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## Embryo 3

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#### EMBRYO 3

1. The formation of limb bud....?

(A) Develops directly from the ectoderm layer without mesenchymal intervention.(B) Begins with the activation of mesenchymal cells in the lateral plate somatic mesoderm.

(C) Derives from neural crest cells.

(D) Stems from myotomic portions of the somites.

2. The appendicular skeleton develops from mesenchyme derived from which location in the limb buds?

(A)Develops from the neural tube.

B)Originates from epidermal tissues of the limb buds.

C)Forms from the myotomal portions of somites.

D)Develops from mesenchyme derived from the somatic mesoderm in the limb buds.

3. During which week do the upper limb buds typically arise?

(A)The upper limb buds appear at week 6.

B)The upper limb buds arise first at week 4.

C)The upper limb buds develop at week 8.

D)The upper limb buds begin formation at week 2

What cranial direction do the upper limb buds rotate in their development?
(A)The upper limb buds remain unchanged without any rotation.

B)The upper limb buds rotate medially through almost 90 degrees.

C)The upper limb buds rotate anteriorly by approximately 45 degrees.

D)The upper limb buds rotate laterally through 90 degrees.

5. What ossification process is involved in the development of bones of limbs, except for the clavicle?

(A) Ossification without any cartilage model.

(B) Endochondral ossification.

(C) Intramembranous ossification.

(D) Membrane ossification through direct mesenchymal conversion.

6. Which process of bone development lacks a cartilaginous precursor?

(A) Mixed ossification process.

(B) Complete ossification.

(C) Endochondral ossification.

(D) Intramembranous ossification.

7. The epiphyseal plates contribute to what aspect of bone development after birth?

(A)Form the complete ossified structure of bones at birth.

B)Immediately stop growth after birth.

C)Prevent any further elongation of bones.

D)Continue to grow after birth because of activity of the epiphyseal plates

### Answers

**1.B** Begins with the activation of mesenchymal cells in the lateral plate somatic mesoderm.

2.D Develops from mesenchyme derived from the somatic mesoderm in the limb buds.

3.B The upper limb buds arise first at week 4.

4.D The upper limb buds rotate laterally through 90 degrees.

5.B Endochondral ossification.

6.D Intramembranous ossification.

7.D Continue to grow after birth because of activity of the epiphyseal plates.

