

## Top 5 discoveries that redefined the pharmaceutical industry



The pharmaceutical industry stands at the crossroads of science and healthcare, continuously evolving to meet the growing challenges of global health. Over the years, several groundbreaking discoveries have not only revolutionized drug development but also have redefined the very foundations of the industry. From the advent of antibiotics that changed the course of infectious disease treatment, to the rise of biologicals and personalized medicine, these innovations have shaped how we combat diseases and improve patient outcomes.

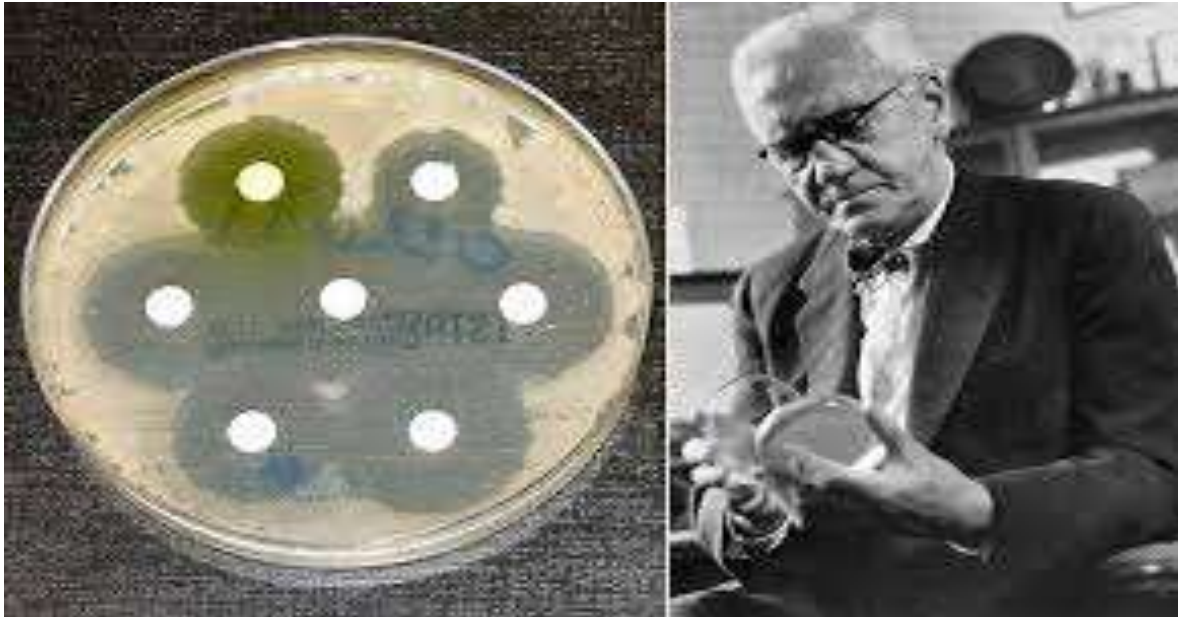
In this Blog, we delve into top discoveries that have redefined the pharmaceutical industry, examining how they altered the future of medicine and healthcare on a global scale.



# From lab to life: Top 5 discoveries in pharma field

## 1. PENICILLIN (1928)

Penicillin was discovered in 1928 by Alexander Fleming when he noticed that Mold had killed some bacteria on a petri dish, he accidentally left uncovered. The Mold, later identified as *Penicillium notatum*, inhibited the growth of *Staphylococcus* bacteria, leading to the discovery of penicillin, the first antibiotic. He then developed a method for extracting it from the Mold and turning it into an effective antibiotic pill.



Since then, penicillin has been used to treat many bacterial infections, from strep throat to meningitis. Its discovery has also led to developing of other antibiotics, such as amoxicillin and cephalosporins, used to treat more serious infections. Today, penicillin is still widely used and is considered one of the most important medical advances in history. To give a better sense of its impact, 75% of people today would not be alive because their ancestors would have died from some infection.

## **2. INSULIN (1921)**

Insulin is a hormone that plays a key role in regulating glucose levels in the body. It was first discovered by Canadian scientists Frederick Banting and Charles Best in 1921, and it has since become an essential treatment for people with diabetes.

Insulin helps to regulate the amount of glucose that enters into cells from the bloodstream, which is necessary for normal metabolism. Without insulin, people with diabetes would be unable to control their blood sugar levels. They would be at risk of developing serious medical



complications such as heart disease, stroke, kidney failure, blindness, and even death.

Today, insulin is used by millions of people around the world to manage their diabetes and live healthy lives. It is one of the most important discoveries in medical history and has saved countless lives since its discovery more than 100 years ago.

### **3.ASPIRIN (1899)**

Aspirin is one of the most widely used drug in the world. It has been used since ancient times to treat pain and inflammation, but its true potential was discovered in 1899 when it was found to be effective against heart attacks and strokes. Felix Hoffmann, a pharmacist discovered it at Bayer who used the drug to alleviate his father's rheumatism. So, Bayer held its patent for a long time. Since then, its use has become increasingly common as a preventative measure against cardiovascular diseases.



Aspirin also plays a role in cancer prevention and treatment, as well as treating headaches, arthritis, and other conditions. Its discovery is considered one of the most incredible medical breakthroughs of all time, and its impact on human health cannot be overstated.

#### 4. BIRTH CONTROL PILLS (1950)

The birth control pill is one of the most important discoveries in human history, as it has enabled people to plan their families and decide when and how many children they want to have. It has had a huge impact on society, allowing women to take control over their reproductive health and giving them more freedom in terms of career choices.

