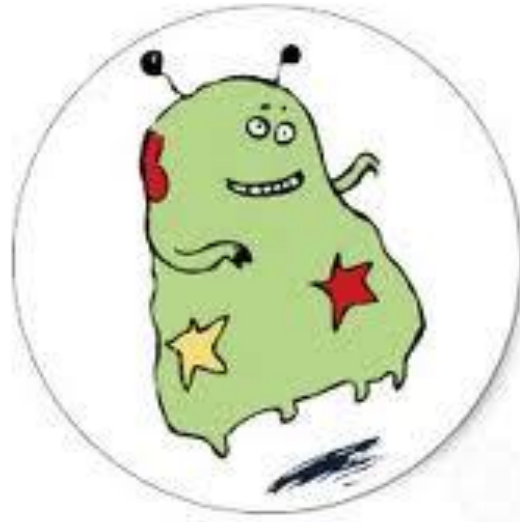


# 常見原蟲卵之鑑定



血液鏡檢組  
陳怡君  
UCL



# 健康篩檢現場取樣作業

- 混合後的MF試劑與Lugol reagent只能放**24小時**，所以交給各地立即保存新鮮的stool時，MF試劑與Lugol reagent就不先混合
- 現場可採樣時，當場收到檢體或收集後在1小時內送達。
- **水便時**，直接將檢體倒入瓶內，量為**花生米大小或約1mL**。
- 寄生蟲檢體前處理：
  - 拉高S-Y糞便採集容器採便棒約0.5 cm。
  - 將內含MF分注瓶之出口尖頭從橡膠環體與塑膠接觸處插入，加入已配好之MF試劑**6~10 ml**。
  - **檢體與MF之比為1:10**，一顆花生米大小的糞便為0.2g，分注瓶壓兩次打入6mL，兩顆花生米大小以上的糞便，分注瓶壓三次共打入9mL



# MIF染色、固定及濃縮法

1



檢體與MF之比為1:10

# MIF 染色、固定及濃縮法

2



3



# MIF 染色、固定及濃縮法

4



乙醚

糞層

MIF

沉澱物

# 原蟲卵鑑定

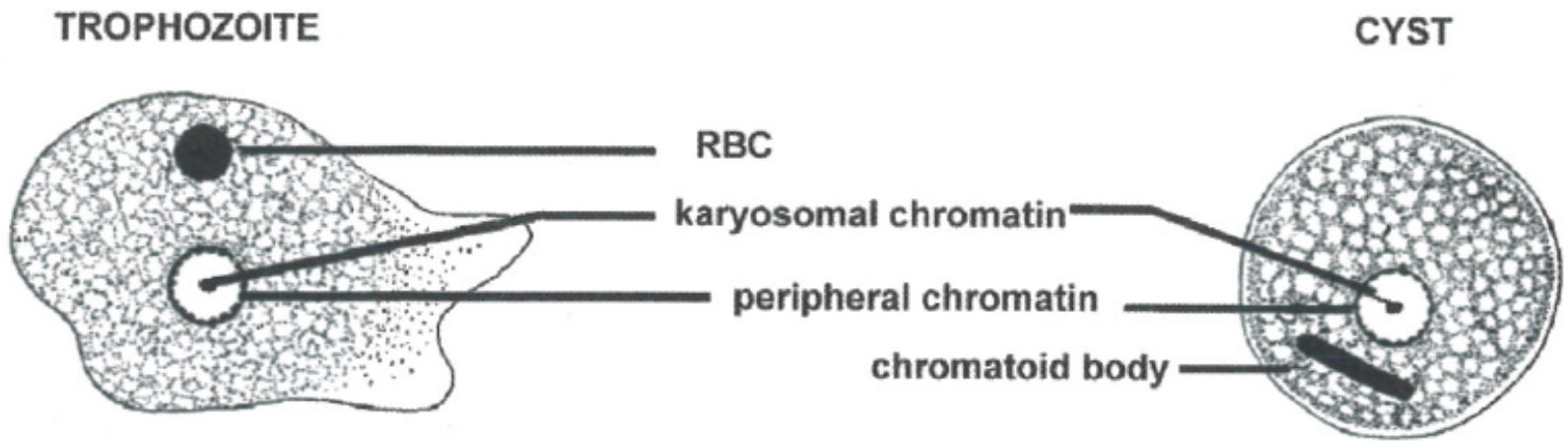


- 原蟲
- *Entamoeba histolytica* 痢疾阿米巴
- *Entamoeba hartmanni* 哈門氏阿米巴
- *Entamoeba coli* 大腸阿米巴
- *Iodamoeba butschlii* 嗜碘阿米巴
- *Endolimax nana* 微小阿米巴
- *Blastocystis hominis* 人芽囊原蟲
- *Giardia lamblia* 梨形鞭毛蟲
- *Chilomastix mesnili* 唇形鞭毛蟲



# 原蟲-Trophozoite/Cyst

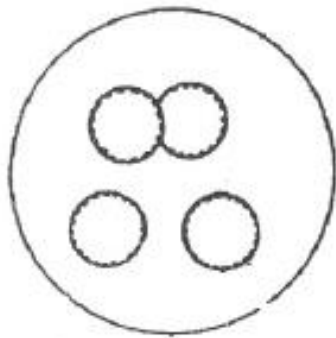
## Stage (Trophozoite/Cyst)



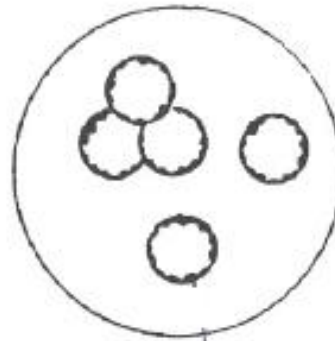
(From CDC, US)

# 原蟲-PC 核膜染色質

## Peripheral Chromatin (PC) (核膜染色質)



Fine and evenly  
dispersed  
小粒、均勻分布



coarse and  
irregular  
粗粒、不規則分布



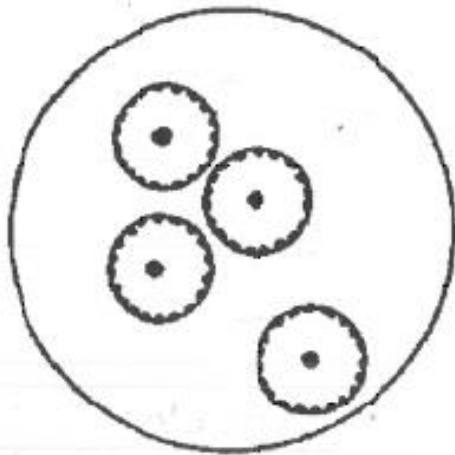
Missing  
無



# 原蟲-KC 核仁染色質

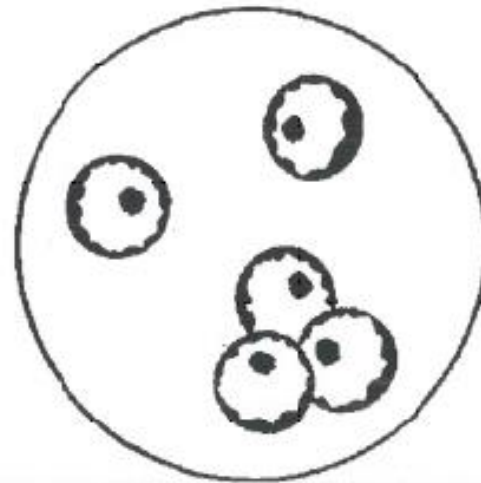
Karyosomal Chromatin (KC)

(核仁染色質)



Small and centric

小、位於中心



Large and eccentric

大、偏離中心

# 原蟲-類染色體

Some cysts may have Chromatoid bodies

(類染色體)



