

Faecesonderzoek op parasieten

overzicht 2012

Titia Kortbeek

Theo Mank

• Protozoa

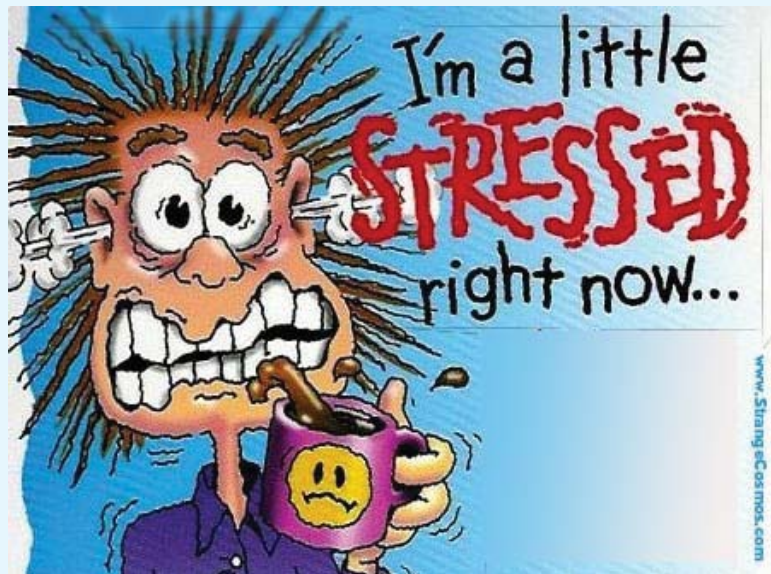
- *Cryptosporidium* sp
- *Cyclospora cayetanensis*
- *Cystoisospora belli*
- *Dientamoeba fragilis*
- *Entamoeba histolytica*
- *Giardia lamblia*
- *Microsporidium* sp

- *Blastocystis hominis*

- *Chilomastix mesnili*
- *Endolimax nana*
- *Entamoeba coli*
- *Entamoeba dispar*
- *Entamoeba hartmanni*
- *Iodamoeba bütschlii*

• Wormen

- *Ascaris lumbricoides*
- *Diphyllobotrium* sp
- *Enterobius vermicularis*
- *Fasciola hepatica*
- *Hymenolepis nana*
- *Hymenolepis diminuta*
- Mijnworm
- *Schistosoma* sp
- *Strongyloides stercoralis*
- *Trichuris trichiura*
- *Taenia* sp



Rondzending darmparasieten (microscopie)

SAF gefixeerde feces

-beoordeling door referenten

- Havenziekenhuis / Erasmus MC te Rotterdam
- LUMC te Leiden
- RIVM te Bilthoven
- Radboud MC te Nijmegen
- Streeklab Microbiologie Twente te Enschede
- Streeklab Volksgezondheid te Haarlem

-consensus + selectie rond te zenden materiaal

-formulieren casus beschrijving + puntenbeoordeling

-formulieren verdiepvragen

-evaluatie resultaten



2012-1

- **Monster C**

- *Escherichia coli*
56 vd 62 inzenders correct (90%)
6 kregen puntenvermindering
 - *D fragilis*, *E histolytica/dispar*, *Cyclospora cayetanensis*
 - *Hymenolepis nana*

- **Monster D**

- *Ascaris lumbricoides*
58 vd 62 inzenders correct (94%)
4 kregen puntenvermindering
 - *Giardia lamblia*, *Cryptosporidium* sp

2012-2

- **Monster C**

- *Diphyllobothrium latum*
56 vd 59 inzenders correct (95%)
3 kregen puntenvermindering
 - Mijworm, *Fasciola hepatica*
 - Niet gevonden

- **Monster D**

- *Schistosoma mansoni*
57 vd 60 inzenders correct (95%)
3 kregen puntenvermindering
 - *Cyclospora cayetanensis*, *Balantidium coli*
 - Niet gevonden

2012-3

- **Monster C**

- *Entamoeba histolytica/dispar*
47 vd 61 inzenders correct (77%)
14 kregen puntenvermindering
 - *Cryptosporidium* sp, *Entamoeba histolytica*
 - Niet gevonden; wel andere *Entamoeba* species

