Section 1.4 – The Cell Cycle

SNC2D

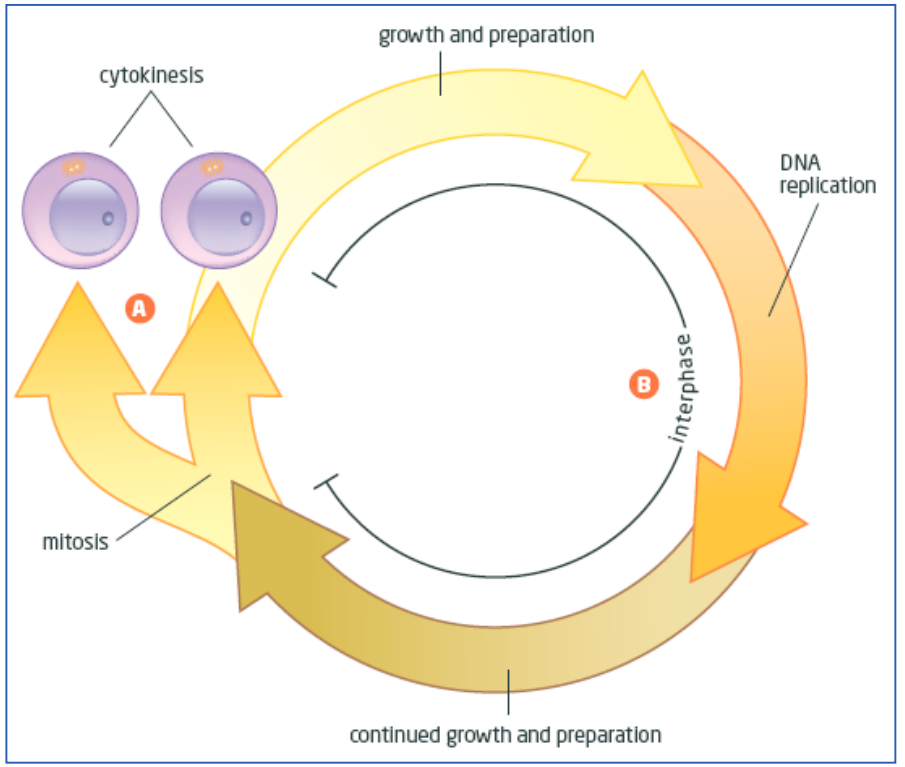
MRS. FRANKLIN

Life Span of Cells

Cells within the human body have finite life spans. The _____controls the production (through **interphase, mitosis, and cytokinesis**) of new cells of a variety of different types.

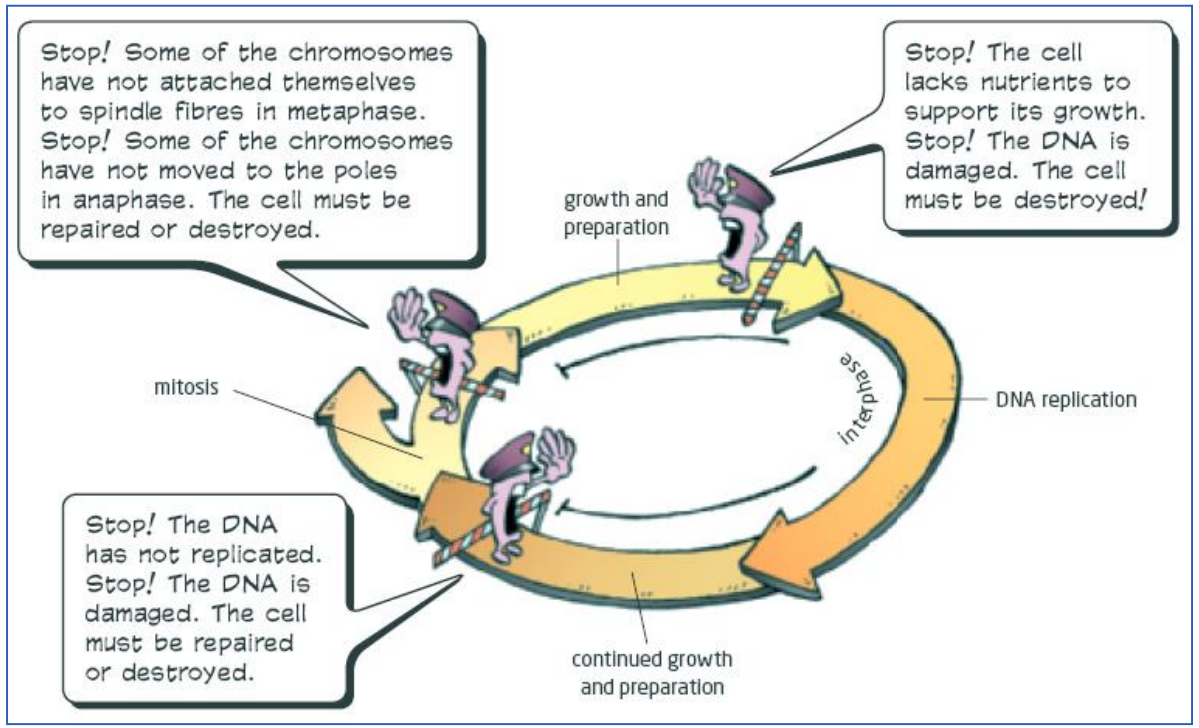
Table 1.3 Average Life Span of Various Human Body Cells

