STANDARD OPERATING PROCEDURE TEMPLATE · SPECIALTY AND SUBSPECIALTY PROCEDURES

Peripheral Blood Smear and Manual Differential

Governing requirement: 42 CFR 493.1251(b)(2) and 493.1269

Applies to: ☐ Waived ☐ Moderate complexity ☑ High complexity

Laboratory name		**CLIA number**	
Document number		**Version**	
Effective date		**Next review due**	
Author		**Department / section**	
Approved by (laboratory director)		**Director signature**	
Approval date		**Supersedes document**	

Important: Template only. Before use, this document must be reviewed, adapted to your laboratory's instruments, test systems and the manufacturer's instructions, and approved, signed and dated by the laboratory director. Check current federal, state and accreditation requirements. Not legal advice. Sound Lab Consultants is not affiliated with or endorsed by CMS, CDC, FDA, OSHA, CAP, COLA, The Joint Commission, CLSI or any manufacturer.

1. Purpose

To prepare, stain and examine blood smears.

2. Scope

Manual differentials and smear reviews.

3. Responsibility

- Testing personnel: perform the procedure as written and record QC and patient results.
- Technical supervisor / technical consultant: approves criteria, reviews QC and resolves problems.
- General supervisor (high complexity): provides day-to-day supervision and result review.
- Laboratory director: approves the procedure and is responsible for overall test quality.

4. Definitions

Monolayer: Area where cells are just touching.

5. Materials, equipment and records

- Slides, stainer, stain **[Stain]**

Stain	

- Microscope
- Cell counter

6. Procedure

1. Prepare a wedge smear with a feathered edge.

2. Stain per stain manufacturer; check stain quality.

3. Scan at low power for distribution, clumps and abnormal cells.

4. Count 100 WBCs in the monolayer under oil.

5. Grade RBC morphology **[Grading scale]**.

Grading scale	

6. Estimate platelets (average per oil field x **[Factor]**).

Factor	

7. Refer abnormal cells to **[Pathologist review criteria]**.

Pathologist review criteria	

8. Report and record.

7. Quality control

• Check stain quality each day of use.

8. Interpretation, reporting and documentation

• Record the activity, date, result and initials on the form or log, and have the supervisor review records **[Review frequency]**.

Review frequency	

• Keep records per the record retention SOP (at least 2 years under 42 CFR 493.1105 unless a longer period applies).

9. Limitations and cautions

• This is a generic template. Adapt it to your instruments, test systems, manufacturer instructions, state law and accreditation standards before use.

10. References

• eCFR, 42 CFR Part 493 Laboratory Requirements (CLIA)
https://www.ecfr.gov/current/title-42/chapter-IV/subchapter-G/part-493

• CMS, State Operations Manual Appendix C: Survey procedures and interpretive guidelines for laboratories
https://www.cms.gov/regulations-and-guidance/guidance/manuals/downloads/som107ap_c_lab.pdf

• Manufacturer's package insert, operator manual and safety data sheets for each test system in use

• CLSI guidelines relevant to this procedure (referenced by name only; obtain current editions from CLSI)

• eCFR, 42 CFR 493.1251 https://www.ecfr.gov/current/title-42/section-493.1251

• eCFR, 42 CFR 493.1269 https://www.ecfr.gov/current/title-42/section-493.1269

11. Lab-specific notes

Notes and local requirements	

12. Revision history

Version	Date	Description of change	Author	Approved by

13. Annual review log

Procedures and changes must be approved, signed and dated by the current laboratory director before use (42 CFR 493.1251(d)).

Review date	Reviewed by	Signature	Changes needed (Y/N)	Comments

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