

## HEMATO-ONCOLOGY

**AUTOMATED ANALYZER BASED APPROACH TO ANEMIA****\*Abhishek Sharma****\*\*Reena Das****\*\*\*Prashant Sharma**

**Abstract:** Anemia represents an extremely common clinical problem among children in India. Automated hematology analyzers yield a wealth of data that can aid etiological diagnosis and follow-up of anemic children. Conventional approaches include the use of parameters indicating cell volume and size variability in conjunction with the reticulocyte count to classify anemias. Recent advances range from reliable enumeration of schistocytes, enhanced precision in nucleated RBC counts, multiple approaches for detection of spherocytes, improved parameters for identification of anemias due to iron deficiency and iron restriction to hematopoiesis and improved prediction of hematopoietic recovery by identifying immature reticulocyte populations. This review discusses interpretation of the analyser data and their relevance to practicing paediatricians managing anemia.

**Keywords:** Anemia, Automated analysers, Automation, Erythrocytes, Laboratory test.

**Points to Remember**

- *Automated hematology analyzers yield a wealth of data that can aid etiological diagnosis and follow-up of anemic children.*
- *Conventional approaches include the use of parameters indicating cell volume and size variability in conjunction with the reticulocyte count to classify anemias.*
- *Recent advances include precise schistocyte and nucleated RBC enumeration, improved parameters for iron deficiency and iron-restricted hematopoiesis, increasing utility of immature reticulocyte populations and detection of spherocytes and other poikilocytes.*
- *Future advances in the field are likely to include digital image analysis and artificial intelligence to analyse patterns indiscernible to the human mind and eye.*

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