Rod-shaped w/ round ends

棒狀、圓形端



Splintered ends

分岔端

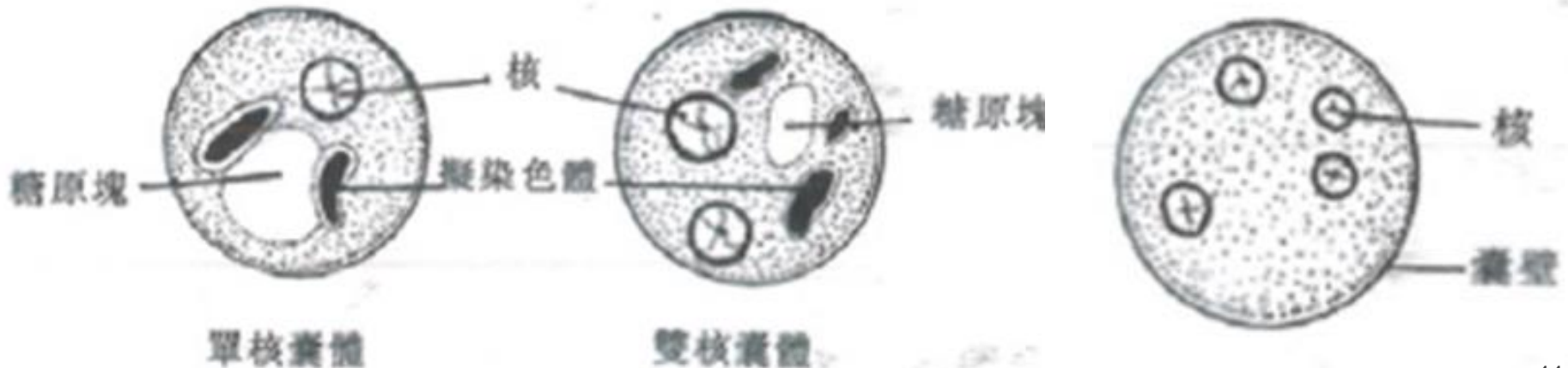


Angular ends

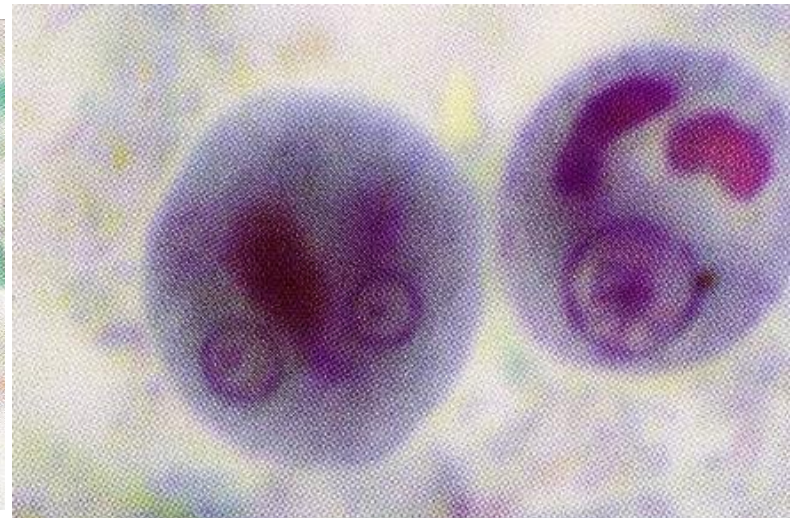
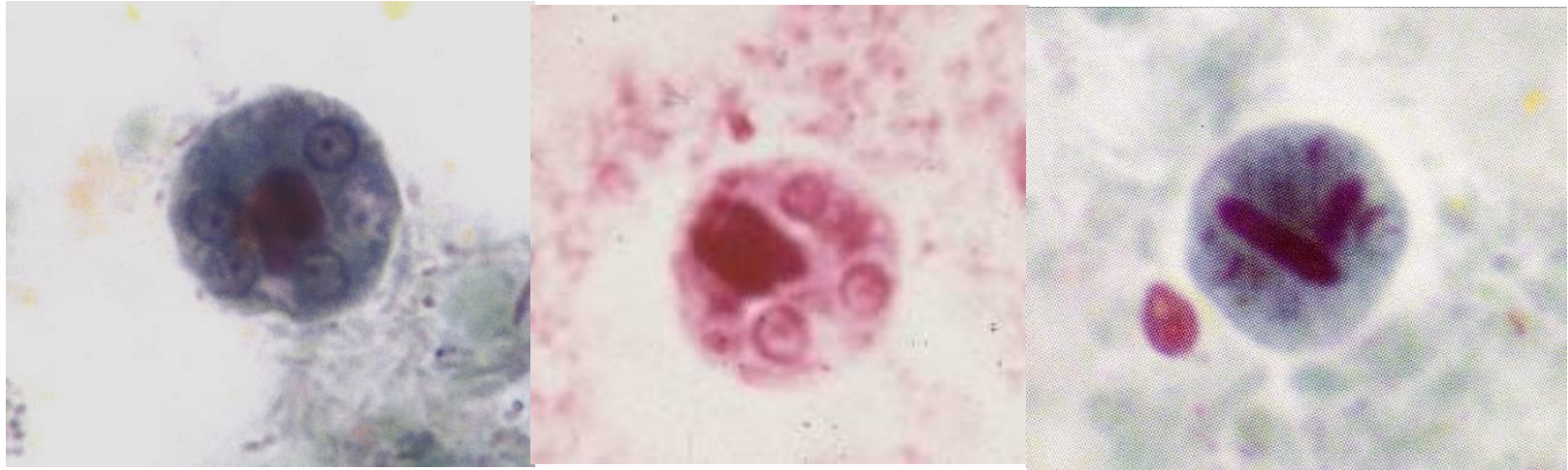
角狀端

# 痢疾阿米巴/迪斯帕阿米巴- *Entamoeba histolytica/dispar* Cyst

- 10-20  $\mu\text{m}$  (常見12-15  $\mu\text{m}$ )
- 外形呈圓球狀
- 1-4核
- 核膜(PC)顆粒細緻，通常大小一致且分布均勻
- 核仁(KC)小，通常居中，偶而偏心
- 類染色體呈長棒形，邊緣圓鈍
- 醣原塊成散佈狀，年輕囊體呈塊狀

