LEUKAEMIA

Adults: consider FBC within 48h	Adults with <u>any</u> of the following: • pallor • persistent fatigue • unexplained fever • unexplained persistent or recurrent infection • generalised lymphadenopathy • unexplained bruising • unexplained bleeding • unexplained petechiae • hepatosplenomegaly
Children: refer for immediate assessment	unexplained petechiae or hepatosplenomegaly [may indicate severe marrow suppression – hence medical emergency]
Offer FBC within 48:	Children with <u>any</u> of the following: • pallor • persistent fatigue • unexplained fever • unexplained persistent infection • generalised lymphadenopathy • persistent or unexplained bone pain • unexplained bruising • unexplained bleeding.

Classification:

- Acute leukaemias occur when immature white blood cells (blasts) proliferate.
- Chronic leukaemias occur when mature blood cells proliferate.

  These are then both subdivided into:
  - Lymphocytic (either T cell or B cell).
  - Myeloid (neutrophils, basophils, eosinophils and monocytes)

Acute leukaemias	Chronic leukaemias
Short history of feeling unwell May have neutropenic fever or bleeding Organ infiltration, e.g. skin, gums, meninges, testes Abnormal blood count usually with circulating blast cells and cytopenias	Often diagnosed incidentally Long history of non-specific symptoms Splenomegaly is common Lymphadenopathy may occur in CLL Abnormal blood count with leucocytosis with mature lymphocytes or myeloid cells

Points to be aware of:

- Request FBC and blood film [if FBC is normal a diagnosis of leukaemia is EXTREMELY unlikely]
- the degree of lymphocytosis is not indicative of the severity of the leukaemia – aggressive disease may have only a mildly raised white cell count.
- **If blasts are present (suggesting AML or ALL) or the patient is unwell with fever or significant cytopenias, discuss with haematology for urgent admission.**
- Other forms of leukaemia can be referred to haematology outpatients – note: with CLL and stage A disease [doesn't necessary require referral at this stage] - request flow cytometry in an EDTA tube.

Chronic lymphocytic leukaemia	
Stage A CLL	Lymphocytosis with <3 groups of enlarged lymph nodes
Stage B CLL	Lymphocytosis with 3 or more groups of enlarged lymph nodes
Stage C CLL	Lymphocytosis AND Hb <10g/L or platelets <100

- This is the most common type of leukaemia
- Stage A – doesn't require medication [chemotherapy at this stage is harmful]
  Managing Stage A:
  - FBC at 3m after diagnosis
  - Then 6m for 1y, if remains stable can then be done annually
  - Educate patients about B symptoms (B symptoms including fatigue, weight loss, night sweats) and ask them to report them if they occur
  - Encourage patients to check their temperature if they are unwell and if raised check urgent FBC for neutropenia
  - Clinical deterioration, new or progressing cytopenias or recurrent infections are indications for referral.

Chronic Myeloid Leukaemia

- Symptoms are usually chronic and non-specific.
- Splenomegaly is often significant at diagnosis.
- Lifelong administration of imatinib, a tyrosine kinase inhibitor

Acute leukaemias (AML and ALL)

- Chemotherapy+/-Bone marrow or stem cell transplant
- Success rates for ALL are good in children and less so in adults who often have unfavourable genetic mutations.

BEWARE OF INFECTION AND NEUTROPENIC SEPSIS

- Suspect neutropenic sepsis if on chemotherapy and become unwell.
- **Admit immediately for assessment in secondary or tertiary care [do not wait to do FBC in general practice before referral]**

  Diagnose neutropenic sepsis if neutrophil count is ≤0.5x109 and:
- temperature >38°C or other signs or symptoms consistent with clinically significant sepsis

  - Typically occurs 1–2w after chemotherapy.
  - Avoid digital rectal examination in patients undergoing chemotherapy.
  - Avoid routine dental work.
  - Vaccination against pneumonia, influenza and haemophilus are recommended either 2w before or 6m after chemotherapy.
  - Live vaccines should not be given during chemotherapy.

Prescribing during leukaemia treatment:

- Avoid NSAIDs because of irreversible platelet dysfunction.
- Avoid paracetamol in patients undergoing chemo because it can mask their fever.
- For patients on prophylactic anti-platelets (e.g. clopidogrel, aspirin) or COX-2 inhibitors, monitor carefully for bleeding and bruising and evaluate necessity for continued prophylaxis.
- Patients on warfarin will usually be converted to low molecular weight heparin.

When to do transfusions?	
Indications for blood transfusion	• Consider if Hb <100g/L (10g/dl) in patients with cardiac/lung disease • Consider if Hb <70 g/L (7g/dl) in everyone else (or sooner if symptoms)
Indications for platelet transfusion	• Platelets <10x109/L • Febrile patients with platelets <20x109/L • Bleeding symptoms with platelets <50x109/L • Any patient bleeding on an antiplatelet drug

Monitor patients for features of depression: Patients are likely to be followed-up by haematology for 5y and then felt to be cured. There is a lifelong risk of second cancers especially AML. Have low threshhold to check FBC presenting with non-specific symptoms.

BEWARE OF Graft vs Host Disease in patient who have gone undergone bone marrow transplant:
Typical features:

- Chronic progressive breathlessness.
- Skin rashes.
- Dry eyes and dry mouth.
- Dysphagia.
- Myositis.
- Peripheral neuropathy

If they develop any of the above -refer back to transplant clinic.