Interpretation of the **FBC (full blood counts)** in settings of high infectious disease prevalence.

Dr Pierre Durand

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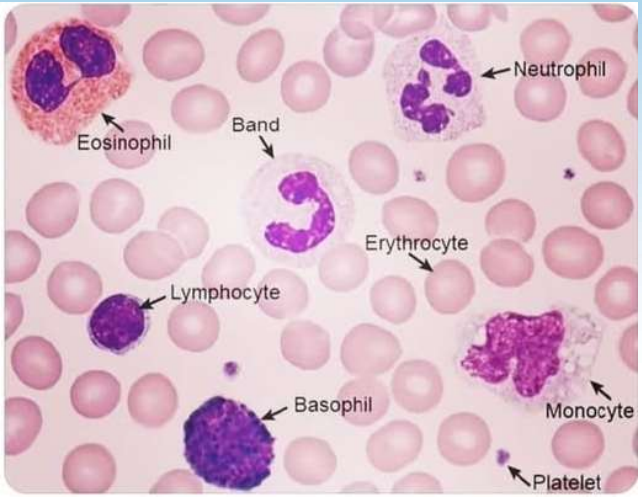
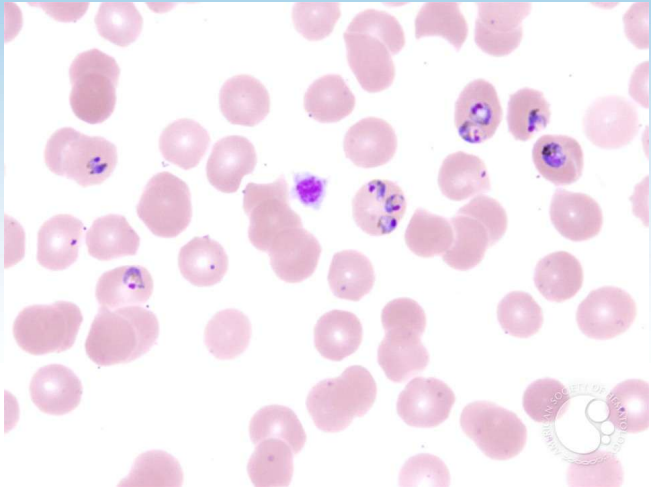
Elements of Full Blood Count