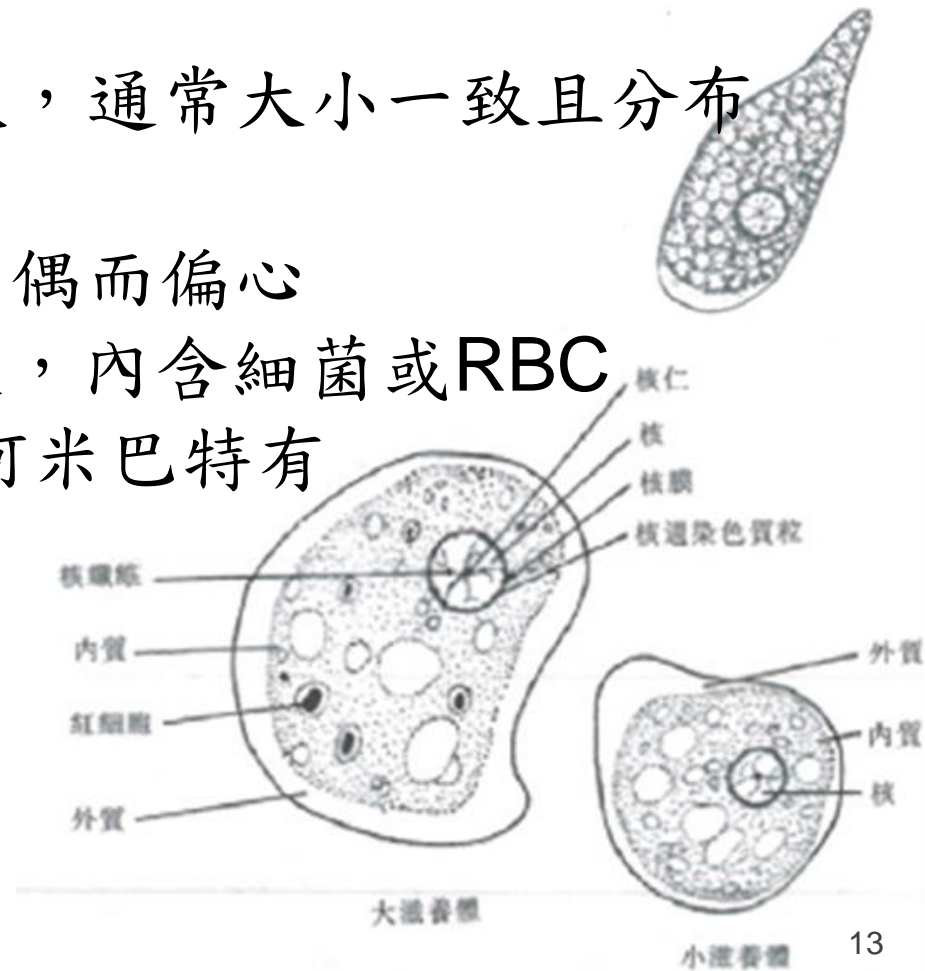


# 痢疾阿米巴/迪斯帕阿米巴- *Entamoeba histolytica/dispar* Cyst

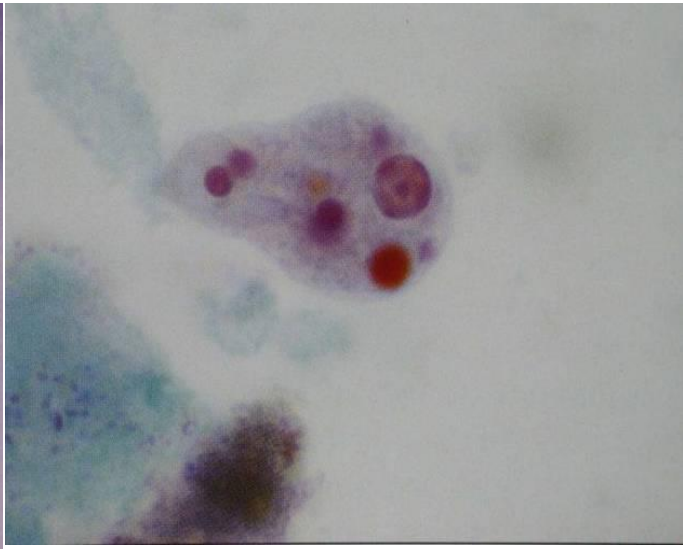
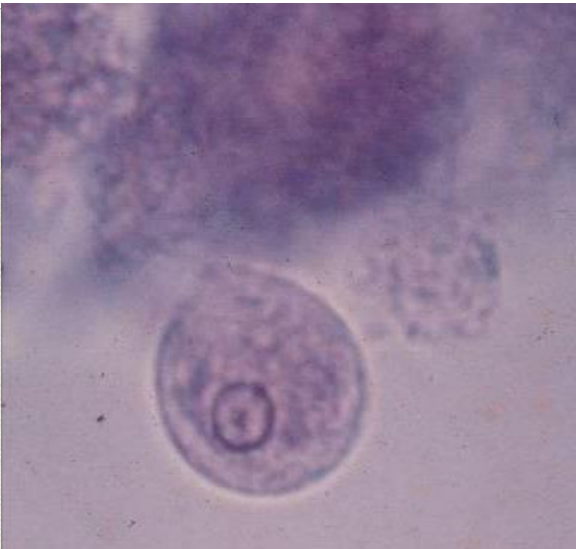
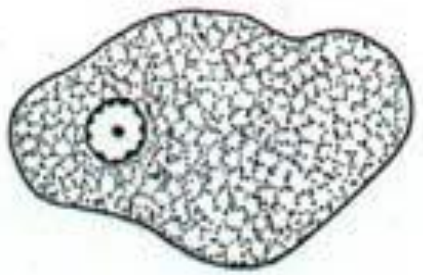


# 痢疾阿米巴/迪斯帕阿米巴- *Entamoeba histolytica/dispar* Trophozoite

- 10-60  $\mu\text{m}$  (常見15-20  $\mu\text{m}$ )
- 單核
- 核周染色質(PC)顆粒細緻，通常大小一致且分布均勻
- 核仁(KC)小，通常居中，偶而偏心
- 細胞質外觀呈細緻顆粒狀，內含細菌或RBC
- Hematophagous為痢疾阿米巴特有



# 痢疾阿米巴/迪斯帕阿米巴- *Entamoeba histolytica/dispar* Trophozoite

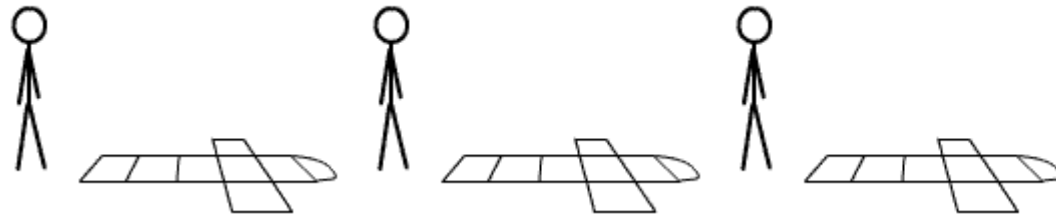


# 痢疾/迪斯帕阿米巴VS哈氏阿米巴

E.histolytica/dispa VS. **E.harmanni**

- 細胞學型態極為相似
- E.harmanni 不會吞噬紅血球
- 僅size可區分兩者

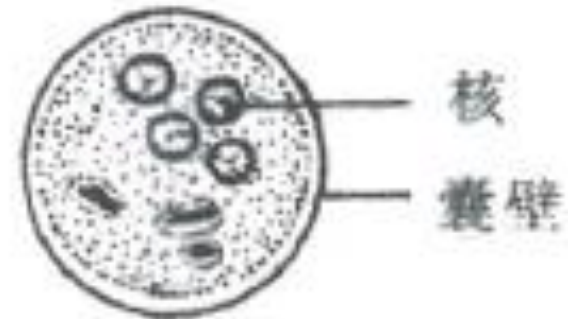
**10 $\mu$ m** 為 **cyst** 之界線  
**12  $\mu$ m** 為 **trophozoite** 之界線



# 哈氏阿米巴-

## *Entamoeba hartmanni* Cyst

- 5-10  $\mu\text{m}$  (常見6-8  $\mu\text{m}$ )
- 外形呈圓球狀
- 1-4核，未成熟1-2核亦常見
- PC顆粒細緻，通常大小一致且分布均勻
- 核仁(KC)小，通常居中，偶而偏心
- 類染色體成長棒形，邊緣圓鈍



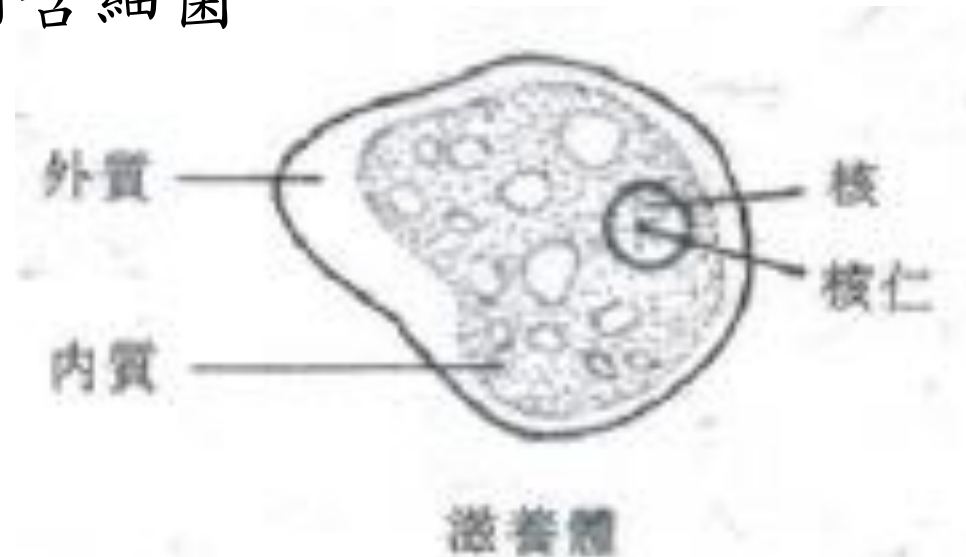
成熟囊體(4核)



# 哈氏阿米巴-

## *Entamoeba hartmanni* Trophozoite

- 5-12  $\mu\text{m}$  (常見8-10  $\mu\text{m}$ )
- 單核
- PC顆粒細緻，通常大小一致且分布均勻
- 核仁(KC)小，通常居中，偶而偏心
- 細胞質呈細緻顆粒狀內含細菌



