

## TOPIC: GROSS ANATOMY OF BONE: BONE MARROW

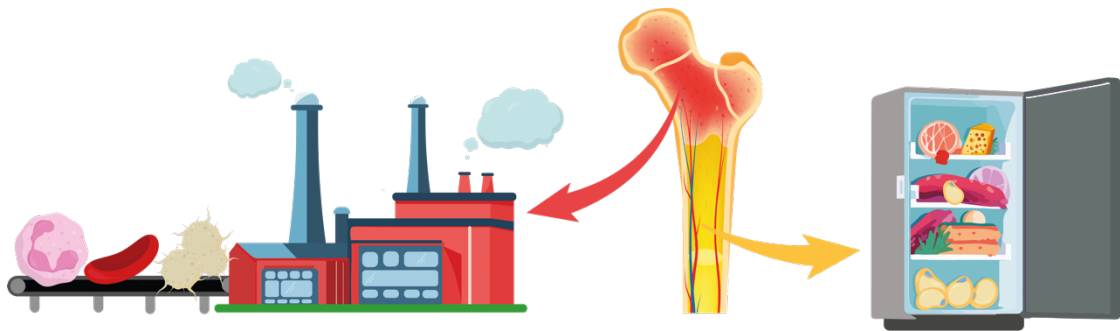
- \_\_\_\_\_ types of tissue that fills the space inside bone.

### 1. Red Marrow:

- Site of **hematopoiesis**:
  - Formation \_\_\_\_\_ cells.
- Found only in spongy bone in adults.
- Primary marrow type in \_\_\_\_\_.

### 2. Yellow Marrow:

- \_\_\_\_\_ (fat) storage.
- Found in spongy bone and medullary cavity.
- Primary marrow type in \_\_\_\_\_.
- Can revert to \_\_\_\_\_ marrow.

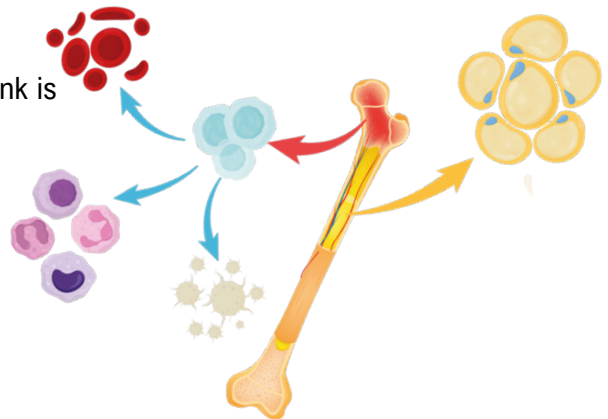


**EXAMPLE:** Priyanka is told she has the bone disorder myelodysplastic syndrome, and she needs a blood transfusion. Based on this information, what type of bone marrow do you think is affected in myelodysplastic syndrome? Explain your reasoning.

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**PRACTICE:** Which of the following could be a reason why babies have relatively more red marrow than adults?

- a) Babies require red blood cells to be produced quickly to accommodate growth.
- b) The red marrow will aid in heat production keeping babies warm.
- c) Red marrow is located in spongy bone and babies' bones need to be softer than adults'.
- d) The triglycerides in red marrow aid in brain development.

**TOPIC: GROSS ANATOMY OF BONE: BONE MARROW**

**PRACTICE:** In 1820, George Pollard and Charles Ramsdell were rescued after 93 days at sea in a small whaling boat after a sperm whale charged and sank their ship in what would become the inspiration for the novel Moby Dick. The two men were found adrift, sucking on the broken long bones of their dead shipmates. What nutrients were they receiving by sucking on the bones?

- a) Glucose and glycogen from the marrow.
- b) Triglycerides from adipose tissue.
- c) Protein and amino acids from epithelial tissue.
- d) NaCl from the bone matrix.