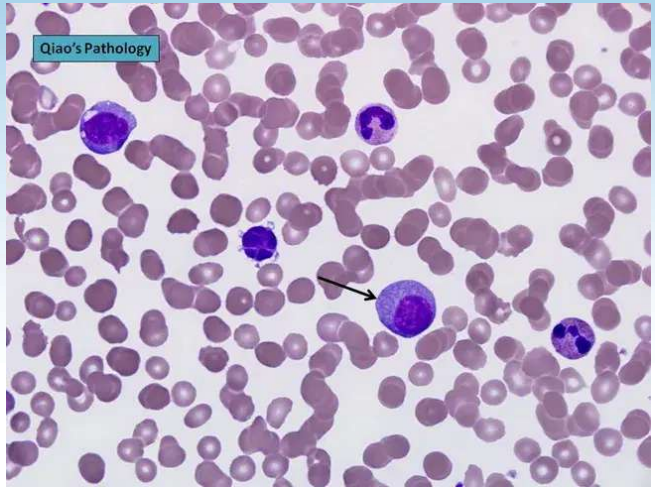
Blood cells



Parasites



Abnormal cells



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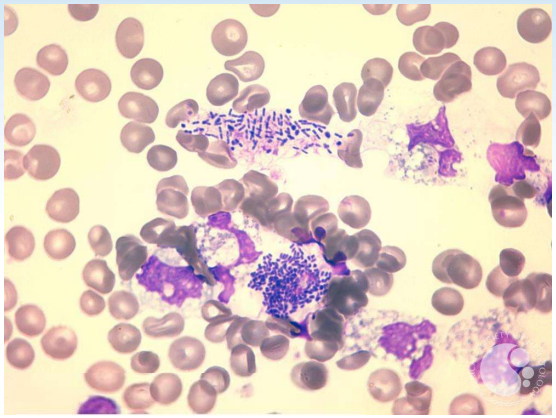
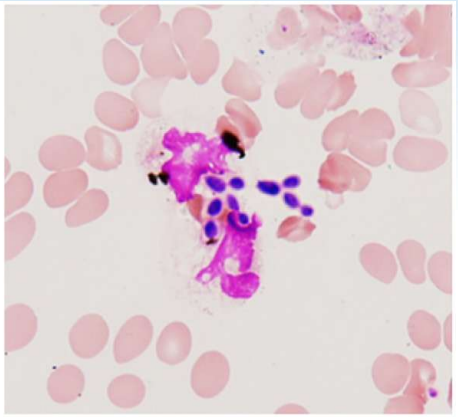
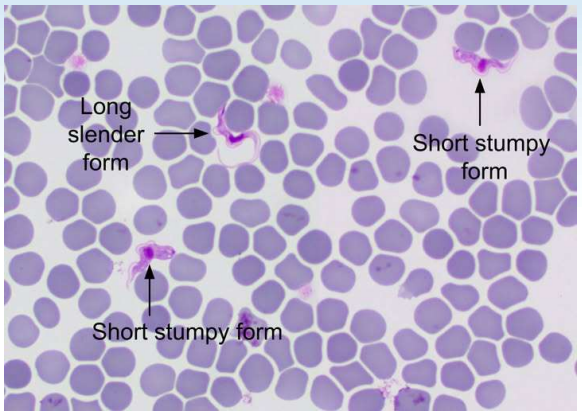
Infectious agents in peripheral blood

- Prokaryotes (bacteria)
- Unicellular eukaryotes (malaria, yeast, etc)
- Multicellular eukaryotes (occasional flukes, helminths, fungi, etc)
- Viruses







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Haematological response to infection

Platelets

1. Number
2. Morphology

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Haematological response to infection

Erythrocytes and red cell parameters

1. Cell Number and haematocrit
2. Cell Morphology
   - Shape and size, degree of haemoglobinisation
3. Parameters
   - MCV, MCH, MCHC, RDW
4. Normoblasts

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Haematological response to infection

Granulocytes

1. Cell Number
- Neutrophils, eosinophils, basophils
2. Cell Morphology
- Shape, inclusions, organelles (vacuoles, granules), nuclear lobulation
3. Precursors

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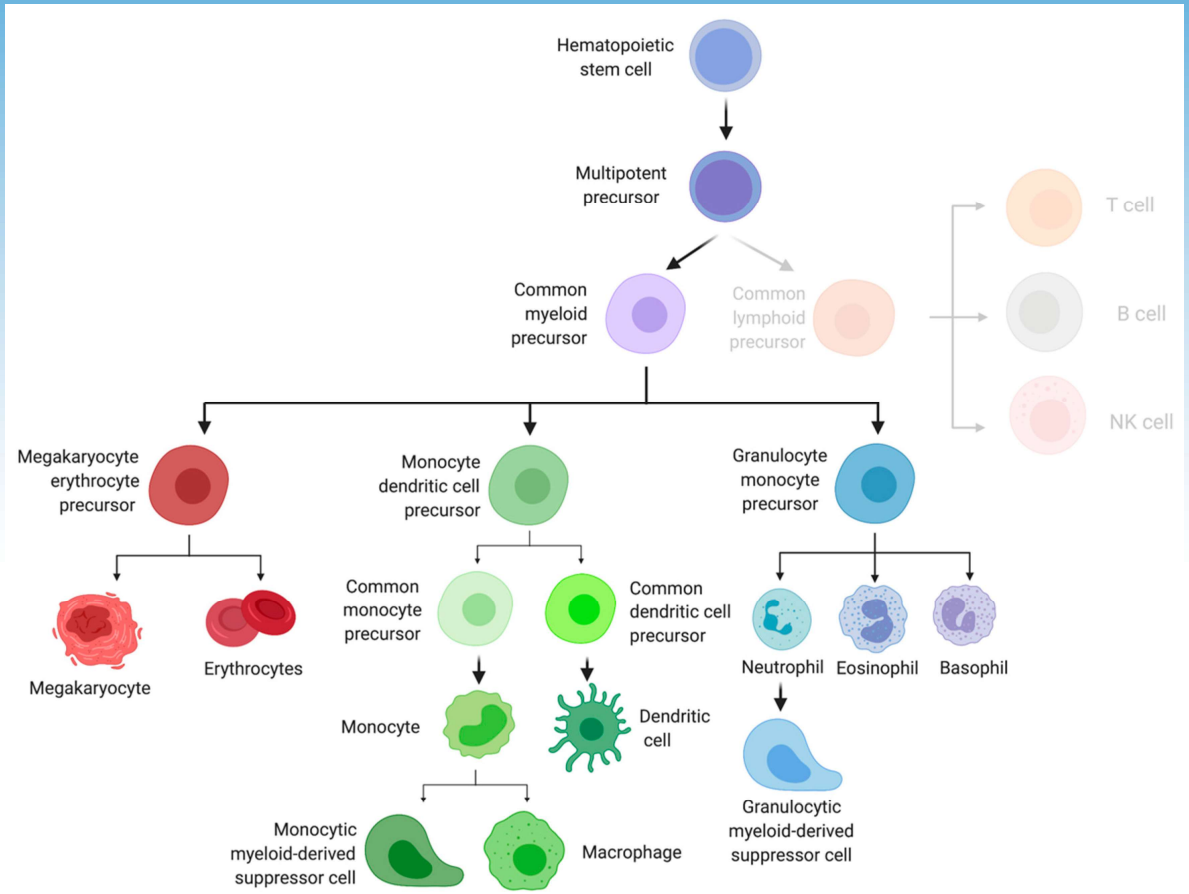
Haemopoiesis