# 大腸阿米巴- *Entamoeba coli* Cyst

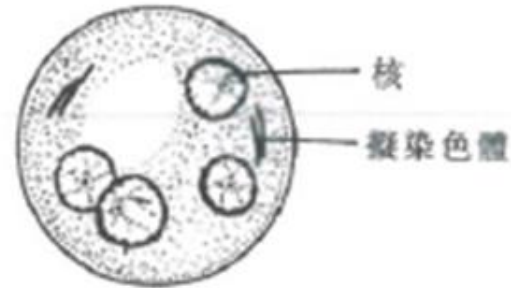
- 10-35  $\mu\text{m}$  (常見15-25  $\mu\text{m}$ )
- 通常呈圓形
- 1-16核，8核常見
- PC顆粒粗，大小不一且分布不均勻
- KC大，通常偏心，偶而居中
- 類染色體較不常出現，通常呈裂片狀，尖形末端
- 醣原塊通常呈散佈狀，未成熟囊體有清楚之質塊



成熟囊體(8核)

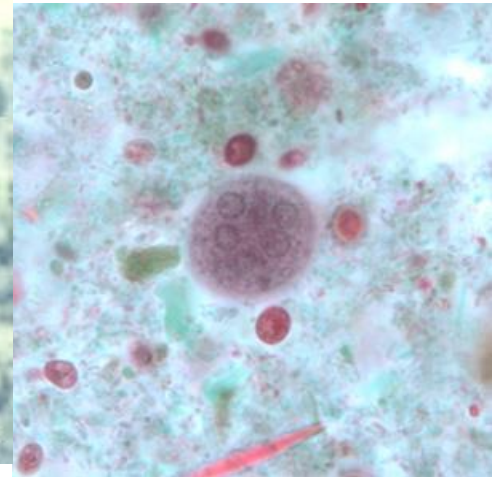
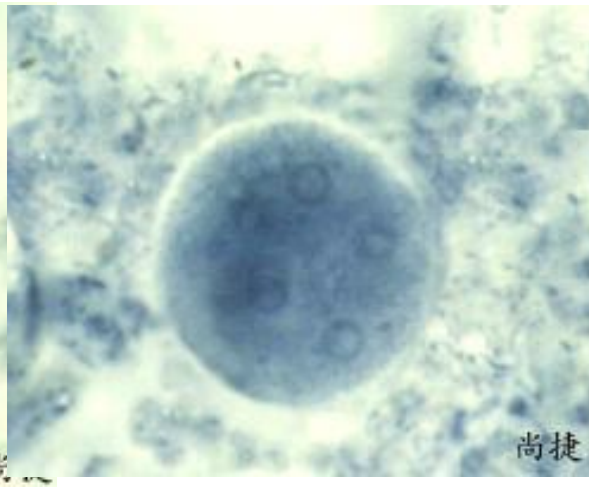
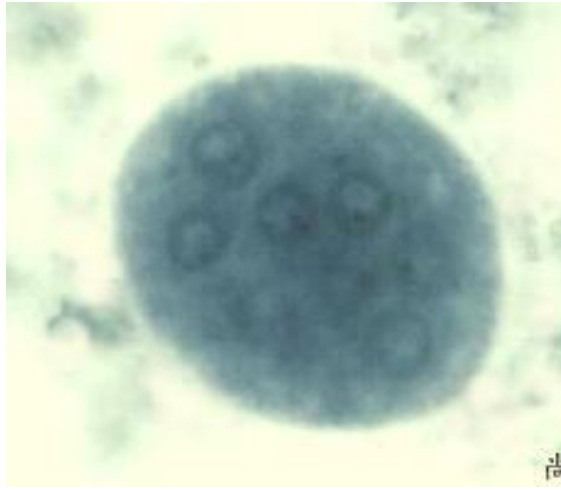


未成熟囊體(雙核)



未成熟囊體(4核)

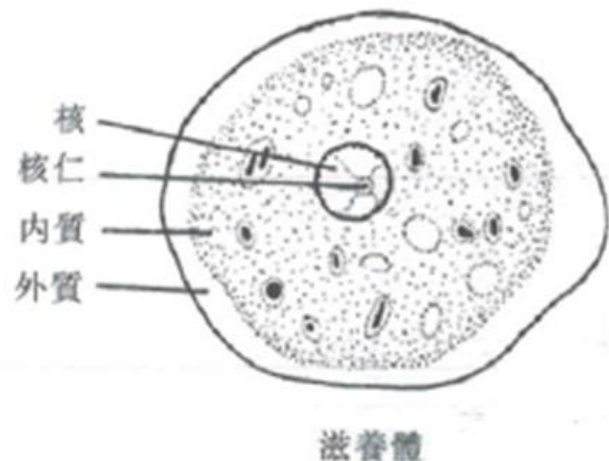
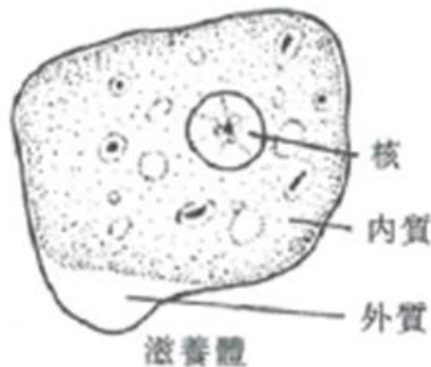
# 大腸阿米巴- *Entamoeba coli* Cyst



# 大腸阿米巴-

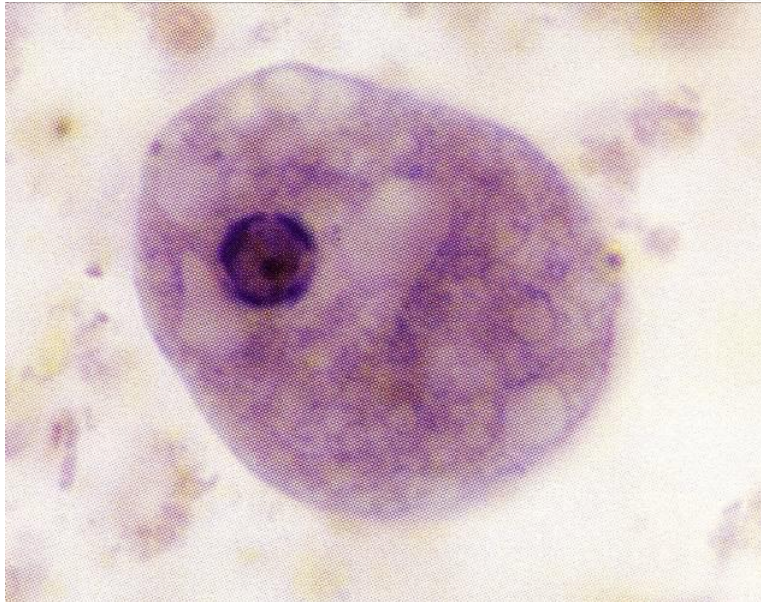
## *Entamoeba coli* Trophozoite

- 15-50  $\mu\text{m}$  (常見20-25 $\mu\text{m}$ )
- 單核
- PC顆粒粗，大小不一且分布不均勻，或形成粗黑環
- KC大，通常偏心，偶爾居中
- 細胞質呈粗顆粒狀內含細菌，酵母菌，常具空泡