Type of Body Cell	Average Life Span
Brain	30–50 years
Red blood	120 days
Stomach lining	2 days
Liver	200 days
Intestine lining	3 days
Skin	20 days



Cell Cycle Checkpoints

Cell Cycle Checkpoints:



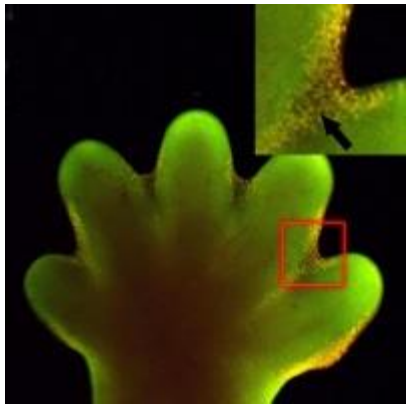
There are 3 main checkpoints during the cell cycle:

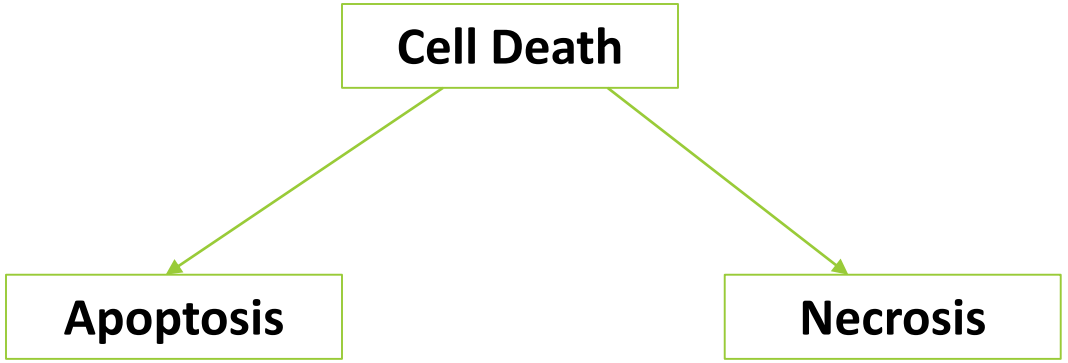
1) G_1 phase:

2) G_2 phase:

3) Mitosis:

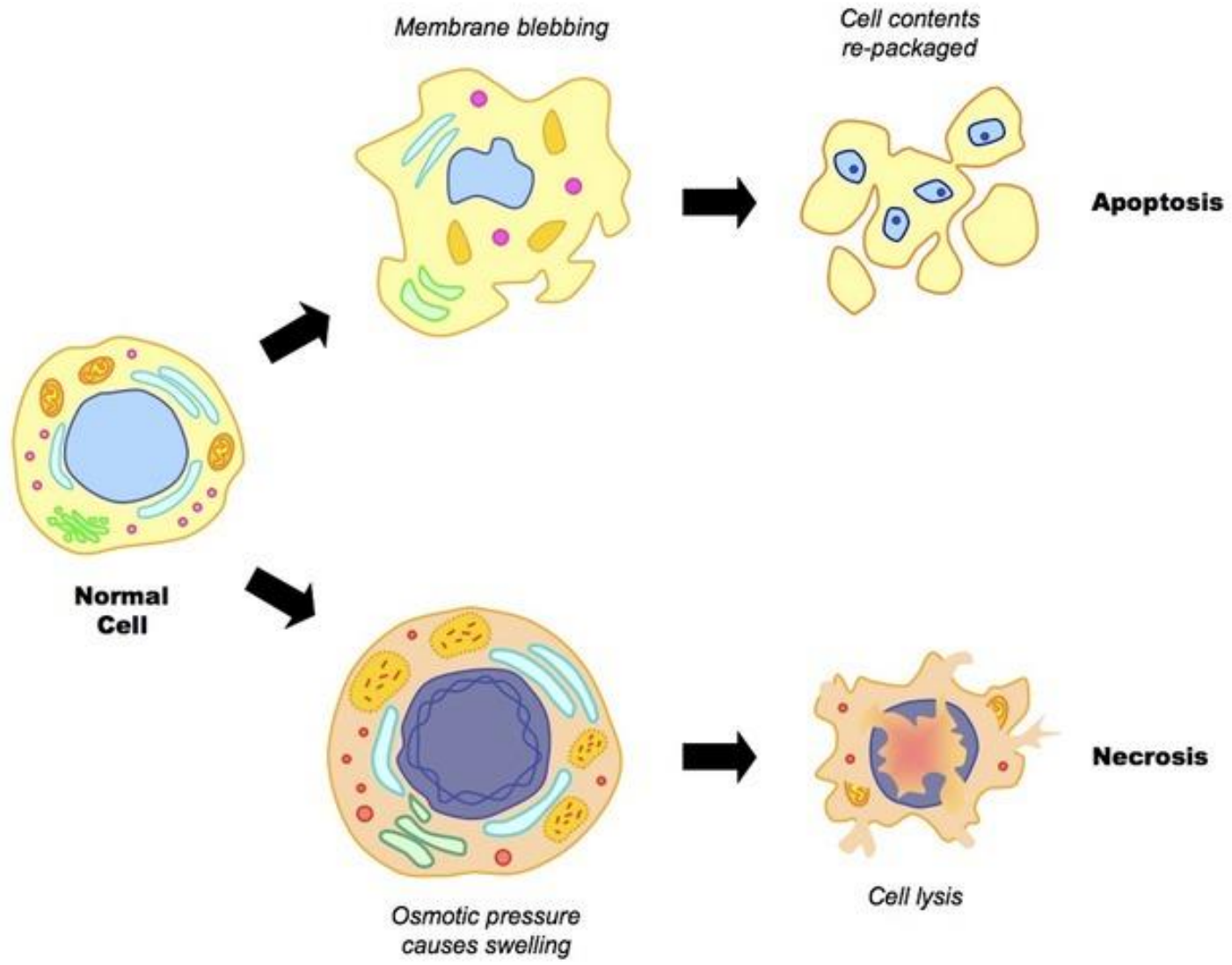
Cell Death





- *a.k.a cell suicide*
- *Pre-programmed in the cell*
- *Proteins are made with intensions of killing the cell*

- *a.k.a cell death*
- *Occurs in damaged cells*
- *Cells must leave the cell cycle.*

