



# Test Definition: CBC

Complete Blood Cell Count (CBC) with  
Differential, Blood

**Reporting Title:** CBC with Differential, B

**Performing Location:** Mayo Clinic Laboratories - Rochester Main Campus

**Specimen Requirements:**

**Container/Tube:** Lavender top (EDTA)

**Specimen Volume:** 3 mL

**Forms:**

If not ordering electronically, complete, print, and send a [Kidney Transplant Test Request](#) with the specimen.

Specimen Type	Temperature	Time	Special Container
Whole Blood EDTA	Refrigerated (preferred)	48 hours	
	Ambient	24 hours	

**Result Codes:**

Result ID	Reporting Name	Type	Unit	LOINC®
HGB	Hemoglobin	Numeric	g/dL	718-7
HCT	Hematocrit	Numeric	%	4544-3
RBC	Erythrocytes	Numeric	x10(12)/L	789-8
MCV	MCV	Numeric	fL	787-2
RDW	RDW	Numeric	%	788-0
WBC	Leukocytes	Numeric	x10(9)/L	6690-2
NEUAA	Neutrophils, Abs	Numeric	x10(9)/L	751-8
LYMAA	Lymphocytes, Abs	Numeric	x10(9)/L	731-0
MONAA	Monocytes, Abs	Numeric	x10(9)/L	742-7
EOSAA	Eosinophils, Abs	Numeric	x10(9)/L	711-2
BASAA	Basophils, Abs	Numeric	x10(9)/L	704-7
PLTC	Platelet Count	Numeric	x10(9)/L	777-3

LOINC® and CPT codes are provided by the performing laboratory.

**Supplemental Report:**

No

**CPT Code Information:**

85025

85007 (if appropriate)

85060 (if appropriate)

**Reflex Tests:**

Test Id	Reporting Name	CPT Units	CPT Code	Always Performed	Available Separately
DIFFR	Morphology Eval (special Smear)	1	85007	No	No
PINTP	Peripheral Smear Interpretation	1	85060	No	No

### Result Codes for Reflex Tests:

Test ID	Result ID	Reporting Name	Type	Unit	LOINC®
DIFFR	LYMPH	Lymphocytes	Numeric	%	26478-8
DIFFR	MONOC	Monocytes	Numeric	%	26485-3
DIFFR	EOS	Eosinophils	Numeric	%	714-6
DIFFR	BASO	Basophils	Numeric	%	707-0
DIFFR	META	Metamyelocytes	Numeric	%	740-1
DIFFR	MYEL	Myelocytes	Numeric	%	749-2
DIFFR	PROMY	Promyelocytes	Numeric	%	783-1
DIFFR	UBLS	Blasts	Numeric	%	709-6
DIFFR	PLSM	Plasma Cells	Numeric	%	79426-3
DIFFR	NUCL	Nucleated RBC	Numeric	/100 WBC	19048-8
DIFFR	MANC	Absolute Neutrophil	Numeric	x10(9)/L	753-4
DIFFR	INT01	Interpretation	Alphanumeric		59466-3
DIFFR	REV96	Reviewed by:	Alphanumeric		18771-6
DIFFR	SEGBA	Neutrophilic Segs and Bands	Numeric	%	23761-0
DIFFR	UNID	Unclassified cells	Numeric	%	44097-4
DIFFR	SEGBD	Neutrophilic Segs and Bands	Numeric	%	23761-0
DIFFR	ALYM	Absolute Lymphocyte	Numeric	x10(9)/L	732-8
DIFFR	AMONO	Absolute Monocyte	Numeric	x10(9)/L	743-5
DIFFR	AEOS	Absolute Eosinophil	Numeric	x10(9)/L	712-0
DIFFR	ABASO	Absolute Basophil	Numeric	x10(9)/L	705-4
PINTP	71442	Participated in the Interpretation	Alphanumeric		No LOINC Needed
PINTP	71443	Report electronically signed by	Alphanumeric		19139-5
PINTP	71447	Interpretation	Alphanumeric		14869-2
PINTP	71832	Case Number	Alphanumeric		80398-1

