

 Practice Number: 5200296

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| Instructions forParticipants | **05 May 2022****01-2022** |
| These are the clinical scenarios and response form for the NHLS Parasitology Stool PT Scheme. Detailed instructions can be found in the new Instruction Booklet for all NHLS Proficiency Testing Schemes.  | **NHLS Proficiency Testing Scheme – Parasitology Stool** |



# **NHLS Stool Parasites PT Scheme 0122**

**SURVEY RESPONSE FORM 0218**

**PTS LAB NO: \_\_\_\_\_\_\_\_ LABORATORY NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| --- | --- | --- | --- |
| **CHALLENGE:** | **ANSWER CODE/S:** | **CLINICAL HISTORY:** | **INSTRUCTIONS:** |
| **PS01/22**Stool/urine concentrate |  | Patient complaining of loose stools and mild abdominal cramps  | Vortex/mix the specimen well. Make a few wet preparations and examine the slide for parasites using 10x and 40x objectives. |
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| **PS02/22**Stool/urine concentrate |  | Patient complaining loose stools, abdominal pain, and flatulence  | Vortex/mix the specimen well. Make a few wet preparations and examine the slide for parasites using 10x and 40x objectives. |
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| **PS03/22**Stool/urine concentrate |  | Patient complaining of diarrhoea that lasts for more than a few days | Vortex/mix the specimen well. Make a few wet preparations and examine the slide for parasites using 10x and 40x objectives. |
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| **PS04/22**Stool/urine concentrate |  | Patient complaining of abdominal pain, constipation and excess gas | Vortex/mix the specimen well. Make a few wet preparations and examine the slide for parasites using 10x and 40x objectives.  |
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| **PS05/22**Stool smear |  | Patient complaining of headache, fever, malaise, abdominal pain, vomiting, dehydration | You are provided with a fixed stool smear; stain with an appropriate stain and examine the slide for parasites using the appropriate objective. Please **do not** return your slide. |
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| Stain used: |

 **IMPORTANT INFORMATION**

* Please read the **instruction booklet** sent in the last survey for detailed instructions.
* Codes for completion of the response form can be found in the **instruction booklet** (page 4).
* The closing date for Survey 01 2022 is the **20 May 2022.**
* Submit results and queries to **parapts@nhls.ac.za** or 086 225 2460.

 **TEACHING SERIES**: **Microscope use and care**

**NHLS PARASITOLOGY PTS ANSWER CODES**

|  |  |  |  |
| --- | --- | --- | --- |
| 00 | Noparasite(s) seen | 28 | *Schistosoma japonicum/mekongi* eggs |
| 01 | *Ascaris lumbricoides* eggs | 29 | *Strongyloides stercoralis* larvae |
| 02 | *Balantidium coli* | 30 | *Taenia* species eggs |
| 03 | *Blastocystis hominis* | 31 | *Trichostrongylus* species eggs |
| 04 | *Chilomastix mesnili* | 32 | *Trichuris trichiura* eggs |
| 05 | *Cryptosporidium* species oocysts | 33 | Other (specify parasite & stage) |
| 06 | *Cyclospora cayetanensis* oocysts | 34 | *Babesia* species |
| 07 | *Dientamoeba fragilis* | 35 | *Leishmania* species |
| 08 | *Diphyllobothrium* species eggs | 36 | Microfilaria (e) observed |
| 09 | *Endolimax nana* | 37 | *Loa loa* microfilariae |
| 10 | *Entamoeba coli* | 38 | *Mansonella perstans* microfilariae |
| 11 | *Entamoeba histolytica/E. Dispar* | 39 | *Onchocerca volvulus* microfilariae |
| 12 | *Entamoeba hartmanni* | 40 | *Wuchereria bancrofti* microfilariae |
| 13 | *Entamoeba polecki* | 41 | *Plasmodium* species |
| 14 | *Enterobius vermicularis* eggs | 42 | *Plasmodium* species, not *P. falciparum* |
| 15 | *Fasciola hepatica/ Fasciolopsis buski* eggs | 43 | Relapsing malaria species |
| 16 | *Giardia lamblia* | 44 | *Plasmodium falciparum* |
| 17 | *Clonorchis/Opisthorchis /Heterophyes/Metagonimus* eggs | 45 | *Plasmodium malariae* |
| 18 | Hookworm eggs | 46 | *Plasmodium ovale* |
| 19 | *Hymenolepis diminuta* eggs | 47 | *Plasmodium vivax* |
| 20 | *Hymenolepis* *nana* eggs | 48 | *Pneumocystis jirovecii* |
| 21 | *Iodamoeba bütschlii* | 49 | *Toxoplasma gondii* |
| 22 | *Cystoisospora (Isospora) belli* oocysts | 50 | *Trypanosoma* species |
| 23 | *Paragonimus westermani* eggs | 51 | *Trypanosoma gambiense* or *rhodesiense* |
| 24 | *Pentatrichomonas (Trichomonas) hominis* | 52 | *Trypanosoma cruzi* |
| 25 | *Sarcocystis* species oocysts/sporocysts | 53 | Hydatid hooklets / protoscoleces |
| 26 | *Schistosoma haematobium* eggs |  |  |
|  27 | *Schistosoma mansoni* eggs |  |  |

