

1. Record Nr.	UNINA9911019516303321
Autore	Bain Barbara J
Titolo	Blood Cells : A Practical Guide
Pubbl/distr/stampa	Newark : , : John Wiley & Sons, Incorporated, , 2025 ©2026
ISBN	1-394-33208-4 1-394-33207-6
Edizione	[7th ed.]
Descrizione fisica	1 online resource (605 pages)
Altri autori (Persone)	LeachMike
Disciplina	612.1/1
Soggetti	Blood cells Blood cell count Blood - Analysis
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Cover -- Title Page -- Copyright Page -- Contents -- Preface -- Acknowledgements -- List of abbreviations -- About the companion website -- CHAPTER 1 Blood sampling and blood film preparation and examination -- Obtaining a blood specimen -- Peripheral venous blood -- 'Capillary' blood -- Cord blood -- Fetal blood -- Blood specimens from other sites -- Anticoagulants and specimen containers -- Guidelines -- Needle-stick injury -- Specimen mixing -- Making a blood film -- Manual spreading of a blood film on a glass slide (wedge-spread film) -- Other methods of spreading thin films -- Thick films -- Unstained wet preparations -- Fixation, staining and mounting -- Fixation -- Staining -- Mounting -- Storage of slides -- Setting up and using a microscope -- Identifying the source of a problem and preventing problems -- Examining a blood film -- References -- CHAPTER 2 Performing a blood count -- Basic techniques -- Haemoglobin concentration -- Packed cell volume -- The red cell count -- Derived red cell variables - the red cell indices -- The white cell count -- The platelet count -- The differential white cell count -- The reticulocyte count -- Units and approved abbreviations -- Automated image analysis -- Pattern-recognition automated differential counters -- Automated blood cell counters -- Principles of operation

of automated haematology counters -- Beckman Coulter instruments -- Sysmex and other instruments incorporating impedance measurements -- Siemens instruments (previously Technicon then Bayer instruments) -- Abbott Cell-Dyn and Alinity instruments -- HORIBA Medical -- Nihon Kohden instruments -- Mindray instruments -- Automated reticulocyte count and reticulated platelet count -- Selection of an automated instrument -- Near-patient/point-of-care testing -- Non-invasive methods -- Storage of blood specimens prior to testing -- References.

CHAPTER 3 Morphology of blood cells -- Examining the blood film -- Storage-induced and other artefacts -- Erythrocytes -- Anisocytosis -- Microcytosis -- Macrocytosis -- Hypochromia -- Hyperchromia -- Anisochromasia -- Dimorphism -- Polychromasia -- Poikilocytosis -- Inclusions in erythrocytes -- Circulating nucleated red blood cells -- Red cell agglutination, rouleaux formation and red cell rosetting -- Leucocytes -- Granulocytes -- The neutrophil -- The eosinophil -- The basophil -- Lymphocytes and plasma cells -- The lymphocyte -- The plasma cell -- Cells of monocyte lineage -- The monocyte -- Monocyte precursors -- The macrophage -- Granulocyte precursors -- The myeloblast -- The promyelocyte -- The myelocyte -- The metamyelocyte -- Leucoerythroblastic blood films -- The mast cell -- Disintegrated cells -- Necrotic bone marrow cells -- Platelets and circulating megakaryocytes -- Platelets -- Abnormalities of platelet size -- Other abnormalities of platelet morphology and distribution including platelet aggregation and satellism and phagocytosis of platelets -- Megakaryocytes -- Abnormal megakaryocytes and megakaryoblasts -- Blood film in healthy subjects -- Healthy adult -- Infancy and childhood -- Neonate -- Hyposplenism -- Non-haemopoietic cells -- Endothelial cells -- Epithelial cells -- Fat cells -- Mesothelial cells -- Amniotic fluid cells -- Non-haemopoietic malignant cells and mucin -- Micro-organisms in blood films -- Bacteria -- Fungi -- Parasites -- Malaria -- Babesiosis -- Toxoplasmosis -- Infection by haemoflagellates -- Filariasis -- Further learning resources -- References -- CHAPTER 4 Detecting erroneous blood counts -- The sources of errors in blood counts -- The detection of errors in automated blood counts -- Errors in automated white cell counts -- Errors in haemoglobin concentration and red cell indices. Haemoglobin concentration -- Red blood cell count, mean cell volume and haematocrit -- Mean cell haemoglobin, mean cell haemoglobin concentration and red cell distribution width -- Factitious erythroblastaemia -- Errors in platelet counts -- Errors in automated differential counts -- Five- to seven-part differential counts -- Errors in automated reticulocyte counts and other reticulocyte measurements -- References -- CHAPTER 5 Normal ranges -- Normal ranges for adults -- Normal ranges for neonates and fetuses -- Normal ranges in infants and children -- Normal ranges in pregnancy -- Normal ranges for platelet counts and other platelet variables -- Normal ranges for reticulocyte counts -- References -- CHAPTER 6 Quantitative changes in blood cells -- Polycythaemia -- Reticulocytosis -- Leucocytosis -- Neutrophil leucocytosis - neutrophilia -- Eosinophil leucocytosis - eosinophilia -- Basophil leucocytosis - basophilia -- Lymphocytosis -- Monocytosis -- Plasmacytosis -- Thrombocytosis -- Blood film and count -- Further tests -- Anaemia -- Blood film and count -- Further tests -- Reticulocytopenia -- Leucopenia -- Neutropenia -- Eosinopenia -- Basopenia -- Monocytopenia -- Lymphocytopenia (lymphopenia) -- Thrombocytopenia -- Blood film and count -- Other tests -- Pancytopenia -- Blood film and count -- Differential diagnosis -- Further tests -- References -- CHAPTER 7

