

COMPLETE BLOOD COUNT

Orderable - CBC

Turn Around Time: 4 hours

STAT: 30 minutes

Alternate Name(s):

CBC
Leukocyte Count (LKC)
Hemoglobin (Hb)
Hematocrit (HCT)
Mean Cell Volume (MCV)
Platelet Count



Laboratory:
Core Lab



Requisition:
GENERAL LABORATORY
REQUISITION



Method of Analysis:
Impedance-based
Hematology analyzer.



Test Schedule:
As required

Specimen:

Adult	Pediatric Venous	Pediatric Capillary
4 mL K ₂ EDTA (Lavender) Vacutainer tube	2 mL Paeds K ₂ EDTA (Lavender) Vacutainer	0.5 mL MAP K ₂ EDTA (Lavender) Microtube 0.5 mL K ₂ EDTA (Lavender) Microtube

Collection Information:

Pediatric Samples:

Minimum volume required is 0.3 mL

To Achieve Non Clotted Specimens:

- Draw second, following a gas for best results
- this tube comes with its sides coated with an anticoagulant to prevent the sample from clotting, therefore, rotate container after each blood drop to allow blood to mix with the anticoagulant
- flick the tube during collection to encourage the blood to drop to the bottom and mix with the anticoagulant
- do a final mix by gently rocking sample back and forth
- visually check for clots in sample prior to sending to lab – **do not remove clots**, take a new sample

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Reference Ranges:

Normal Ranges adopted through consensus by the three London teaching hospitals.

Leukocyte Count (LKC):	
<u>Age</u>	<u>Range</u>
>18 years:	4.0-10.0 x 10 ⁹ /L
11-18 years:	4.0-10.0 x 10 ⁹ /L
3-10 years:	5.0-12.0 x 10 ⁹ /L
1 month-2 years:	5.0-15.0 x 10 ⁹ /L
< 1 month:	5.0-34.0 x 10 ⁹ /L

Erythrocyte Count (ERC):	
Males	
<u>Age</u>	<u>Range</u>
>18 years:	4.50-6.50 x 10 ¹² /L
11-18 years:	4.20-5.60 x 10 ¹² /L
3-10 years:	4.00-5.30 x 10 ¹² /L
1 month - 2 years:	3.80-5.40 x 10 ¹² /L
<1 month:	4.10-6.70 x 10 ¹² /L
Females	
<u>Age</u>	<u>Range</u>
>18 years:	4.00 - 5.60 x 10 ¹² /L
10 years - 18 years:	4.10 - 5.30 x 10 ¹² /L
2 years - 10 years:	4.00 - 5.30 x 10 ¹² /L
1 month - 2 years:	3.80 - 5.40 x 10 ¹² /L
0 min - 1 month:	4.10 - 6.70 x 10 ¹² /L

Hemoglobin (Hb):		
<u>Age</u>	<u>Range</u>	
>18 years:	Male: 135-170 g/L	Female: 115-160 g/L
11-18 years:	Male: 125-160 g/L	Female: 120-150 g/L
3-10 years:	Male and Female: 110-160 g/L	
1 month-2 years:	Male and Female: 100-140 g/L	
< 1 month:	Male and Female: 150-250 g/L	

Hematocrit (HCT):		
<u>Age</u>	<u>Range</u>	
>18 years	Male: 0.40-0.51 L/L	Female: 0.34-0.48 L/L
11-18 years:	Male: 0.37-0.48L/L	Female: 0.36-0.45 L/L
3-10 years:	Male and Female: 0.33-0.48 L/L	
1 month-2 years:	Male and Female: 0.30-0.42 L/L	
< 1 month:	Male and Female: 0.45-0.75 L/L	

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Mean Cell Volume (MCV):	
Age	Range
≥18 years:	79.0-97.0 fL
11-18 years:	79.0-95.0 fL
3-10 years:	76.0-95.0 fL
2 months-2 years:	72.0-93.0 fL
< 2 months:	102.0-120.0 fL

RDW:
12.0-15.0 %

Thrombocytes (Platelet Count):
150-400 x 10 ⁹ /L

Interpretive Comments:

Critical Values:

LKC: ≥100 x 10⁹/L

Hb: ≤70 or ≥200 g/L

Thrombocytes (Platelet Count): ≤50 x 10⁹/L