

Correction des exercices : Bob and Samy.

1- Bob fell and his hands were scratched. He didn't do anything about it and the day after, his hands were red and sore. Explain what happened to him.

When Bob scratched his hands, he opened a door for pathogens to come inside his body. As he didn't clean the wound, they indeed went inside and his immune system detected them. At this moment, the innate immune response started and blood flow increased, macrophages and other cells of the immune system went on the site of infection to fight the pathogen. Along the process, more blood, more cells come to this specific location and exudates are produced. This is why the hands of Bob went red and sore, because of the swelling induced by the inflammatory response.

2- Think about what Bob should have done to avoid this inconvenience.

To avoid this inconvenience, Bob should have disinfected his hands. This would have killed the pathogenic agent before it triggered the immune response.

3- Samy caught a cold. She went to the doctor and he said that she had a viral infection. Knowing that viruses get inside body cells and change their surface markers, explain how her body can get rid of this infection.

Her body can get rid of this infection thanks to the adaptive immune response. As the humoral response is more efficient against bacteria and extracellular pathogens, it's the cell mediated response that would get rid of the virus. Indeed, in this line of defence, cells called CD8+ T lymphocytes are able to recognize abnormal and foreign markers at the surface of our cells. If one of them encounters and recognizes an abnormal cell, it will trigger a process called the « death kiss » which will lead to the death of the dangerous cell.