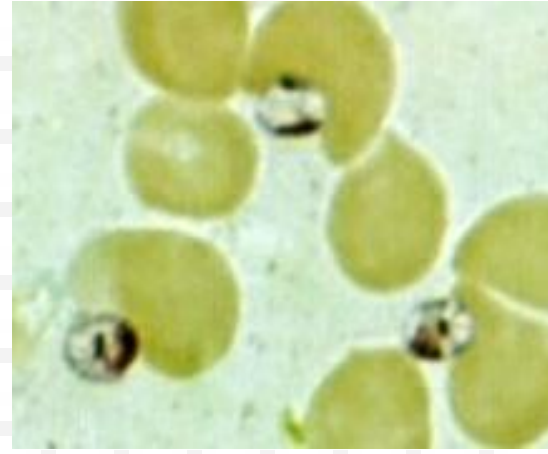
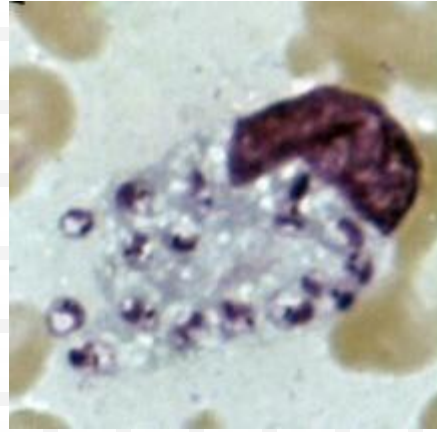
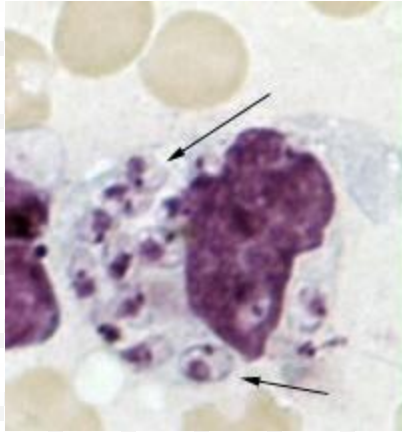




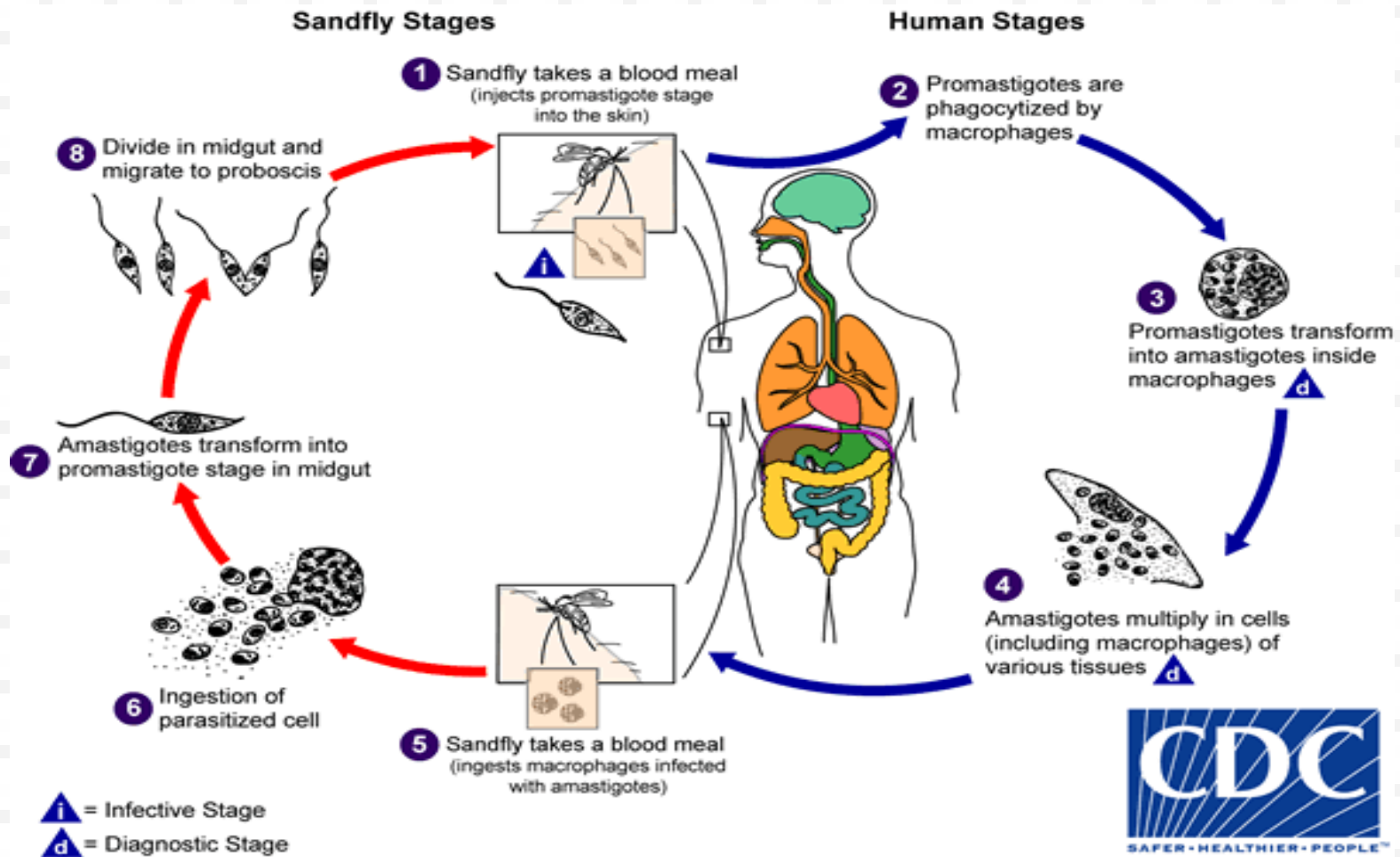




Leishman Body



Life cycle of spp *Leishmania*



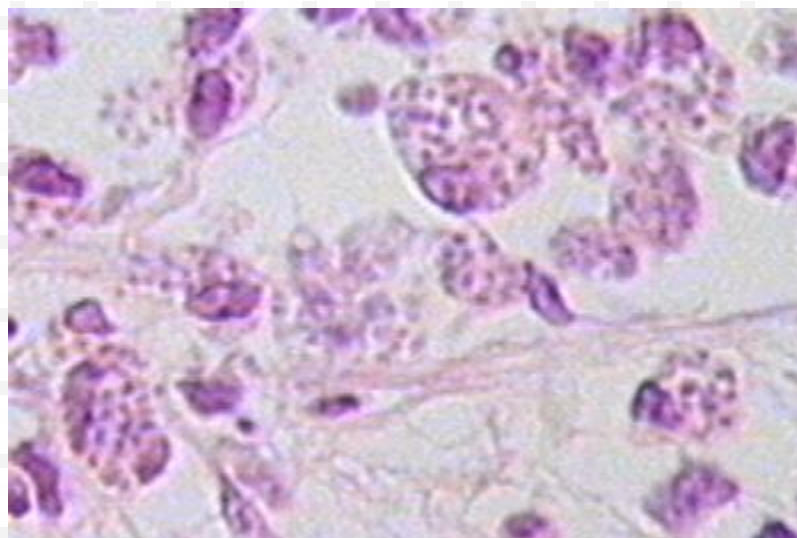
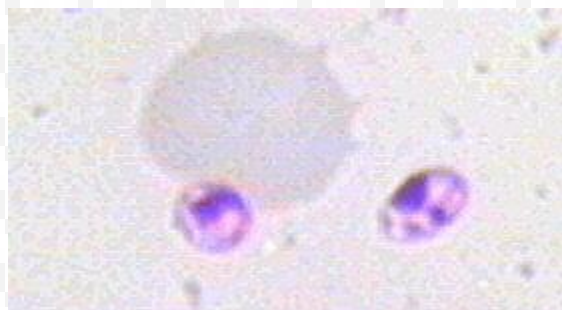
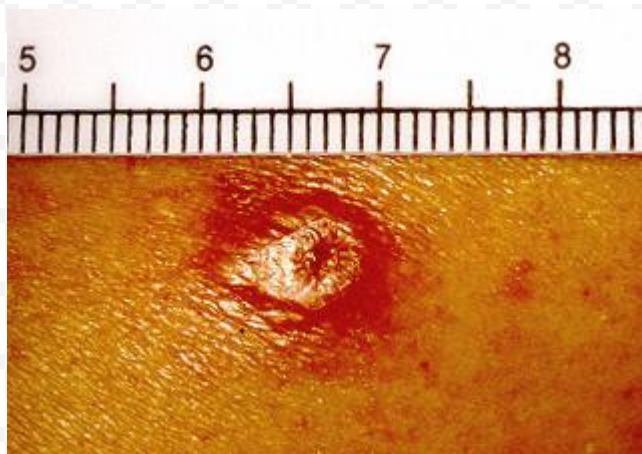


ازمایشگاه سلامت



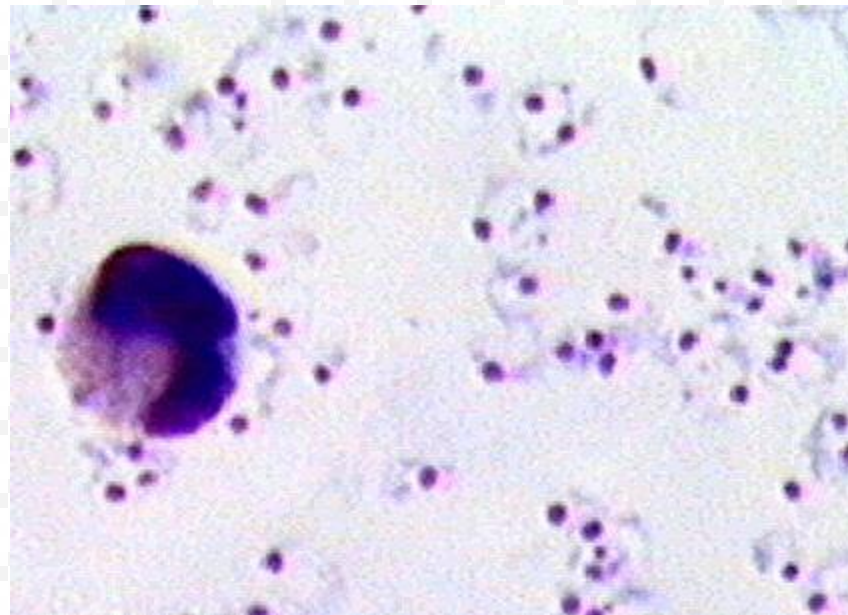


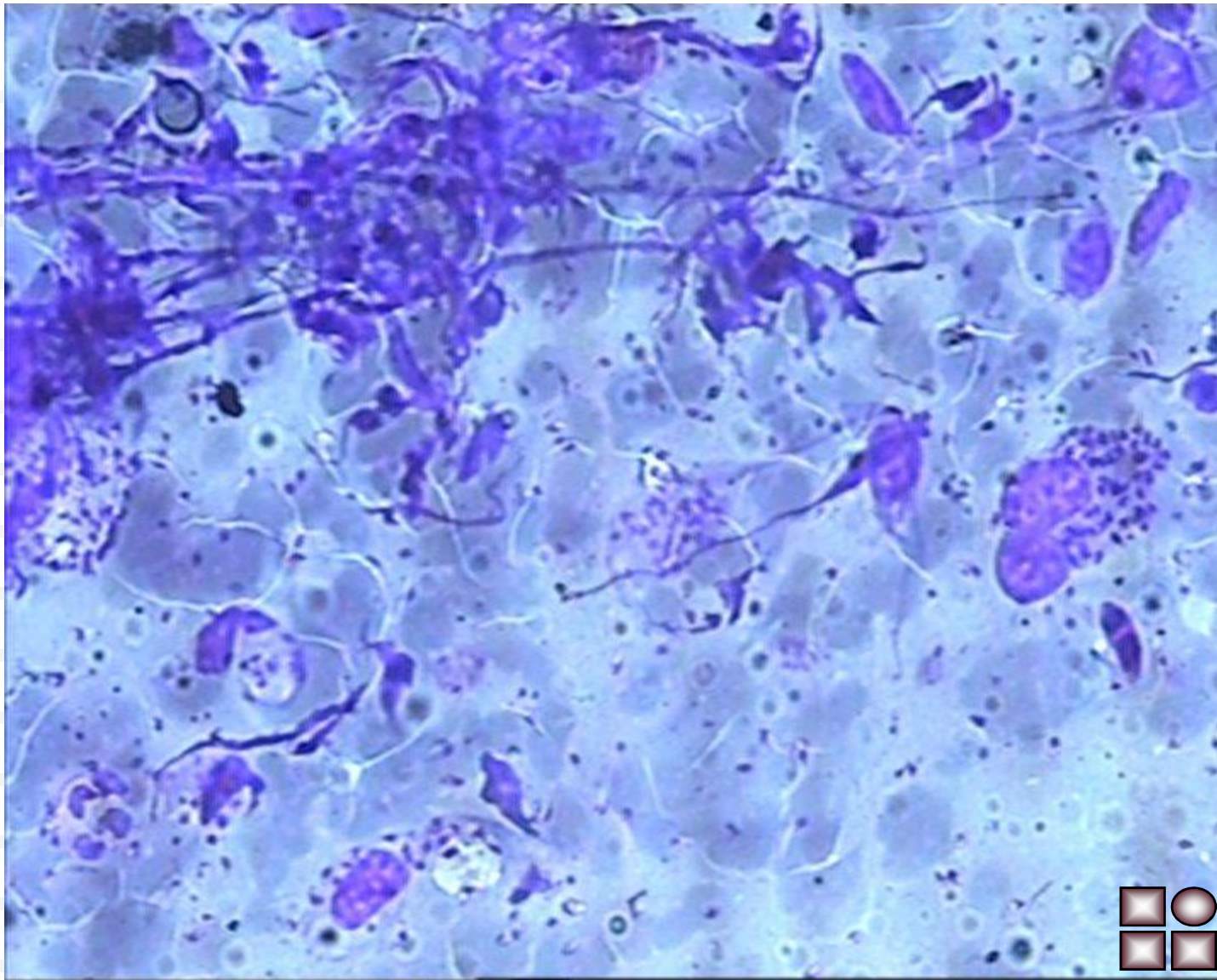
وزارت بهداشت و آموزش پزشکی

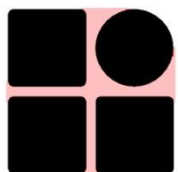




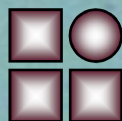
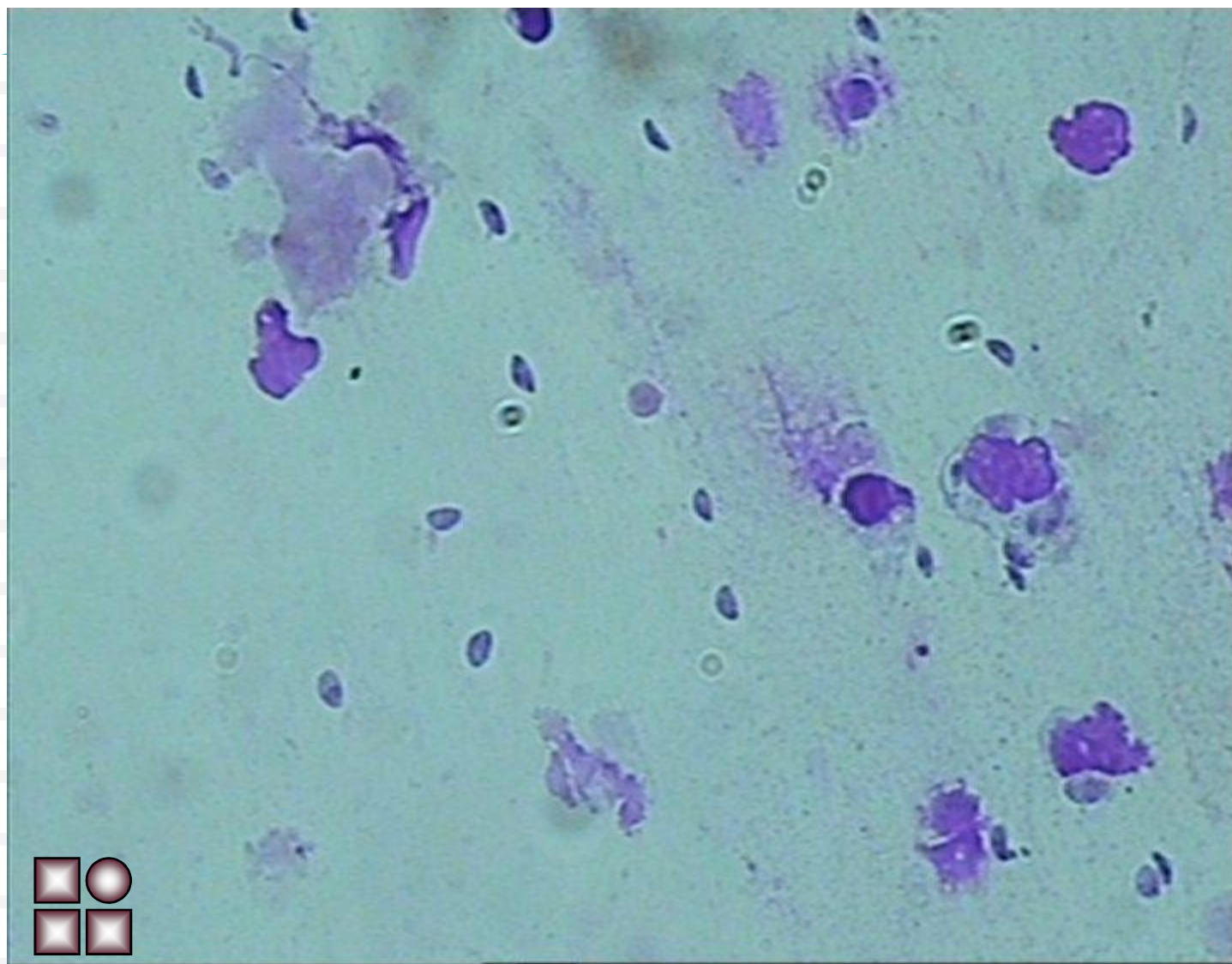
ازمایشگاه هموزیست



