Cell Specialization

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* Cell specialization: Cell specialization is when a newly divided cell starts to change in shape, inner structure, cytoplasm and membrane composition so that it can carry out a specific function in one's body.

Factor 1: Contents of Cytoplasm

* In mitosis each daughter cell receives identical sets of chromosomes BUT different cytoplasmic content.
* EXAMPLE:

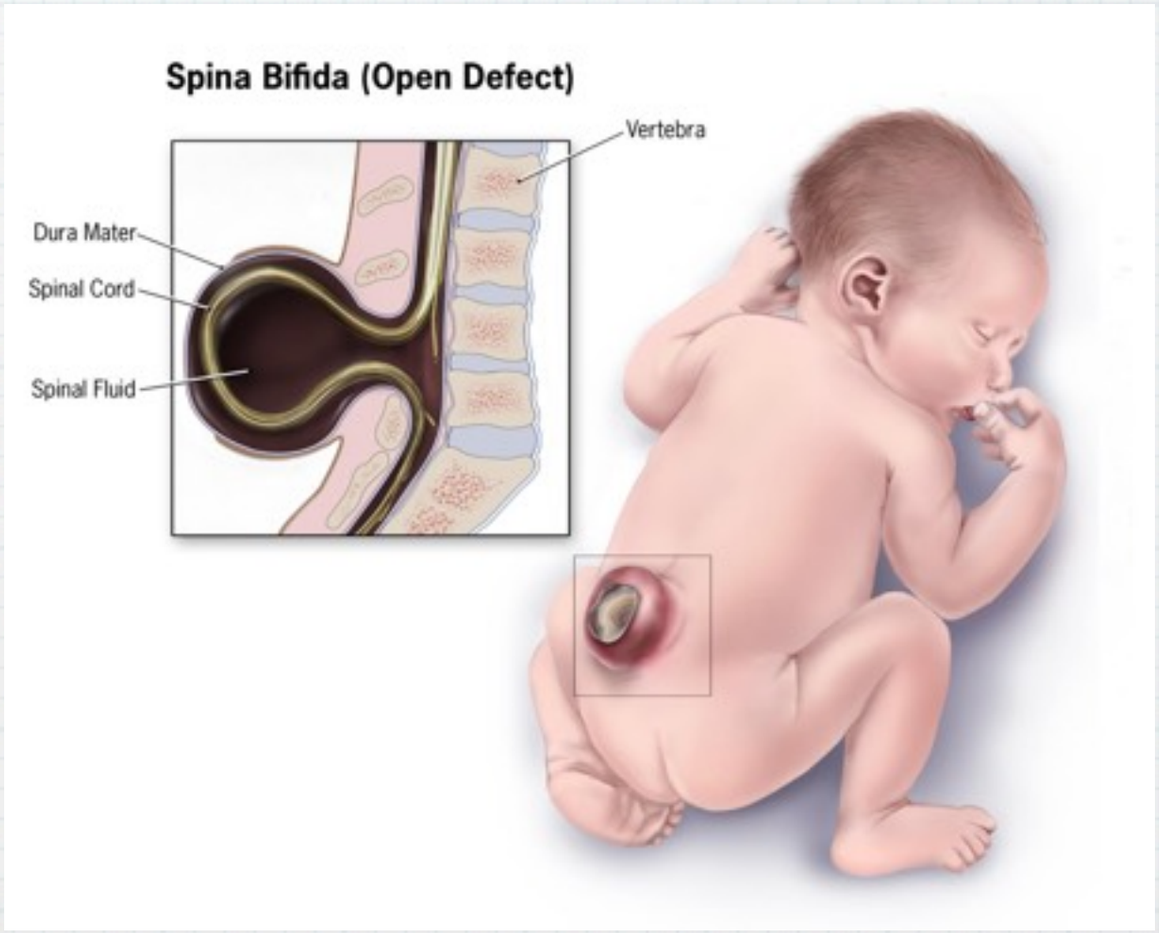
Factor 2: Environmental Influence

* Some environmental factors that can impact cell specialization are:

  * Temperature
  * Toxins
  * Lack of nutrients

The dark colouration in siamese cats is due these areas of the body being cooler

Spinal bifida is caused by a lack of folic acid- folic acid needs to be present for the the spinal cord to fuse



Factor 3: Neighboring Cells

* Neighboring cells tend to have the largest impact on cell specialization.

* They send signals to nearby cells which alters their DNA.

Polydactyl - Born with extra digits. Neighboring cells use chemical signals to cause surrounding cells to develop into digits.