

Practice Number: 5200296

# Instructions for Participants

# 03 August 2022 02-2022

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

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## **NHLS Stool Parasites PT Scheme 0222**

#### PTS LAB NO: \_\_\_\_\_

#### LABORATORY NAME: \_\_\_\_\_

CHALLENGE:	ANSWER CODE/S:	CLINICAL HISTORY:	INSTRUCTIONS:
<b>PS06/22</b> Stool/urine concentrate		Patient complaining of severe abdominal pain and vomiting	Vortex/mix the specimen well. Make a few wet preparations and examine the slide for parasites using 10x and 40x objectives.
<b>PS07/22</b> Stool/urine concentrate		An aspiration of a cystic liver lesion from a 21-year-old female was received in the laboratory for examination of parasites	Please examine the parasites on the paper challenge (page 3&4) and record your response <b>using answer</b> <b>codes</b> .
<b>PS08/22</b> Stool/urine concentrate		Patient complaining of bloody stools and fever	Vortex/mix the specimen well. Make a few wet preparations and examine the slide for parasites using 10x and 40x objectives.
<b>PS09/22</b> Stool/urine concentrate		Patient complaining of abdominal pain 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.
<b>PS10/22</b> Stool smear	Stain used:	Patient complaining of bloating and loss of appetite	You are provided with a fixed stool smear; stain with an appropriate stain and examine the slide for parasites using the appropriate objective. Please <u>do not</u> return your slide.

#### **IMPORTANT INFORMATION**

- Please read the **instruction booklet** on internet for detailed instructions.
- Codes for completion of the response form can be found on internet
- The closing date for Survey 02 2022 is the **26 August 2022**.
- Submit results and queries to parapts@nhls.ac.za or 086 225 2460.

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### PAPER CHALLENGE

PT Scheme: NHLS Stool PTS Challenge number: PS07/22



Challenge: PS 07/22. A (40X magnification on the microscope )

**B** (10X magnification on the microscope)



Challenge: PS 07/22. C (40X magnification on the microscope)

#### **TEACHING SERIES:** Microsporidiosis

The disease microsporidiosis is caused by obligate intracellular parasites belonging to the phylum microsporidia. <sup>1</sup> These parasites are characterized by the production of resistant spores that vary in size, depending on the species and possess a unique organelle, called a polar tubule or polar filament, which is coiled inside the spores. <sup>2</sup>

Human microsporidiosis represents an important and rapidly emerging opportunistic disease, occurring mainly, but not exclusively, in severely immunocompromised patients with AIDS. The clinical manifestations of microsporidiosis are very diverse, varying according to the causal species with diarrhea being the most common.<sup>2</sup>

The most widely used staining technique is the Chromotrope 2R method, which stains the spore and the spore wall bright pinkish red, with a belt-like stripe often seen in the middle of the spore. There are also useful chemofluorescent agents such as Calcofluor white that are useful for quick identification of spores in fecal smears. The microsporidia spores of species associated with human infection measure from 1 to 4  $\mu$ m, which is a useful diagnostic feature. <sup>2</sup>



**Figure 1**: Micrographs showing microsporidian spores on Calcofluor white stain 1000 X Magnification (left) and Chromotrope stain 1000 X Magnification (right). <sup>2</sup>

#### REFERENCES

- 1. <u>www.cdc.gov.za.</u> Date accessed: 21 February 2014
- 2. Ash LR & Orihel TC. (1997). Atlas of Human Parasitology, 4th Ed. ASCP Press, Chicago.
- 3. <u>www.dpd.cdc.gov</u>. Date accessed: 21 February 2014
- 4. Isaäcson M & Frean J. (2002). DTM&H notes, NICD NHLS.