

# Embryonic Flexion and Folding

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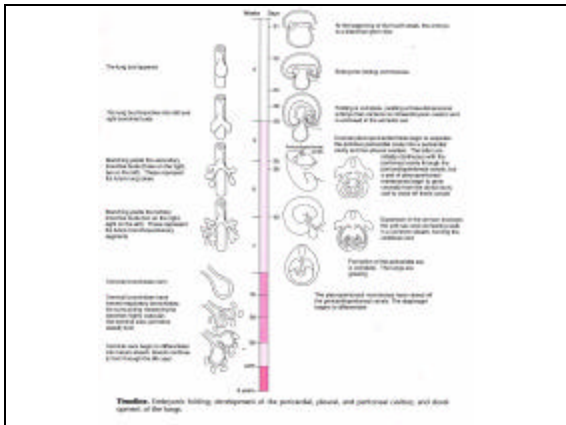
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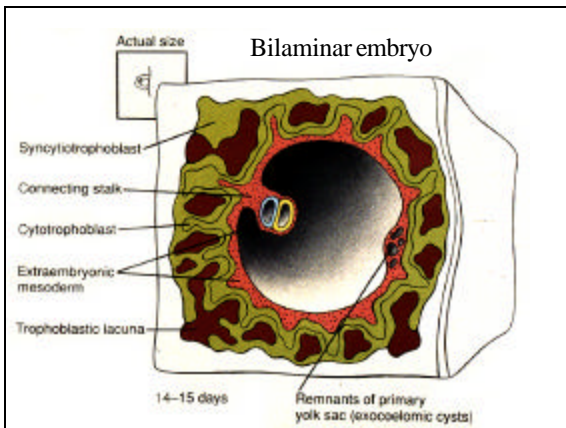
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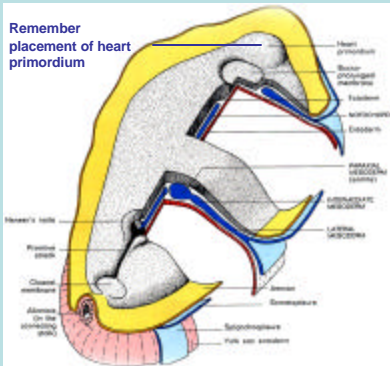
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End of gastrulation



Remember placement of heart primordium

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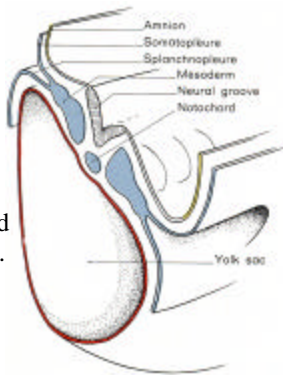
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The lateral plate mesoderm splits.

Each leaf will fold toward midline.

Narrowing yolk sac and gut & enclosing coelom.




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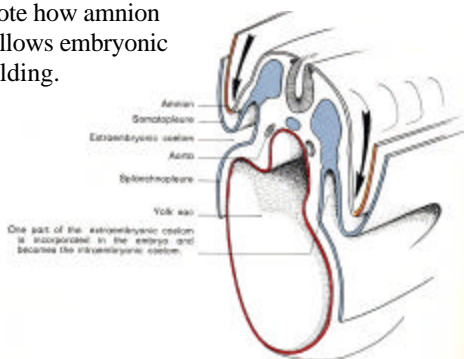
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Note how amnion follows embryonic folding.




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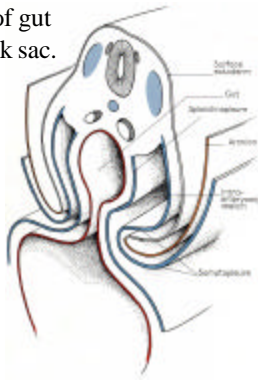
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Narrowing of gut tube and yolk sac.