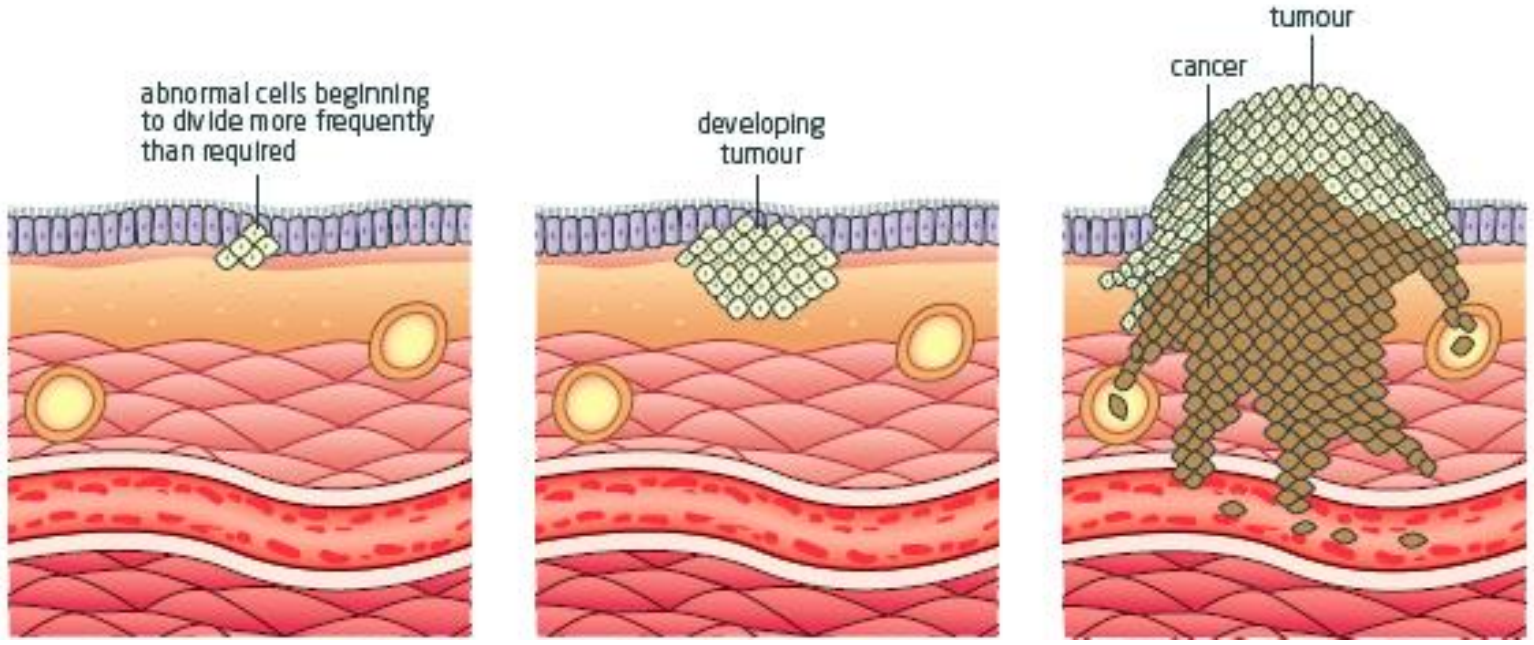


The organelles are packaged and reused to construct other cells

All contents of the cell are destroyed

Cancer and the Cell Cycle

If the mutated cells are able to ***bypass the checkpoints*** in the cell cycle they may continue to replicate excessively and form a _____.



