



#MADEEASY

**IRREVERSIBLE CELL
INJURY**





Please help me
understand **irreversible
cell injury?**

As the name suggests, irreversible cell injury refers to cellular injury which cannot be repaired or reversed.

There is permanent damage to the structural and functional integrity of the cell.

It eventually leads to cell death, which can be divided into 2 categories:

- ***Necrosis***
- ***Apoptosis***



**Can you please explain
with an example?**



Sure, here's an example :

·Imagine kicking a wall in your house, the most that would happen is that the wall would get dirty from your shoes, this is a reversible change as it can be cleaned.

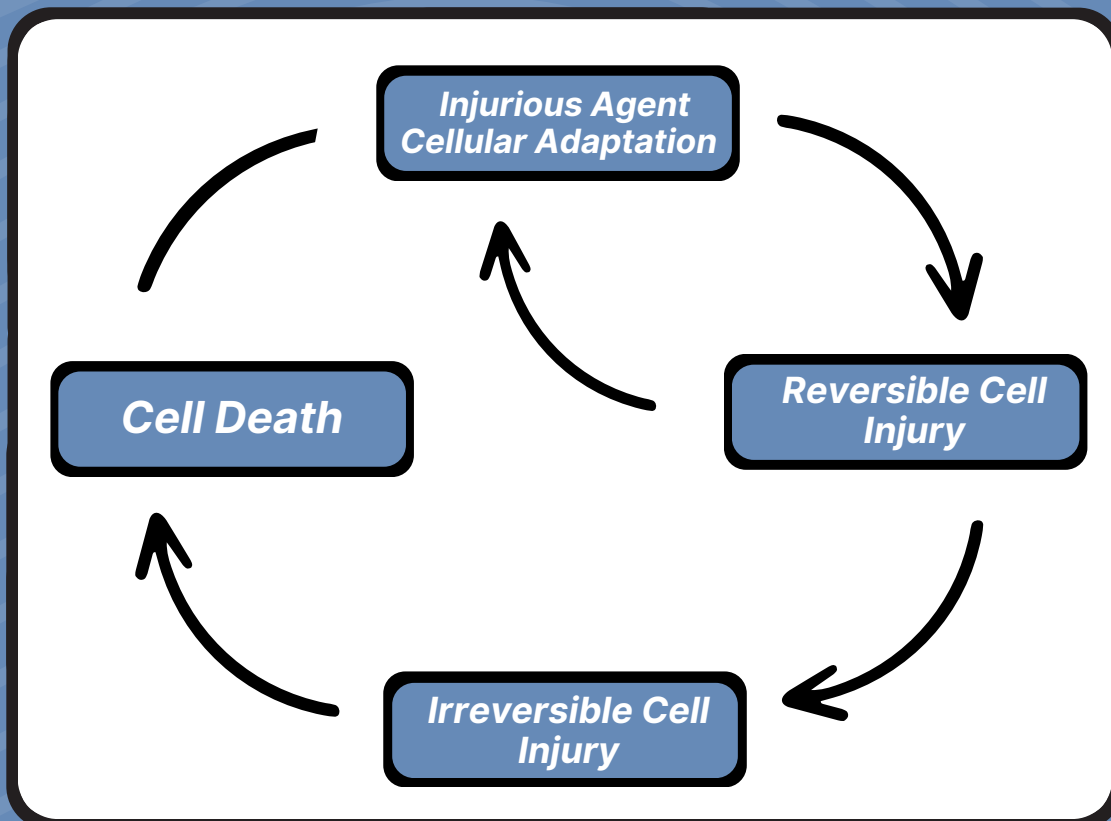
·But if you start hitting the wall with a hammer and break it down completely. This is an irreversible change.

·Similarly, when the cells are damaged beyond the point of repair, it is called irreversible cell damage.





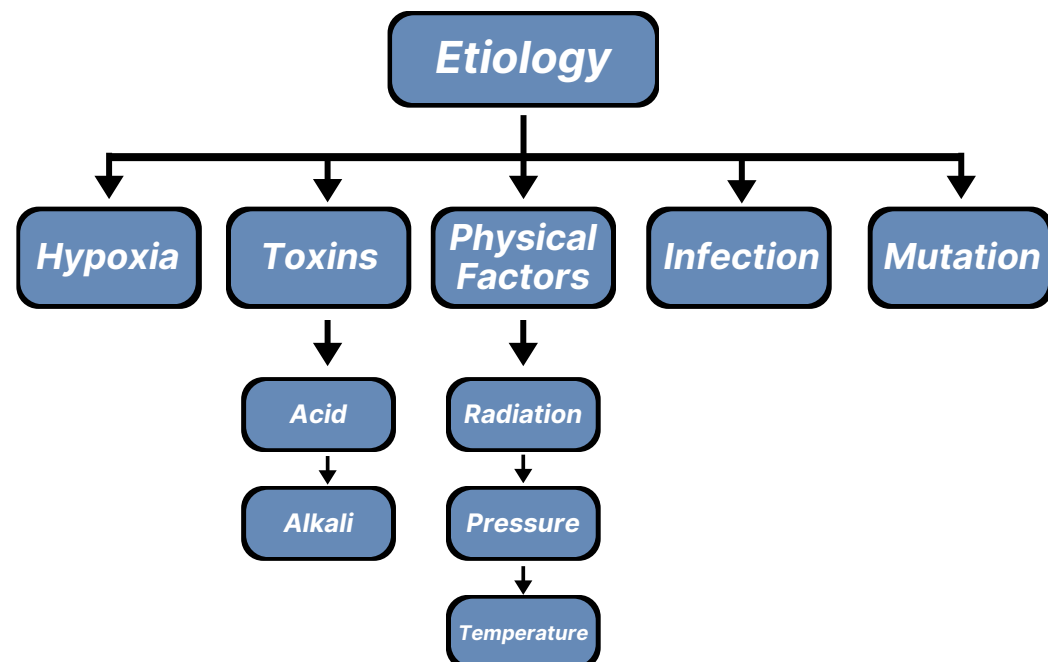
Please help me understand the cycle of cell death?



Can you please tell me
about the Etiology?



We can understand it with the help of
the following flow chart :



Can you tell me about the Key morphological changes?



Cellular swelling

When the water pump in the house is overwhelmed then too much water stays in the house.

Similarly Na/K ATPase pump failure leads to cellular swelling

Membrane damage

As the basic structure of the house walls tends to fall and damage we see visible cracks on the walls outside

Nuclear changes

Pyknosis: condensation of chromatin material.

Karyorrhexis: fragmentation of nucleus.

Karyolysis: complete dissolution of nucleus.

As the walls break, the centre of the house collapses.

Mitochondrial damage

The solar panel (representing mitochondria) of the house providing electricity stops working in the lack of sunlight. (representing oxygen).