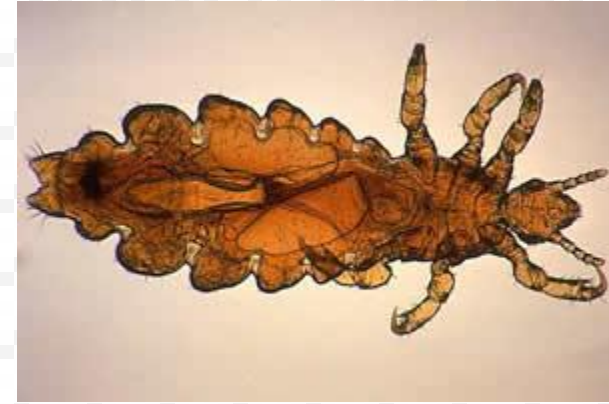
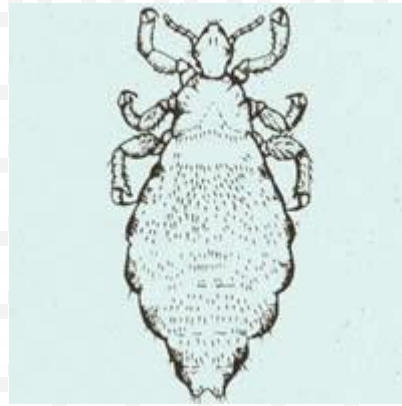
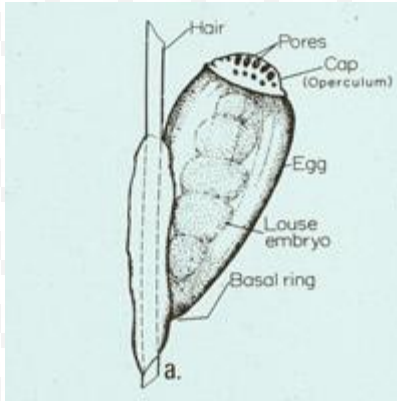


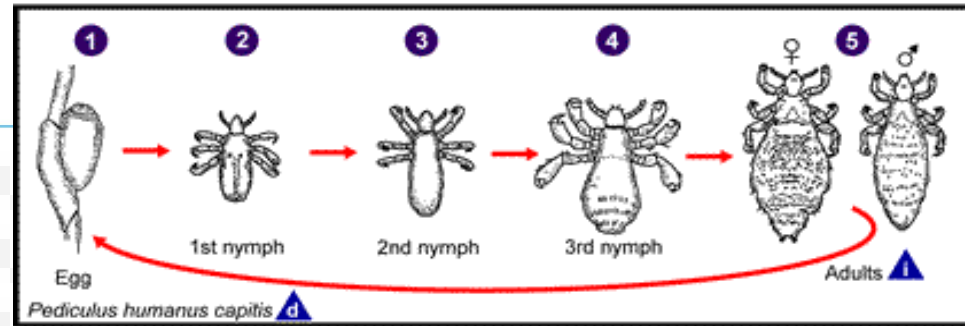


ازمایشگاه سلامت

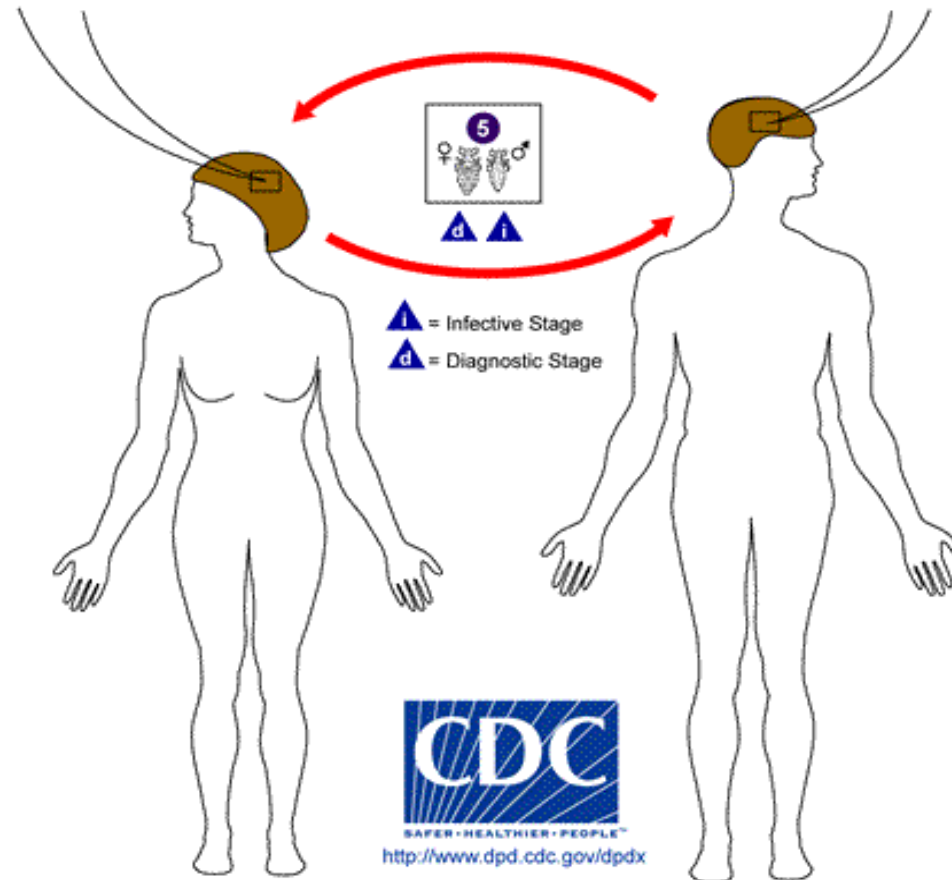


شپشک عانه - شپشک سرو بدن



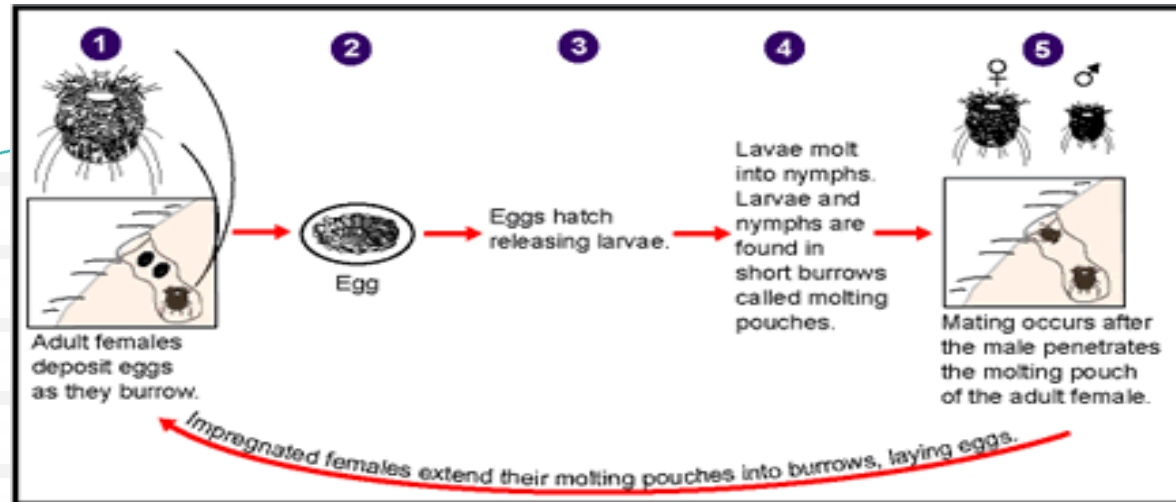


Life cycle of Head Lice

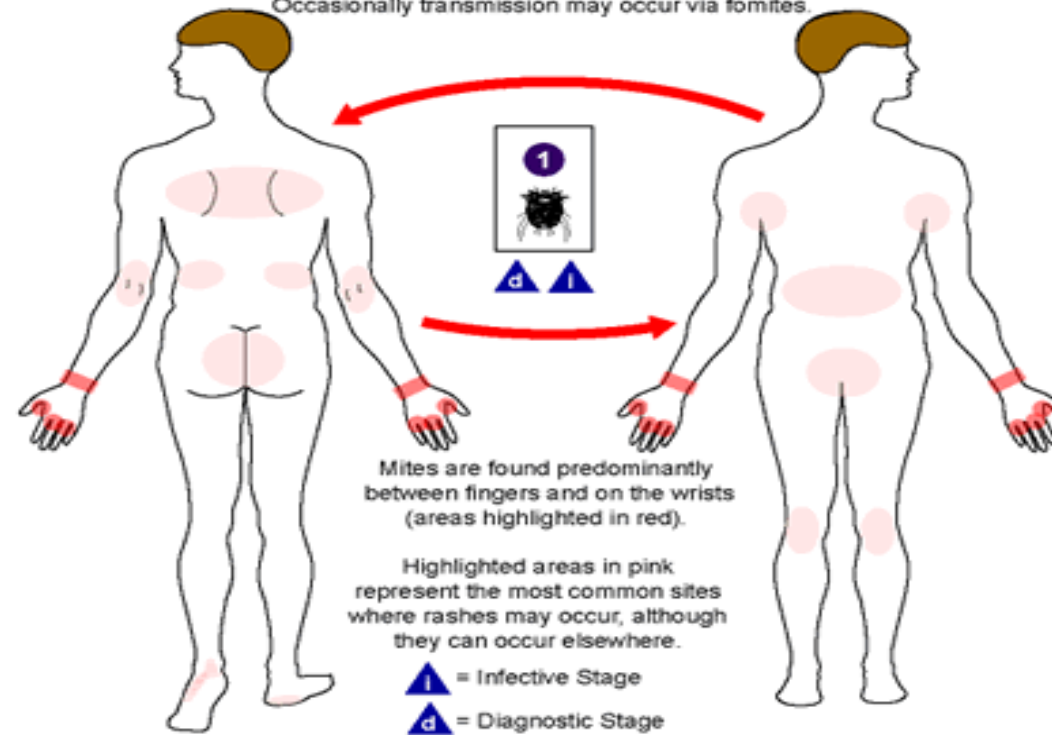




ازمایشگاه سلامت

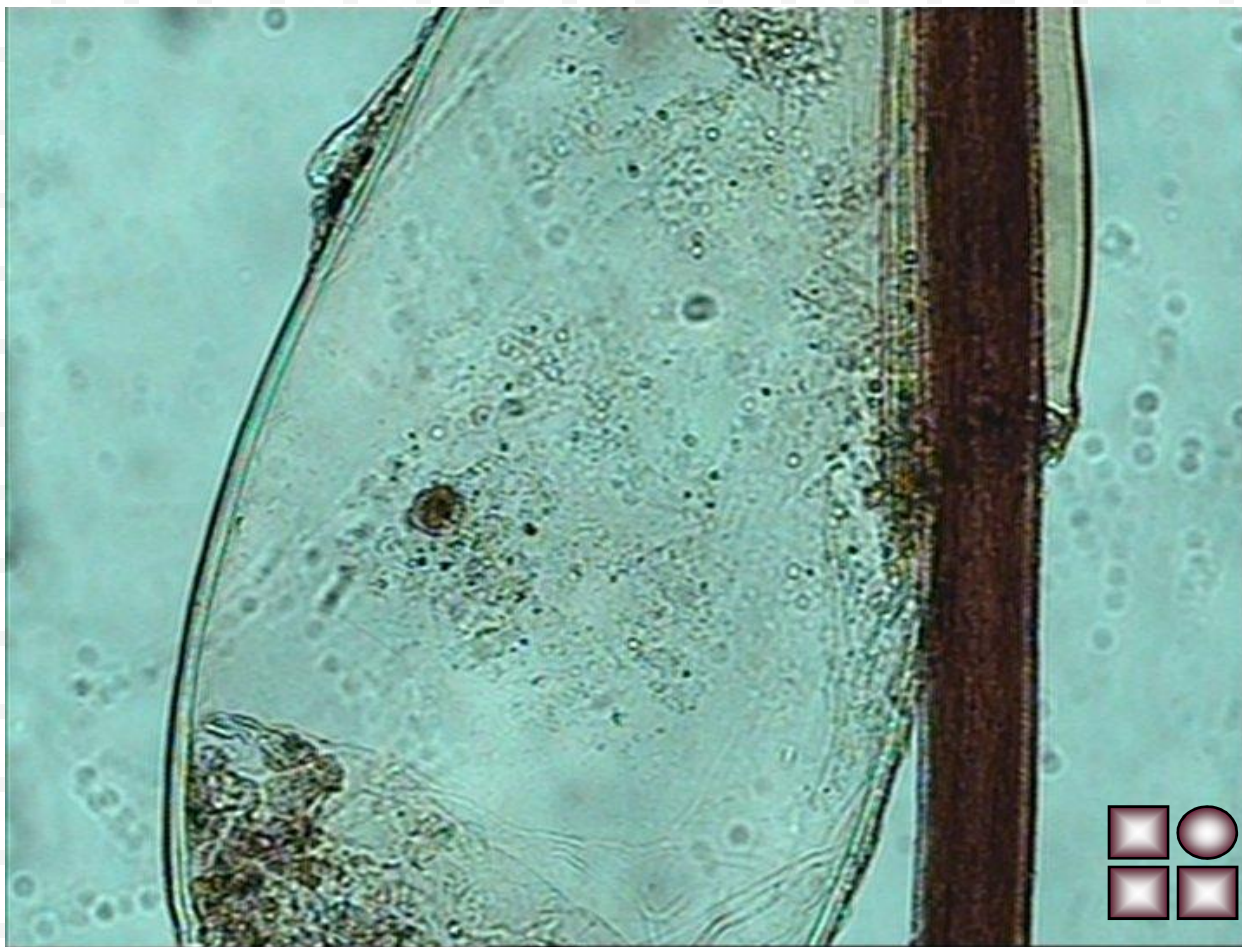


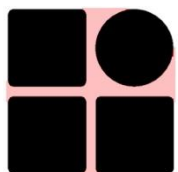
The primary mode of transmission is person-to-person.
Occasionally transmission may occur via fomites.