大腸阿米巴-

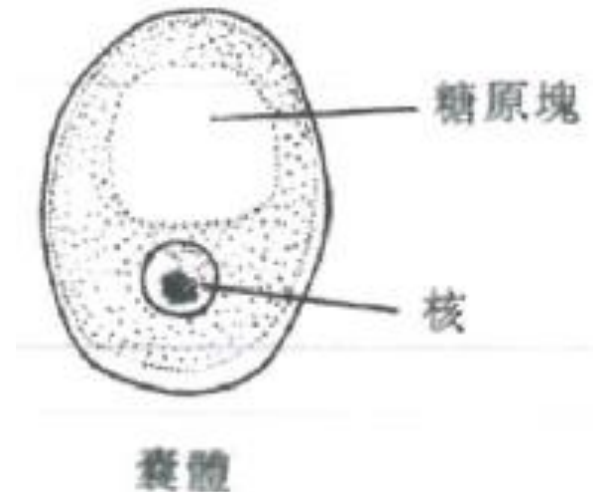
# *Entamoeba coli* Trophozoite



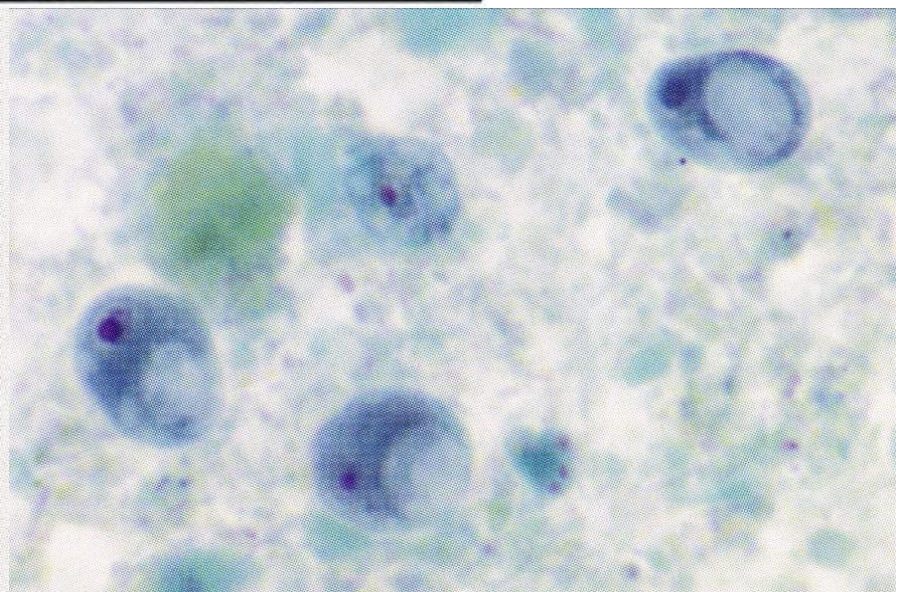
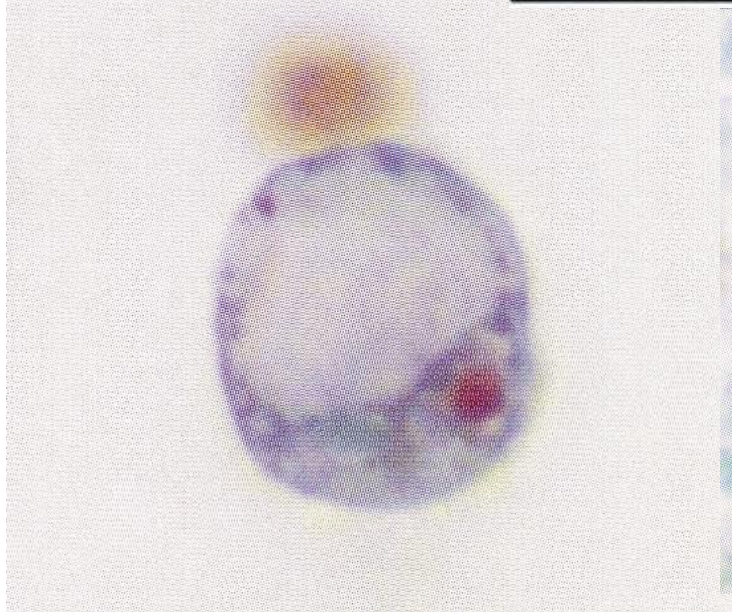
# 嗜碘阿米巴-

## *Iodamoeba butschlii* Cyst

- 5-20  $\mu\text{m}$  (常見12-15  $\mu\text{m}$ )
- 單核
- 呈卵型，長橢圓形，三角形或其它形狀
- 沒有PC
- KC大，通常居中，有時周邊圍繞著會區光之非染色質顆粒
- 沒有明顯之類染色體構造
- 糖原塊通常呈清楚之密實質塊



# 嗜碘阿米巴- *Iodamoeba butschlii* Cyst



# 嗜碘阿米巴-

## *Iodamoeba butschlii* Trophozoite

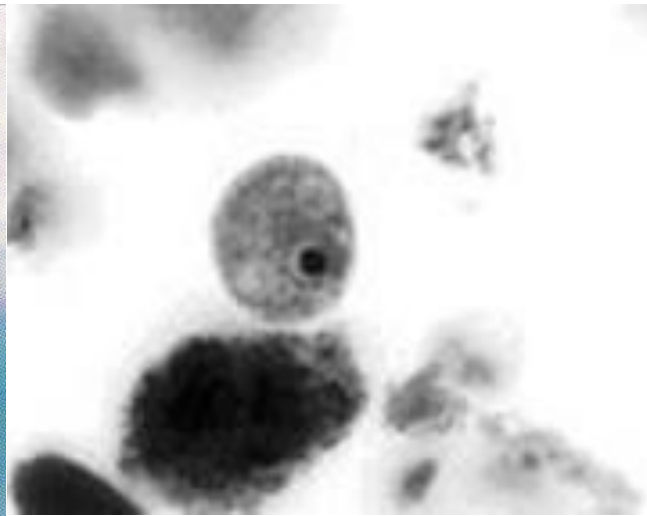
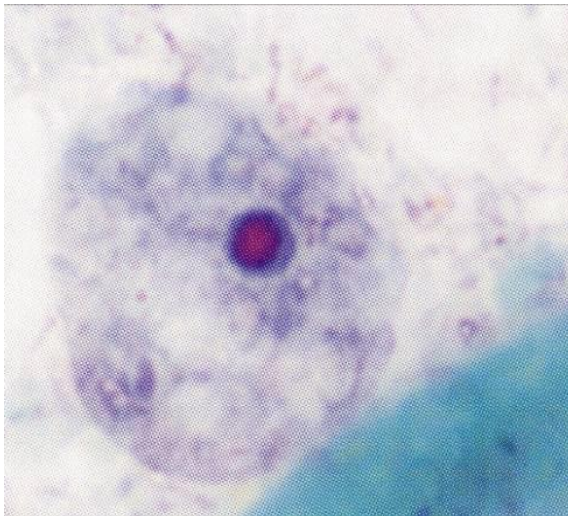
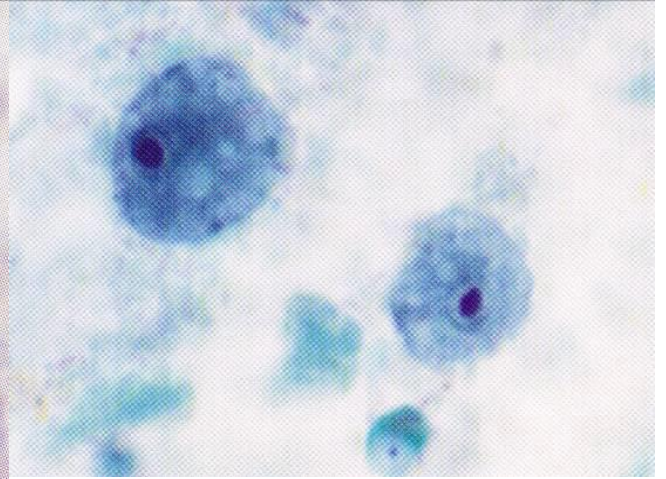
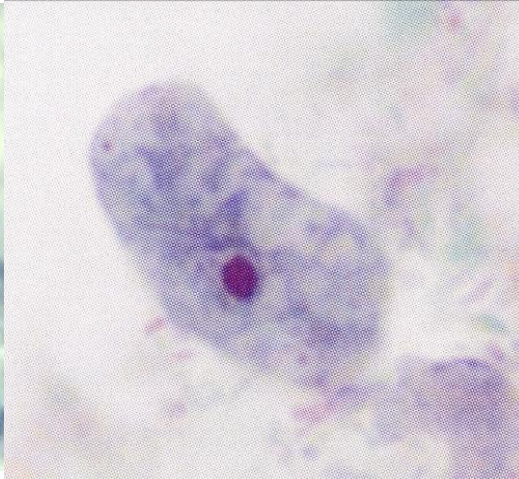
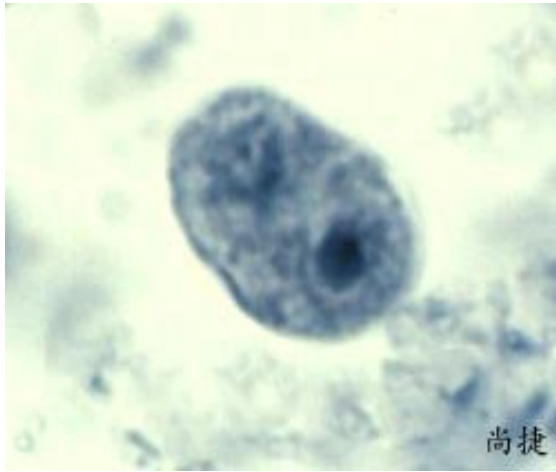
- 8-20  $\mu\text{m}$  (常見12-15 $\mu\text{m}$ )
- 單核
- 沒有PC
- KC 大，通常居中，有時周邊圍繞著會區光之非染色質顆粒
- 細胞質呈粗顆粒狀內含細菌，酵母菌，可見空泡





