Farah Saeed

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CANCER RESEARCHERS

Past, Present and Future

2025

WORLD CANCER RESEARCH DAY

September 24th

Cancer Research Needs Us All

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CANCER RESEARCHERS

Past, Present and Future

INSPIRE.

CONTEMPLATE.

REFLECT.

2025

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September 24th

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Contents

Introduction

The aim is to provide an insight into the journey of cancer research of various individuals involved from the past, present and future as a source of inspiration as part of World Cancer Research Day. They are not related nor indicate any personal or professional events for FST members.

World Cancer Research Day is an initiative developed in 2016 to raise awareness on the importance of cancer research. September 24th is a unified date for effort, collaboration, progress, and improvement in methods of detection, new treatments, survival rates, and HOPE.

Their campaign this year is titled *Cancer Research Needs Us All*

We are not associated or affiliated with the World Cancer Research Day organisation. The only link is that we understand the importance of cancer research and raising awareness, which is part of our aims.

CANCER RESEARCHERS

Past, Present and Future

Rosalind Elsie Franklin

Some of the thousands of cancer researchers worldwide.

CANCER RESEARCHERS

Past, Present and Future

Name: Rosalind Elsie Franklin (1920–1958)

Country: United Kingdom

Role in Cancer Research:

She was able to discover the structure of our genetic material, deoxyribonucleic acid (DNA), using X-ray crystallography through collaborative research with other researchers, James Watson, Francis Crick, and Maurice Wilkins.

The DNA involved two long strands twisted together to form a double helix.

The structure of DNA helped cancer researchers to increase understanding of how changes in a gene (mutation) and genomic instability can cause tumours to develop and help find new cures for cancer (Worldwide Cancer Research, 2025; Science History Institute, 2022).

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Some of the thousands of cancer researchers worldwide.