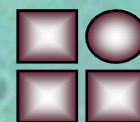


جمهوری اسلامی ایران

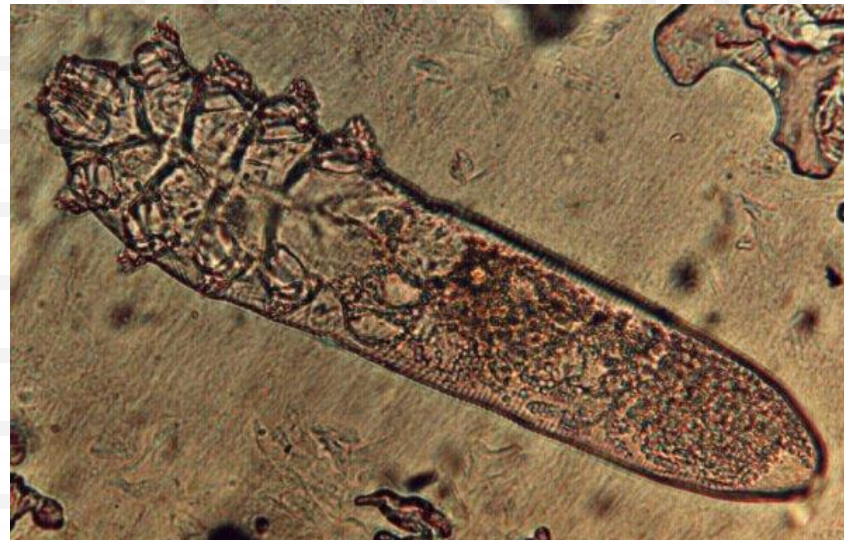




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دمودکس



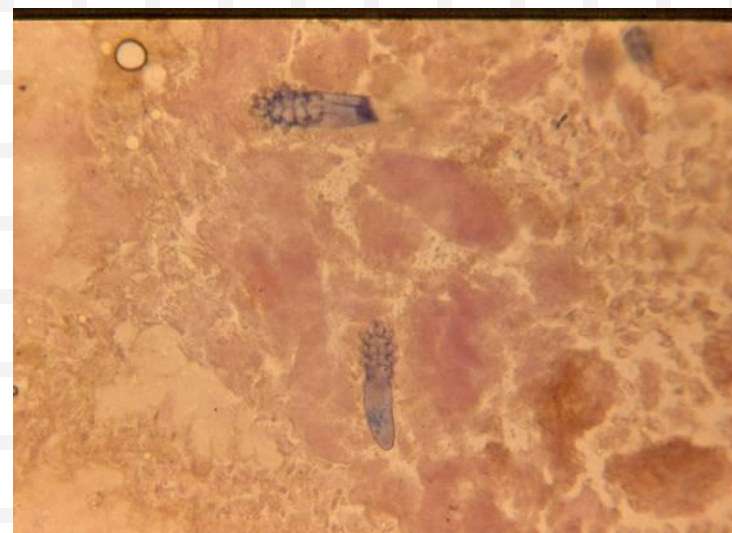


ازمایشگاه سلامت





ازمایشگاه سلامت

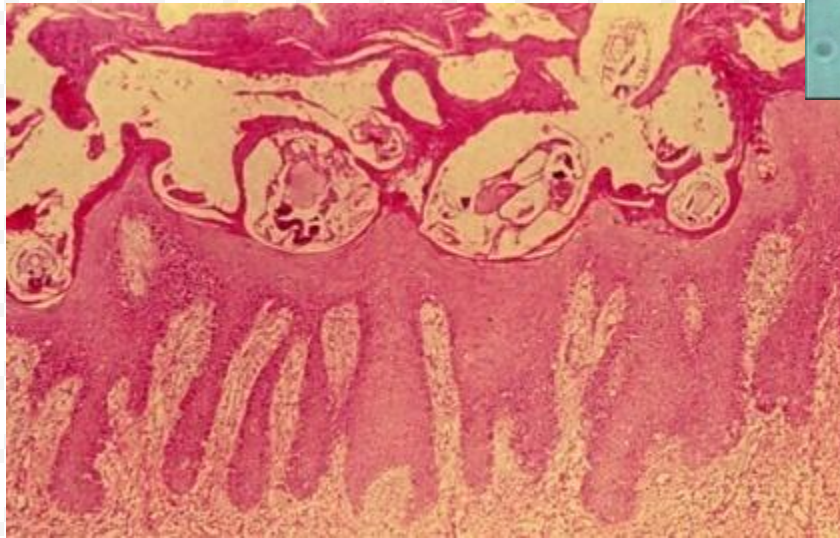


Sarcoptes scabiei mite





جمهوری اسلامی ایران





P. falciparum



marginal form



ring form



double dotted rings



ring form



young trophozoite



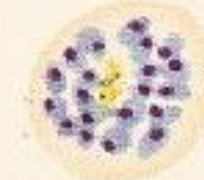
trophozoite



early schizont



schizont



mature schizont



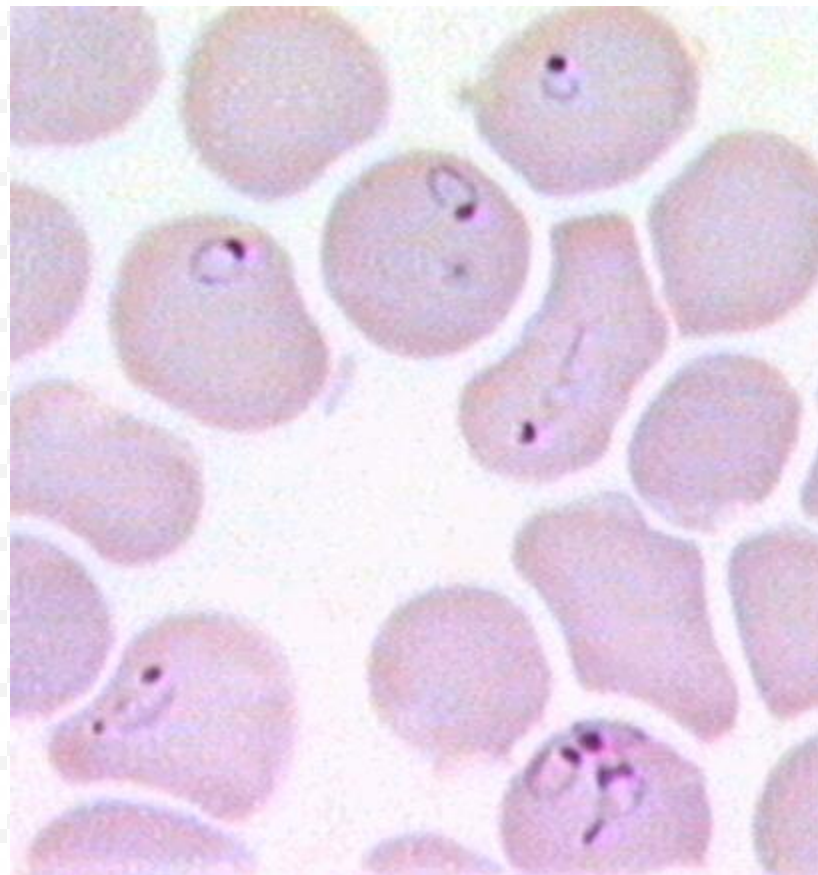
female gametocyte



male gametocyte

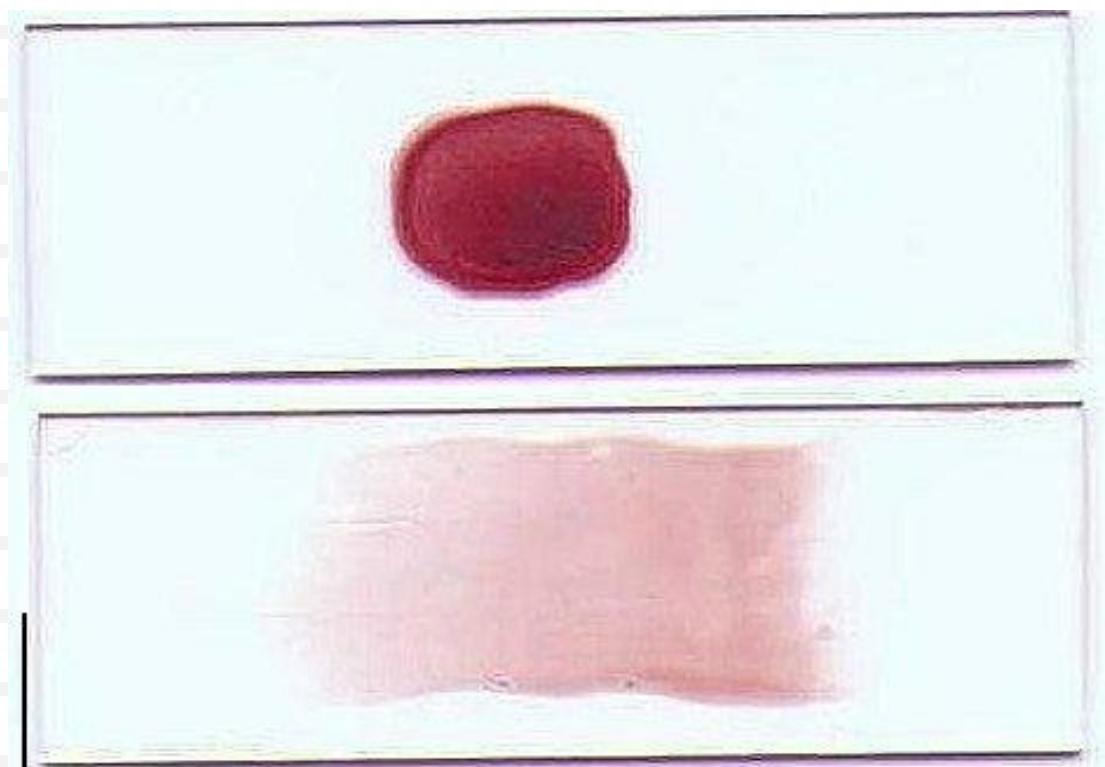


ازمایشگاه سلامت



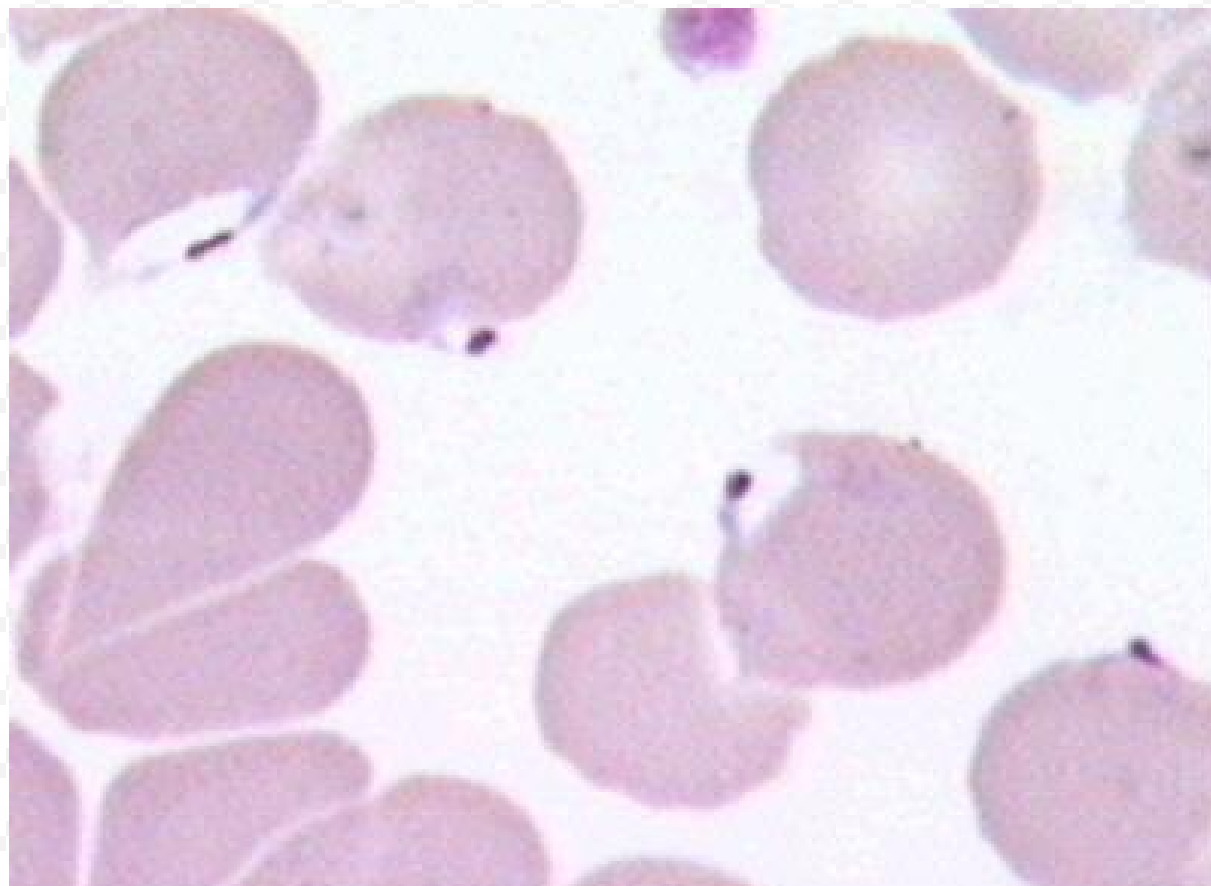


ازمایشگاه سلامت





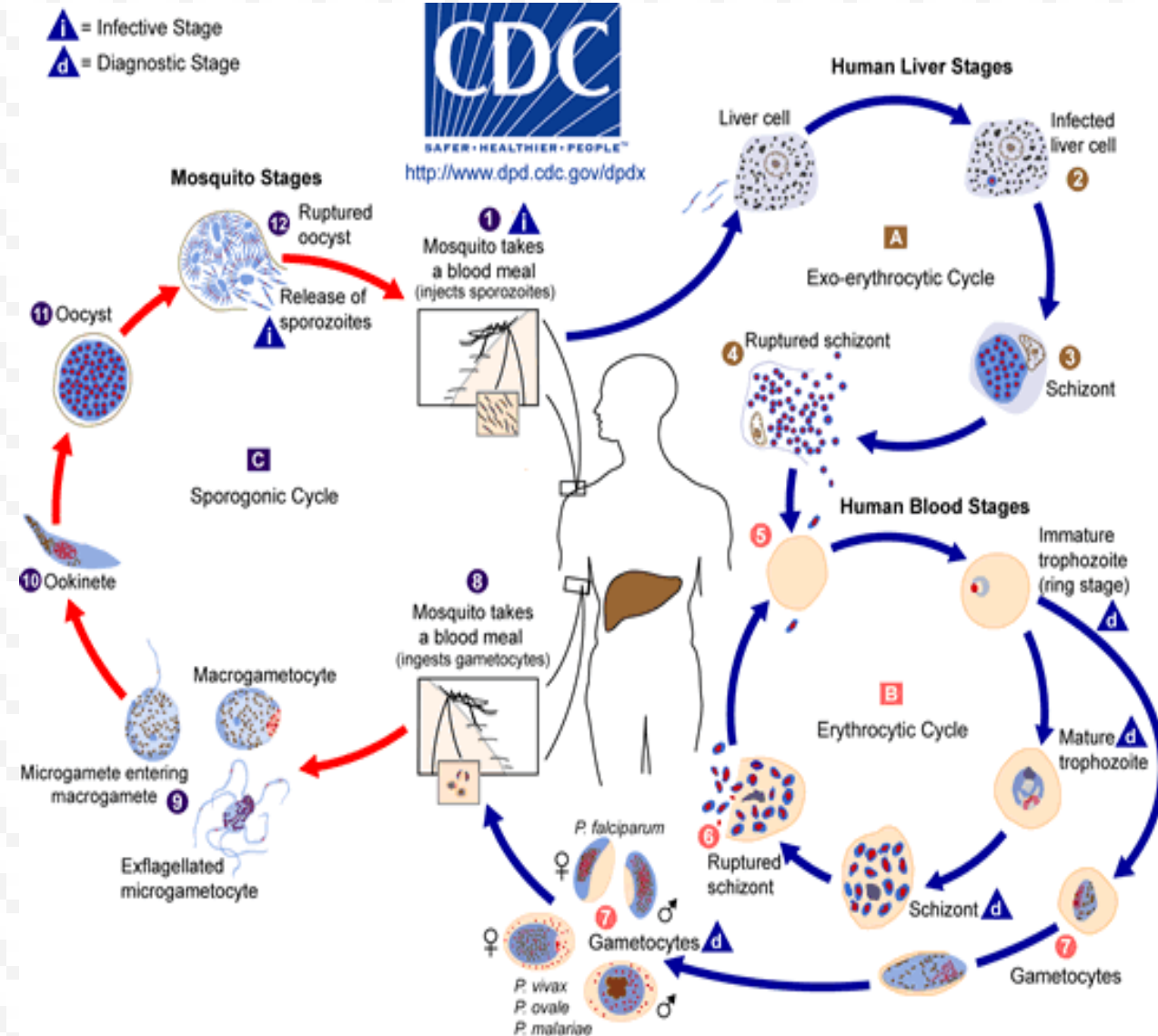
ازمایشگاه سلامت

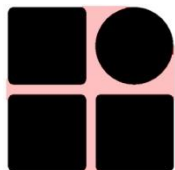




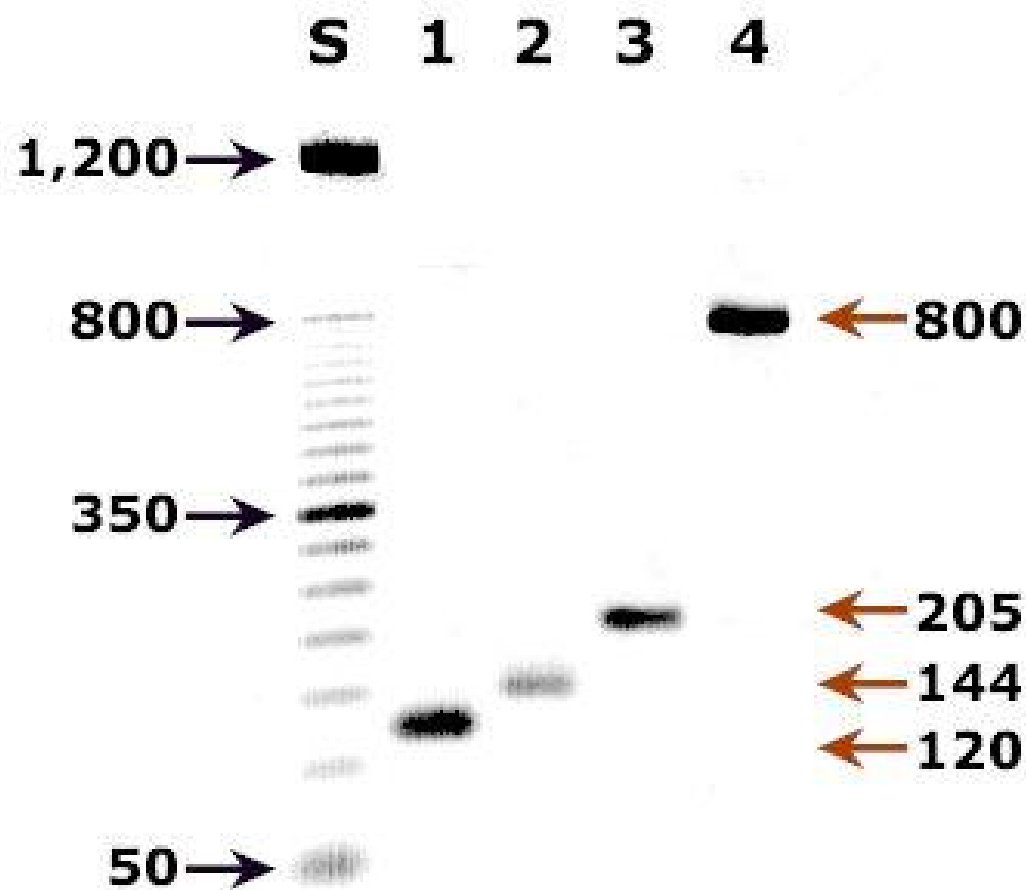
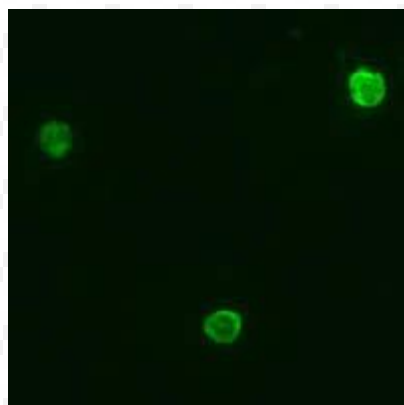
Plasmodium spp