Important supplementary tests -- Cytochemical techniques for investigation of erythrocyte disorders -- Heinz bodies -- Haemoglobin H inclusions -- Haemoglobin F-containing cells -- Perls reaction for iron -- Glucose-6-phosphate dehydrogenase -- Cytochemical stains used in the diagnosis and classification of leukaemias -- Neutrophil alkaline phosphatase -- Myeloperoxidase -- Sudan black B -- Naphthol AS-D chloroacetate esterase -- Non-specific esterases -- Combined esterase.

Periodic acid-Schiff reaction -- Acid phosphatase -- Flow cytometric immunophenotyping -- Immunocytochemistry -- Cytogenetic analysis -- Fluorescence in situ hybridisation -- Molecular genetic analysis -- Ultrastructural examination -- References -- Further reading --

CHAPTER 8 Disorders of red cells and platelets -- Disorders of red cells -- Hypochromic and microcytic anaemias and thalassaemias -- Disorders resulting from a defect in haem synthesis -- Disorders resulting from a defect in globin chain synthesis -- Disorders resulting from a defect in globin chain synthesis -- Haemoglobinopathies -- Macrocytic anaemias -- Megaloblastic anaemia -- Macrocytic anaemia associated with excess alcohol intake and liver disease -- Macrocytic anaemia due to a myelodysplastic syndrome -- Other rare macrocytic anaemias -- Congenital haemolytic anaemias -- Hereditary spherocytosis and variants -- Hereditary elliptocytosis and ovalocytosis -- Hereditary pyropoikilocytosis -- Southeast Asian ovalocytosis -- Hereditary stomatocytosis and related conditions -- Other defects involving the erythrocyte membrane -- Red cell enzyme abnormalities -- Acquired haemolytic anaemias -- Acquired haemolytic anaemias with an immune mechanism -- Non-immune acquired haemolytic anaemias -- Miscellaneous causes of acquired haemolytic anaemia -- Haemolysis as a contributing factor to anaemia -- Dyserythropoietic anaemias -- Congenital dyserythropoietic anaemias -- Acquired dyserythropoietic anaemias -- Aplastic anaemia and red cell aplasia -- Aplastic anaemia -- Pure red cell aplasia -- Red cell effects of bacterial, viral and parasitic infections and vaccinations -- Bacterial infection -- Viral infection -- Parasitic infections -- Polycythaemia -- Relative polycythaemia -- True polycythaemia -- Disorders of platelets -- Thrombocytopenia.

Autoimmune ('idiopathic') thrombocytopenic purpura (ITP) -- Thrombotic thrombocytopenic purpura -- Platelet effects of bacterial, viral and parasitic infections and vaccinations -- Infection- and vaccine-related thrombocytopenia and thrombocytosis -- Thrombocytosis -- Familial thrombocytosis -- Essential thrombocythaemia -- Leucoerythroblastic blood films -- Primary myelofibrosis -- References --

CHAPTER 9 Disorders of white cells -- Reactive changes in white cells -- Bacterial infection -- Viral infections -- Infectious mononucleosis -- Other reactive changes in leucocytes -- Vaccination effects on leucocytes -- Persistent polyclonal B-cell lymphocytosis -- Reactive eosinophilia -- T-cell-mediated hypereosinophilia -- Idiopathic hypereosinophilic syndrome -- Leukaemoid reactions -- Cytopenias -- Severe congenital neutropenia -- Cyclical neutropenia -- Autoimmune neutropenia -- Chronic idiopathic neutropenia -- Haematological neoplasms -- Acute myeloid leukaemia and related conditions -- The myelodysplastic neoplasms/syndromes -- Myeloproliferative and myelodysplastic/myeloproliferative neoplasms -- Myeloproliferative neoplasms -- Myelodysplastic/myeloproliferative neoplasms -- Acute lymphoblastic leukaemia/lymphoma -- Blood film and count -- Differential diagnosis -- Further tests -- Chronic lymphoid leukaemias and lymphomas -- B-lineage lymphoproliferative

disorders -- T-lineage and NK-lineage lymphoproliferative disorders
-- T-cell prolymphocytic leukaemia -- Hodgkin lymphoma --
References -- Further reading -- Index -- EULA.

Sommario/riassunto

"The revised 7th edition of Blood Cells has both the practicing haematologist and the trainee in mind. It aims to provide a guide for use in the diagnostic haematology laboratory, covering methods of collection of blood specimens, blood film preparation and staining, the principles of manual and automated blood counts and the assessment of the morphological features of blood cells. The practising haematologist should find this book sufficiently comprehensive to be a reference source while, at the same time, the trainee haematologist and biomedical scientist should find it a straightforward and practical bench manual. An innovation in this edition is the inclusion of some clinical images to illustrate the clinical context in which the blood film and blood count are interpreted. This will distinguish this book from others dealing with the blood count and film. The book will incorporate the WHO and International Consensus classifications of haematological neoplasms"-- Provided by publisher.
