

**PLATELET COUNT ESTIMATES**

- St. Joseph Medical Center Tacoma, WA
- St. Clare Hospital Lakewood, WA
- St. Elizabeth Hospital Enumclaw, WA
- St. Francis Hospital Federal Way, WA
- St. Anthony Hospital Gig Harbor, WA
- PSC

**PURPOSE**

To provide instruction on performing platelet slide estimates.

**BACKGROUND**

Slide estimates for platelets are often performed to confirm accuracy of automated or manual counts. They may be used to determine an estimated range in cases of platelet clumping not resolved by other methods including recollection using sodium citrate anticoagulant.

**RELATED DOCUMENTS**

- R-F-HEM0300 Platelet Estimate Ranges Microscope
- R-W-HEM1317 Platelet Clumping- EDTA Induced

**SPECIMEN REQUIREMENTS**

Wright or Wright-Giemsa stained differential slide prepared from EDTA-whole blood.

**EQUIPMENT/SUPPLIES**

Nikon Eclipse 50i or 55i microscope

**INSTRUCTIONS**

1. Using the 100X oil-immersion objective, choose an area of the slide in which the red cells are evenly separated with good distribution.
2. Count the number of platelets seen in 10 consecutive fields.
3. Divide the total by 10 to obtain the average number of platelets per oil-immersion field (OIF).
4. Multiply this average to obtain the mean platelet estimate. If using the:
  - Nikon Eclipse 50i or 55i microscope—multiply by 12.3.

Each platelet in the estimate represents 1000 platelets. See R-F-HEM0300 Platelet Estimate Ranges Microscope. Ranges vary 10% from the mean value.

5. Example: (52 plts counted per 10 fields)
  - $52 \div 10 = 5.2$  platelets per OIF
  - $5.2 \text{ platelets} \times 12.3 = 64$  (thousand) platelet estimate
6. Compare the estimate with the automated count.
7. If the estimate does not correlate with the platelet result, repeat the estimate.
8. Rule out instrument error. Observe if giant platelets are present.
9. Determine an approximate range for the results. If platelet clumping is present and the specimen cannot be recollected, it may be necessary to suggest a general platelet range. For example: use footnote CLUMP "Unable to perform platelet count due to platelet clumping."
  - PLTA- Platelets appear adequate
  - PLT D-Platelets appear decreased
  - PLT I- Platelets appear increased
  - PLT MD- Platelets appear markedly decreased
  - PLT MI- Platelets appear markedly increased

PLT SD- Platelets appear slightly decreased

PLT SI- Platelets appear slightly increased

10. The platelet count should not be verified until an estimate has been obtained that supports the automated result. If automated results do not correlate, recollect specimen in EDTA, warmed EDTA or Sodium Citrate anticoagulant. See work instruction for Platelet Clumping- EDTA Induced R-W-HEM1317.

### TECHNICAL NOTES

1. Patients with low RBC counts may give a false high platelet count.
2. The factor used in platelet estimates is based on the field of view diameter for the microscope. The FOV diameter for the Nikon Eclipse 50i or 55i is 22 mm.
3. An estimated numeric range for the platelet count may be reported if requested by the physician.

### REFERENCE

Hematology Procedures for Abnormal Bloods, Coulter-Beckman Manual, appendix.

Hematology, Clinical Principles and Applications, Chapter 14, pp. 181-182.

Please complete review by (date):7-31-13					
Reviewer	Approval Required?	Date Reviewed	OK?	Not?	Suggestions
Karen Benson	N				
Danielle Capers	N				
Susan Guillen	Y	7-22-13	Y		Need 55i added with same FOV as 50i
Mary Hancock	Y	7-15-13	y		See notes above.
Jacqueline Hilyard	Y	6/20/13	Y		Removed portions referring to manual platelet counts, added related documents section, added info about CLUMP footnote. Removed references to Laphobot microscope and added the 55i.
Gary Meyer	Y	7-12-13	y		
Anne Tuttle	Y	7-10-13	y		See notes

Please Complete Review by date:					
Reviewer	Approval Required?	Date Reviewed	OK?	Not?	Suggestions
Nuria Adem					
Linda Burkhardt					
Cecil Dunn					
Roberta Dutcher					
Teri Emerson					
Linda Guay					
Carla Herl					
Sally Kramer					
Karen Lea					
Jezelin Temporosa					
Claudia Willis					
Barb Wray					
Katie Wilkinson					

Once this document has been approved by the committee, this box should be deleted before saving the final copy. Then reposition the "Document Approval" box to the bottom of the last page and forward the final copy to the Medical Director for approval.

<b>DOCUMENT APPROVAL Purpose of Document / Reason for Change:</b>			
<input type="checkbox"/> No significant change to process in above revision. Per CAP, this revision does not require further Medical Director approval.			
<b>Committee Approval Date</b>	<input type="checkbox"/> Date: <input type="checkbox"/> N/A – revision of department-specific document which is used at only one facility	<b>Medical Director Approval</b> (Electronic Signature)	

FOR Tech Review Only