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Beaumont

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Area: Laboratory-Hematology

Key Words:

Applicability: Royal Oak

Hematology Normal Values-RO

Document Type: Procedure

I. PURPOSE AND OBJECTIVE:

The purpose is to provide a reference of normal values for adult and pediatric patients.

II. PROCEDURE

- A. For normal ranges on adult patients, refer to the expected values tables below.
- B. For Beaumont pediatric normal ranges, see Attachment A – Beaumont Pediatric Normal Ranges

III. EXPECTED VALUES

Expected Values

Parameter	Female	Male	Reference
WBC (bill/L)	3.3 – 10.7	3.5 – 10.1	Beaumont Survey
RBC (tril/L)	3.87 – 5.08	4.31 – 5.48	Beaumont Survey
Hemoglobin (g/dL)	12.1 – 15.0	13.5 – 17.0	Beaumont Survey
HCT (%)	35.4 – 44.2	40.1 – 50.1	Beaumont Survey
MCV (fL)	80 – 100	80 – 100	Beaumont Survey
MCH (pg)	28 – 33	28 – 33	Beaumont Survey
MCHC (g/dL)	32 – 35	32 – 36	Beaumont Survey
RDW-SD (fL)	40 – 50	37 – 47	Beaumont Survey
RDW-CV (%)	12 – 15	12 – 15	Beaumont Survey
Platelet (bill/L)	150 – 400	150 – 400	Beaumont Survey
Reticulocyte Count (bill/L)	21 – 100	21 – 100	Beaumont Survey
Reticulocyte %	0.48 – 2.22	0.48 – 2.22	
IRF	0.02 – 0.14	0.01 – 0.16	Beaumont Survey
RetHE (pg)	31.9 – 37.1	30.6 – 37.9	Beaumont Survey
Differential			

Parameter	Female	Male	Reference
Neutrophils (bill/L)	1.6 – 7.2	1.6 – 7.2	Beaumont Survey
Lymphs (bill/L)	1.1 – 4.0	1.1 – 4.0	Beaumont Survey
Monocytes (bill/L)	0.0 – 0.8	0.0 – 0.9	Beaumont Survey
Eosinophils (bill/L)	0.0 – 0.5	0.0 – 0.4	Beaumont Survey
Basophils (bill/L)	0.0 – 0.1	0.0 – 0.1	Beaumont Survey
IG (bill/L)	0.0 – 0.03	0.0 – 0.04	Beaumont Survey

Expected Values

Parameter	Normal Values	Reference
Erythrocyte Sed Rate (mm/hr)	0 – 18 (F)	Beaumont Survey
	0 – 15 (M)	
Eosinophil Count, Absolute (bill/L)	0.0– 0.5 (F)	Beaumont Survey
	0.0– 0.4 (M)	Beaumont Survey
Acid Elution (Fetal Cells) (Kleihauer-Betke)	< 0.3 %	Miale
Sickle Cell (Hgb S) Solubility	Negative	Miale

Pleural Fluid

Parameter	Expected Values	Reference
WBC	≤1000 per mL	Kjeldsberg
RBC	<10,000 per mL	
PMN	0-25%	
Mononuclear	0-75%	

Spinal Fluid (CSF)

Parameter	Expected Values	Reference
WBC	0 - 5 per mL (all mononuclear)	Lotspeich-Steininger, et al.
RBC	Absent	

Synovial Fluid

Parameter	Expected Values	Reference
WBC	0-200 per mL	Kjeldsberg
RBC	Absent	
PMN	0-25%	
Mononuclear	0-75%	
Crystals	None	

Urine

Parameter	Expected Values	Reference
Eosinophils	None seen	Henry
Hemosiderin	Negative	Henry

IV. REFERENCES:

- A. Beaumont Survey. These results were determined in a 1997 WBH in-house study of "normal" executive health patients. Ranges were validated in 2004 and 2013. William Beaumont Hospital, Royal Oak, MI 48073.
- B. Beaumont Survey. These results were determined in a 1993 WBH in-house study of 200 "normal" patients. Ranges were validated in 2004 and 2013. William Beaumont Hospital, Royal Oak, Troy and Grosse Pointe MI.
- C. Beaumont Survey. These results were determined in a 2004 WBH in-house study of 200 "normal" patients. Ranges were validated in 2013. William Beaumont Hospital, Royal Oak, MI 48073.
- D. Miale JB. Laboratory Medicine: Hematology, 6th Ed, Mosby, 1982, p 354.
- E. Kjeldsberg CR, Knight JA. Body fluids. 2nd ed. Chicago: ASCP. 1986: 153-157.
- F. Lotspeich-Steininger CA, Stiene-Martin EA, Koepke JA, eds. Clinical Hematology, JB Lippincott, 1992.
- G. WHO Laboratory Manual for the Examination and Processing of Human Semen, 5th Ed., WHO Press, 2010.
- H. Henry, JB. Clinical diagnosis and management by laboratory methods. 18th Ed. Philadelphia: WB Saunders Co, 1991:412-413, 429.

Attachments

[Attachment A – Beaumont Pediatric Normal Ranges.pdf](#)

Approval Signatures

Step Description	Approver	Date
	Ann Marie Blenc: System Med Dir, Hematopath	6/15/2021
Hematology Medical Director Designee	Ann Marie Blenc: System Med Dir, Hematopath	6/15/2021
Policy and Forms Steering Committee Approval (if needed)	Michele Sedlak: Medical Technologist Lead	6/8/2021
Policy and Forms Steering Committee Approval (if needed)	Gail Juleff: Project Mgr Policy	6/8/2021
System Manager	Rebecca Bacarella: Mgr Laboratory	6/2/2021
	Michele Sedlak: Medical Technologist Lead	6/1/2021

Applicability

Royal Oak

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