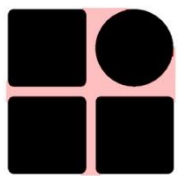
Life cycle of *Plasmodium* spp



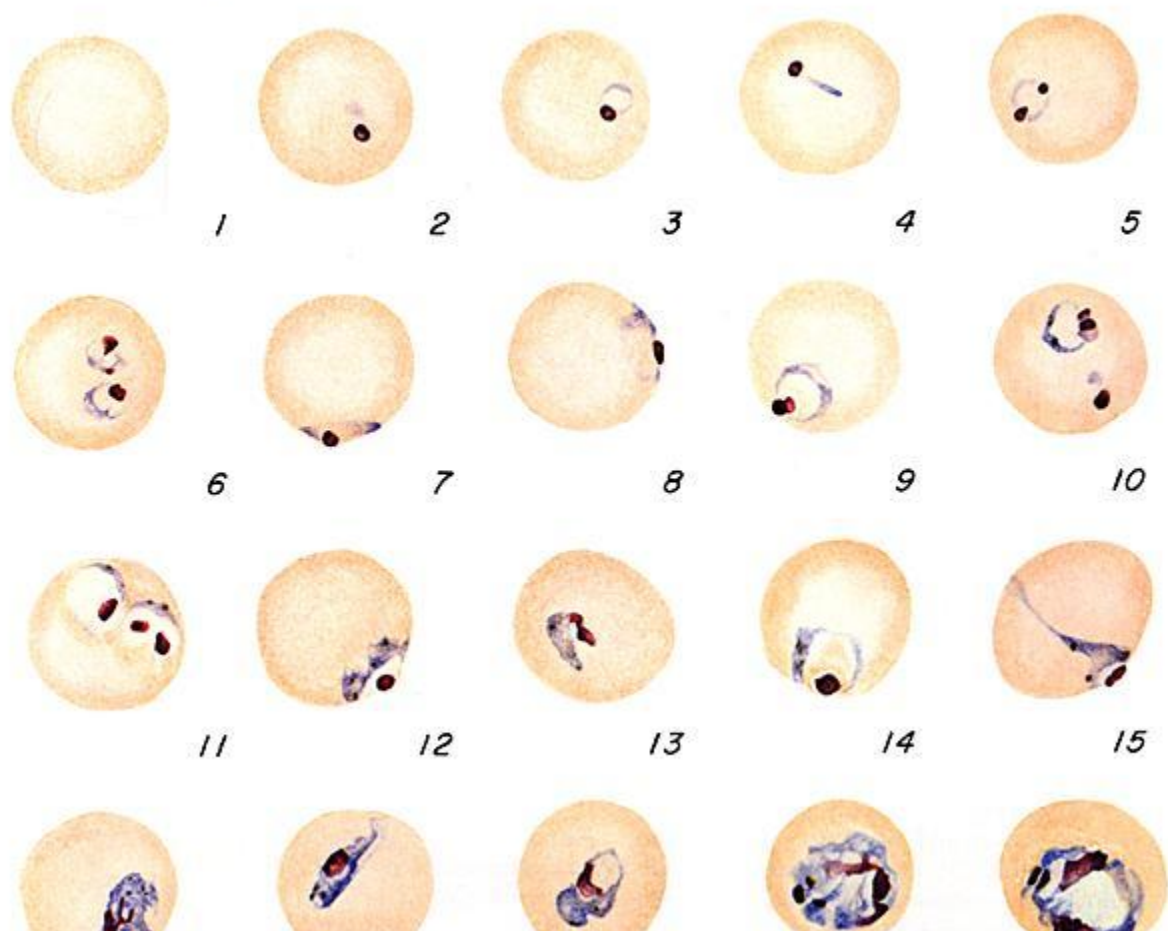


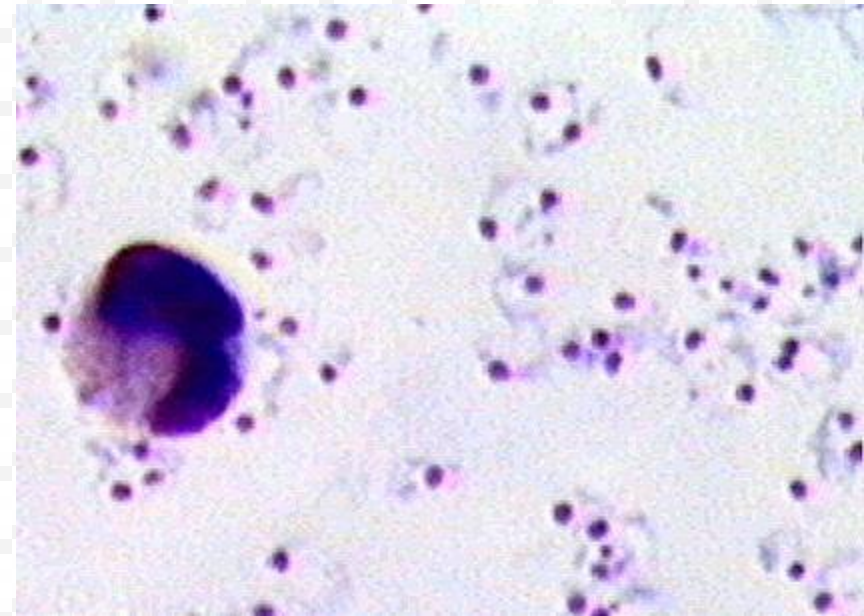
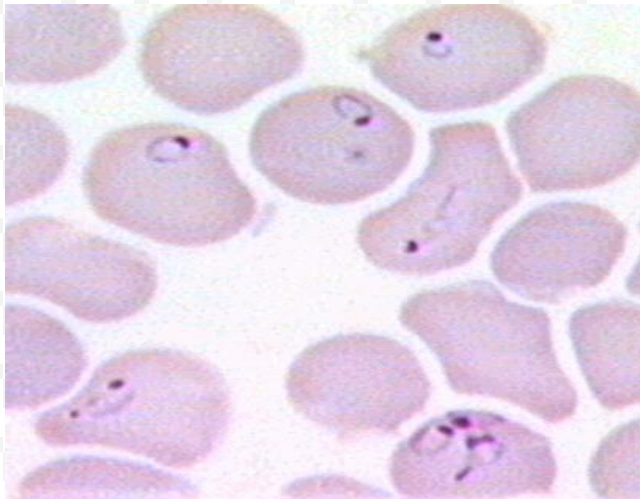
انستیتو ملی تحقیقات سلامت

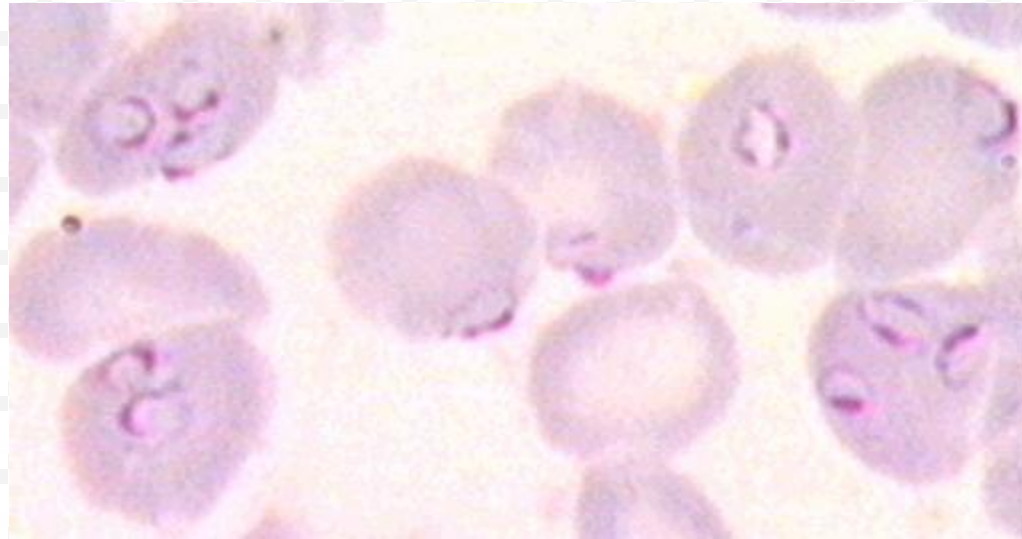




ازمایشگاه مهر و سلامت

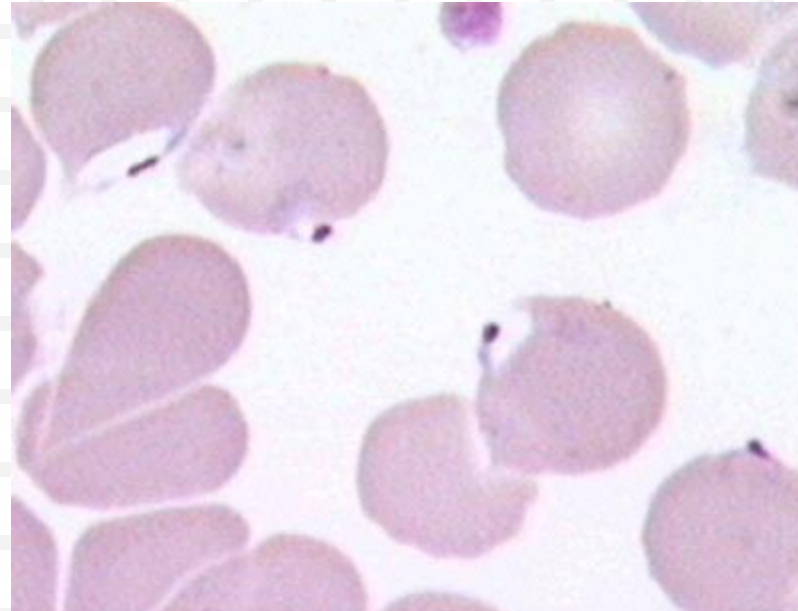






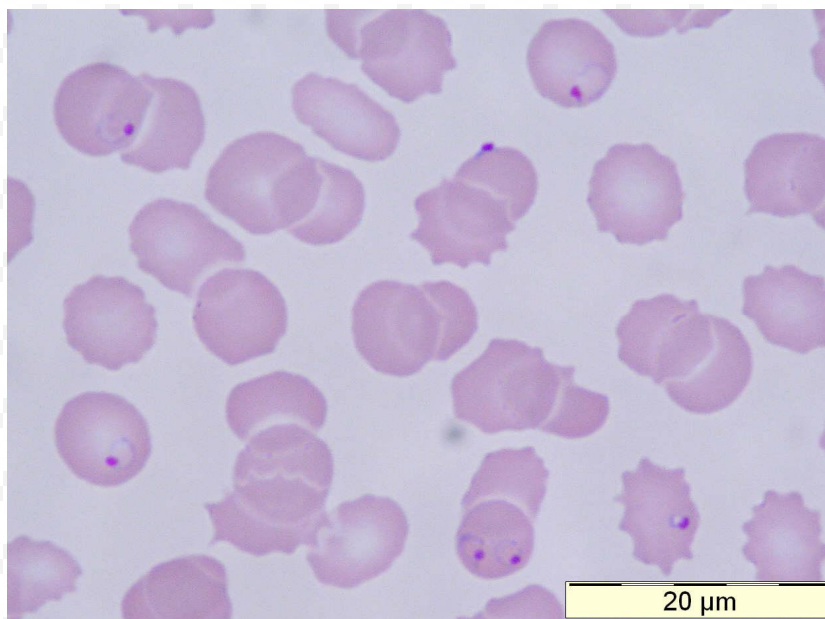
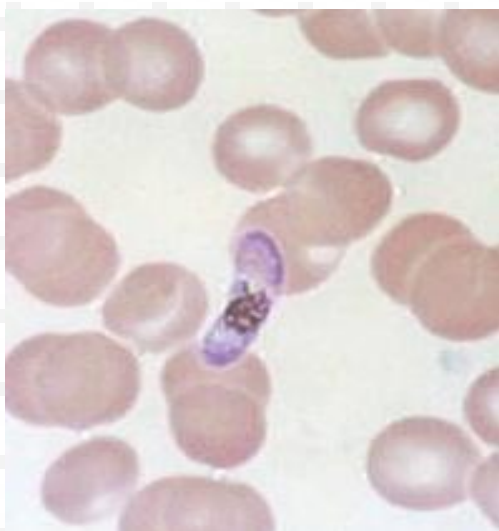