### Reference Values:

#### RED BLOOD CELL COUNT (RBC)

Males:

0-14 days: 4.10-5.55 x 10(12)/L

15 days-4 weeks: 3.16-4.63 x 10(12)/L

5 weeks-7 weeks: 3.02-4.22 x 10(12)/L

8 weeks-5 months: 3.43-4.80 x 10(12)/L

6 months-23 months: 4.03-5.07 x 10(12)/L

24 months-35 months: 3.89-4.97 x 10(12)/L

3-5 years: 4.00-5.10 x 10(12)/L

---

6-10 years: 4.10-5.20 x 10(12)/L  
11-14 years: 4.20-5.30 x 10(12)/L  
15-17 years: 4.30-5.70 x 10(12)/L  
Adults: 4.35-5.65 x 10(12)/L

**Females:**

0-14 days: 4.12-5.74 x 10(12)/L  
15 days-4 weeks: 3.32-4.80 x 10(12)/L  
5 weeks-7 weeks: 2.93-3.87 x 10(12)/L  
8 weeks-5 months: 3.45-4.75 x 10(12)/L  
6 months-23 months: 3.97-5.01 x 10(12)/L  
24 months-35 months: 3.84-4.92 x 10(12)/L  
3-5 years: 4.00-5.10 x 10(12)/L  
6-10 years: 4.10-5.20 x 10(12)/L  
11-14 years: 4.10-5.10 x 10(12)/L  
15-17 years: 3.80-5.00 x 10(12)/L  
Adults: 3.92-5.13 x 10(12)/L

**HEMOGLOBIN****Males:**

0-14 days: 13.9-19.1 g/dL  
15 days-4 weeks: 10.0-15.3 g/dL  
5 weeks-7 weeks: 8.9-12.7 g/dL  
8 weeks-5 months: 9.6-12.4 g/dL  
6 months-23 months: 10.1-12.5 g/dL  
24 months-35 months: 10.2-12.7 g/dL  
3-5 years: 11.4-14.3 g/dL  
6-8 years: 11.5-14.3 g/dL  
9-10 years: 11.8-14.7 g/dL  
11-14 years: 12.4-15.7 g/dL  
15-17 years: 13.3-16.9 g/dL  
Adults: 13.2-16.6 g/dL

**Females:**

0-14 days: 13.4-20.0 g/dL  
15 days-4 weeks: 10.8-14.6 g/dL  
5 weeks-7 weeks: 9.2-11.4 g/dL  
8 weeks-5 months: 9.9-12.4 g/dL  
6 months-35 months: 10.2-12.7 g/dL  
3-5 years: 11.4-14.3 g/dL  
6-8 years: 11.5-14.3 g/dL  
9-10 years: 11.8-14.7 g/dL  
11-17 years: 11.9-14.8 g/dL  
Adults: 11.6-15.0 g/dL