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Folding complete: midgut remains open to vitelline duct




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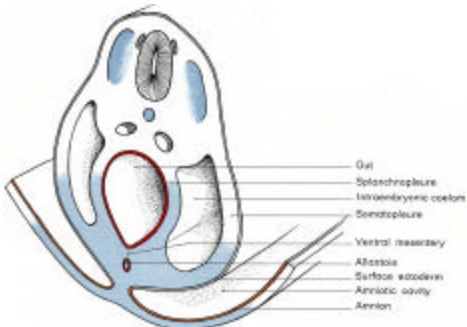
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Foregut is initially suspended by dorsal and ventral mesentery.




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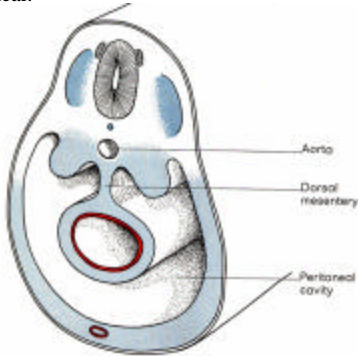
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Ventral mesentery reabsorbed. Dorsal remains. Organ in intraperitoneal.




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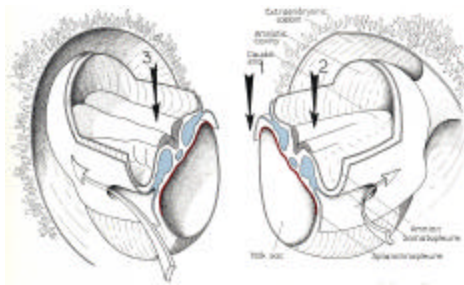
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Intraembryonic coelom continues anterior of the heart primordium.




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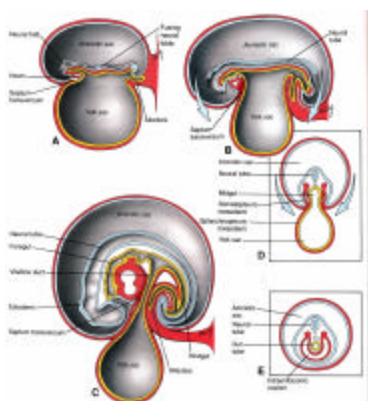
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**What is different about the embryo after flexion?**




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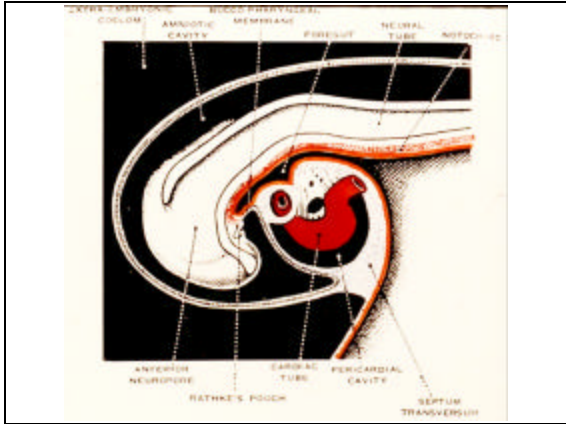
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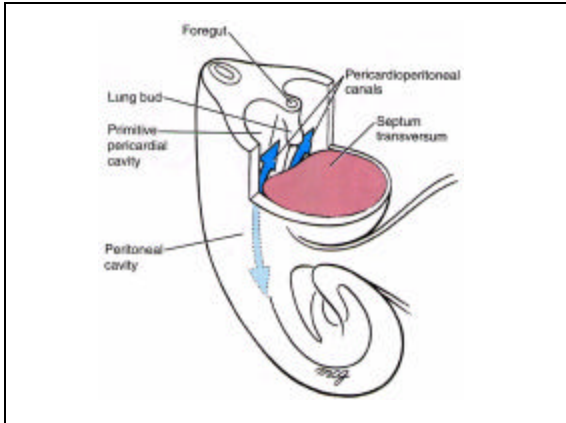
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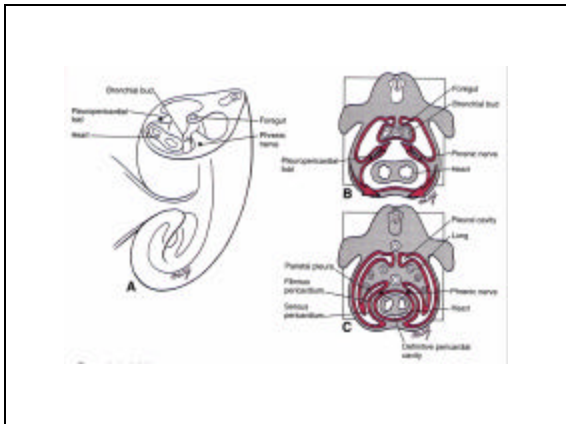
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**The ectoderm:  
neurulation, neural tube,  
neural crest**