ازمایشگاه سلامت



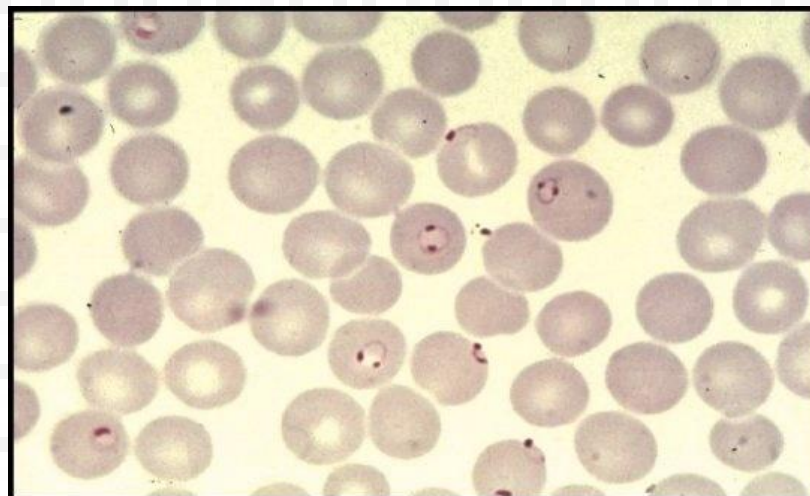


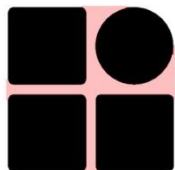
ازمایشگاه سلامت



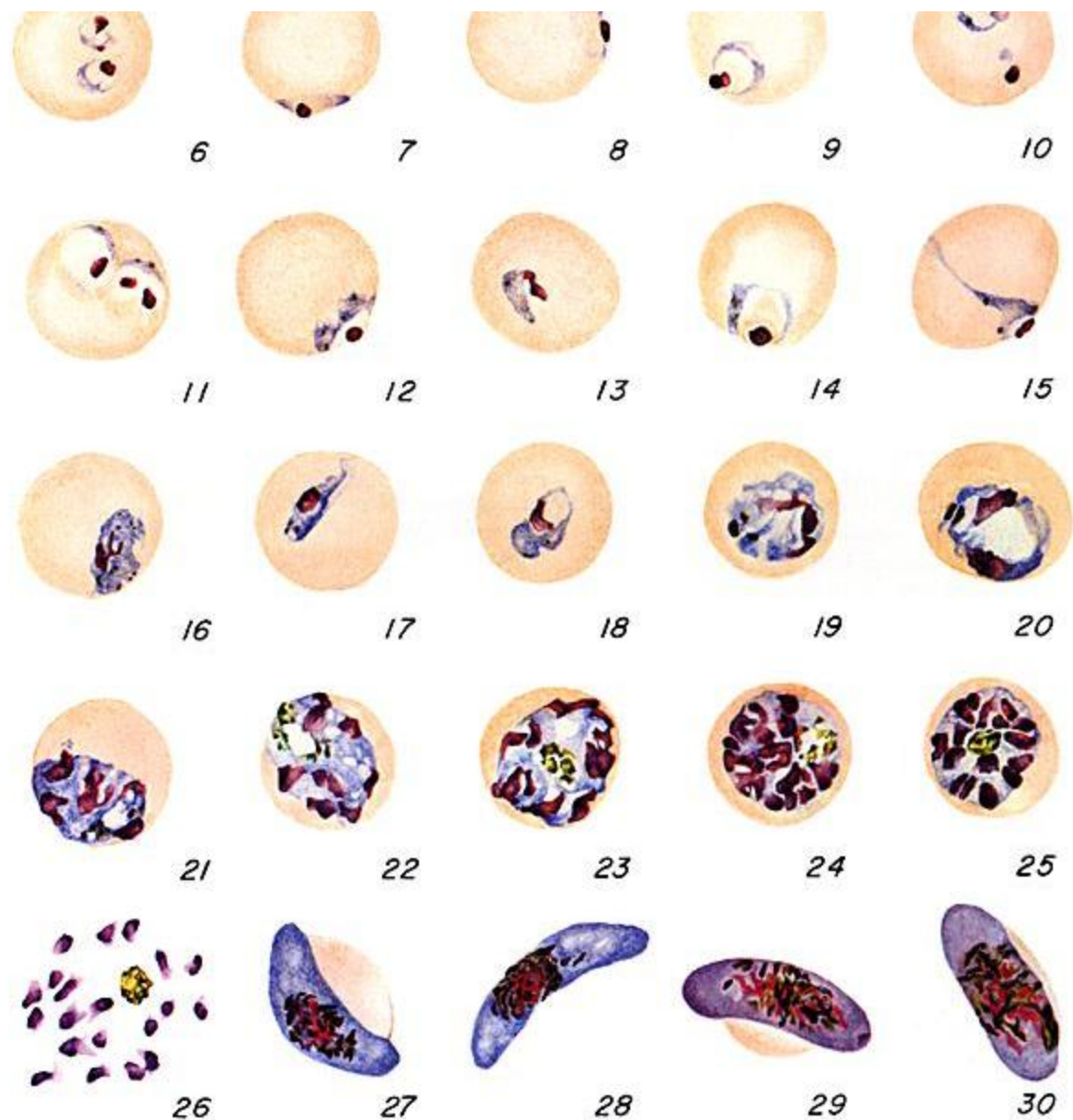


ازمایشگاه سلامت





جمهوری اسلامی ایران

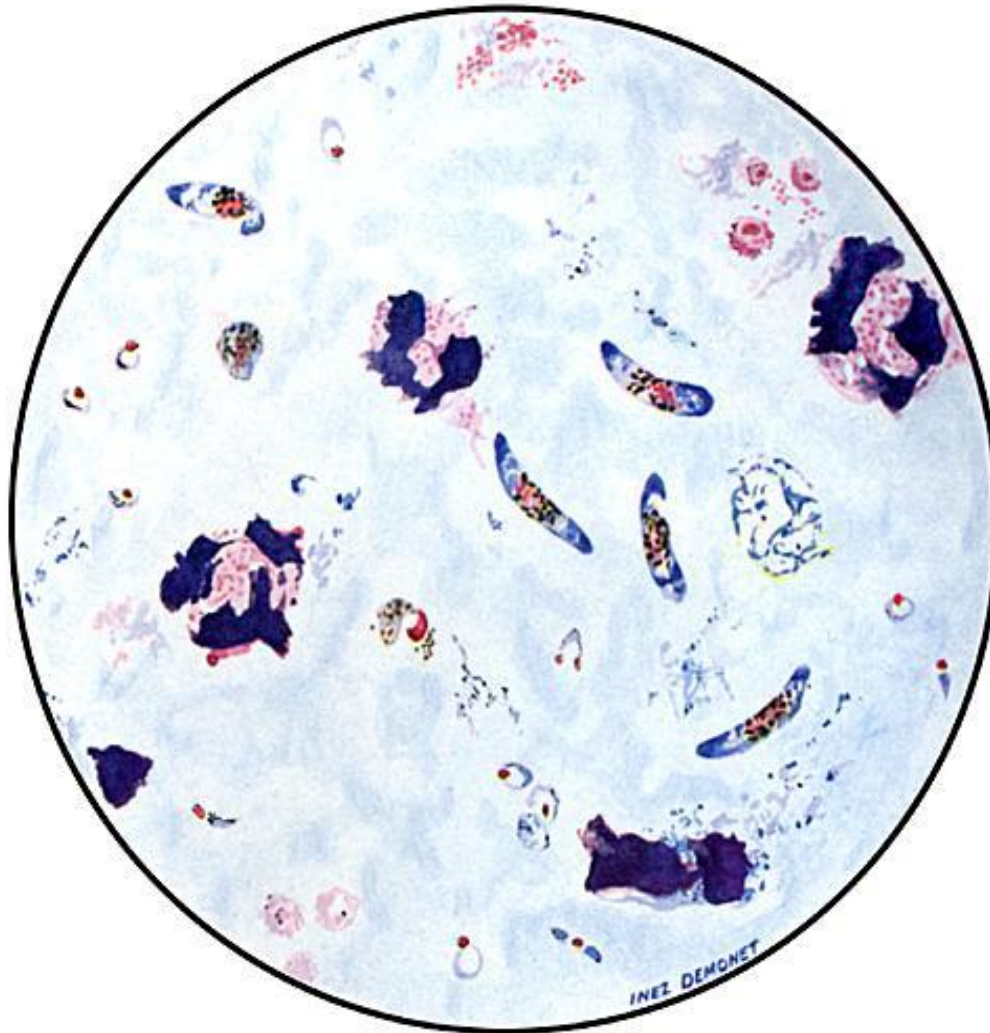


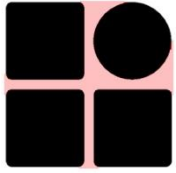
PLASMODIUM FALCIPARUM

J. H. Nicholson

- Thick Blood S

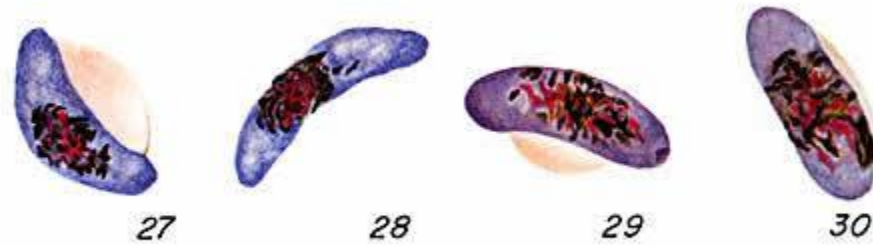
Thick Blood Smears



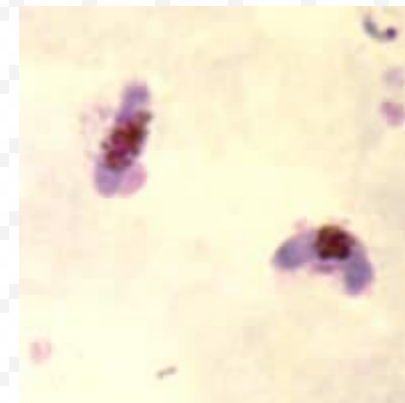
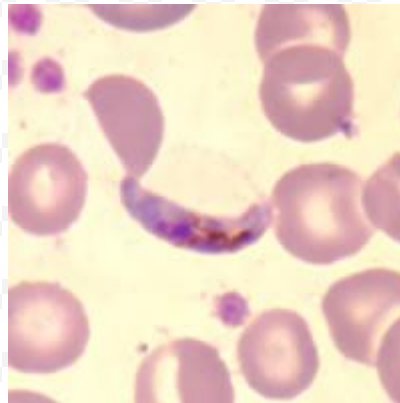
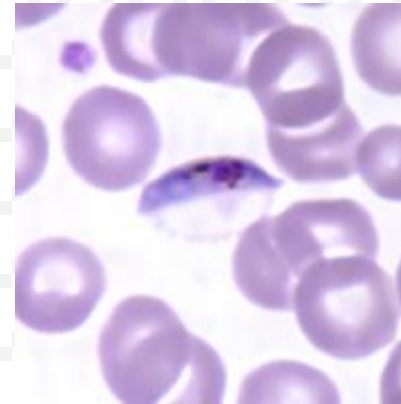
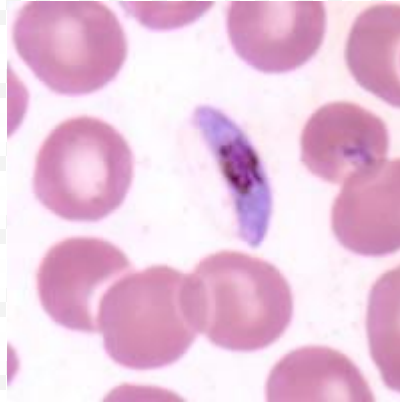
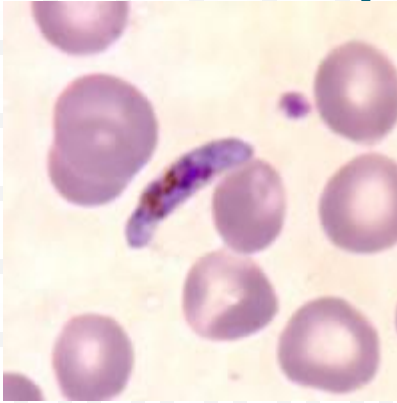


آزمایشگاه میکروبیولوژی

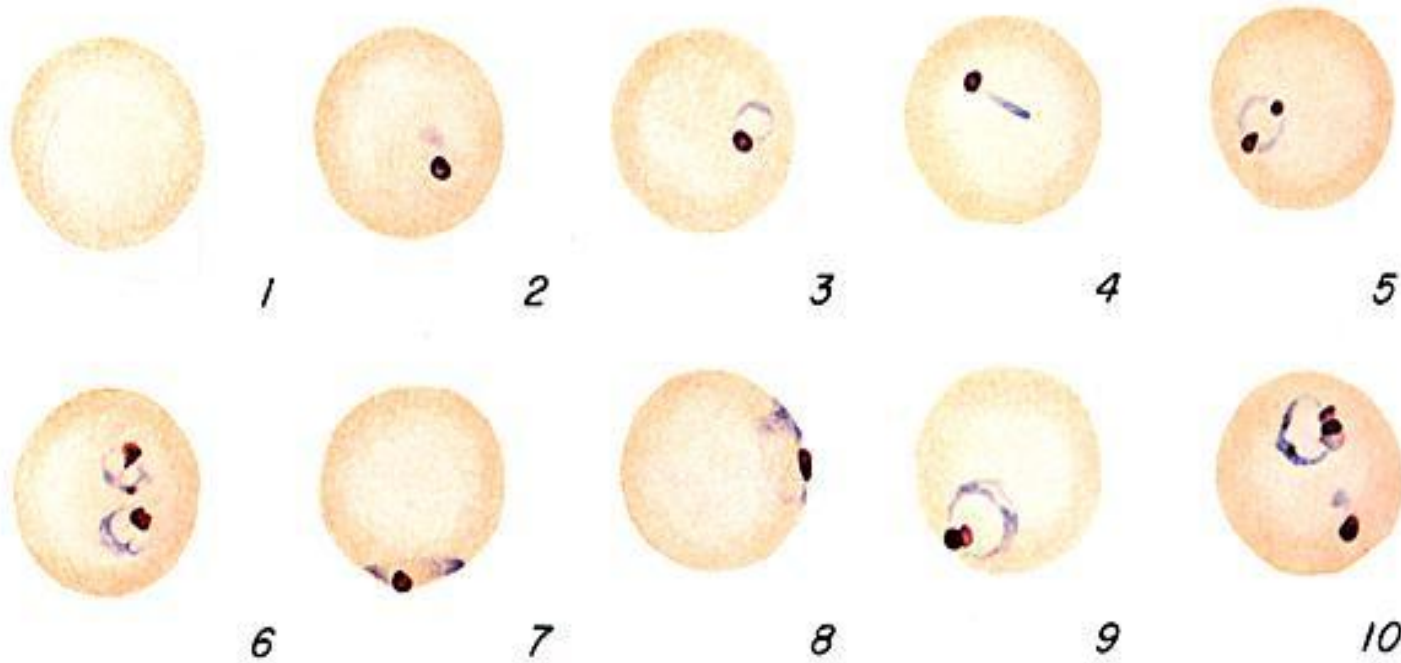
Mature macrogametocytes (female ; Fig. 29 : ۳۰ , Mature microgametocytes (male. (



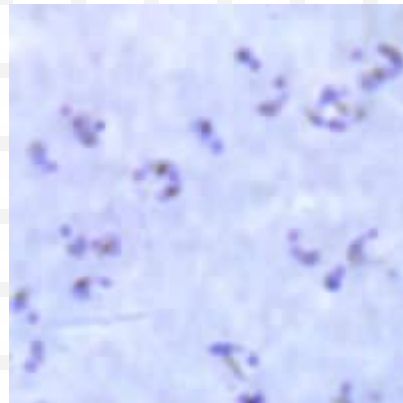
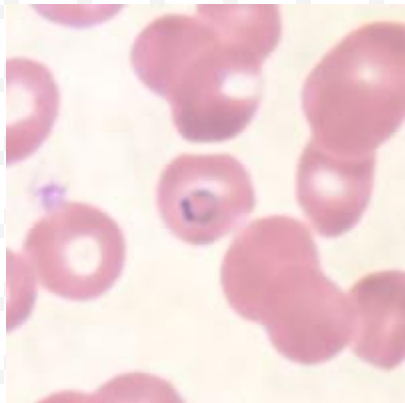
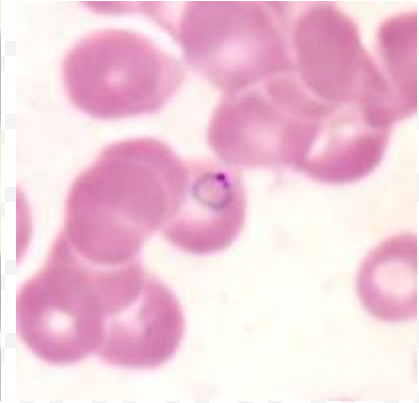
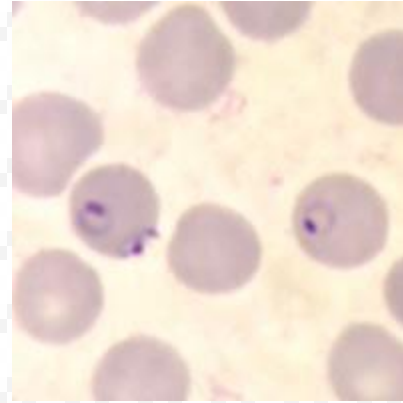
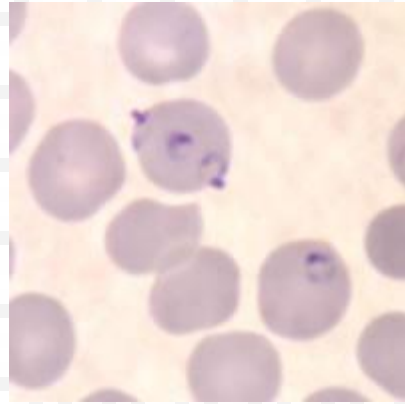
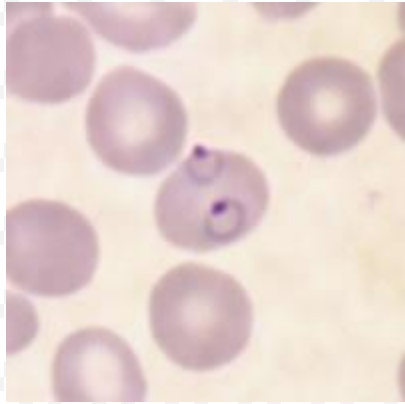
Gametocytes of *P. falciparum*



Ring Stage



Ring Stage





جمهوری اسلامی ایران

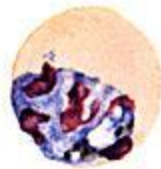
schizonts



19



20



21



22



23



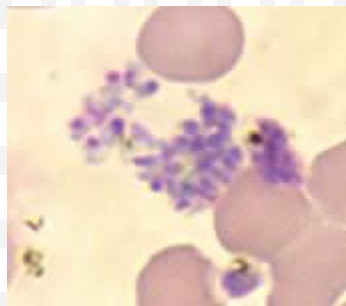
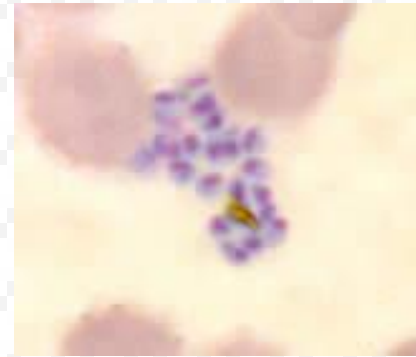
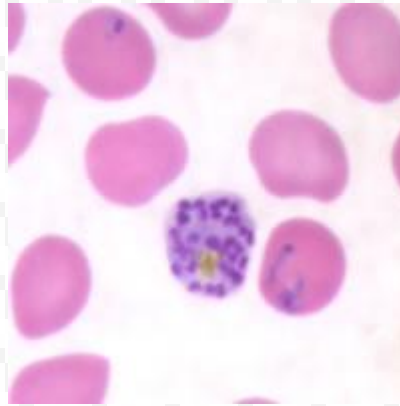
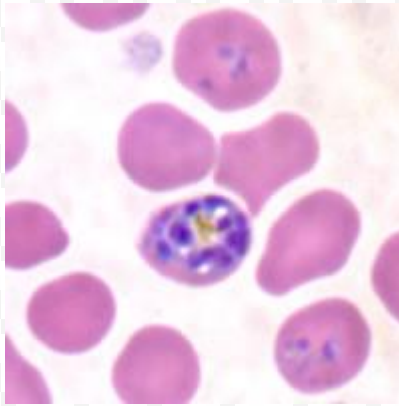
24



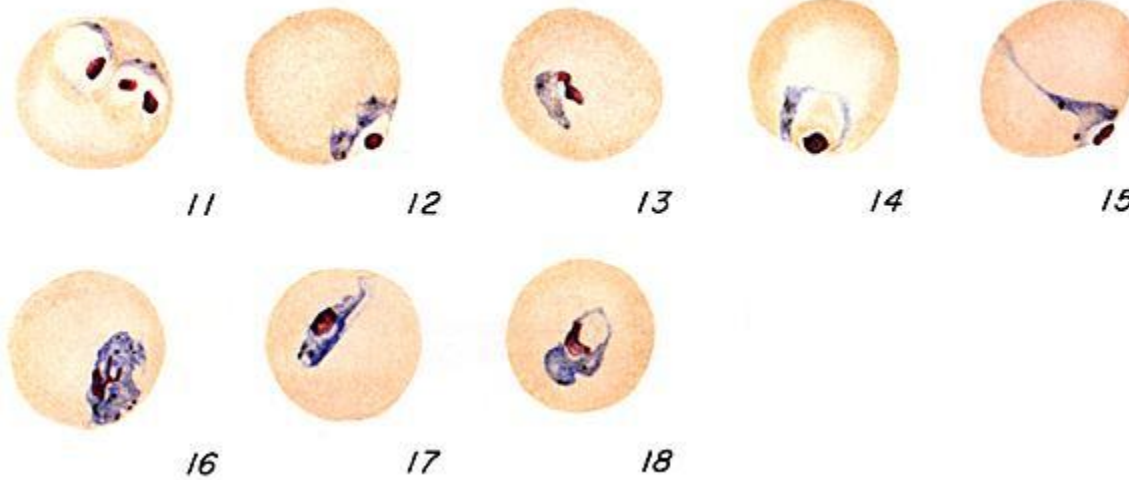
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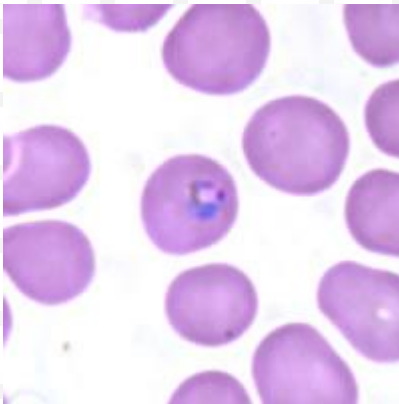
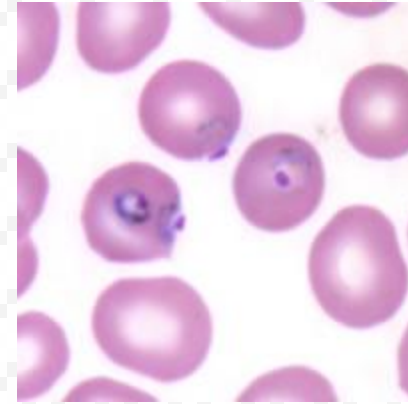
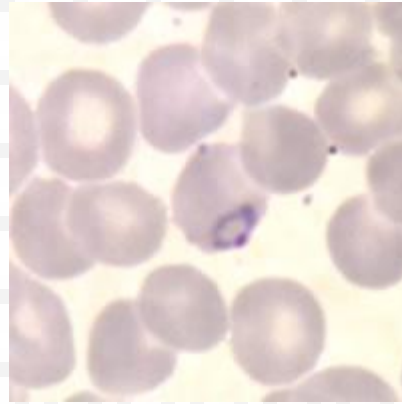
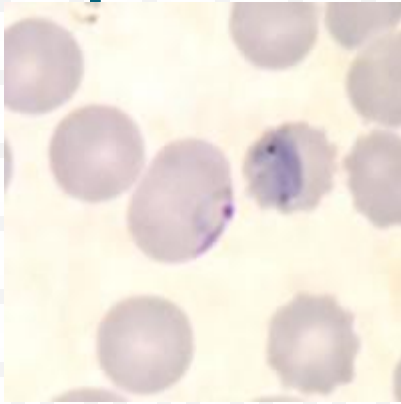
26



