



Reference Intervals Adjustment for Complete Blood Count (CBC)

Offering our clients state-of-the-art testing is part of CPL's ongoing commitment to excellence.

Effective January 4th, 2021, CPL will adjust reference intervals for the complete blood count (CBC). Laboratory reference intervals derive from a number of sources, including: guidance from expert organizations or public health authorities (e.g. Glucose, A1c, Lipids, eGFR), formalized reference range studies (e.g. PTT, PT), verification of manufacturer reference ranges (e.g. tumor markers, growth factors), correlation with reference or specialty laboratories, and evaluation of medical literature among others. With a primary focus on pediatric hematology reference intervals and given the limited availability of pediatric volunteers, CPL assessed the CBC data in pediatric patients filtered for routine health examination without abnormal findings, correlated with aligned initiatives in other Sonic Healthcare USA divisional laboratories (ICD codes Z00.129 and Z00.000; more than 80,000 patient specimens evaluated after filtering), reviewed pediatric hematology literature and assessed reference intervals employed at pediatric hospitals and a national reference laboratory.

Nearly all components of the CBC are subjected to adjustment of the reference intervals, with the magnitude of adjustment varying for a given age or gender bracket. For neonates up to 1 year of age, reference intervals are traceable to Dallman, PR as given in Lanzkowsky's Manual of Pediatric Hematology and Oncology (see references); for children 2 years of age and up, reference intervals are derived from the normal ICD code filtered pediatric population as given above. Affected reports are notified to the provider with the following method note:

NOTE: new reference ranges are given for multiple components of complete blood count effective 1/4/2021. The analytic method is unchanged. Please review patient results and reference intervals carefully.

The reference interval changes will affect the following unit codes:

- 1000 - CBC with automated WBC differential with platelets
- 1005 - White blood cell count
- 1007 - CBC with manual differential
- 1010 - Red blood cell count
- 1011 - CBC with absolute neutrophil count
- 1013 - CBC with automated differential and MPV
- 1014 - CBC with absolute WBC differential count
- 1016 - CBC with manual differential and absolute WBC differential count
- 1017 - CBC with absolute WBC differential count and MPV
- 1025 - Hemoglobin
- 1030 - Hematocrit
- 1041 - CBC without differential WBC count with platelets
- 1045 - Platelet count

Areas not affected: CBC method, analytic platform, patient results, critical and alert analytes and thresholds, and CPT coding.

Please contact your Account Representative for more information about this change.

References:

Dallman PR, Siimes MA. Percentile curves for hemoglobin and red cell volume in infancy and childhood. J Pediatr. 1979 Jan;94(1):26-31. doi: 10.1016/s0022-3476(79)80344-3. PMID: 758417.

Dallman PR. Blood and blood-forming tissues. In: Rudolph AM, ed. Pediatrics. 16th ed. East Norwalk, Conn: Appleton & Lange; 1977: 1178.

Lanzkowsky, Philip; Lipton, Jeffrey; and Fish, Jonathan D. Lanzkowsky's Manual of Pediatric Hematology and Oncology (6th ed.). San Diego, California: Academic Press. <https://doi.org/10.1016/C2013-0-23320-1>

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