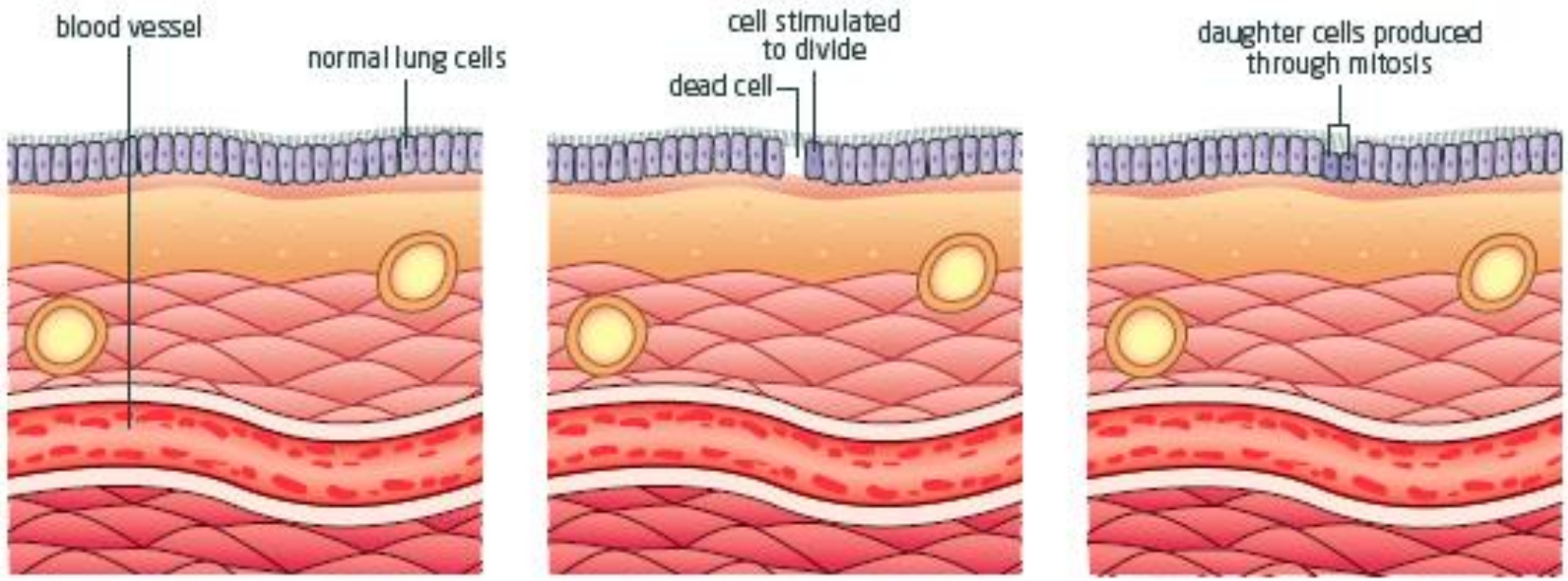
Tumour *– an abnormal clump of cells formed when cells divide repeatedly and excessively*

Benign Tumour –

Malignant Tumour -

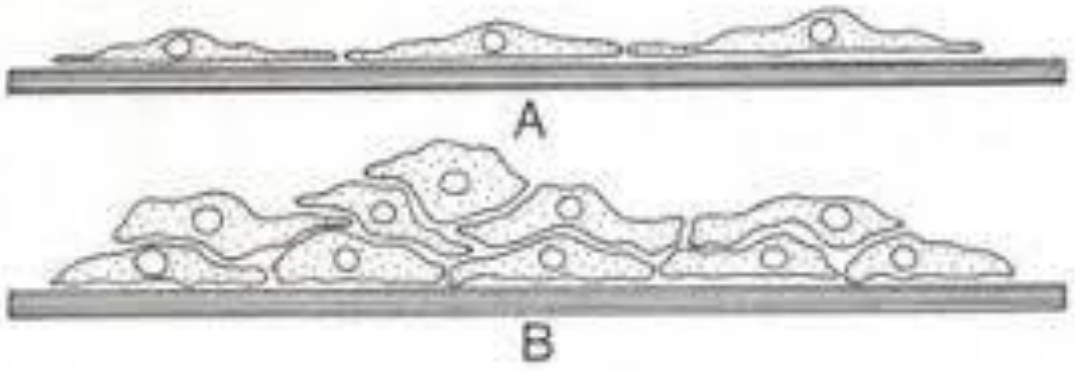
Normal Cell and the Cell Cycle

Normal and healthy cells have controlled chemical reactions that determine when cell division should occur. When the cells die they are quickly replaced with new, healthy cells.



Cancerous vs. Noncancerous Cells

Normal Cells	Cancerous Cells
- Attached to the surface while dividing	- Will continue to divide even if not attached to a surface
- Will undergo 20- 30 round of division	- Proteins will cause the cell to continue many round of division.



Normal cells

Cancer cells

Homework

- Complete pg. 45 # 1 & 3-6

- Complete the review of Chapter 1