---

**HEMATOCRIT****Males:**

0-14 days: 39.8-53.6%

15 days-4 weeks: 30.5-45.0%

5 weeks-7 weeks: 26.8-37.5%

8 weeks-5 months: 28.6-37.2%

6 months-23 months: 30.8-37.8%

24 months-35 months: 31.0-37.7%

3-7 years: 34-42%

8-11 years: 35-43%

12-15 years: 38-47%

16-17 years: 40-50%

Adults: 38.3-48.6%

**Females:**

0-14 days: 39.6-57.2%

15 days-4 weeks: 32.0-44.5%

5 weeks-7 weeks: 27.7-35.1%

8 weeks-5 months: 29.5-37.1%

6 months-23 months: 30.9-37.9%

24 months-35 months: 31.2-37.8%

3-7 years: 34-42%

8-17 years: 35-43%

Adults: 35.5-44.9%

**MEAN CORPUSCULAR VOLUME (MCV)****Males:**

0-14 days: 91.3-103.1 fL

15 days-4 weeks: 89.4-99.7 fL

5 weeks-7 weeks: 84.3-94.2 fL

8 weeks-5 months: 74.1-87.5 fL

6 months-23 months: 69.5-81.7 fL

24 months-35 months: 71.3-84.0 fL

3-5 years: 77.2-89.5 fL

6-11 years: 77.8-91.1 fL

12-14 years: 79.9-93.0 fL

15-17 years: 82.5-98.0 fL

Adults: 78.2-97.9 fL

**Females:**

0-14 days: 92.7-106.4 fL

15 days-4 weeks: 90.1-103.0 fL

5 weeks-7 weeks: 83.4-96.4 fL

---

8 weeks-5 months: 74.8-88.3 fL  
6 months-23 months: 71.3-82.6 fL  
24 months-35 months: 72.3-85.0 fL  
3-5 years: 77.2-89.5 fL  
6-11 years: 77.8-91.1 fL  
12-14 years: 79.9-93.0 fL  
15-17 years: 82.5-98.0 fL  
Adults: 78.2-97.93 fL

**RED CELL DISTRIBUTION WIDTH (RDW)****Males:**

0-14 days: 14.8-17.0%  
15 days-4 weeks: 14.3-16.8%  
5 weeks-7 weeks: 13.8-16.1%  
8 weeks-5 months: 12.4-15.3%  
6 months-23 months: 12.9-15.6%  
24 months-35 months: 12.5-14.9%  
3-5 years: 11.3-13.4%  
6-17 years: 11.4-13.5%  
Adults: 11.8-14.5%

**Females:**

0-14 days: 14.6-17.3%  
15 days-4 weeks: 14.4-16.2%  
5 weeks-7 weeks: 13.6-15.8%  
8 weeks-5 months: 12.2-14.3%  
6 months-23 months: 12.7-15.1%  
24 months-35 months: 12.4-14.9%  
3-5 years: 11.3-13.4%  
6-17 years: 11.4-13.5%  
Adults: 12.2-16.1%

**WHITE BLOOD CELL COUNT (WBC)****Males:**

0-14 days: 8.0-15.4 x 10<sup>(9)</sup>/L  
15 days-4 weeks: 7.8-15.9 x 10<sup>(9)</sup>/L  
5 weeks-7 weeks: 8.1-15.0 x 10<sup>(9)</sup>/L  
8 weeks-5 months: 6.5-13.3 x 10<sup>(9)</sup>/L  
6 months-23 months: 6.0-13.5 x 10<sup>(9)</sup>/L  
24 months-35 months: 5.1-13.4 x 10<sup>(9)</sup>/L  
3-5 years: 4.4-12.9 x 10<sup>(9)</sup>/L  
6-17 years: 3.8-10.4 x 10<sup>(9)</sup>/L  
Adults: 3.4-9.6 x 10<sup>(9)</sup>/L

## Females:

0-14 days: 8.2-14.6 x 10<sup>9</sup>/L15 days-4 weeks: 8.4-14.4 x 10<sup>9</sup>/L5 weeks-7 weeks: 7.1-14.7 x 10<sup>9</sup>/L8 weeks-5 months: 6.0-13.3 x 10<sup>9</sup>/L6 months-23 months: 6.5-13.0 x 10<sup>9</sup>/L24 months-35 months: 4.9-13.2 x 10<sup>9</sup>/L3-5 years: 4.4-12.9 x 10<sup>9</sup>/L6-17 years: 3.8-10.4 x 10<sup>9</sup>/LAdults: 3.4-9.6 x 10<sup>9</sup>/L

## PLATELETS

## Males:

0-14 days: 218-419 x 10<sup>9</sup>/L15 days-4 weeks: 248-586 x 10<sup>9</sup>/L5 weeks-7 weeks: 229-562 x 10<sup>9</sup>/L8 weeks-5 months: 244-529 x 10<sup>9</sup>/L6 months-23 months: 206-445 x 10<sup>9</sup>/L24 months-35 months: 202-403 x 10<sup>9</sup>/L3-5 years: 187-445 x 10<sup>9</sup>/L6-9 years: 187-400 x 10<sup>9</sup>/L10-13 years: 177-381 x 10<sup>9</sup>/L14-17 years: 139-320 x 10<sup>9</sup>/LAdults: 135-317 x 10<sup>9</sup>/L

