

Category: Malaria OPD
Title: Standard Operating Procedures for detection (diagnosis) of malaria in the peripheral
Blood smear and reporting.
SOP No.: 04/04
Effective Date: 01st January 2025
Review date: 31st December 2025
Department of Clinical Pharmacology, 1st Floor, New MS Building,
Seth GS Medical College & KEM Hospital, Parel, Mumbai 400012

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Title The Diagnosis of Malarial Parasites and reporting in the
Department of Clinical Pharmacology, K.E.M. Hospital, Mumbai
SOP No: 04/04 **Total pages:** 6

Effective Date: 01st January 2025 **Review date:** 31st December 2025

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Table of Contents

No.	Contents	Page No.
1	Purpose	3
2	Scope	3
3	Responsibility	3
4	Detailed Instructions	3
5	Definitions	3
6	Calculations of Parasite Density	4
7	Abbreviations	4
8	References	5
9	Appendix	6

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1. **Purpose**

To outline procedures for detection (diagnosis) of malaria in the peripheral blood smear of patients referred from Medicine and General out Patient Department (OPD) and wards.

2. **Scope**

This SOP is limited for the diagnosis of malaria from peripheral blood smear and reporting in the Department of Clinical Pharmacology, Seth GSMC & KEMH, Mumbai.

3. **Responsibility**

Laboratory Technician

4. **Detailed instructions**

- i) Stain the thick blood smear with JSB (Jaswant Singh and Bhattacharji) stain.
- ii) Dry the stained slides in the drying unit. Normally this takes 15 minutes.
- iii) Scan the blood smear under the microscope for the presence or absence of malarial parasites using a drop of immersion oil (make: MERCK) under oil immersion lens of microscope. Adjust the lens using coarset.
- iv) View 100 fields before reporting the smear as 'MP Negative' for Malarial Parasite using fine adjustment.
- v) Report the patients in the form of MP Positive or MP Negative. If positive, mention species, stages and parasite count as scanty, moderate or heavy.

5. **Definitions**

- **Parasite Count:** It is the count of infected erythrocytes in relation to a predetermined number of WBCs and an average of 8000/ μ l is taken as standard.
- **Scanty Parasitemia Count:** less than or equal to 10 parasites /200 leucocytes
- **Moderate Parasitemia Count:** 11-100 parasites / 200 leucocytes
- **Heavy Parasitemia Count:** more than 100 parasites /200 leucocytes

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6. Calculations of Parasite Density:

For malaria patient admitted in the ward 24 Parasite count is determined by the following formula:

For Asexual forms:

No. of asexual forms of parasite count X Total WBC count

Parasite Count= _____

No. of WBCs counted

For Sexual forms:

No. of sexual forms of parasite count X Total WBC count

Parasite Count= _____

No. of WBCs counted

Average of 8000 WBCs/ μ l is taken as the total WBC Count. A total of 200 WBCs are counted.

7. Abbreviations:

- PVR(S/M/H): *Plasmodium vivax* Ring form (scanty/moderate/heavy)
- PVTG(S/M/H): *Plasmodium vivax* Trophozoite and Gametocyte (scanty/moderate/heavy)
- PVRTG(S/M/H): *Plasmodium vivax* Ring form, Trophozoite and Gametocyte (scanty/moderate/heavy)
- PVT(S/M/H): *Plasmodium vivax* Trophozoite (scanty/moderate/heavy)
- PVG(S/M/H): *Plasmodium vivax* Gametocyte (scanty/moderate/heavy)
- PFR(S/M/H): *Plasmodium falciparum* Ring form (scanty/moderate/heavy)
- PFG(S/M/H): *Plasmodium falciparum* Gametocyte (scanty/moderate/heavy)
- PFRG(S/M/H): *Plasmodium falciparum* Ring form and Gametocyte (scanty/moderate/heavy)

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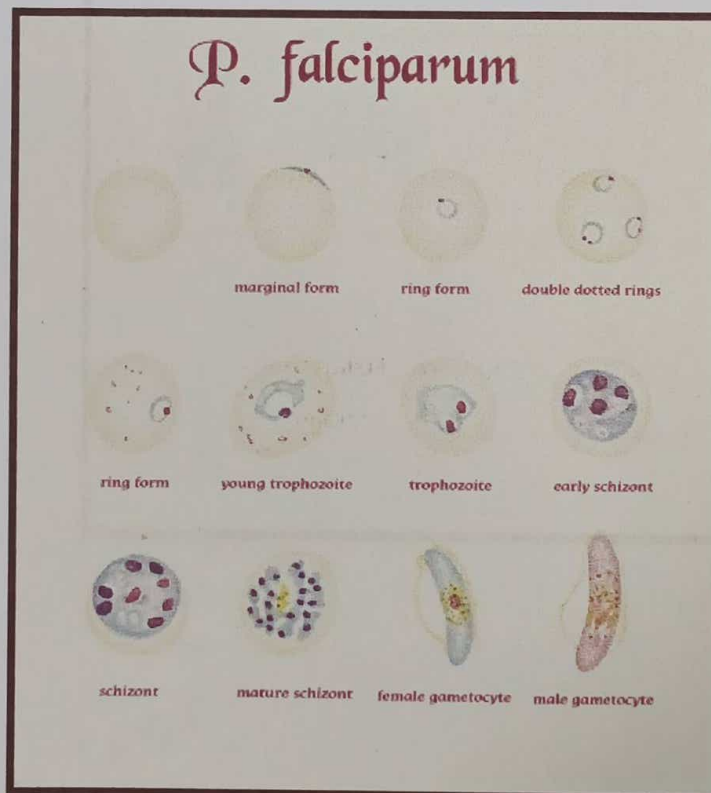
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8. References:

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9. Appendix

