Cell Injury

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- Normal cells have a fairly narrow range of function or steady state.
- Excess physiologic or pathologic stress may force the cell to a new steady state that is called Adaptation.

Cell injury

cell injury results when cells are stressed so severely that they are no longer able to adapt.

Causes of cell injury:

- Oxygen Deprivation
- Chemicals
- Nutritional imbalance
- Physical agents
- Genetic defects

Reversible and Irreversible cell injury	
Reversible cell injury results in morphological and cellular changes.	Irreversible cell injury results in complete cell.
That could reverse if the stress is taken off the cell.	Death.
Ability to return to normal state	
Cells can return to the normal cellular state when the stress is taken off.	Cells cannot return to the normal state even if the stress is taken off .
Cause mechancmes	
Depleted resources of ATP, cellular swelling and minute changes in cellular organelles result in result in reversible cell injuries.	Complete depletion of ATP, mechanical cellular damage, DNA damage, complete disrupt of calcium homeostasis, and cell death result in irreversible cell injures.
Special mechanisms	
Deposition of fat or imbalances in ionic concentrations is reversible cell injuries.	Apoptosis or necrosis occurs in irreversible cell injuries.

THANK YOU