

Acceptable Tube Type

CBC



Alternate Name:		Complete Blood Count with Differential
		Complete Blood Count without Differential
CBC includes:		<ul style="list-style-type: none"> WBC RBC Hemoglobin Hematocrit MCV (mean corpuscular volume) MCH (mean corpuscular hemoglobin) MCHC (mean corpuscular hemoglobin Concentration) RDW (red cell distribution width) Platelet Count Differential (if ordered)
Performing Lab:		New Hanover and Cape Fear
Specimen Container:		5 mL lavender top tube (EDTA) or 2.5 mL "short draw" lavender top tube (EDTA)
		For neonates:
		Lavender Microtainer tube (EDTA)
Minimum Volume Required:		1.0 mL
Testing Availability	Routine:	24 hours/day
	Stat:	Yes
Turnaround Time:		Routine: 4 hours Stat: < 1 hour
Special Handling:		None

Patient Preparation:

None

Specimen Stability:

Reference Range:

WBC	
18 years – adult:	4.0 – 10.0 K/uL
15 – 18 years:	4.5 – 13.0 K/uL
6 – 15 years:	4.5 – 13.5 K/uL
3 – 6 years:	5.5 – 15.5 K/uL
1 – 3 years:	6.0 – 17.0 K/uL
6 months – 1 year:	6.0 – 17.5 K/uL
1 – 6 months:	6.0 – 17.5 K/uL
14 days – 1 month:	5.0 – 19.5 K/uL
7 -14 days:	5.0 – 20.0 K/uL
4 – 7 days:	5.0 – 21.0 K/uL
0 – 4 days:	9.0 – 30.0 K/uL
WBC Critical Values:	<1.0 or > 25.0 K/uL
	> 15.0 K/uL for outpatients
	> 20.0 K/uL for pediatric outpatients

RBC	
18 years – adult:	Female: 3.93 – 5.22 M/uL
	Male: 4.22 – 5.58 M/uL
15 – 18 years:	Female: 3.90 – 5.10 M/uL
	Male: 4.20 – 5.60 M/uL
12 – 15 years:	Female: 3.80 – 5.00 M/uL
	Male: 4.10 – 5.20 M/uL

9 – 12 years:	3.90 – 5.10 M/uL
6 – 9 years:	3.80 – 4.90 M/uL
3 – 6 years:	3.70 – 4.90 M/uL
1 – 3 years:	3.80 – 4.80 M/uL
9 months – 1 year:	4.10 – 5.30 M/uL
6 – 9 months:	4.00 – 5.30 M/uL
4 – 6 months:	3.90 – 5.50 M/uL
3 - 4 months:	3.80 – 5.30 M/uL
2 – 3 months:	2.90 – 3.90 M/uL
1 – 2 months:	3.20 – 4.00 M/uL
21 days – 1 month:	3.40 – 4.60 M/uL
14 – 21 days:	3.60 – 4.80 M/uL
7 – 14 days:	4.00 – 5.60 M/uL
6 – 7 days:	4.26 – 5.46 M/uL
5 – 6 days:	4.30 – 5.70 M/uL
4 – 5 days:	4.57 – 5.37 M/uL
3 – 4 days:	4.40 – 5.60 M/uL
2 – 3 days:	4.41 – 5.81 M/uL
1 – 2 days:	4.35 – 5.95 M/uL
0 – 1 days:	4.44 – 5.84 M/uL

Hemoglobin	
18 years – adult:	Female: 11.2 – 15.7 g/dL
	Male: 13.7 – 17.5 g/dL
15 – 18 years:	Female: 11.7 – 15.3 g/dL
	Male: 12.3 – 16.6 g/dL
12 – 15 years:	Female: 11.5 – 15.0 g/dL
	Male: 12.0 – 16.0 g/dL