- **Monster D** (levercyste vloeistof)

- *Echinococcus granulosus* (*protoscolices en haken*)
61 vd 62 inzenders correct (98%)
1 kreeg puntenvermindering
 - *E granulosus* + *E multilocularis*

2012-4

• Monster C

- *Chilomastix mesnili*
57 vd 60 inzenders correct (95%)
3 kregen puntenvermindering
 - *Cryptosporidium* sp, *Cyclospora cayetanensis*
 - *Giardia lamblia*

• Monster D (feces + sputum)

- *Strongyloides stercoralis*
56 vd 60 inzenders correct (93%)
4 kregen puntenvermindering
 - *Hymenolepis nana*, *Mijnworm*, *Cryptosporidium* sp

• Protozoa

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• Wormen

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- *Diphyllobotrium* sp
- *Enterobius vermicularis*
- *Fasciola hepatica*
- *Hymenolepis nana*
- *Hymenolepis diminuta*
- *Mijnworm*
- *Schistosoma* sp
- *Strongyloides stercoralis*
- *Trichuris trichiura*
- *Taenia* sp
- *E histolytica/dispar*
- *Echinococcus granulosus*
protoscolices + haken

2012

- 2012-1 C: *Cyclospora cayetanensis*
- 2012-1 D: *Cryptosporidium* sp
- 2012-2 D: *Cyclospora cayetanensis*
- 2012-3 C: *Cryptosporidium* sp; *E histolytica*, andere *Entamoeba* species dan *E histolytica/dispar*
- 2012-4 C: *Cryptosporidium* sp; *Cyclospora cayenensis*
- 2012-4 D: *Cryptosporidium* sp

Phylum:	Protozoa (unicellular organisms)
Class I:	Rhizopia (locomotion by pseudopodia)
Genus:	<i>Entamoeba</i>
Class II:	Mastigophora (locomotion by flagella)
Genera:	<i>Giardia</i> , <i>Trichomonas</i> , <i>Leishmania</i> , <i>Trypanosoma</i> <i>Dientamoeba</i>
Class III:	Sporozoa (no locomotion facilities)
Genera:	<i>Cryptosporidium</i> , <i>Isospora</i> , <i>Babesia</i> , <i>Pneumocystis</i> , <i>Plasmodium</i> , <i>Toxoplasma</i>
Class IV:	Ciliata (locomotion by cilia)
Genera:	<i>Balantidium</i>

