Antiseptic

"Yet another death triggered by a festering wound! How I wish there is something I could do to put an end to this!" lamented Joseph Lister. He was very emotional when he witnessed his patients who successfully underwent surgeries, die because of an infected wound.

Born in England, Joseph Lister (1827 – 1912) completed his studies in a medical college and founded the Edinburgh Hospital, which specialized in surgeries. Upon graduation, having witnessed many of his patients die due to infection, the benevolent Lister refused to give up. He decided to save more lives by studying surgical disinfection.

Knowing that everything happens for a reason, Lister was adamant to find out the source of the post-operative wound infection. He began reading up French microbiologist Pasteur's findings on bacteriology. Although Lister could understand the source of germs upon reading Pasteur's publication, his doubts regarding how bacteria was produced and how bacteria could cause harm to a patients' wounds was unclear. These unsolved puzzles made Lister unhappy.

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One morning, Lister inadvertently saw through the sunlight that the air was filled with dust. It was then he realized that bacteria could mix with the dust in the air and contaminate the human body. That certainly meant that the bacteria in the air could contaminate open wounds by causing inflammation, which later triggered infection.

The fact that dust was circulated by air meant that the surgery devices and bandages in the surgery theatres were exposed to the risk of bacterial contamination. This was certainly the major reason why patients died of a festering wound. Although Lister solved one of the puzzles, he could not find the solution to disinfection.

However, one day, when Lister was taking a stroll near a ditch with his assistant, he noticed a phenomenon. Although the ditch contained the discharge of a chemical plant, the water was crystal clear while the weeds on the water's surface did not rot at all.

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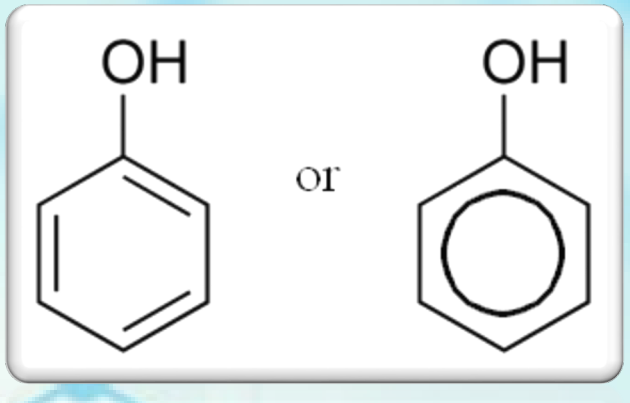
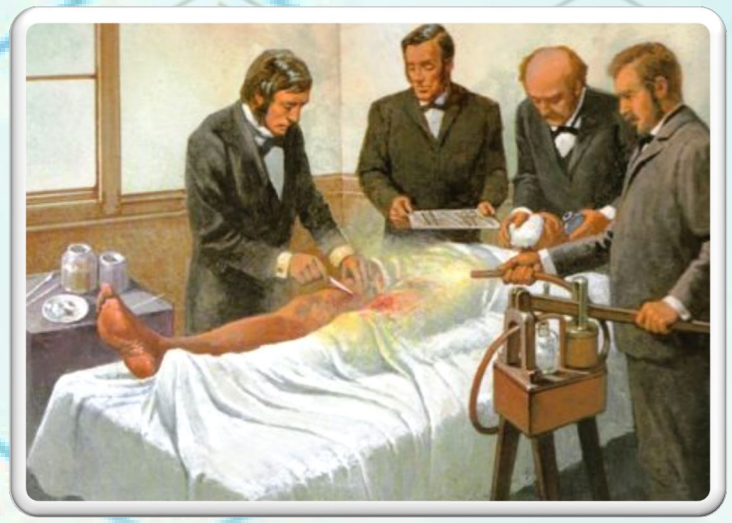
Upon consulting chemistry experts, Lister finally understood that carbolic acid (also known as Phenol), which was discharged into the ditch, was the by-product in the extraction of tar by the chemical plant. The anti-corrosive effect of carbolic acid made the water in the ditch look clear while the weeds remained unrotten.

Lister was very inspired by the discovery. He then ran an experiment by using carbolic acid to sterilize the wound after performing a surgery on a patient with a fractured bone. He noticed that the wound recovered in a shorter period of time, and that there was no infection at all. Lister was very excited that his experiment was a success, and that the success led to saving more lives.





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Antiseptic

The discovery of antiseptic for surgery turned Lister into a world-renowned individual in the medical field.

Food for Thought:

- The new concept of innovation or invention is generated in the process of problem-solving.
- We should continue the efforts of innovation or invention based on the fruitful results of our predecessors; as Isaac Newton's saying goes, "If I have seen further than others, it is by standing upon the shoulders of giants".
- In facing challenges, Lister's never-give-up spirit of exploring each possible solution from all angles finally paid off and benefited everyone in society. This proves that perseverance is the key to success.