



Aplastic Anemia

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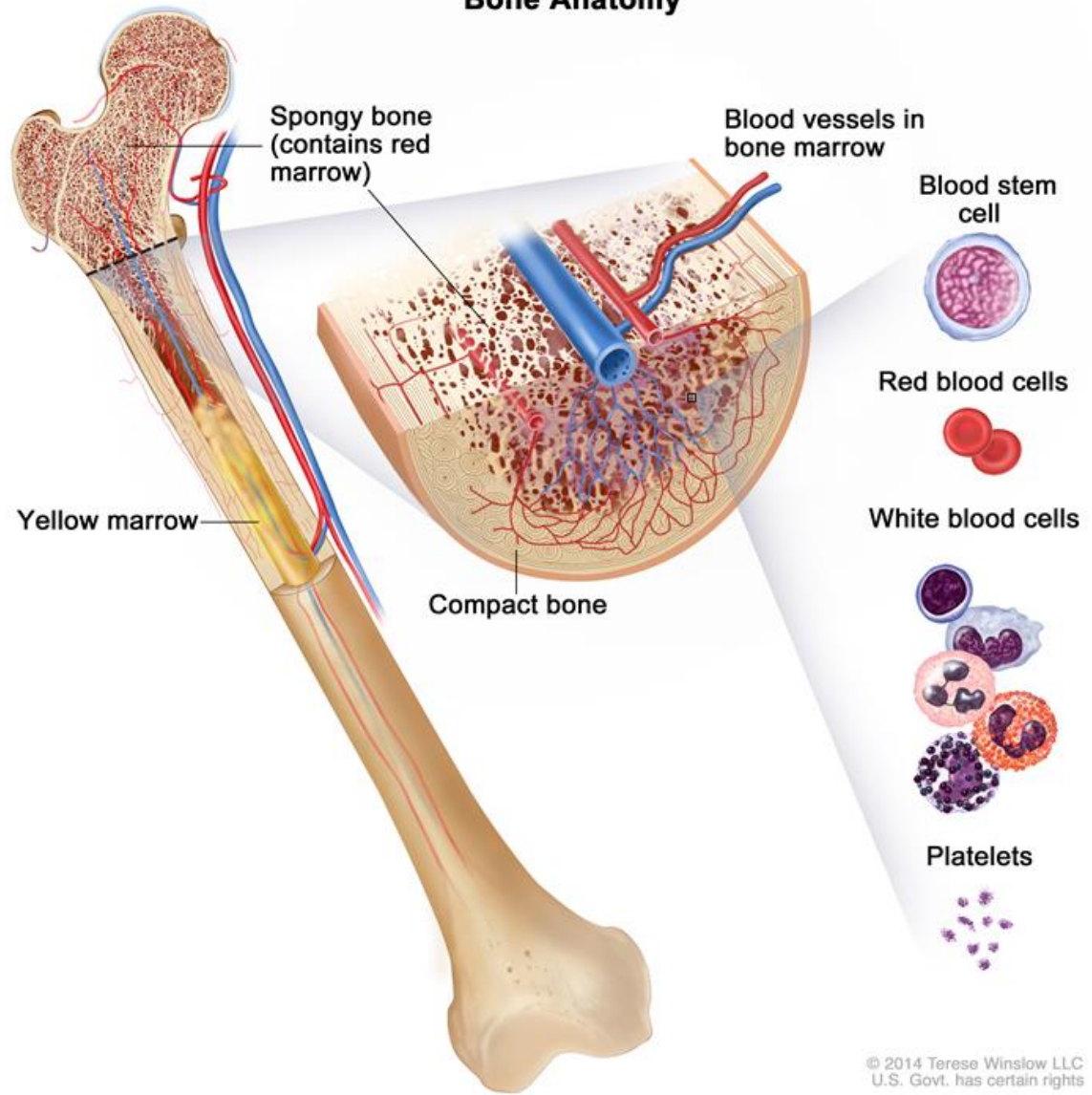
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Blood and Marrow Transplantation and Cellular Therapies

Mayo Clinic Florida

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Bone Anatomy

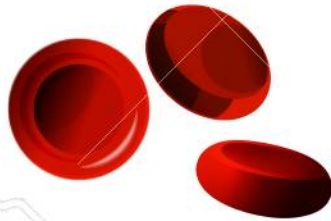


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Bone Marrow

- One of the largest organs in the body
- The factory that produces all the blood cells
- The mother cell is the hematopoietic stem cell
 - Red cells: Carry oxygen
 - White cells: Defense against infections
 - Platelets: Make clots to prevent bleeding

BLOOD CELLS



Erythrocytes



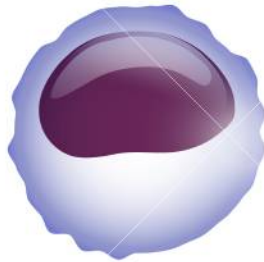
Platelets



Leukocyte



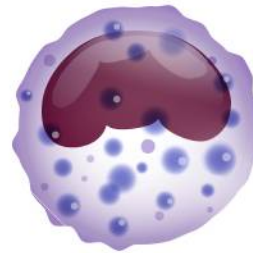
Monocyte



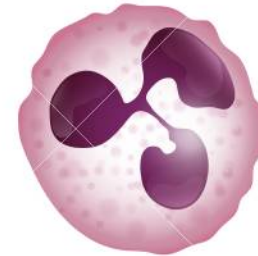
Lymphocyte



Eosinophil



Basophil



Neutrophil

In aplastic anemia bone marrow fails

- Marrow is replaced by fatty tissue and the blood progenitors disappear:
 - Anemia: Lack of red cells, leads to fatigue and shortness of breath
 - Leukopenia: Low white cells, causes increased risk of infection
 - Thrombocytopenia: Low platelets, causes bleeding

Treatment of Aplastic Anemia

- Immunosuppression
 - Medications that stop autoimmune destruction of the BM and allow recovery of the normal cells
- Bone marrow transplantation
 - A new bone marrow from a donor to substitute the damaged one