Sporozoa / Coccidia

Cryptosporidium
Cystoisospora belli
Cyclospora cayentanensis

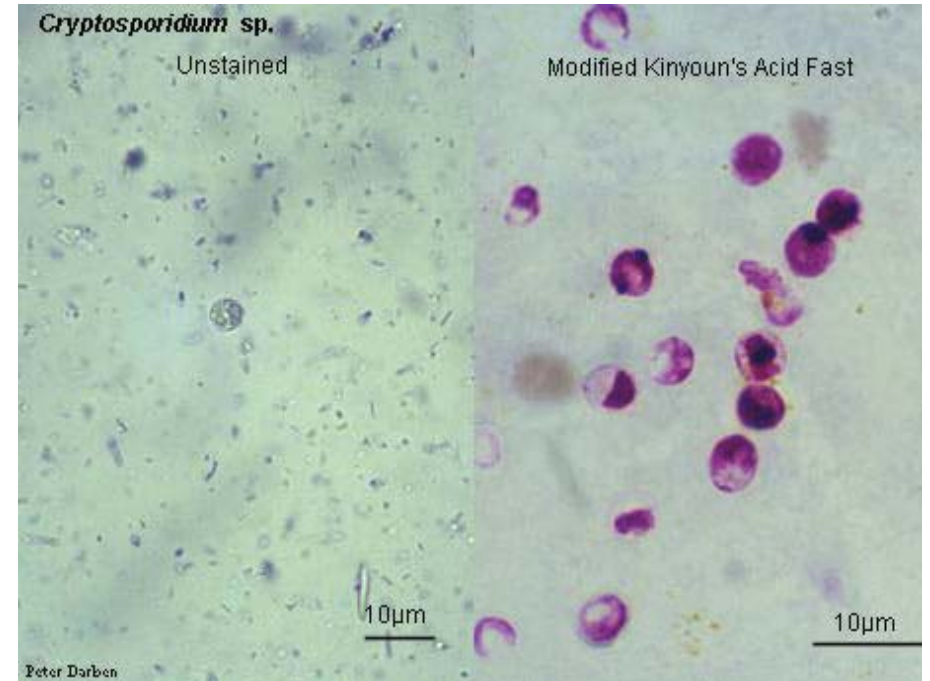
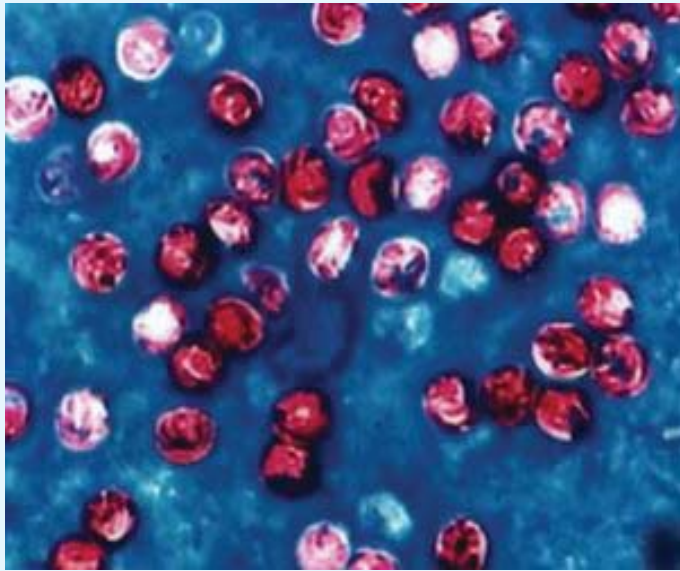
Coccidia

- levenscyclus omvat diverse stadia
- seksuele en aseksuele ontwikkeling
- oöcysten, sporoblasten, sporozoïeten

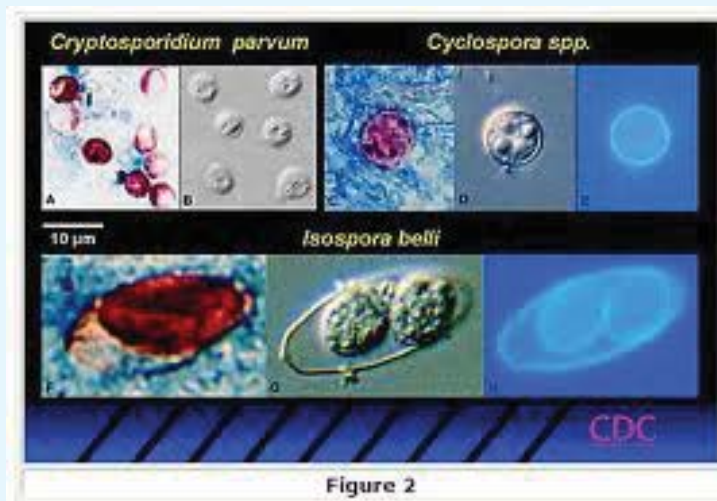


Laboratorium diagnose

- Grootte, vorm, morfologie
- Zuurvast kleuring
 - Mod ZN, Kinyoun, IHK
 - Ridley sediment
- Auramine kleuring
- Autofluorescentie
- IFA
- ELISA
- PCR



Coccidia



2012

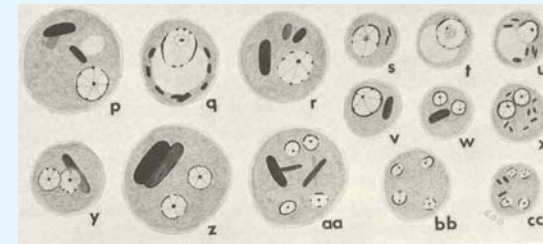
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- 2012-4 C: *Cryptosporidium* sp; *Cyclospora cayenensis*
- 2012-4 D: *Cryptosporidium* sp

Rhizopoda

Entamoeba sp
Endolimax nana
Iodamoeba bütschlii

Microscopic diagnosis of the parasites of man
by Robert B. Burrows 1965

"Probably the most difficult phase of human diagnostic parasitology for the technician to master is the differentiation of the species of amebae."