**TEACHING SERIES**

***Clonorchis sinensis***

*Clonorchis sinensis*, commonly known as the oriental or Chinese liver [fluke](http://en.wikipedia.org/wiki/Fluke), is a [trematode](http://en.wikipedia.org/wiki/Trematoda) belonging to the phylum [platyhelminthes](http://en.wikipedia.org/wiki/Platyhelminthes).1 It is endemic to China, Korea, Taiwan, Hong Kong, Russia and Vietnam.2 *C. sinensis*  infects the liver, gallbladder and bile ducts in humans, and causes clonorchiasis.1 Most clinical manifestations of clonorchiasis result from inflammation and obstruction of the biliary ducts.  During the acute phase, abdominal pain, diarrhoea and nausea can occur.  In longer infections, cholelithiasis, pancreatitis, and cholangiocarcinoma can develop, and this may be fatal.3

Eggs are ovoid and yellow-brown in colour. They have a fairly thick wall with a seated operculum a small knob on the abopercular end. They measure 27µm-35µm by 12µm-19µm.1

*C. sinensis* eggs are often difficult to identify. It is important to note the size and the seated operculum. The knob at the abopercular end may not always be present or visible.1 It is also important to note the geographic distribution of such parasites. *C. sinensis* is not a parasite found in Africa, and will only be found in travelers therefore patient histories should be considered if available.

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**Figure 1**: Micrograph showing *C. sinensis* egg 3  40 X objective



**Figure 2**: Life cycle of *C. sinensis.* 3

Clonorchis sinensis eggs are discharged in the biliary ducts and in the stool in an embryonated state . Eggs are ingested by a suitable snail intermediate host . Eggs release miracidia , which go through several developmental stages (sporocysts , rediae , and cercariae  ). The cercariae are released from the snail and, after a short period of free-swimming time in water, they come in contact and penetrate the flesh of freshwater fish, where they encyst as metacercariae . Infection of humans occurs by ingestion of undercooked, salted, pickled, or smoked freshwater fish . After ingestion, the metacercariae excyst in the duodenum  and ascend the biliary tract through the ampulla of Vater . Maturation takes approximately one month. The adult flukes (measuring 10 to 25 mm by 3 to 5 mm) reside in small and medium sized biliary ducts. 3

**References**

1. <https://www.cdc.gov/parasites/clonorchis/index.html>

2. Ash LR & Orihel TC. (1997). ***Atlas of Human Parasitology***, 4th Ed. ASCP Press, Chicago.

3. <https://www.cdc.gov/dpdx/clonorchiasis/index.html>

4. Parasitology Reference Laboratory Image Library