

DEPMEDS LABORATORY PROCEDURES  
DEPARTMENT OF CLINICAL SUPPORT SERVICES  
U.S. ARMY MEDICAL DEPARTMENT CENTER AND SCHOOL  
FORT SAM HOUSTON, TEXAS 78234-6137

MCCS-HCL      STANDING OPERATING PROCEDURE      01 November 01

ERYTHROCYTE SEDIMENTATION RATE (ESR)

1. PRINCIPLE:

Principle - Anticoagulated whole blood placed in a tube will separate into an upper plasma layer and a lower cell layer as a result of gravity. The ESR is the distance at which the cells settle out in a given time period and is expressed in mm/hr.

2. REAGENTS:

- a. Wintrobe tubes
- b. Lavender top tube
- c. Vertical rack

3. PROCEDURE - Wintrobe and Landsberg procedure

- a. Add whole blood (in EDTA) directly to Wintrobe tube
- b. Place tube in vertical rack
- c. At end of 60 minutes, record the distance

4. REFERENCE RANGES:

- a. Males: 0 to 10 mm/hr
- b. Females: 0 to 15 mm/hr

5.