Intestinale Entamoeba species

- “vaak” voorkomend
 - *Entamoeba histolytica*
 - *E. dispar*
 - *E. coli*
 - *E. hartmanni*
- zelden voorkomend o.a.
 - *E. moshkovski*
 - *E. polecki*
 - *E. chattoni*
 - *E. gingivalis*

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(Ent)amoeben in faeces

AMEBAE						
	<i>Entamoeba histolytica</i>	<i>Entamoeba hartmanni</i>	<i>Entamoeba coli</i>	<i>Entamoeba polecki</i> ¹	<i>Endolimax nana</i>	<i>Iodamoeba bütschlii</i>
Trophozoite						
Cyst						

¹Rare, probably of animal origin
²Flagellate

Scale: 0 5 10 μm

Adapted from Brook

Morfologie van Entamoeba sp cysten

E. hartmanni



- 5-10 μm
- Max 4 kernen
- Kernen duidelijk



- Fijn cytoplasma



- Chromidaal blok afgerond

E. histolytica/dispar



- 10-15 μm
- Max 4 kernen
- Kernen onduidelijk

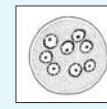


- Grof cytoplasma

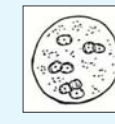


- Chromidaal blok afgerond

E. coli



- 15-20 μm
- tot 8 (16) kernen
- Kernen duidelijk

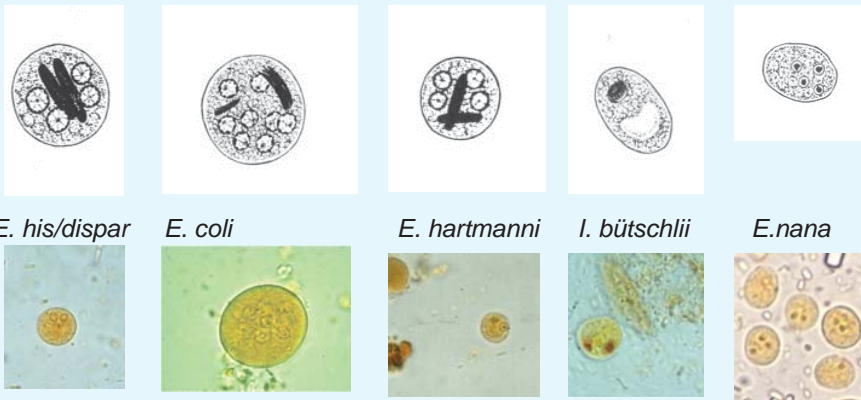


- Fijn cytoplasma



- Chromidaal blok als pakketjes naalden

Morfologie van (ent)amoeba cysten



E. his/dispar

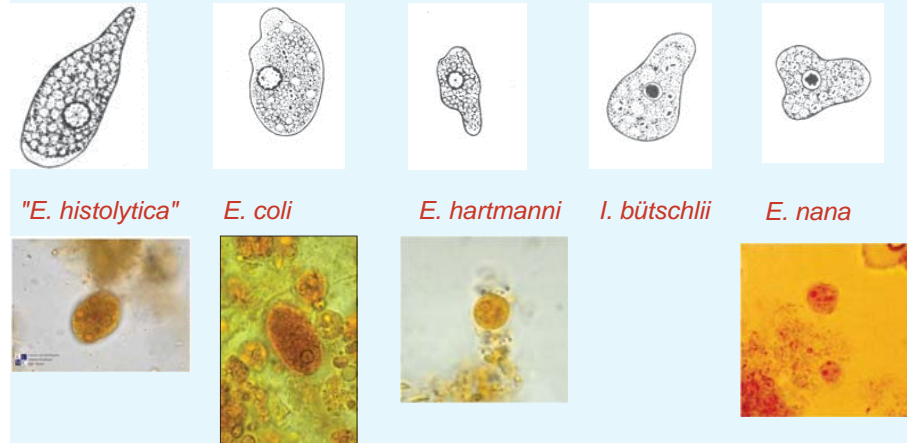
E. coli

E. hartmanni

I. bütschlii

E. nana

Morfologie van (ent)amoeba trofozoieten



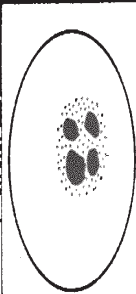
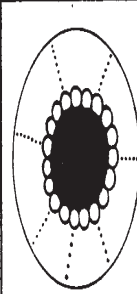