## Females:

0-14 days: 144-449 x 10<sup>9</sup>/L15 days-4 weeks: 279-571 x 10<sup>9</sup>/L5 weeks-7 weeks: 331-597 x 10<sup>9</sup>/L8 weeks-5 months: 247-580 x 10<sup>9</sup>/L6 months-23 months: 214-459 x 10<sup>9</sup>/L24 months-35 months: 189-394 x 10<sup>9</sup>/L3-5 years: 187-445 x 10<sup>9</sup>/L6-9 years: 187-400 x 10<sup>9</sup>/L10-13 years: 177-381 x 10<sup>9</sup>/L14-17 years: 158-362 x 10<sup>9</sup>/LAdults: 157-371 x 10<sup>9</sup>/L

## NEUTROPHILS

## Males:

0-14 days: 1.60-6.06 x 10<sup>9</sup>/L15 days-4 weeks: 1.18-5.45 x 10<sup>9</sup>/L5 weeks-7 weeks: 0.83-4.23 x 10<sup>9</sup>/L8 weeks-5 months: 0.97-5.45 x 10<sup>9</sup>/L

---

6 months-23 months:  $1.19-7.21 \times 10^9/L$   
24 months-35 months:  $1.54-7.92 \times 10^9/L$   
3-5 years:  $1.60-7.80 \times 10^9/L$   
6-16 years:  $1.40-6.10 \times 10^9/L$   
17 years:  $1.80-7.20 \times 10^9/L$   
Adults:  $1.56-6.45 \times 10^9/L$

**Females:**

0-14 days:  $1.73-6.75 \times 10^9/L$   
15 days-4 weeks:  $1.23-4.80 \times 10^9/L$   
5 weeks-7 weeks:  $1.00-4.68 \times 10^9/L$   
8 weeks-5 months:  $1.04-7.20 \times 10^9/L$   
6 months-23 months:  $1.27-7.18 \times 10^9/L$   
24 months-35 months:  $1.60-8.29 \times 10^9/L$   
3-5 years:  $1.60-7.80 \times 10^9/L$   
6-14 years:  $1.50-6.50 \times 10^9/L$   
15-17 years:  $2.00-7.40 \times 10^9/L$   
Adults:  $1.56-6.45 \times 10^9/L$

**LYMPHOCYTES****Males:**

0-14 days:  $2.07-7.53 \times 10^9/L$   
15 days-4 weeks:  $2.11-8.38 \times 10^9/L$   
5 weeks-7 weeks:  $2.47-7.95 \times 10^9/L$   
8 weeks-5 months:  $2.45-8.89 \times 10^9/L$   
6 months-23 months:  $1.56-7.83 \times 10^9/L$   
24 months-35 months:  $1.13-5.52 \times 10^9/L$   
3-5 years:  $1.60-5.30 \times 10^9/L$   
6-11 years:  $1.40-3.90 \times 10^9/L$   
12-17 years:  $1.00-3.20 \times 10^9/L$   
Adults:  $0.95-3.07 \times 10^9/L$

**Females:**

0-14 days:  $1.75-8.00 \times 10^9/L$   
15 days-4 weeks:  $2.42-8.20 \times 10^9/L$   
5 weeks-7 weeks:  $2.29-9.14 \times 10^9/L$   
8 weeks-5 months:  $2.14-8.99 \times 10^9/L$   
6 months-23 months:  $1.52-8.09 \times 10^9/L$   
24 months-35 months:  $1.25-5.77 \times 10^9/L$   
3-5 years:  $1.60-5.30 \times 10^9/L$   
6-11 years:  $1.40-3.90 \times 10^9/L$   
12-17 years:  $1.00-3.20 \times 10^9/L$   
Adults:  $0.95-3.07 \times 10^9/L$