9 – 12 years:	12.0 – 15.0 g/dL
6 – 9 years:	11.5 – 14.5 g/dL
1 – 6 years:	11.0 – 14.0 g/dL
9 months – 1 year:	11.3 – 14.1 g/dL
6 – 9 months:	11.4 – 14.0 g/dL
4 – 6 months:	11.1 – 14.1 g/dL
3- 4 months:	10.3 – 14.1 g/dL
81 days – 3 months:	10.4 – 12.2 g/dL
67 – 81 days:	10.3 – 12.1 g/dL
51 – 67 days:	10.0 – 12.2 g/dL
44 – 51 days:	10.5 – 13.5 g/dL
37 – 44 days:	10.4 – 13.4 g/dL
21 – 37 days:	12.1 – 16.3 g/dL
14 – 21 days:	13.1 – 18.1 g/dL
7 – 14 days:	15.0 – 19.6 g/dL
6 – 7 days:	15.4 – 20.4 g/dL
5 – 6 days:	15.2 – 19.6 g/dL
4 – 5 days:	16.5 – 18.7 g/dL
3 – 4 days:	16.5 – 20.7 g/dL
2 – 3 days:	16.8 – 20.8 g/dL
1 – 2 days:	17.1 – 20.9 g/dL
0 – 1 day:	17.1 – 21.5 g/dL
Hemoglobin Critical Value:	< 5.0 g/dL

Hematocrit	
12 years – adult:	Female: 34.1 – 44.9%
	Male: 40.1 – 51.0%
6 – 12 years:	35.0 – 45.0%

2 – 6 years:	34.0 – 40.0%
6 months – 2 years:	33.0 – 39.0%
2 – 6 months:	29.0 – 41.0%
1 – 2 months:	28.0 – 42.0%
15 days – 1 month:	31.0 – 55.0%
8 days – 15 days:	39.0 – 63.0%
4 – 8 days:	42.0 – 66.0%
0 – 4 days:	45.0 – 67.0%
Hematocrit Critical Values:	< 20.0 or >65.0%

MCV	
12 years – adult:	Female: 81.0 – 99.0 fL Male: 80.0 – 98.0 fL
6 – 12 years:	77.0 – 95.0 fL
2 – 6 years:	75.0 – 87.0 fL
6 months – 2 years:	70.0 – 86.0 fL
2 months – 6 months:	74.0 – 108.0 fL
1 – 2 months:	77.0 – 115.0 fL
15 days – 1 month:	85.0 – 123.0 fL
8 – 15 days:	86.0 – 124.0 fL
4 – 8 days:	88.0 – 126.0 fL
0 – 4 days:	95.0 – 121.0 fL

MCH	
12 years – adult:	25.6 – 32.2 pg
6 – 12 years:	25.0 – 33.0 pg
2 – 6 years:	24.0 – 30.0 pg
6 months – 2 years:	23.0 – 31.0 pg
2 months – 6 months:	25.0 – 35.0 pg
1 – 2 months:	26.0 – 34.0 pg
4 days – 1 month:	28.0 – 40.0 pg
0 – 4 days:	31.0 – 37.0 pg
MCHC:	32.2 – 36.5 g/dL
RDW:	11.6 – 14.4%
Platelet Count:	150 – 450 K/uL
Platelet Count Critical Values:	< 50 or > 800 K/uL
MPV:	9.4 – 12.4 fL

Adult differential:	
Neut %	34 – 71 %
Bands %	0 – 9 %
Lymphs %	19 – 53 %
Monos %	4 – 12 %
Eos %	0 – 7 %
Basos %	0 – 1 %
Abs Neut	1.6 – 6.1 K/uL
Abs Lymphs	1.2 – 3.7 K/uL
Abs Monos	0.2 – 0.8 K/uL
Abs Eos	0.0 – 0.5 K/uL
Abs Basos	0.0 – 0.1 K/uL

Critical Value: See above charts

CPT Code: 85025

Testing Methodology:

WBC:	Optical Scanner
RBC:	Electrical resistance
Hemoglobin:	Absorption spectrophotometry
Hematocrit:	Pulse Height Detection
MCV:	Calculated by instrument
MCH:	Calculated by instrument
MCHC:	Calculated by instrument
RDW:	Calculated by instrument
MPV:	Calculated by instrument
Platelet Count:	Optical scatter / Electrical resistance
Differential:	
Automated:	Optical Scatter and Fluorescence
Manual:	Microscopic

Causes for Specimen Rejection: Improper labeling
Clotted specimen

Other Comments:

Clinical Significance: A complete blood count is used as a screening test for various disease states to include: anemia, leukemia and inflammatory processes.