HEALTH HOLDING

HAFER ALBATIN HEALTH CLUSTER
MATERNITY AND CHILDREN HOSPITAL

Department:	Laboratory and Blood Bank (Haematology)		
Document:	Internal Policy and Procedure		
Title:	Examination of Blood Film for Malaria		
Applies To:	All Laboratory Staff		
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1. PURPOSE:

1.1 To detect and identify malaria parasite.

2. DEFINITONS:

N/A

3. POLICY:

3.1 The preparation of thick and thin blood film to detect malaria parasite.

3.2 Principle:

3.2.1 Thick and thin smears are required for the optimal detection of malarial parasites in blood films. Thick smears in particular are useful if the parasitemia is low, but the identification is more difficult in this preparation. Five minutes examining a thick smear is equivalent to traversing a thin smear over one.

4 PROCEDURE:

4.1 Specimen Requirement

4.1.1 Specimen Type: Venous blood

4.1.2 Tube Type: K-EDTA (Lavender) Tube

4.1.3 Amount Required: 2 ml

4.1.4 Delivery Arrangement: As soon as possible and should not exceed 1 hour from collection time

4.1.5 Temperature Restriction: 37^0 C

4.1.6 Stability: 2 hours at RT

4.1.7 Unacceptable SP

4.1.7.1 Clerical Error

4.1.7.2 QNS

4.1.7.3 Clotted

4.1.8 Time of the test: Anytime

4.2 Preparation :

4.2.1 Fix the thin smear and buffy coat with methanol for several seconds.

4.2.2 Stain the slides by giemsa stain for 30 min

4.2.3 Rinse the smear by placing three small drops of blood close together near one end of the slide, with one corner of a clean slide mix the drops of blood over an area of 2 cm, stir for about 30 sec. to prevent formation of fibrin strands, allow the smear dry.

4.2.4 Stain the film in water –based giemsa stain.

4.2.5 By the use of the oil immersion objective in thick film, it is useful for detection the parasites.

4.2.6 The identification of malaria species requires the consideration of three factors :

4.2.6.1 Appearance of the parasites

4.2.6.2 Appearance of the infected erythrocyte.

4.2.6.3 The stage found.

4.3 Result :
- 4.3.1 In case of positive slides , should be confirmed by the hematologists
- 4.3.2 Significance Of Abnormal Results : See appendix 7.1

5. MATERIALS AND EQUIPMENT:

5.1 EQUIPMENT:
- 5.1.1 Glass slides
- 5.1.2 EDTA whole blood (blood sample should be taken as soon as possible when the patient have fever.
- 5.1.3 Microscope.
- 5.1.4 Giemsa stain or wright stain.
- 5.1.5 Methanol, 95% .

6. RESPONSIBILITIES:

6.1 This policy applies to all Hematology technologists involved in this special Hematology test
6.2 Clinical pathologist

7. APPENDICES:

7.1 Table

8. REFERENCES:

8.1 Medical Encyclopedia (Medlin Plus)
8.2 A Manual Laboratory & Diagnostic Tests (Lippincott Williams & Wilkins)
8.3 Clinical Laboratory Methods/ John D. Bauer – MD- Mosby
8.4 Practical Hematology (Sir John V. Dacie)

9. APPROVALS:

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Appendix 7.1 TABLE

Characteristics	P. Vivax	P. Ovale	P. Falciparum	P. Malariae
Stage Present In Blood	All Stages	All Stages	Ring And Gametocyte	All But Not At The Same Time
Ring Form Size	Large	Small Compact	Small Delicate Multiple Forms	Small Compact
Chromatin Dots	1-2	1	1-2	1
Trophozoites	Amoeboid	Small Compact	Usually Not Seen	Compact With Dense Cytoplasm
Mature Schizonts	12-14	6-12	8-24 Usually Not Seen.	6-12
Size Of Infected Rbcs	Enlarged	Enlarged Oval	Normal	Normal