嗜碘阿米巴-

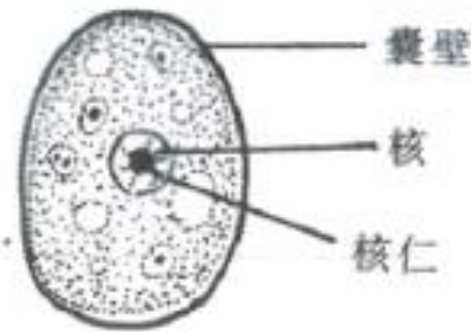
# *Iodamoeba butschlii* Trophozoite



# 微小阿米巴-

## *Endolimax nana* Cyst

- 5-10  $\mu\text{m}$  (常見6-8 $\mu\text{m}$ )
- 呈圓形，卵型，長橢圓形
- 1~4核，少於四個核之不成熟囊體少見
- 沒有PC
- KC 大，呈不規則之墨點狀，通常居中
- 沒有明顯之類染色體構造
- 醣原塊通常呈散佈狀

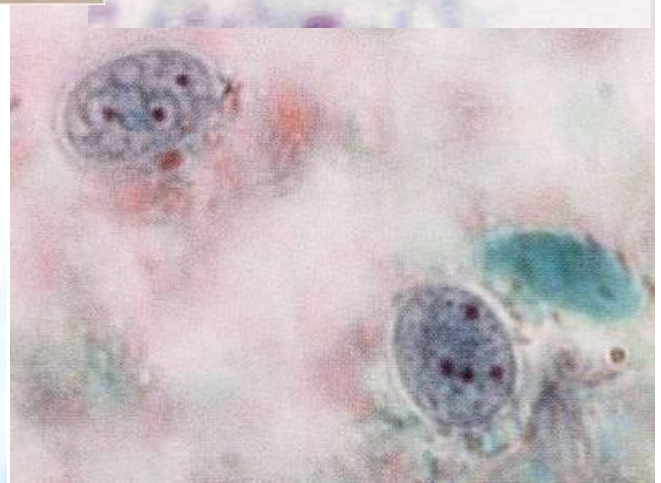
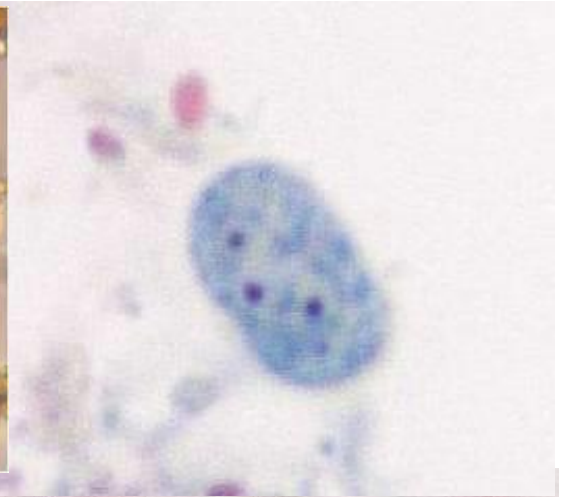
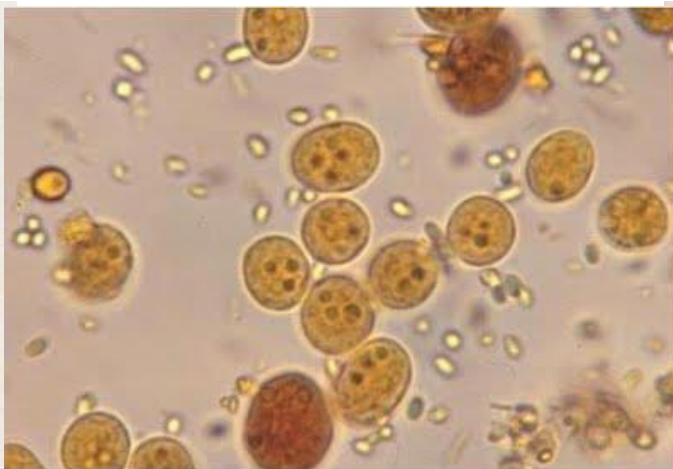


囊體(單核)



成熟包整(4核)

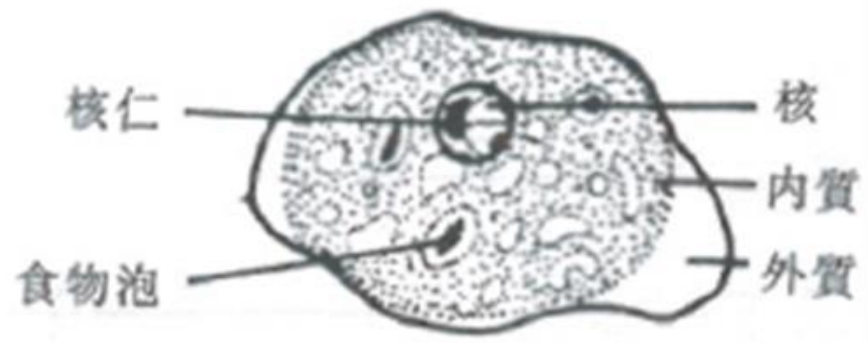
# 微小阿米巴- *Endolimax nana* Cyst



# 微小阿米巴-

## *Endolimax nana* Trophozoite

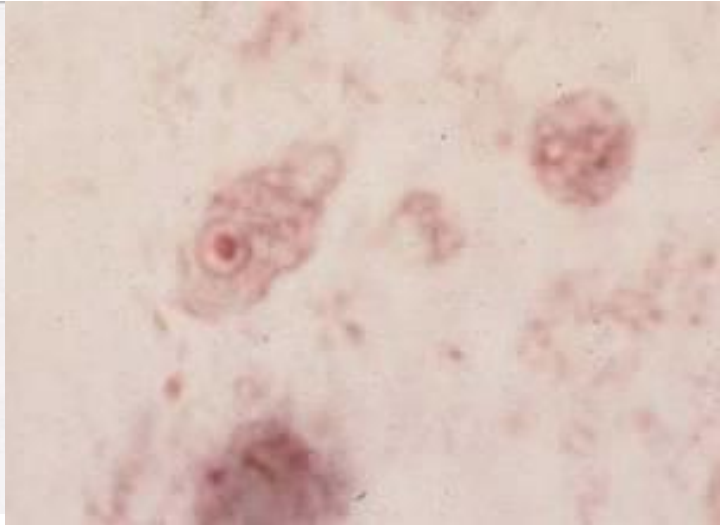
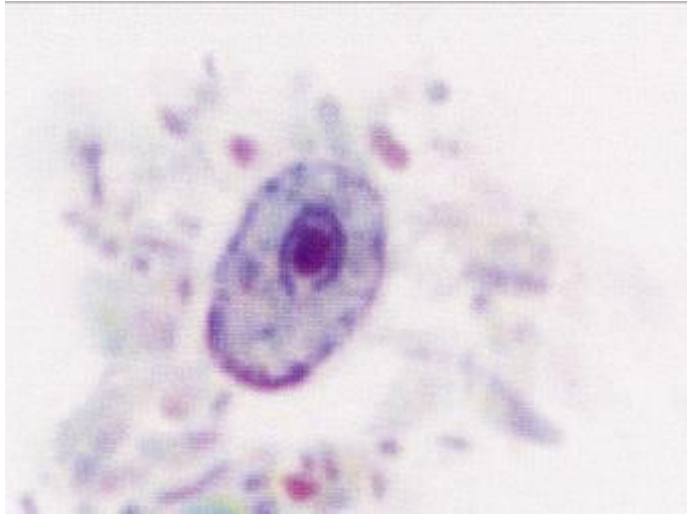
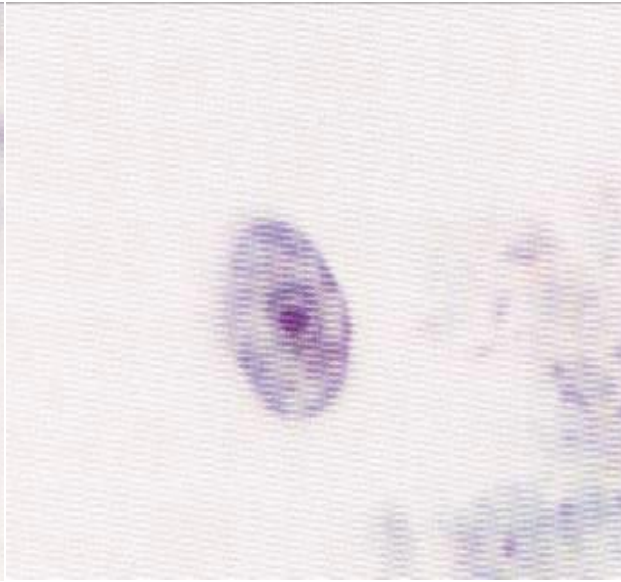
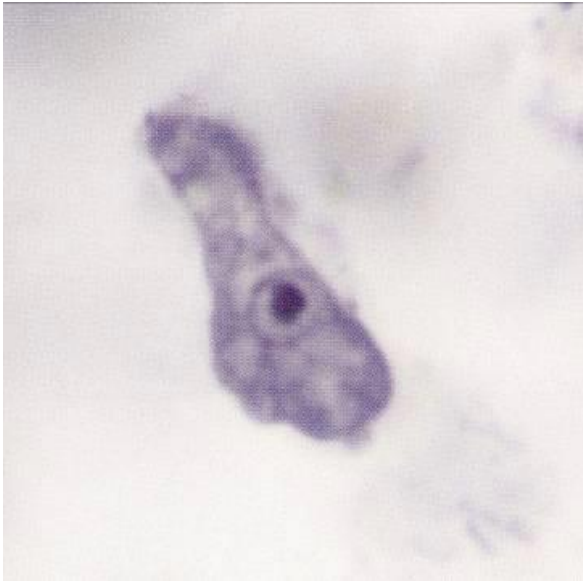
- 6-12  $\mu\text{m}$  (常見8-10 $\mu\text{m}$ )
- 單核
- 沒有PC
- KC 大，呈不規則之墨點狀
- 細胞質呈顆粒狀內含細菌可見空泡



