

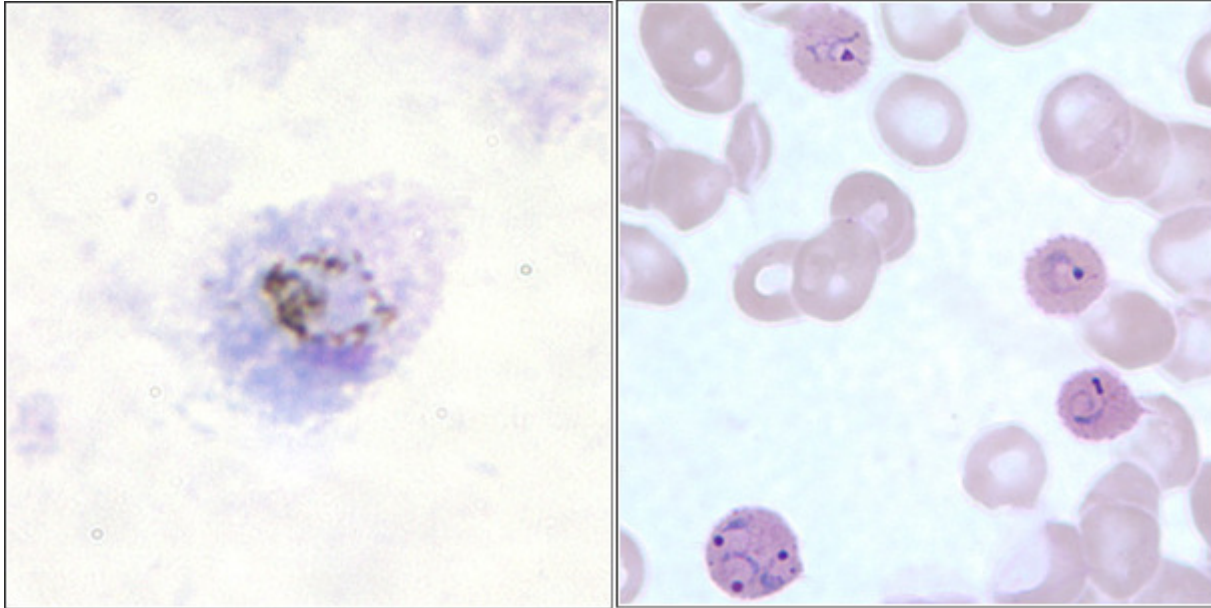
NHLS Blood Parasitology PT Scheme Clinical Scenarios 01/21 and Teaching Series

CHALLENGE:	CLINICAL HISTORY:	INSTRUCTIONS:
PB01/21 (Thin film)	A patient presents with fever, headaches, joint pains and itching at the local hospital casualty	A thin stained blood film has been sent to your laboratory; please examine the smear for parasites. If appropriate , perform a parasite count on your thin film and express your count as a percentage, to one decimal place.
PB02/21 (Thick and Thin film)	A 30 year-old man from the Western Cape indicated to his GP that he is feeling unwell.	You have been provided with a thick and thin stained blood film. Please examine for parasites. If appropriate , perform a parasite count on your thin film and express your count as a percentage, to one decimal place.
PB03/21 (Thick and Thin film)	A clinician has requested malaria testing from a patient who travelled to Mozambique who presents with fever and generalised malaise.	You have been provided with a thick and thin stained blood film. Please examine for parasites. If appropriate , perform a parasite count on your thin film and express your count as a percentage, to one decimal place.
PB04/21 (Thick and Thin film)	A sick child in Tonga village, Mpumalanga Province.	You have been provided with a thick and thin stained blood film. Please examine for parasites. If appropriate , perform a parasite count on your thin film and express your count as a percentage, to one decimal place.
PB05/21 (Paper challenge)	A blood donor from DRC, a recipient of whose blood became ill with fever and rigors	Please examine the micrograph on the paper challenge (page 2) and record your response using answer codes.

For answer sheet and answer codes please go to https://www.nhls.ac.za/wp-content/uploads/2021/04/NHLS_Blood_Parasitology_Blood_Answer_Codes.pdf or http://intranet.nhls.ac.za/?page=proficiency_testing&id=324

PAPER CHALLENGE

PT Scheme: **NHLS Blood PTS**
Challenge number: **PB05/21**



Micrographs of Giemsa-stained thick and thin blood films (100x), for challenge: PB 05/21.

[Micrographs taken at NHLS QA Department; not to be used for any purpose except in connection with this survey].

TEACHING SERIES:

Examination of stained slides for blood parasite microscopy

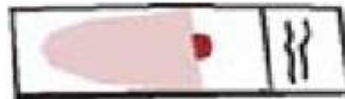
Examining thick films



In thick films, the erythrocytes or red blood cells (RBCs) have been lysed and the parasites are more concentrated, making the thick film useful for screening for parasites and for detecting mixed infections. It is the only way to identify scanty infections.

1. First screen the entire film at a low magnification (10x or 20x objective lens), to detect large parasites such as microfilaria.
2. Then examine the film using the 100x oil immersion objective lens.
3. If you see parasites, make a tentative species determination on the thick film and then examine the thin film to determine the species present. Most often, the thin film is the appropriate sample for species identification.
4. Determination of "no parasites seen" (NPS): For malaria diagnosis, we recommend that at least 100-150 fields, be screened before calling a thick film negative. NCCLS (National Committee for Clinical Laboratory Standards) standards recommend examination of at least 300 fields using the 100x oil immersion objective.

Examining thin films



Thin films are useful for species identification of parasites already detected on thick films and a rapid screen while the thick film is still drying.

1. Carefully examine the film using the 100x oil immersion objective lens. Ensure you start reading at the feathered edge, where the red blood cells are evenly distributed, closely packed but not overlapping. If needed, examination of the thicker areas of the thin film can be done.

If *P. falciparum* is seen, a parasite count should be performed. In South Africa, parasite counts are generally done on the thin blood films and reported as a percentage.

Adapted from: <http://www.dpd.cdc.gov/dpdx>, [accessed on 23/04/2021]

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