→ Finally, reticulocytes lose their remaining organelles as they mature into erythrocytes, which are fully mature red blood cells. These normally survive for around 120 days.

Regulation of Erythropoiesis :-

* Erythropoiesis is driven mainly by the hormone erythropoietin, which is a glycoprotein cytokine.
* EPO is secreted by the kidney. It is constantly secreted at a low level, sufficient for the normal regulation of erythropoiesis. When there is a reduced partial pressure of oxygen (PO_2) in the kidney, this is detected by the renal interstitial peritubular cells.
* In response, there is a surge in EPO production, which acts in the bone marrow to stimulate increased red blood cell production. This causes haemoglobin level to increase.

2) ERYTHROPOIESIS

Erythropoiesis is the process which produces red blood cells (erythrocytes), which is the development from erythropoietic stem cell to mature red blood cell, erythropoiesis occurs in the bone marrow.

Stages of Erythropoiesis :-

-> The production of all blood cells begins with the haemocytoblast, a multipotent haematopoietic stem cells.

-> Some haemocytoblasts diffrentiate into common myeloid progenitor cells, which go on to produce erythrocytes, as well as mast cells, megakaryocytes.

-> The process by which common myeliod progenitor cells become fully mature red blood cells involves several stages.

-> First, they become normoblasts, which are normally present in the bone marrow only.

-> Second, They lose some organelles and their nucleus as they mature into reticulocytes

Pivot - Proximal and distal radioulnar joints.

Condyloid - Wrist joint, metatarsophalangeal joint.

Ball and Socket - Hip, shoulder joint.

The Shoulder joint :-

→ The shoulder joint is a ball and socket joint between the Scapula and the humerus.

Joint capsule and Bursae :-

* Subacromial - Located deep to the deltoid and acromion, and superficial to the supraspinatus tendon and joint capsule.

* Subscapular - Located between the subscapularis tendon and the scapula. It reduces wear and tear on the tendon during movement at the shoulder joint.

- Ligaments - Glenohumeral ligaments, Coracohumeral ligament, Transverse humeral, Acoro - clavicular ligament.

Synchondross:-

In a synchondrosis, the bones are connected by hyaline cartilage. These joints are immovable

Symphyses:-

Symphysial joints are where the bones are united by a layer of fibrocartilage. They are slightly movable.

SYNOVIAL:-

- A Synovial joints are defined by the presence of a fluid-filled joint cavity connected within fibres capsule.
- They are freely movable and are the most common type of joints found in the body.
- Types,

Hinge - Elbow joint, ankle joint

Saddle - carpometacarpal joint

Plane - Acromioclavicular joint

Gomphoses :-

* Gomphoses are also immovable joints. They are found where the teeth articulate with their sockets in the maxilla or the mandible
* The tooth is bound into its socket by the strong periodontal ligament.

Syndesmoses :-

* Syndesmoses are slightly movable joints
* They are comprised of bones held together by an interosseous membrane. The middle radioulnar joint and middle tibiofibular joints are example of a syndesmosis joint.

CARTILAGINOUS :-

- In a cartilaginous joints, the bones are united by fibrocartilage a hyaline cartilage.
- There are two maing types
  * Synchondroses
  * Symphyses

1) Classification of joints

-> A joint is defined as a connection between two bones in the skeletal system

-> Joints can be classified by the type of the tissue present (Fibrous, cartilaginous or synovial)

FIBROUS JOINTS

- A fibrous joint is where the bones are bound by a tough, fibrous tissue. These are typically joints that require strength and stability over range of movement.

- Fibrous joints can be further sub-classified into sutures, gomphoses and syndesmoses.

Sutures :

* Sutures are immovable joint, and are only found between the flat, plate-like bones of the skull.

* There is a limited movement until about 20 years of age, after which they become fixed and immobile.