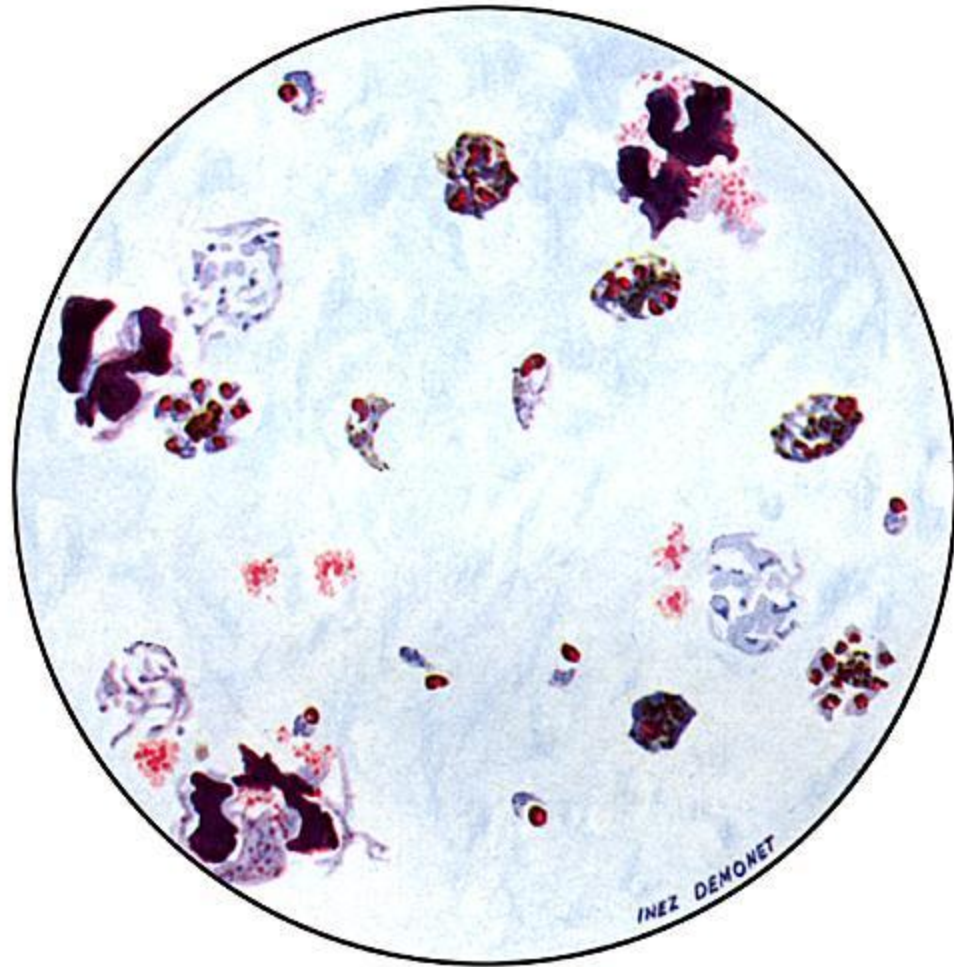
Trophozoites



Trophozoites



Plasmodium malariae



Developing

gametocyte ; Fig. 24 : Macrogametocyte (female ;

Fig. 25 : Microgametocyte (male.)



23

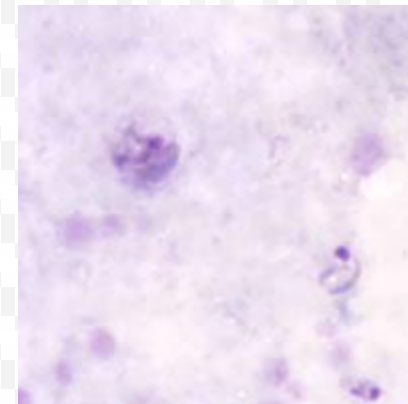
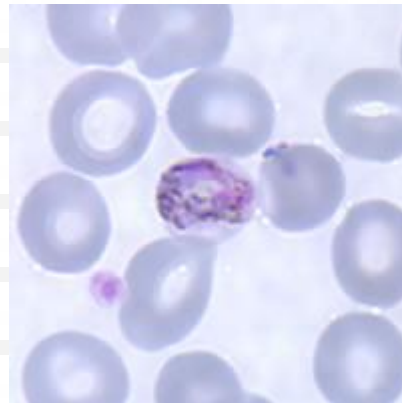
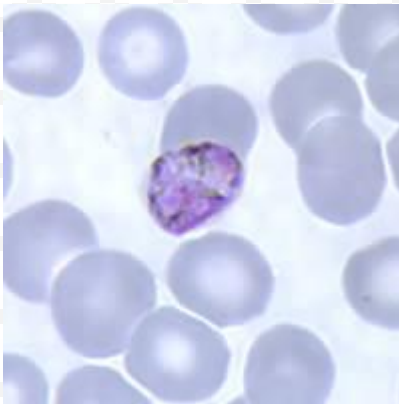


24



25

Gametocytes

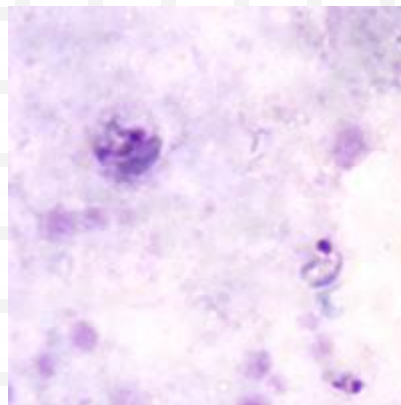
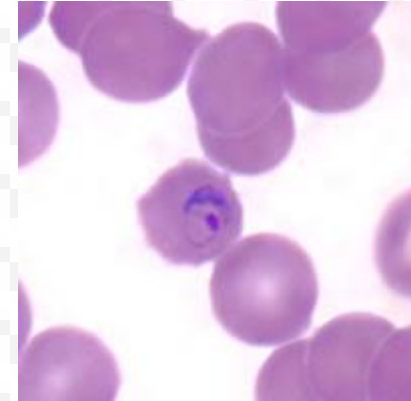
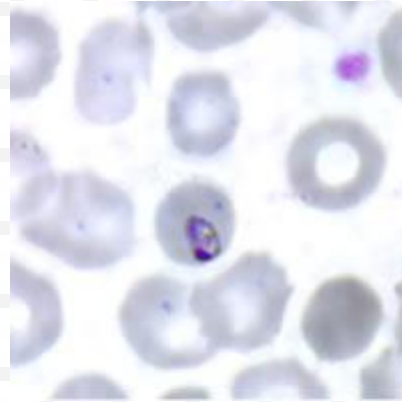
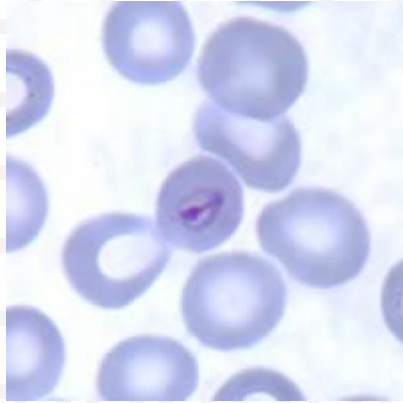


Ring Stage





ازمایشگاه سلامت



Schizonts



14



15



16



17



18



19



20

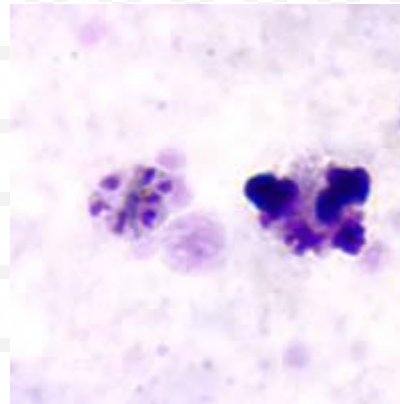
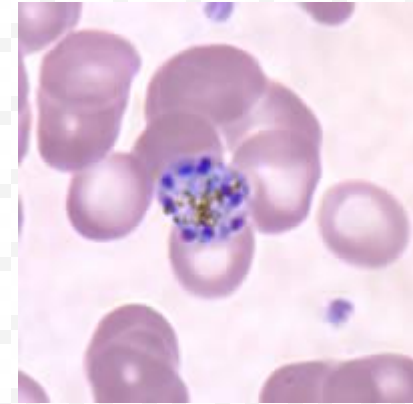
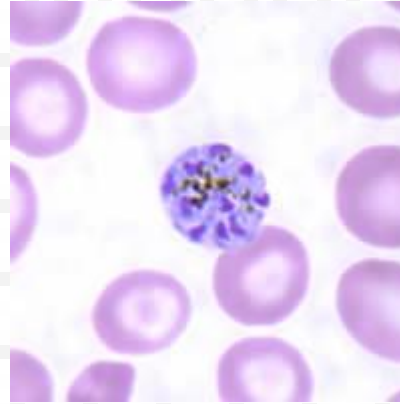
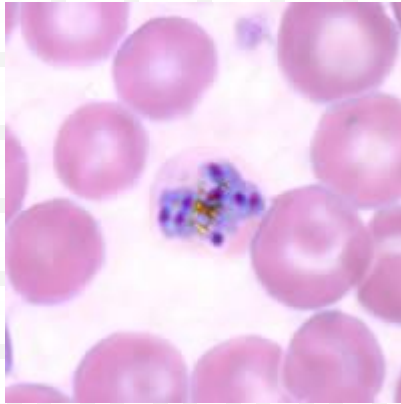


21



22

Schizonts of *P. malariae* in a thin&thick blood smear .



Trophozoites



6



7



8



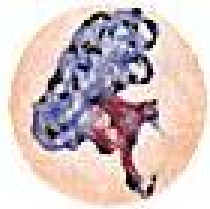
9



10



11

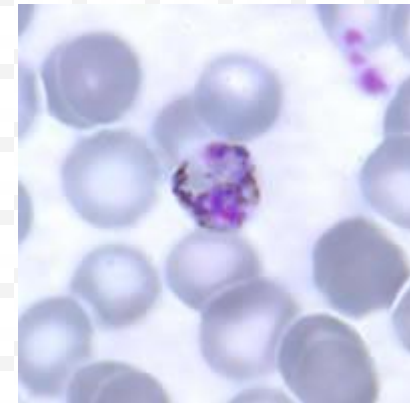
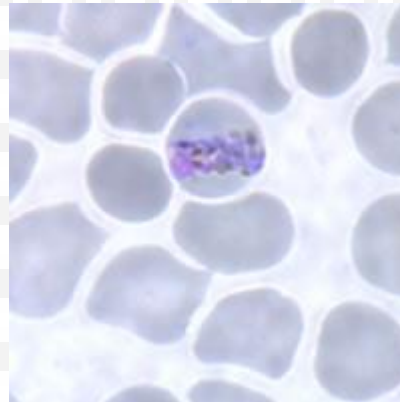
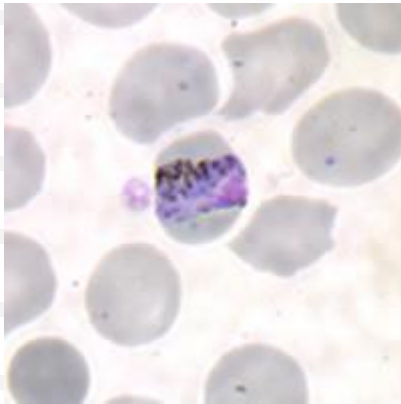


12

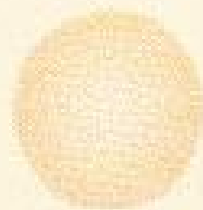


13

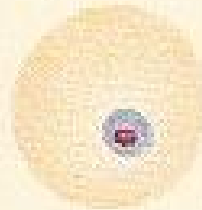
A and **B** are band forms . **C** is a "basket" form .