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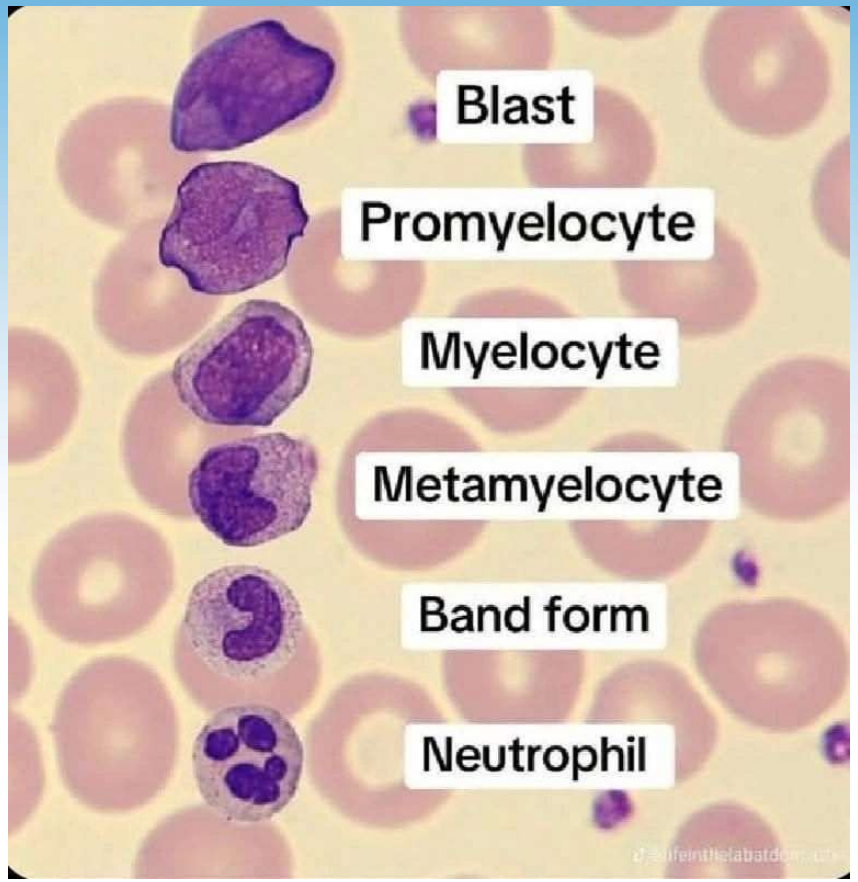
Granulopoiesis