---

**MONOCYTES****Males:**0-14 days: 0.52-1.77 x 10<sup>9</sup>/L15 days-4 weeks: 0.28-1.38 x 10<sup>9</sup>/L5 weeks-7 weeks: 0.28-1.05 x 10<sup>9</sup>/L8 weeks-5 months: 0.28-1.07 x 10<sup>9</sup>/L6 months-23 months: 0.25-1.15 x 10<sup>9</sup>/L24 months-35 months: 0.19-0.94 x 10<sup>9</sup>/L3-5 years: 0.30-0.90 x 10<sup>9</sup>/L6-17 years: 0.20-0.80 x 10<sup>9</sup>/LAdults: 0.26-0.81 x 10<sup>9</sup>/L**Females:**0-14 days: 0.57-1.72 x 10<sup>9</sup>/L15 days-4 weeks: 0.42-1.21 x 10<sup>9</sup>/L5 weeks-7 weeks: 0.28-1.21 x 10<sup>9</sup>/L8 weeks-5 months: 0.24-1.17 x 10<sup>9</sup>/L6 months-23 months: 0.26-1.08 x 10<sup>9</sup>/L24 months-35 months: 0.24-0.92 x 10<sup>9</sup>/L3-5 years: 0.30-0.90 x 10<sup>9</sup>/L6-17 years: 0.20-0.80 x 10<sup>9</sup>/LAdults: 0.26-0.81 x 10<sup>9</sup>/L**EOSINOPHILS****Males:**0-14 days: 0.12-0.66 x 10<sup>9</sup>/L15 days-4 weeks: 0.08-0.80 x 10<sup>9</sup>/L5 weeks-7 weeks: 0.05-0.57 x 10<sup>9</sup>/L8 weeks-5 months: 0.03-0.61 x 10<sup>9</sup>/L6 months-23 months: 0.02-0.82 x 10<sup>9</sup>/L24 months-35 months: 0.03-0.53 x 10<sup>9</sup>/L3-11 years: 0.00-0.50 x 10<sup>9</sup>/L12-17 years: 0.10-0.20 x 10<sup>9</sup>/LAdults: 0.03-0.48 x 10<sup>9</sup>/L**Females:**0-14 days: 0.09-0.64 x 10<sup>9</sup>/L15 days-4 weeks: 0.06-0.75 x 10<sup>9</sup>/L5 weeks-7 weeks: 0.04-0.63 x 10<sup>9</sup>/L8 weeks-5 months: 0.02-0.74 x 10<sup>9</sup>/L6 months-23 months: 0.02-0.58 x 10<sup>9</sup>/L24 months-35 months: 0.03-0.46 x 10<sup>9</sup>/L3-11 years: 0.00-0.50 x 10<sup>9</sup>/L12-17 years: 0.10-0.20 x 10<sup>9</sup>/L

---

Adults: 0.03-0.48 x 10<sup>9</sup>/L

**BASOPHILS****Males:**

0-14 days: 0.02-0.11 x 10<sup>9</sup>/L

15 days-7 weeks: 0.01-0.07 x 10<sup>9</sup>/L

8 weeks-35 months: 0.01-0.06 x 10<sup>9</sup>/L

3-17 years: 0.00-0.10 x 10<sup>9</sup>/L

Adults: 0.01-0.08 x 10<sup>9</sup>/L

**Females:**

0-14 days: 0.02-0.07 x 10<sup>9</sup>/L

15 days-4 weeks: 0.01-0.06 x 10<sup>9</sup>/L

5 weeks-7 weeks: 0.01-0.05 x 10<sup>9</sup>/L

8 weeks-5 months: 0.01-0.07 x 10<sup>9</sup>/L

6 months-35 months: 0.01-0.06 x 10<sup>9</sup>/L

3-17 years: 0.00-0.10 x 10<sup>9</sup>/L

Adults: 0.01-0.08 x 10<sup>9</sup>/L