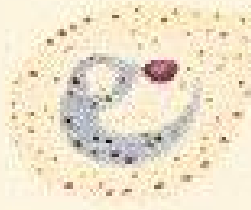
P. vivax



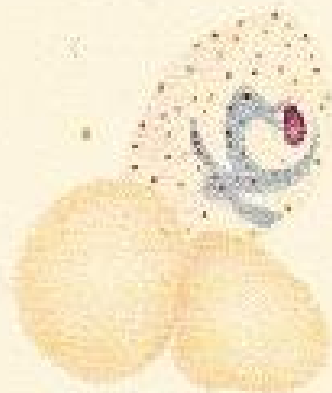
ring form



mature ring form



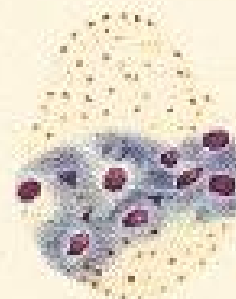
trophozoite



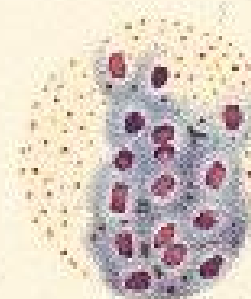
trophozoite



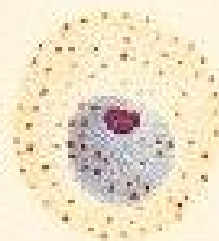
early schizont



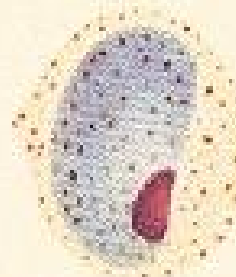
schizont



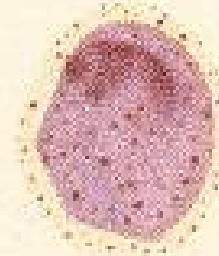
mature schizont



developing gametocyte

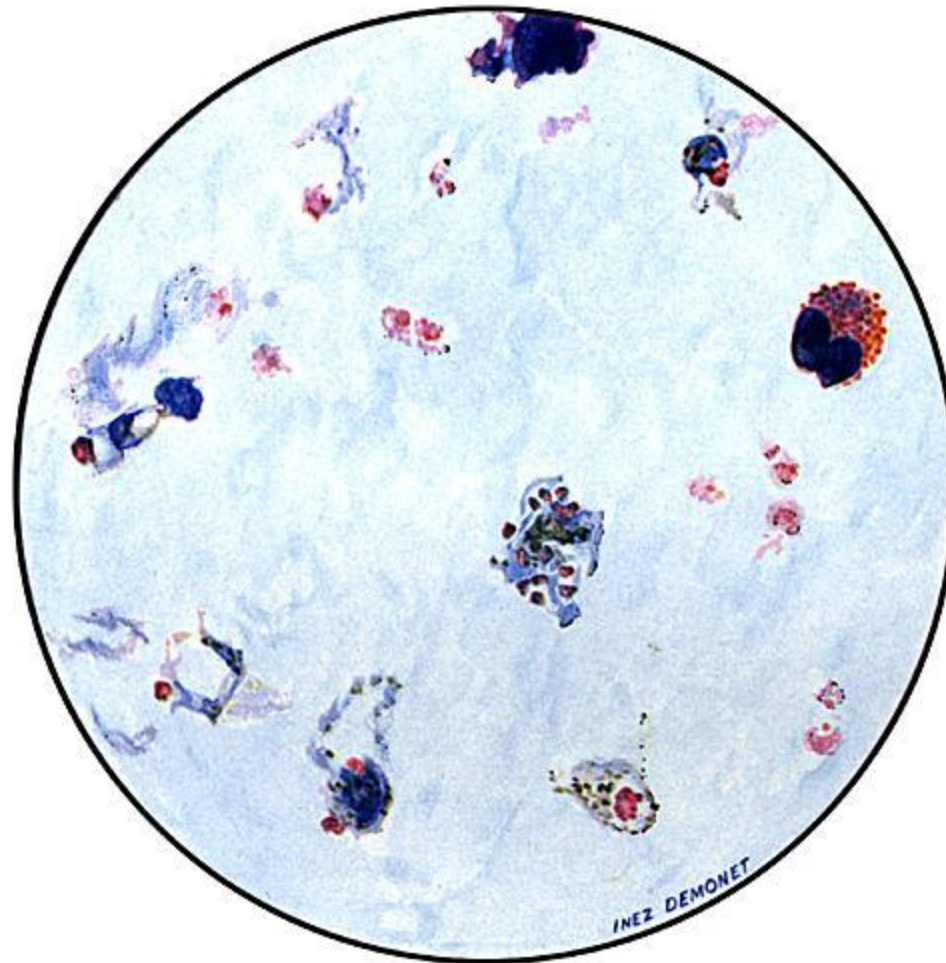


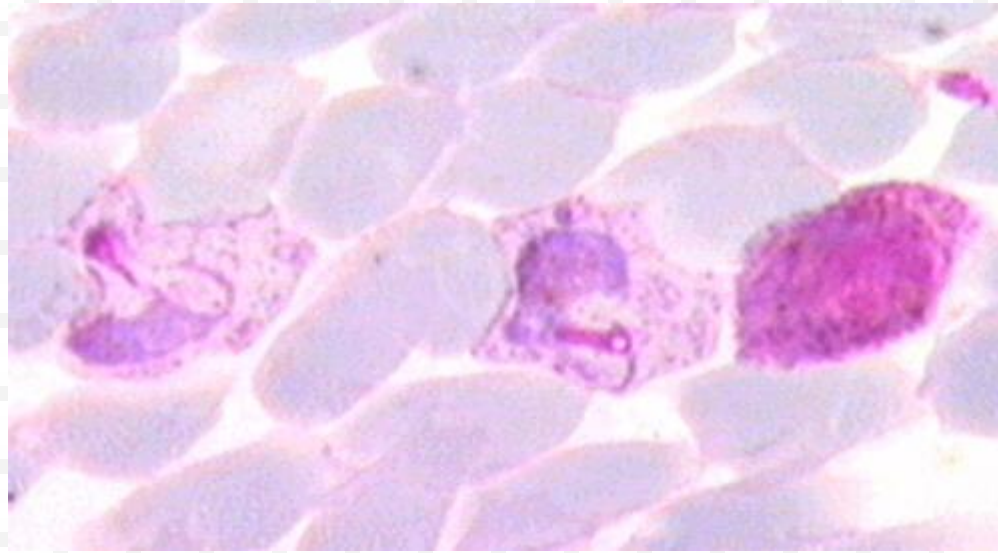
female gametocyte



male gametocyte

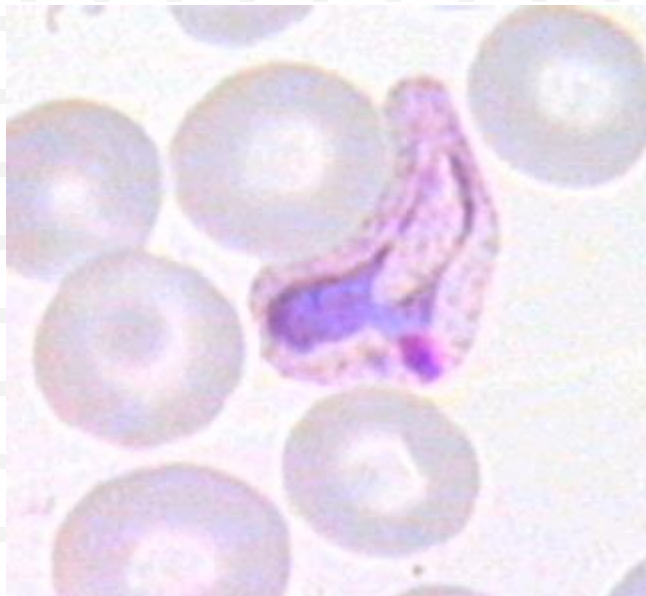
Plasmodium vivax



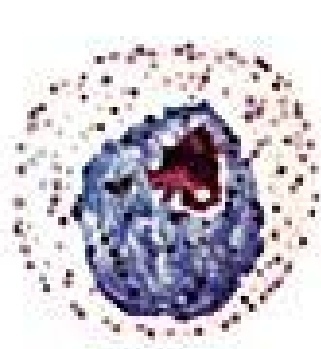




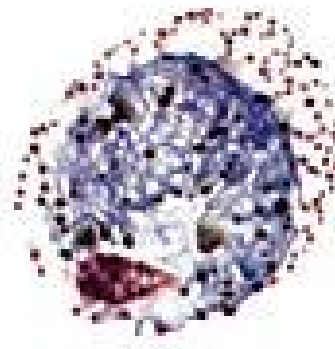
ازمایشگاه سلامت



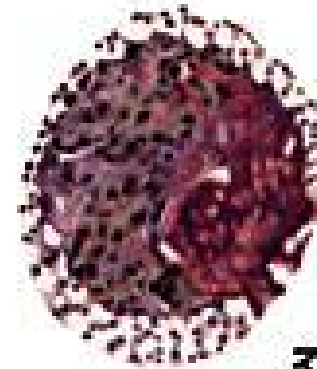
Gametocytes



28

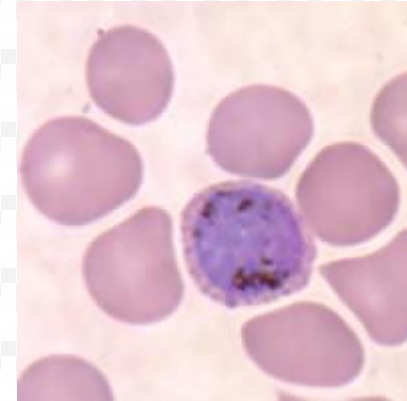
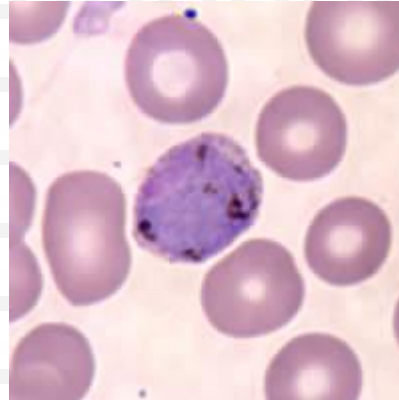
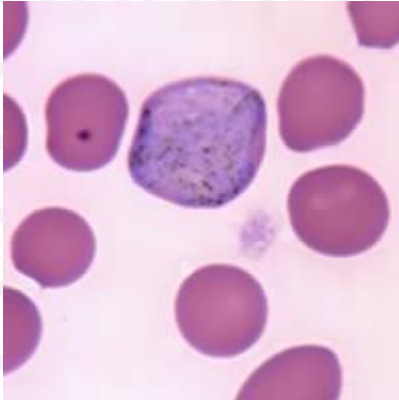


29

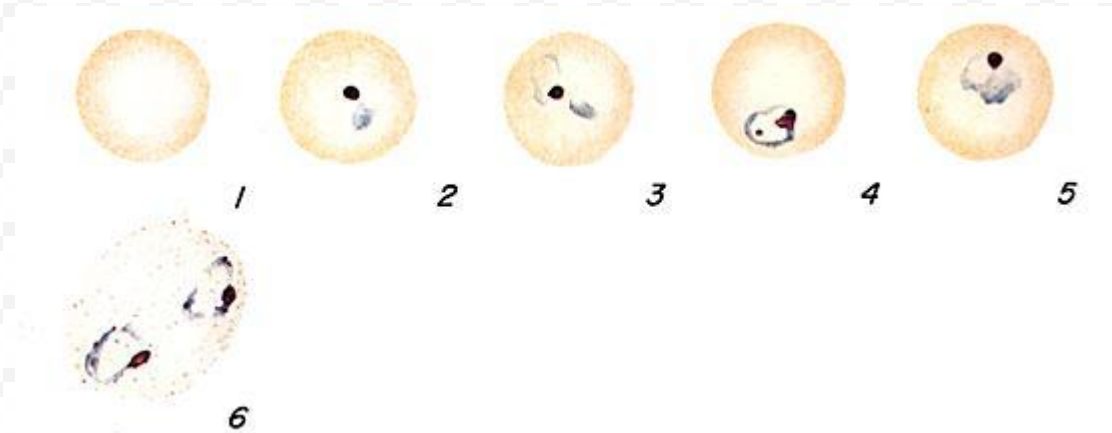


30

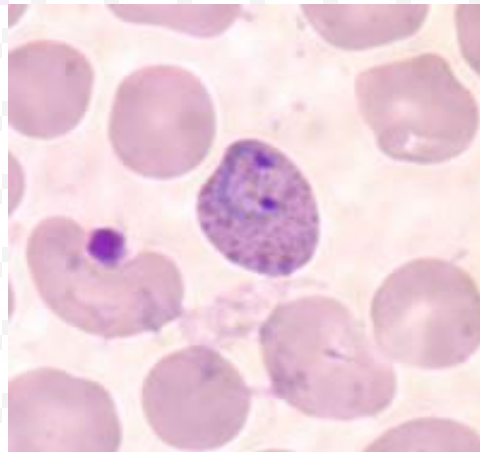
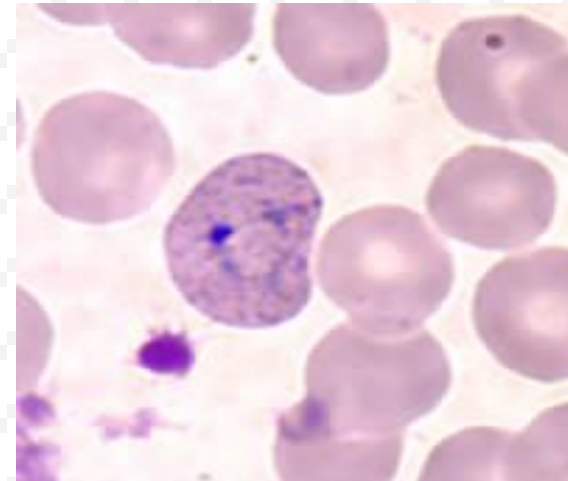
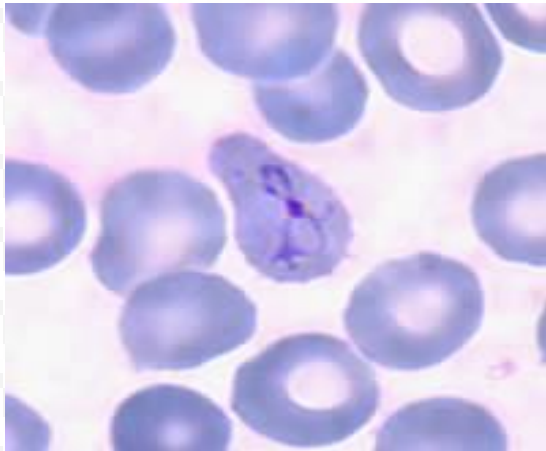
Schüffner's dots can be seen in **B** and **C**.



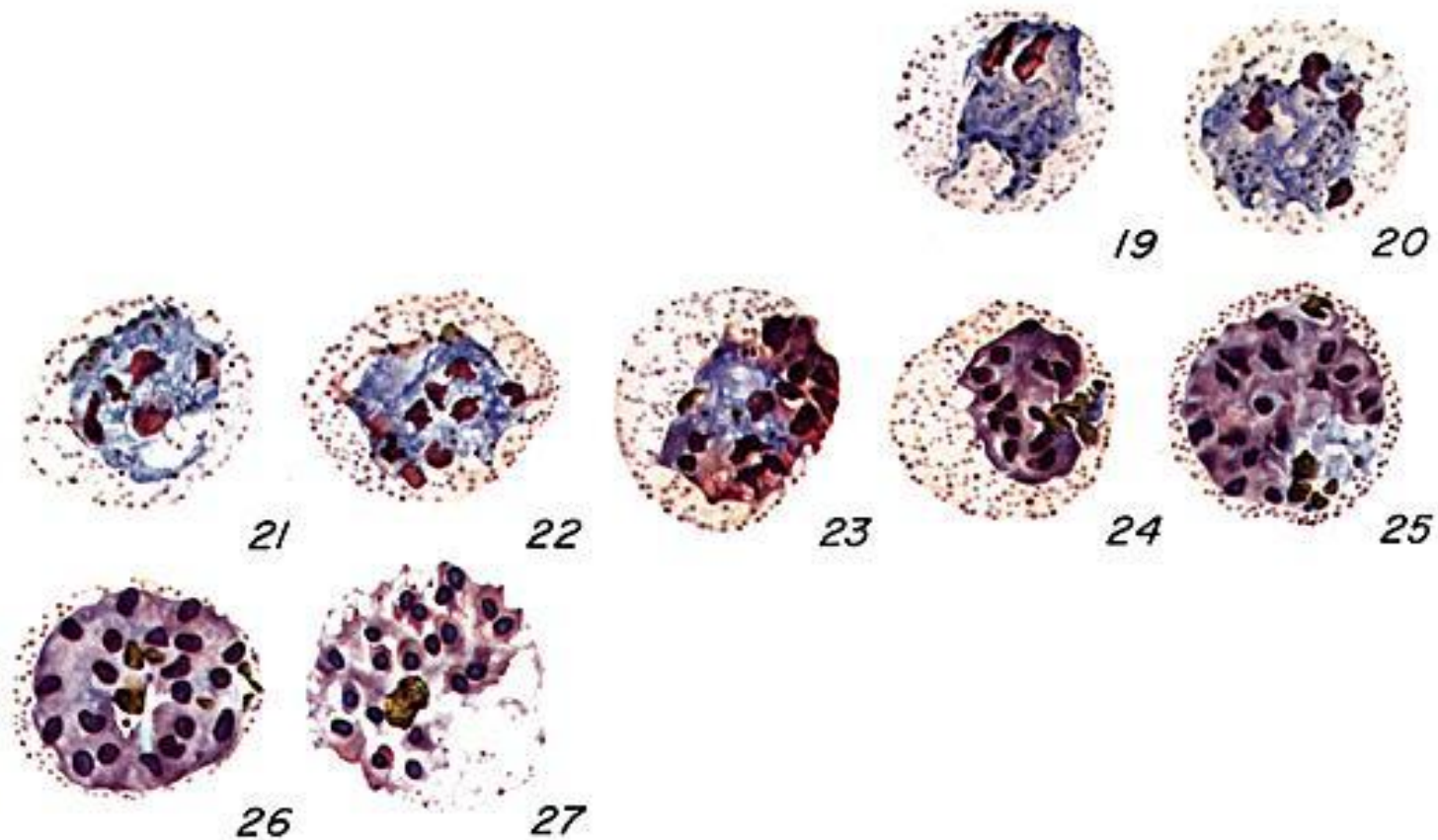
Ring Stage Parasites

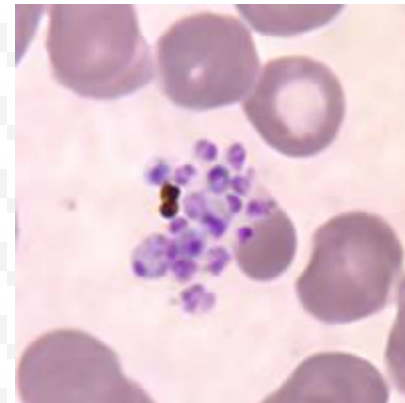
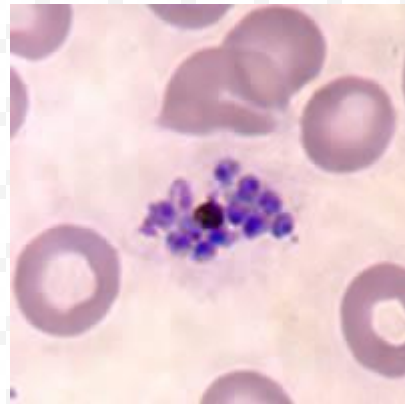
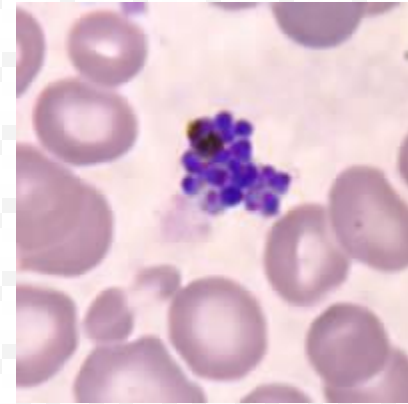
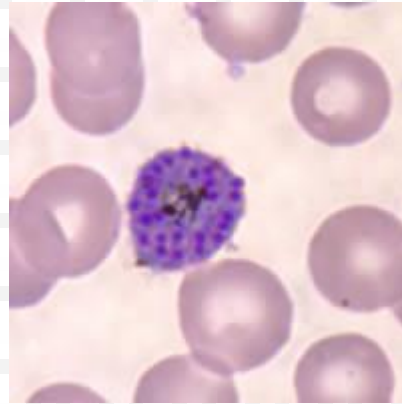
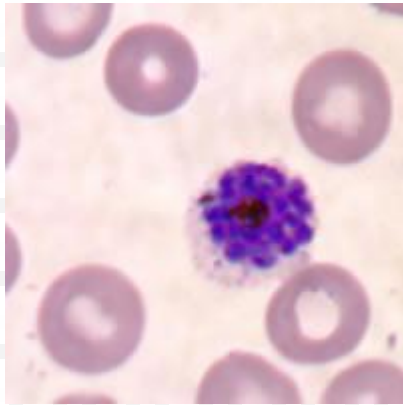


A and **C** :Rings are amoeboid and the RBCs are enlarged and distorted .**B** :
Ring with double chromatin dot.
Schüffner's dots can be seen in **B** and **C**.

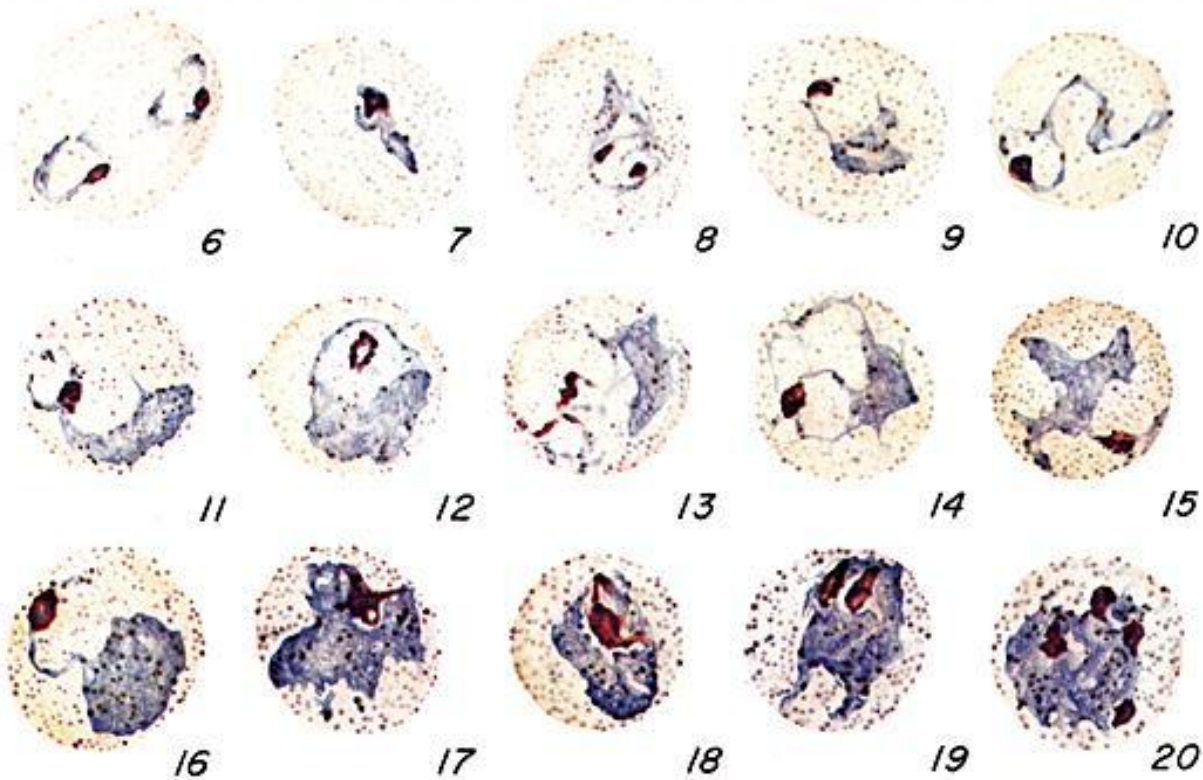


Schizonts

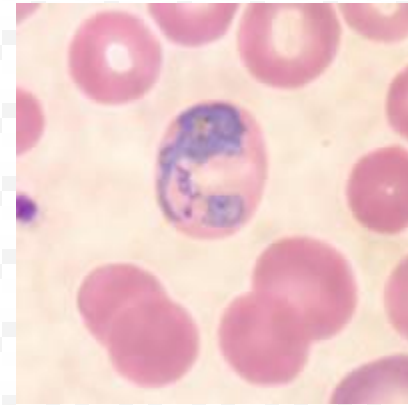
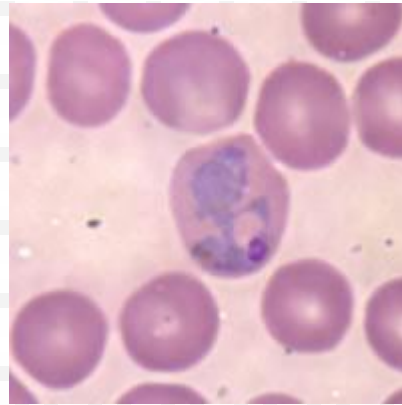
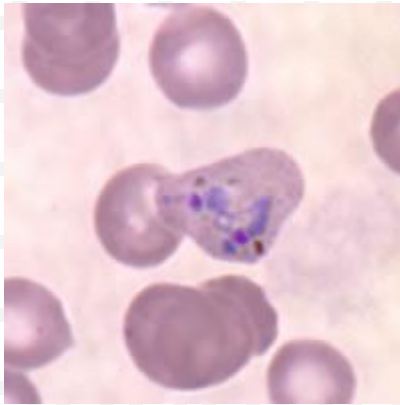