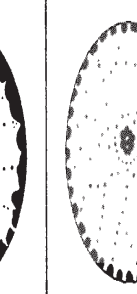
"E. histolytica"

E. coli

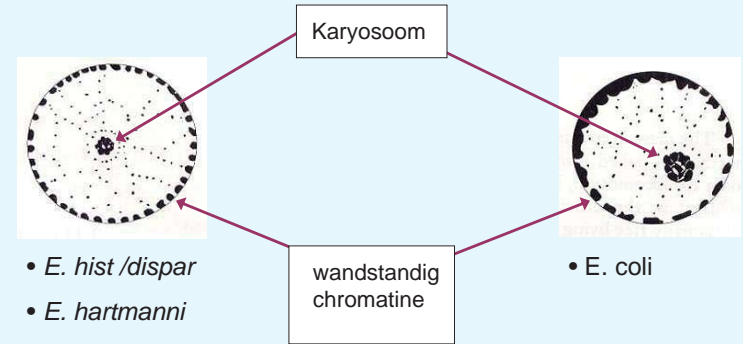
E. hartmanni

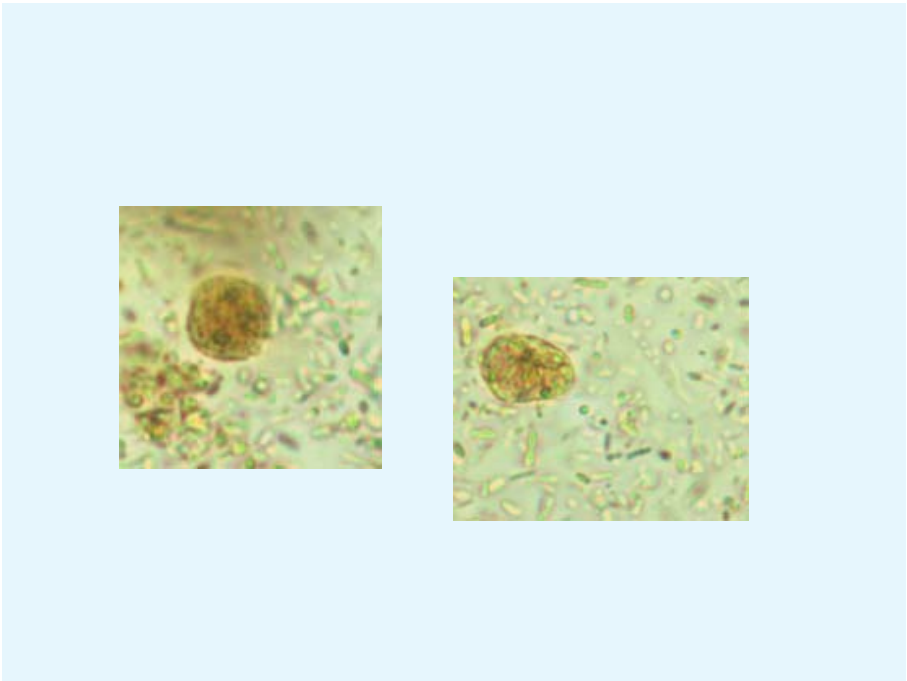
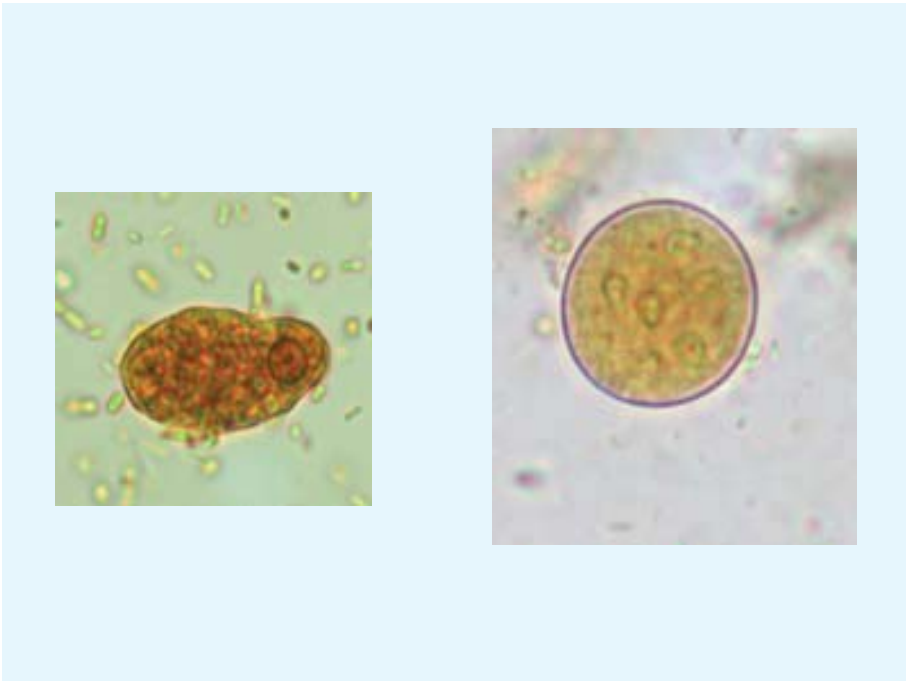
I. bütschlii