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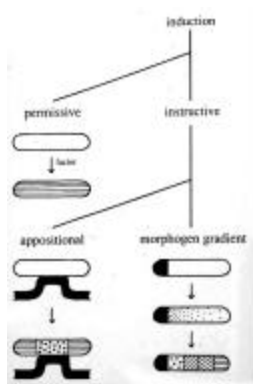
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**Neural tissue is said to be induced by mesodermal tissue**

**Signals divert midline ectoderm from an ectodermal fate.**



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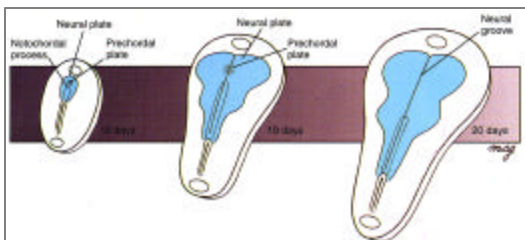
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**Shaping the neural plate**



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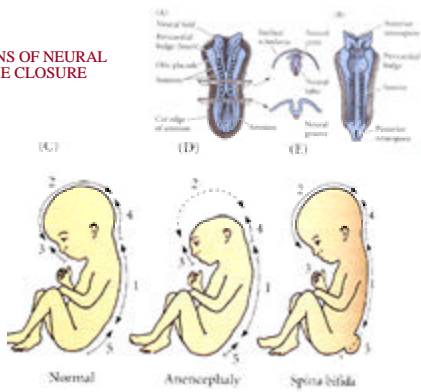
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**REGIONS OF NEURAL TUBE CLOSURE**




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How are billions of CNS cells (neurons and glia) generated?



The neuroepithelium is a layer of rapidly dividing stem cells.

What are the mechanisms for dispersal of cells from the ventricular layer?

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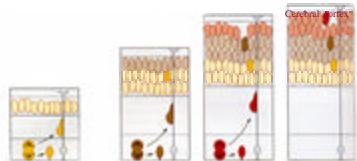
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**NEUROGENESIS IN THE CEREBRAL CORTEX**



1. Developing post-mitotic neuroblasts use special glial cells and their processes as migration paths.
2. Neurons born at early stages migrate to the deepest layers of the cortical plate.
3. Neurons born at later stages form the more superficial layers of the cortex.
4. There are other mechanisms for lateral dispersal.
5. For each region neurons tend to be born before glia.

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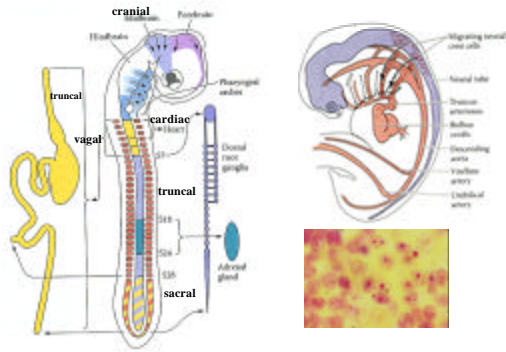
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**THE REGION OF THE NEURAXIS FROM WHICH A CREST CELL MIGRATES DETERMINES THE TARGET REACHED BY ITS DERIVATIVES**




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