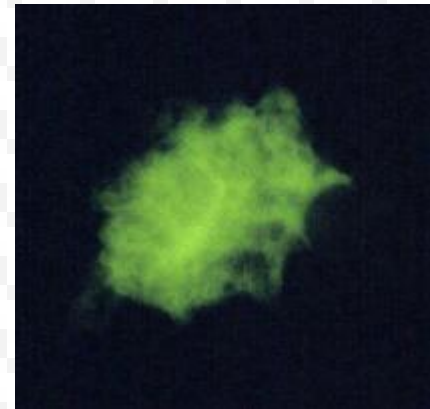
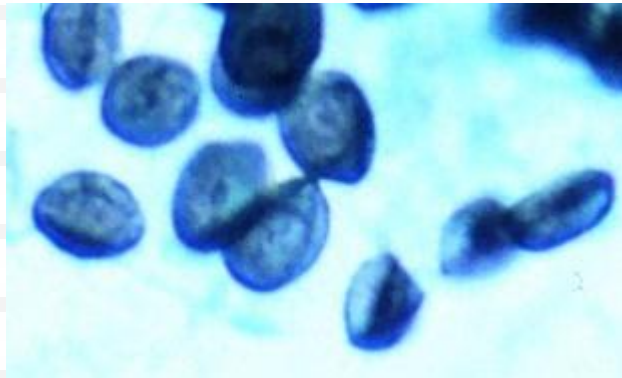
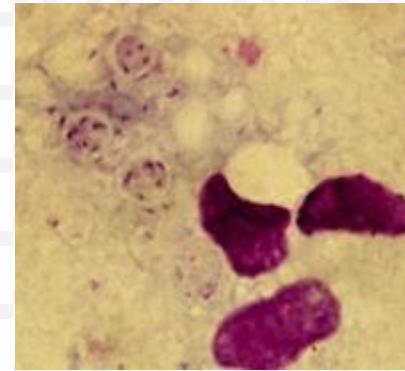
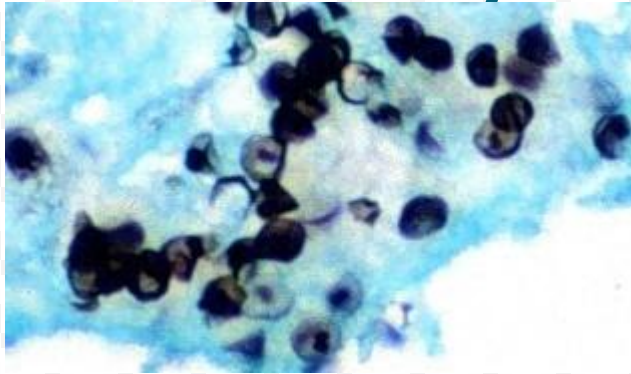
Trophozoites

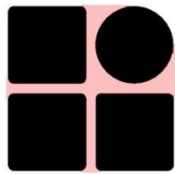


A, B, C : Large, amoeboid trophozoites of *P. vivax*
in thin blood smears

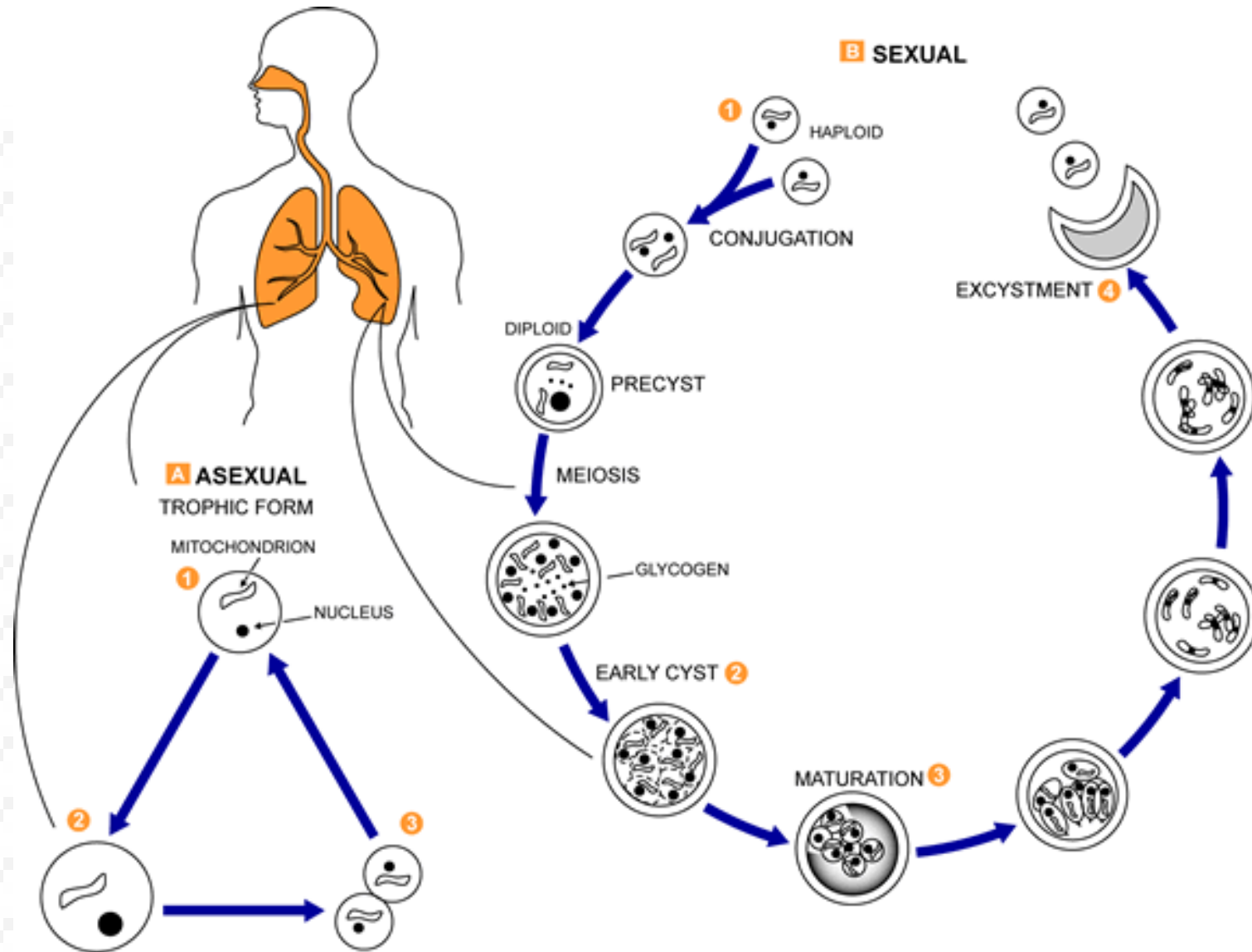


Pneumocystis jiroveci

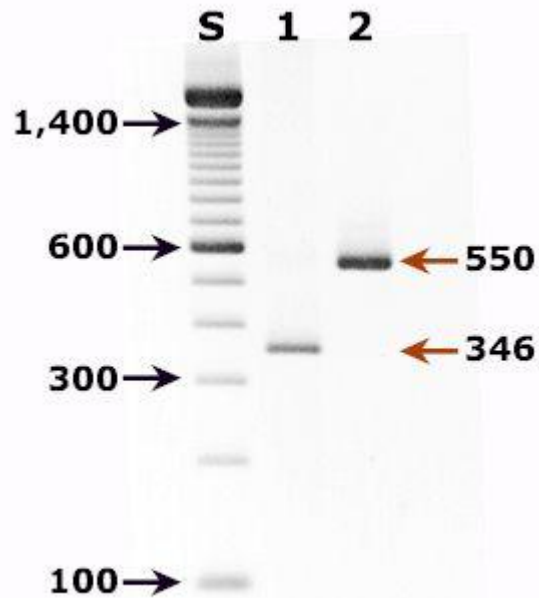




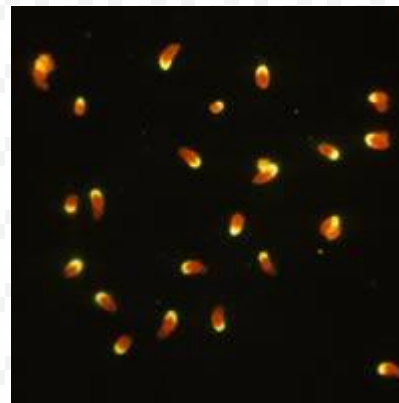
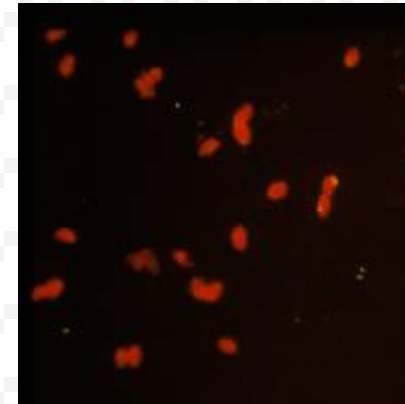
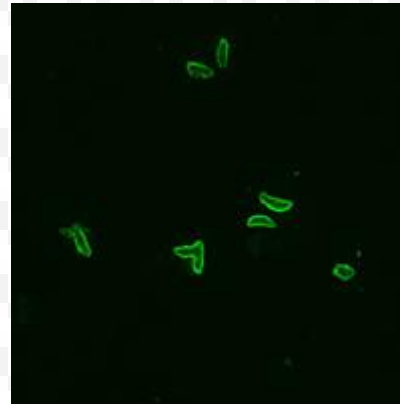
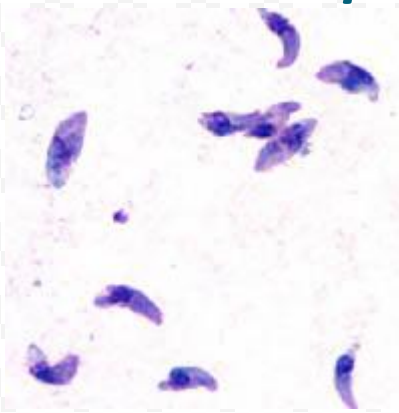
ازمایشگاه سلامت



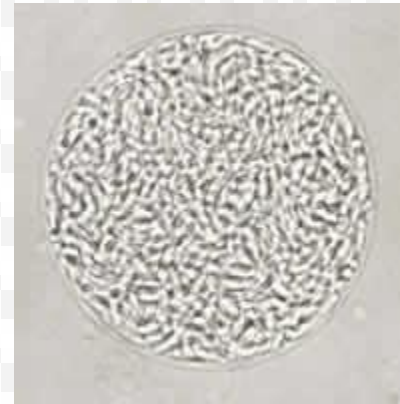
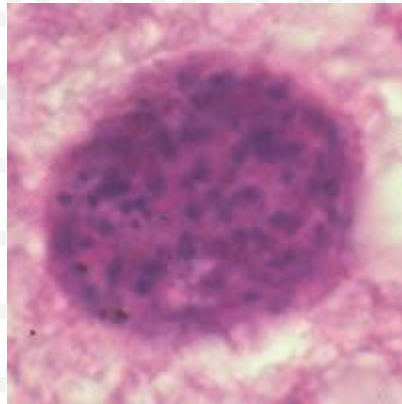
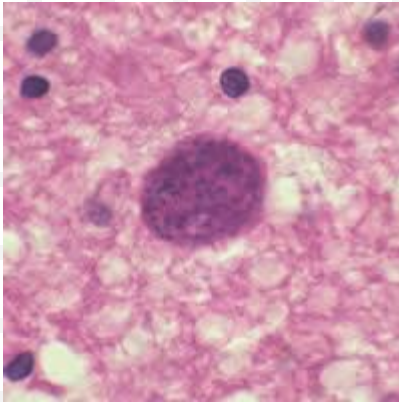
Pneumocystis jiroveci



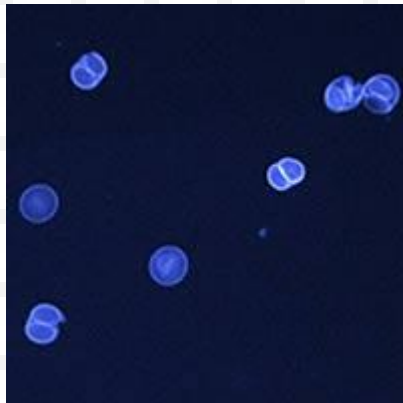
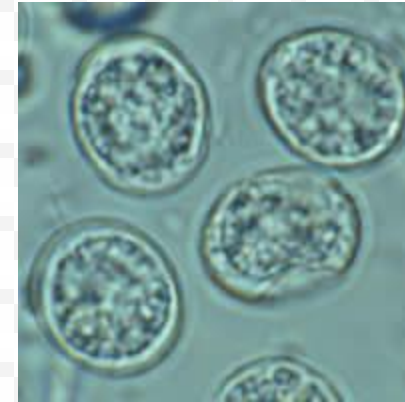
Toxoplasma gondii tachyzoites



Toxoplasma gondii

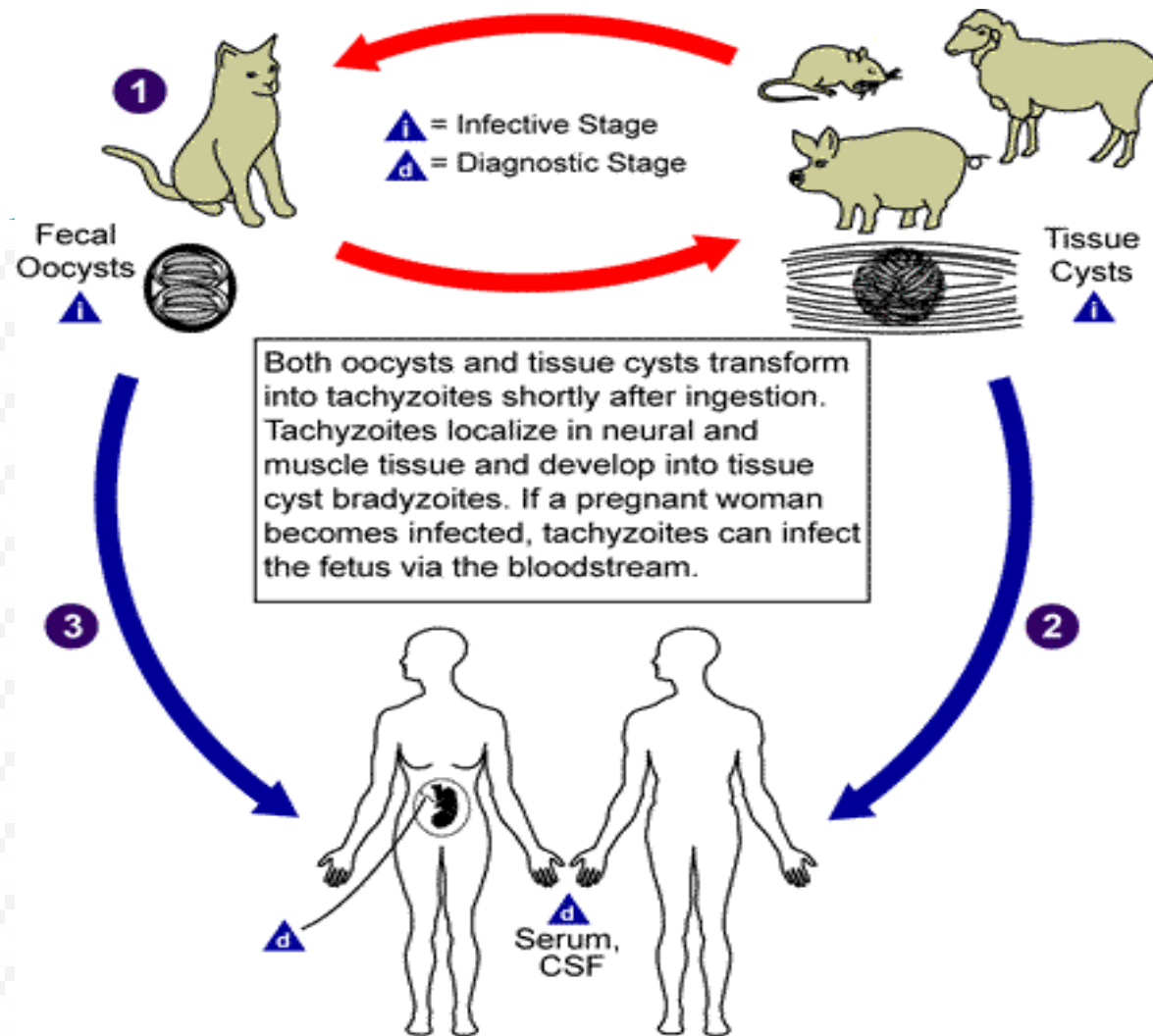


Toxoplasma gondii





ازمایشگاه سلامت



- d** Diagnostic Stage
- 1) Serological diagnosis.
- or
- 2) Direct identification of the parasite from peripheral blood, amniotic fluid, or in tissue sections.

