

Biology Reading around the subject.

I read somewhere that cells 'commit suicide'. I found out this process is called apoptosis and cells do this if a cell becomes damaged or infected. If a cell doesn't undergo apoptosis it may result in the development of cancer.

Apoptosis is one of two ways cells can die. The second, necrosis, is an unplanned response to an overwhelming stress such as a traumatic injury or exposure to poison. It's what happens to heart cells during a heart attack, cells in severely frostbitten fingers and toes, and lung cells undergoing a bout of pneumonia. While apoptosis neatly removes select cells, necrosis destroys without strategy.

As apoptosis destroys unwanted cells, mitosis (cell division) makes new cells. Apoptosis and mitosis work together to keep us healthy. For example, our skin and hair cells are renewed via a continuous cycle of apoptosis and mitosis. So are the cells lining our intestines

To kill itself, a cell first makes a deadly chemical cocktail. It then separates itself from its neighbours, and unleashes the poisons. These include a substance that chews up the DNA in the cell nucleus, and a 'glue' that binds the inside of the cell together. Within a few hours, the cell shrinks, breaks up and is engulfed by other cells.



Necrosis

Necrosis is the name given to unprogrammed death of cells and living tissue. In contrast with apoptosis, clean-up of cell debris by phagocytes of the immune system is generally more difficult, as the death generally does not send cell signals which tell nearby phagocytes to engulf the dying cell.

This lack of signalling makes it harder for the immune system to locate and recycle dead cells which have died through necrosis than if the cell had undergone apoptosis. There are many causes of necrosis including injury, infection, cancer, infarction and others.

Unlike in apoptosis, cells that die by necrosis may release harmful chemicals that damage other cells.

Phagocytes are cells that protect the body by ingesting harmful foreign particles, bacteria, and dead or dying cells.

