SEDIMENTATION RATE (ESR)

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PURPOSE

To provide instructions for the performance of an Erythrocyte Sedimentation Rate (ESR).

BACKGROUND

The ESR (Westergren method) is a measurement of the rate at which red cells settle from the plasma. The rate is dependent on protein composition of the plasma, the size and shape of the RBC's, and the RBC concentration. Elevated ESR's are often noted in the presence of rouleaux, increased fibrinogen, increased alpha or beta globulins, macrocytosis, or anemia. The ESR is used to demonstrate inflammation or tissue destruction. The test is used as an initial screening tool and also as a follow-up test to monitor the effects of therapy and the progression or regression of disease.

RELATED DOCUMENTS

No related documents.

SPECIMEN

SPECIMEN: EDTA whole blood
STABILITY: Room temp: 4 hours
Refrigerated (2-8º C.): 12 hours, bring to room temp and thoroughly mix before testing
VOLUME: 1.0 ml minimum

EQUIPMENT/SUPPLIES

- Sediplast vial containing 0.2 ml 3.8% sodium citrate and Sediplast pipette.
- Plastic transfer pipettes, face shield, electronic timer
- Sediplast plastic rack

QUALITY CONTROL

Quality Control is performed by having two techs verify the same result. This is performed once per day of testing and should be documented according to your site lab protocol.

- The two readings must be within the following limits of acceptability: ± 2 mm/hr.
- If the two readings are not within the acceptable limits, a new Sediplast test should be set up.

External commercial quality control material is not required for this waived test.

INSTRUCTIONS

1. If needed, create a worksheet using RQW for test name: SED.
2. Remove the pink stopper on the Sediplast vial.
3. Fill the vial to the bottom of the indicated fill-line with 0.8ml of well-mixed whole blood.
4. Replace the vial cap and mix gently by inversion several times.
5. Check the leveling of the Sediplast rack before use.
6. Place the vial in the Sediplast rack on a level counter surface free from vibration.
7. Using the face shield, insert the Sediplast pipette through the cap until it makes contact with the blood sample. Next, while holding the middle of the pipette, gently twist the pipette and push downwards until the pipette rests firmly on the bottom of the vial. Do not use excessive force or hold or block the top of the pipette.
8. The pipette will autozero the blood and any reasonable excess will flow into the reservoir compartment.
9. Let sample stand for exactly 1 hour. Read the numerical result in millimeters from the calibrated pipette where the plasma level and RBC level intersect.
10. Document and verify results in the LIS.

REFERENCE RANGE

Male:	0-15 mm/hr. (Age: 0-50 years)
	0-20 mm/hr. (Age: greater than 50 years)
Female:	0-20 mm/hr. (Age: 0-50 years)
	0-30 mm/hr. (Age: greater than 50 years)

REFERENCES

Sediplast Westergren ESR System, Catalog #S 100.

McKenzie, Shirlyn B., Clinical Laboratory Hematology. Pearson Education, Inc., 2004, pp. 134-135.

DOCUMENT APPROVAL **Purpose of Document / Reason for Change:**			
Updated Quality Control section for waived test requirements.			
☐ *No significant change to process in above revision. Per CAP, this revision does not require further Medical Director approval.*			
Committee Approval Date	☐ Date: ☐ N/A – revision of department-specific document which is used at only one facility	**Medical Director Approval** *(Electronic Signature)*	Katie Wilkinson, MD 12/2/13