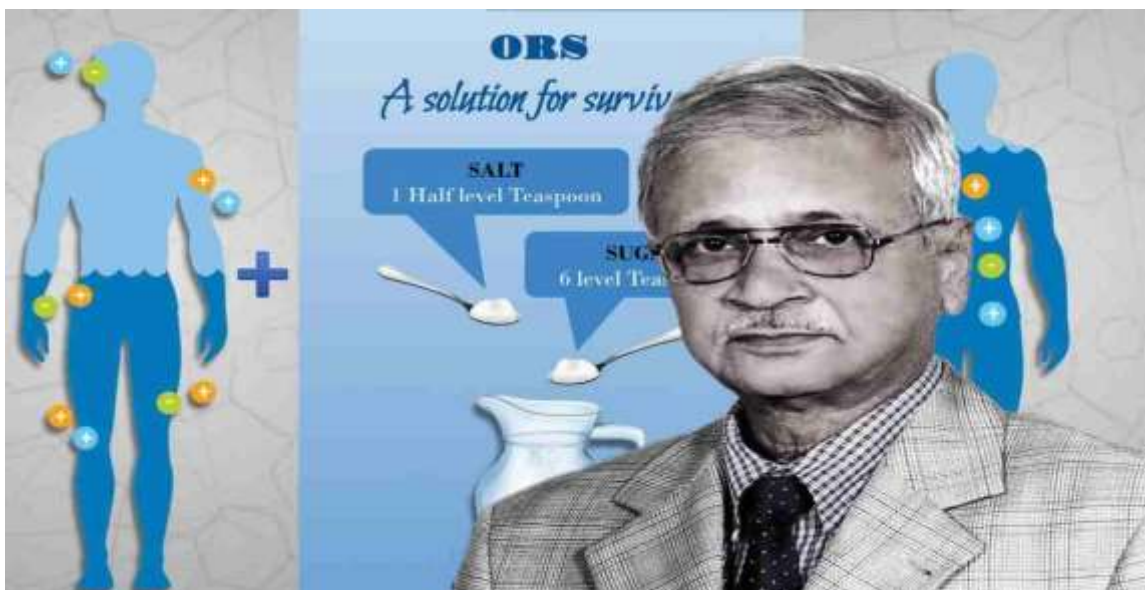
The history of the birth control pill dates back to the 1950s when scientists first developed it to control fertility. Biologist Gregory Pincus developed the birth control pill. But, the FDA (Food and Drug Administration) approved the first oral contraceptive in 1960.

Since then, it has been used by millions of women worldwide who want to prevent pregnancy or plan when they want to start a family. The pill has also been used for other medical purposes, such as treating endometriosis and acne.



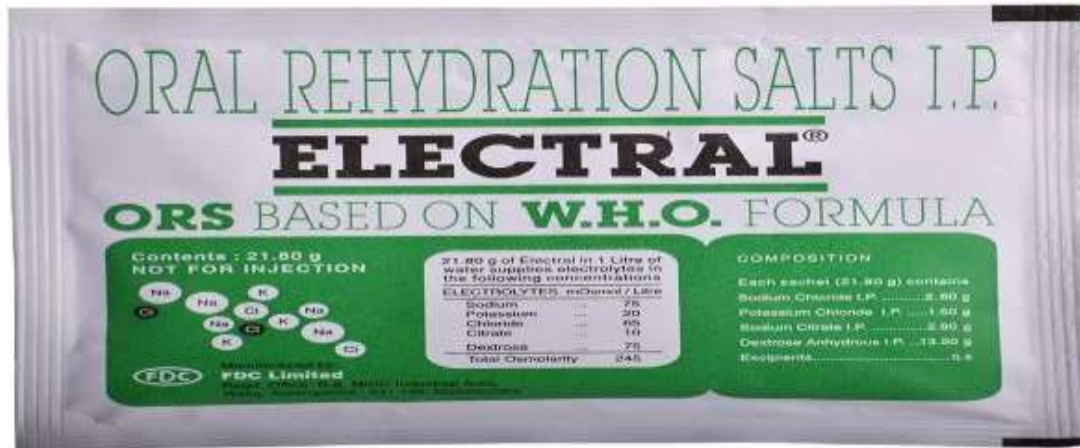
Today, the birth control pill continues to be an essential part of family planning and reproductive health care, providing women with more freedom than ever before.

## 5. ORS (1960)



ORS (Oral Rehydration Solution) was primarily developed by researchers Dr. Dilip Mahalanabis, Dr. David R. Nalin, and Dr. Richard A. Cash, among others, during the late 1960s and early 1970s. Dr. Mahalanabis first used ORS on a large scale during a cholera outbreak in refugee camps during the Bangladesh Liberation War in 1971, which proved highly effective in preventing dehydration and saving lives. Their work revolutionized the treatment of diarrhoea-related dehydration, especially in developing countries.

ORS is a simple mixture of water, salts, and sugar that helps replenish fluids and electrolytes lost due to dehydration.



The importance of ORS lies in its simplicity, cost-effectiveness, and life-saving potential. It has significantly reduced deaths from diarrhoea, particularly in children in developing countries, and is considered one of the most important medical discoveries of the 20th century.

We cannot predict when the next pharmaceutical breakthrough will occur. However, it is certain that thousands of researchers and professionals are working tirelessly every day to make it happen. We are deeply appreciative of the discoveries that have extended our lives and improved our quality of life.

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