滋養體

微小阿米巴-

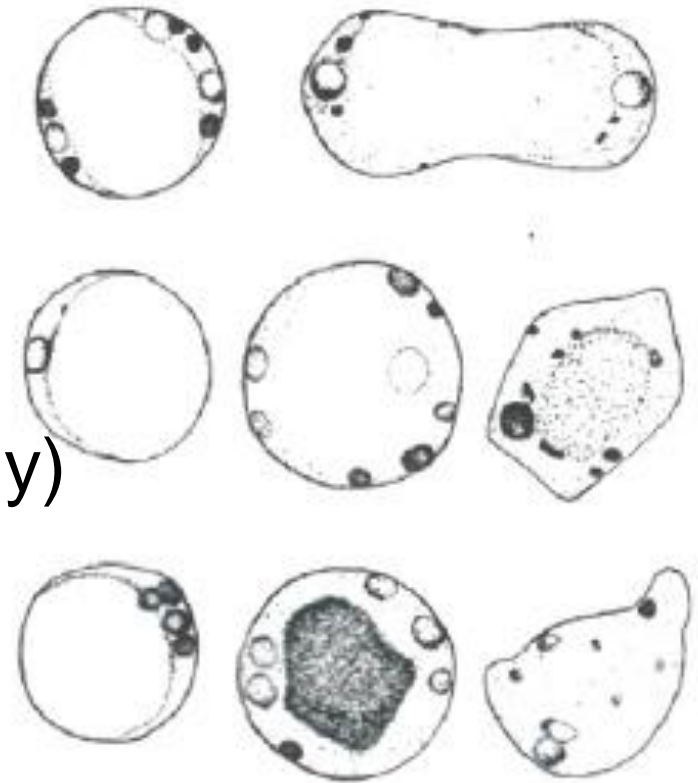
# *Endolimax nana* Trophozoite



# 人芽囊原蟲

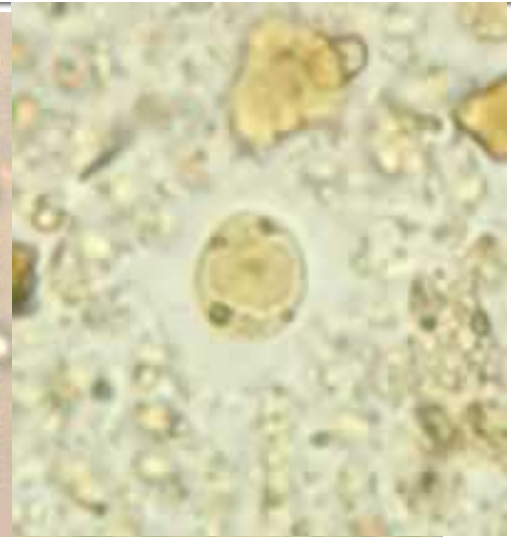
## *Blastocystis hominis*

- 生活史仍不清楚
- 5-30  $\mu\text{m}$  (常見8-10 $\mu\text{m}$ )
- 呈圓形、卵型或長橢圓形
- 核位於細胞質邊緣，1~4核，常見單核，2-4核次之
- 細胞中央有一大空泡(central body)將核及顆粒擠到邊緣形成環狀



# 人芽囊原蟲

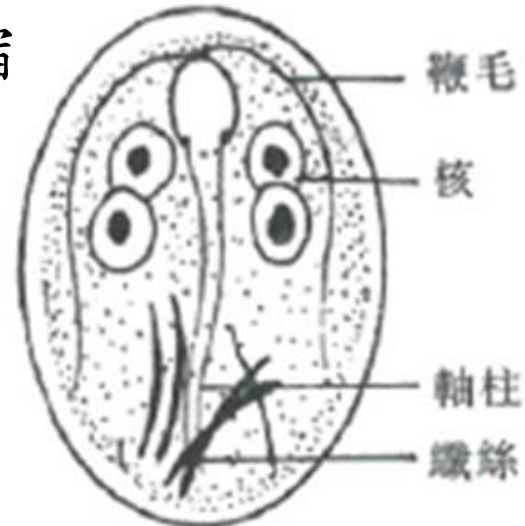
## *Blastocystis hominis*



# 梨形鞭毛蟲-

## *Giardia lamblia* Cyst

- 8-19  $\mu\text{m}$  (常見11-12 $\mu\text{m}$ )
- 呈卵型或長橢圓形
- 4個核，通常位於一側
- 鞭毛縱向位於囊體中
- 纖毛常側向或斜向交叉置於囊體較低部位
- 細胞質經常從細胞壁處往內縮



成熟囊體(4核)

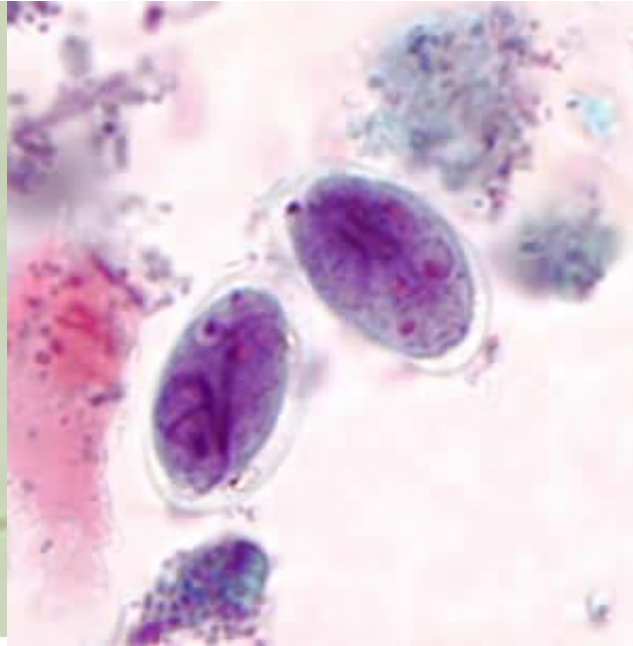
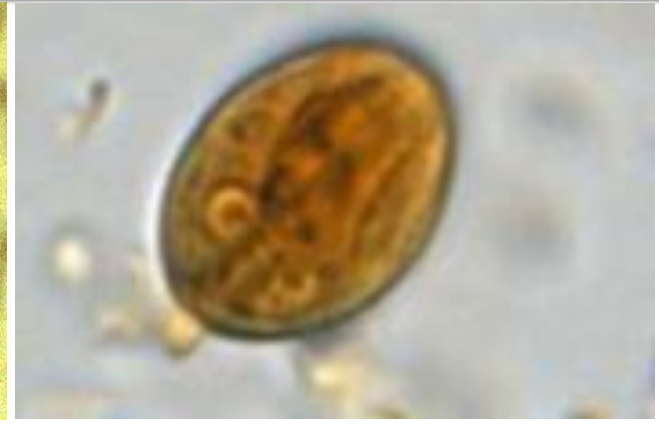