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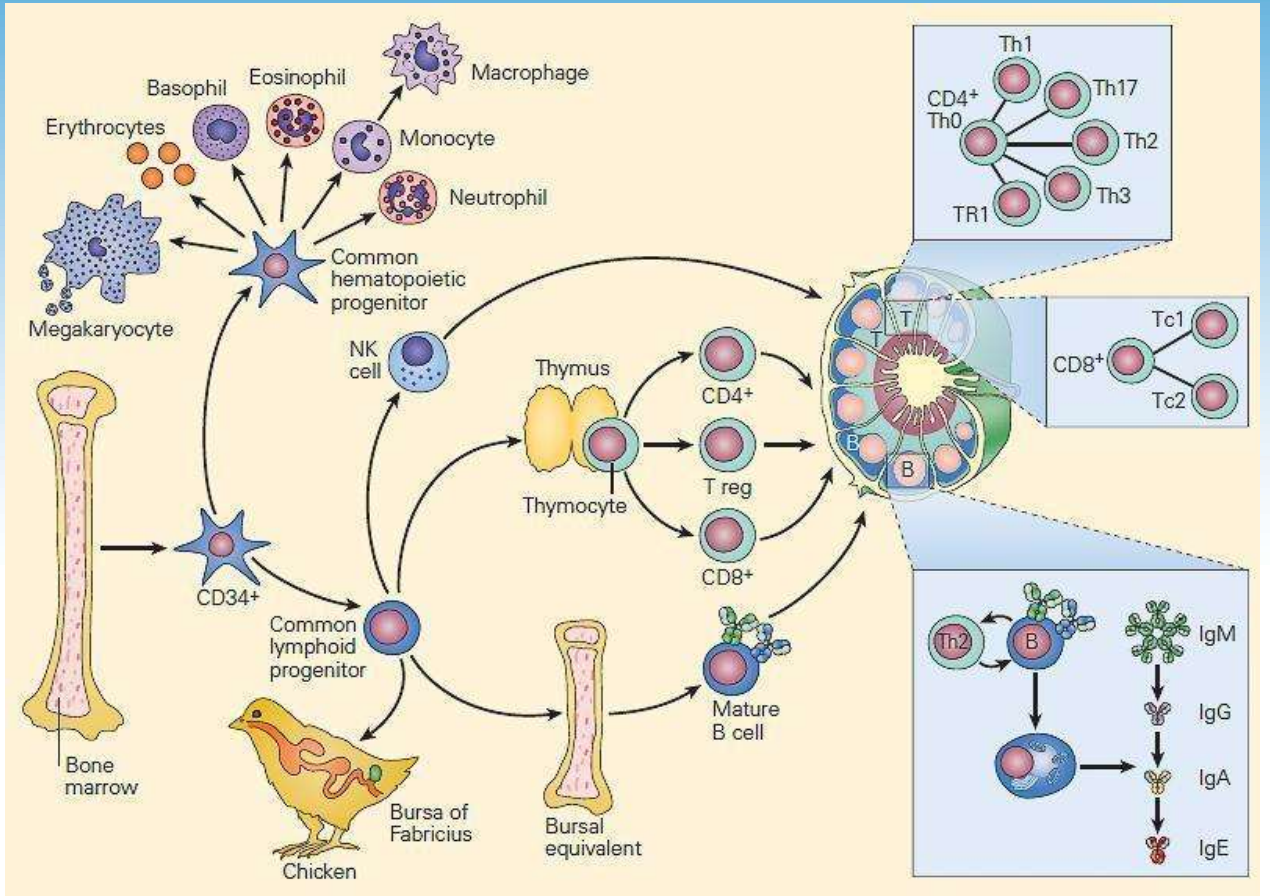
Haematological response to infection

Lymphocytes

1. Cell Number
2. Cell Morphology
3. Precursors



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The 5 general rules for the FBC in high prevalence infectious disease settings

1. Neutrophils, bacteria, and sepsis
2. Lymphocytes and viruses
3. The erythroblastic reaction
4. Common things occur commonly
5. The great pretenders and other tests

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Additional investigations

1. Inflammatory markers
- PCT, CRP, ESR
2. Microbiological diagnosis
- Material for MC&S
3. Radiology
4. Don’t forget clinical history and progression

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Case Studies

1. Middle-aged man present with sudden onset of fever lasting 12 hours
- History, examination, investigations, treatment, monitoring
2. Four year old girl presents with inconsolable crying
- History, examination, investigations, treatment, monitoring

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Thank you

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