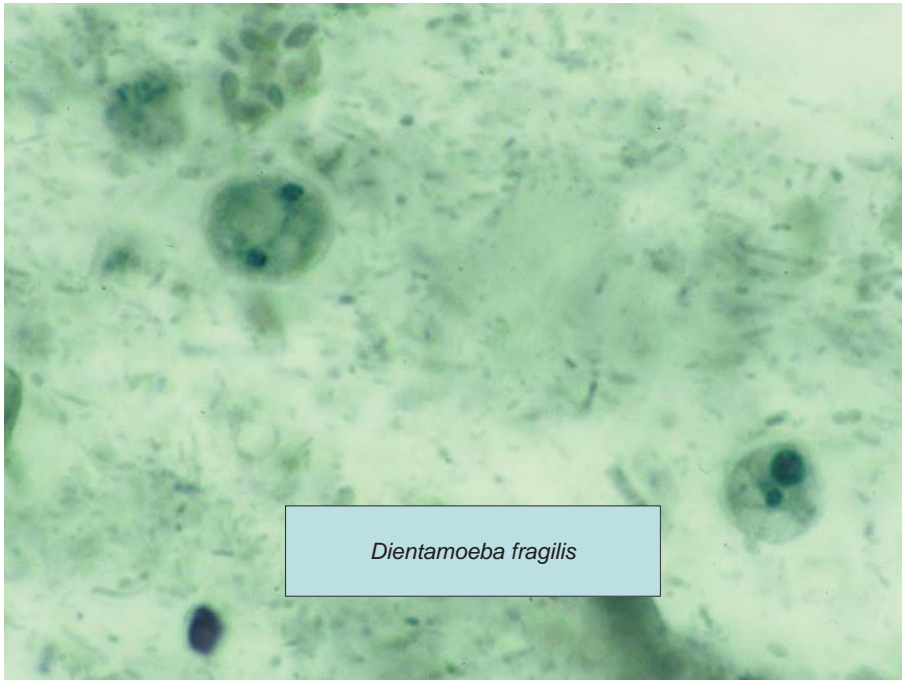
E. nana

DIENTAMOEBIA FRAGILIS	IODAMOEBIA BÜTSCHLI	ENDOLIMAX NANA	ENTAMOEBIA COLI	ENTAMOEBIA HISTOLYTICA	
					
					NUCLEUS

Entamoeba kern







Dientamoeba fragilis

- Dank voor jullie aandacht
- Vragen?