# 梨形鞭毛蟲-

# *Giardia lamblia* Cyst



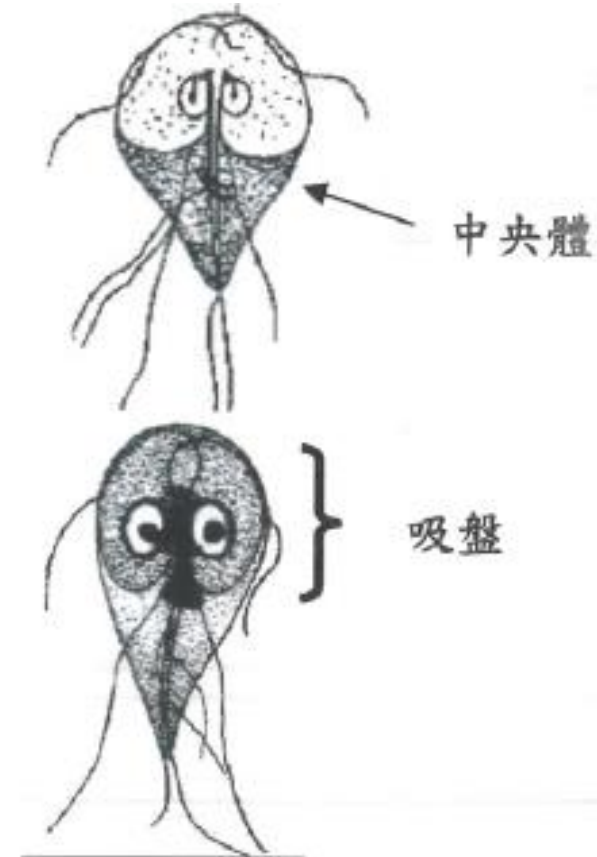
Dick Despommier © 1996



# 梨形鞭毛蟲-

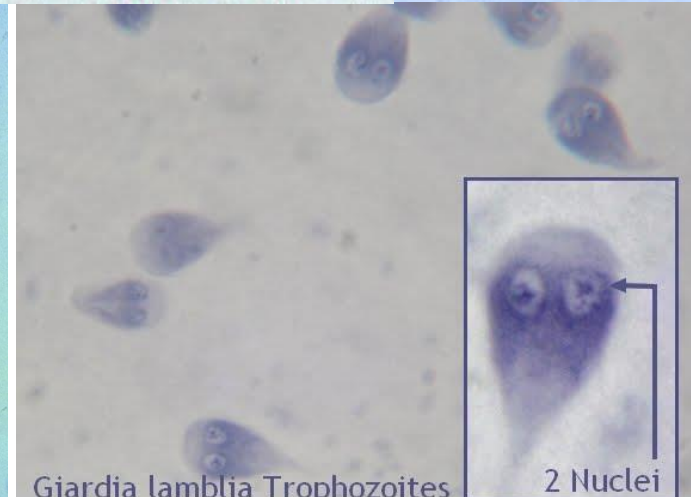
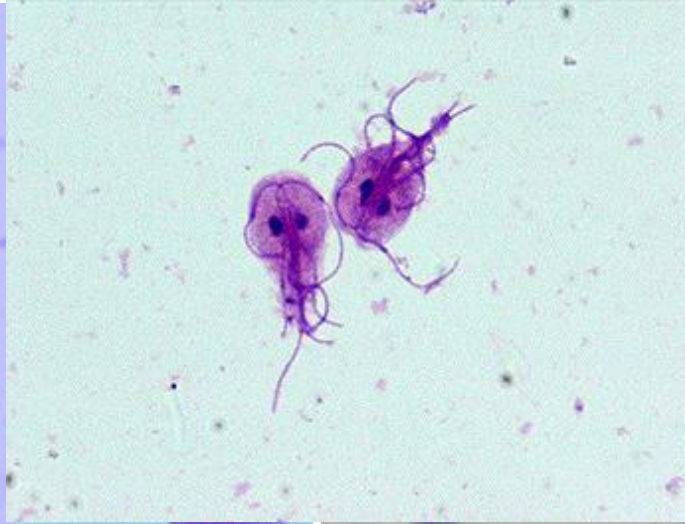
## *Giardia lamblia* Trophozoite

- 10-12  $\mu\text{m}$  (常見12-15 $\mu\text{m}$ )
- 呈梨型
- 雙核
- 鞭毛-側鞭毛4根
  - 軸鞭毛2根
  - 尾鞭毛2根
- 吸盤占腹部表面積1/2~3/4
- 中央體水平或斜向地置於吸盤下方



# 梨形鞭毛蟲-

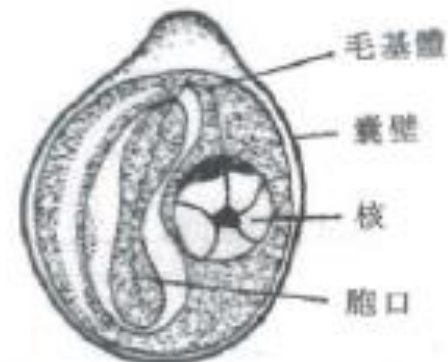
## *Giardia lamblia* Trophozoite



# 唇形鞭毛蟲-

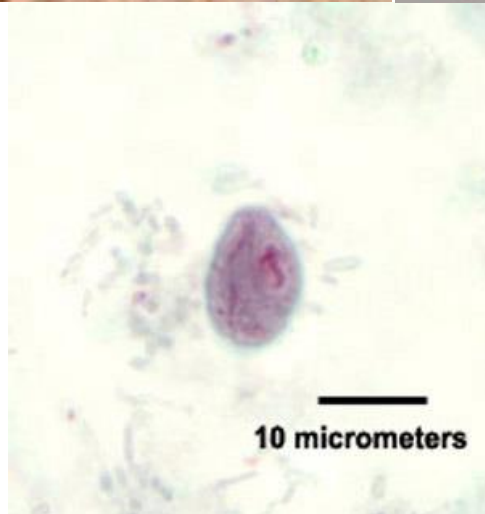
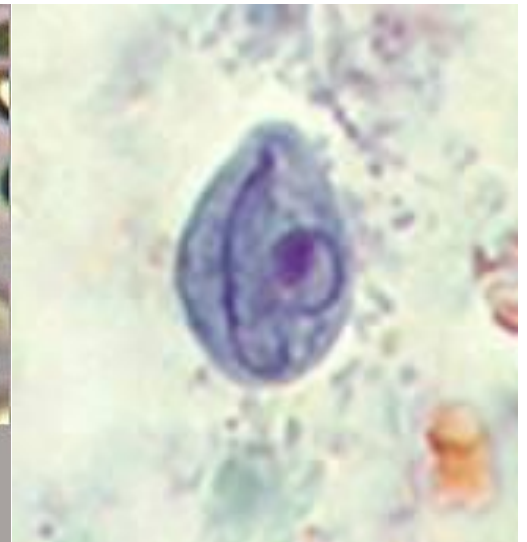
## *Chilomastix mesnili* Cyst

- 6-10  $\mu\text{m}$  (常見8-9 $\mu\text{m}$ )
- 呈檸檬型，前端帶有透明球形突出物
- 單核
- 胞體帶有支持纖維



# 唇形鞭毛蟲-

## *Chilomastix mesnili* Cyst



# 唇形鞭毛蟲-

## *Chilomastix mesnili* Trophozoite

- 6-24  $\mu\text{m}$  (常見10-15 $\mu\text{m}$ )
- 呈梨型
- 單核
- 鞭毛-側鞭毛3根  
-胞體鞭毛1根
- 胞體突出物向下延伸1/2~1/3胞體長
- 螺旋型溝紋橫越腹部表面



# 唇形鞭毛蟲-

## *Chilomastix mesnili* Trophozoite