CANCER RESEARCHERS

Past, Present and Future

Francis Crick

James Watson

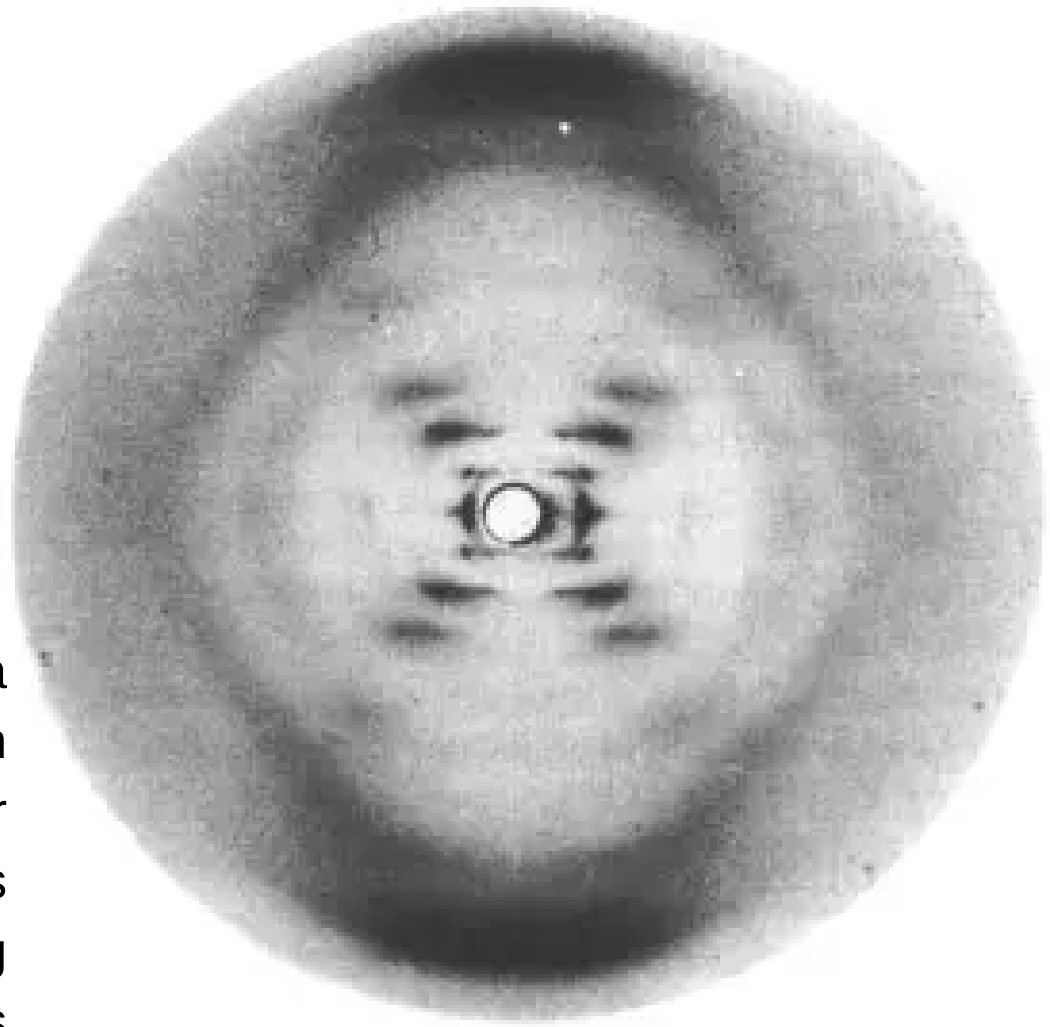
Maurice Wilkins

Rosalind Franklin

Additional information on Rosalind Franklin's role in Cancer Research:

What is X-ray Crystallography?

X-ray crystallography is a method in which a crystal sample causes X-rays to diffract in specific directions. Diffraction means the light or sound waves are broken up as they pass through a narrow space or edge. By analyzing the angles, intensity, and patterns of this diffraction, the 3D structure and position of the electrons within the crystal's atoms can be identified.



The structure of DNA on X-ray Crystallography

CANCER RESEARCHERS

Past, Present and Future

Additional information on their role in Cancer Research:

Be inspired…How did she learn X-ray crystallography?

Name: Rosalind Elsie Franklin (1920–1958)
Country: United Kingdom

Her early education began at Newnham College, a women's college at Cambridge University, where she completed her degree in Chemistry in 1941 during World War Two (Science History Institute, 2022).

After earning her degree, she worked with Ronald Norrish at Cambridge, but left to aid the war effort at the British Coal Utilization Research Association, where she investigated coal and graphite (Science History Institute, 2022). She was awarded a PhD for this work upon her brief return to Cambridge.

After the war, through her network, she worked at the Laboratoire Centrale des Services Chimiques de l'Etat in Paris in France. This is where she learnt about X-ray crystallography and rapidly excelled in the field (Science History Institute, 2022).

CANCER RESEARCHERS

Past, Present and Future

Additional information on their role in Cancer Research:

Be inspired…How did she learn X-ray crystallography?

Name: Rosalind Elsie Franklin (1920–1958)
Country: United Kingdom

In 1951, she returned to the UK and worked at King's College London, where she wanted to utilise her experience from Paris and work with X-ray crystallography and DNA. This idea was initially given by her boss, Maurice Willkins (Science History Institute, 2022).

However, despite their amazing discovery, it was said her research was used without her consent by Watson and Crick and without acknowledgement in the breakthrough paper.

She passed away in 1958 from health reasons before being able to receive the Nobel Prize in Physiology or Medicine for their 1953 contribution in the 1962 Nobel Prize Awards (Worldwide Cancer Research, 2025).

CANCER RESEARCHERS

Past, Present and Future

Name: Rosalind Elsie Franklin (1920–1958)
Country: United Kingdom

Additional information on their role in Cancer Research:

The reasons for her exclusion were debated and remain unclear.
The Nobel Prize stipulation states:

“In no case may a prize amount be divided between more than three persons.”

A factor, perhaps, would be her death before the prize was awarded.

Posthumous awards (after death) were not instituted until 1974 (Worldwide Cancer Research, 2025).

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Past, Present and Future

Dr. Otto Heinrich Warburg

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Some of the thousands of cancer researchers worldwide.

CANCER RESEARCHERS

Past, Present and Future

Name: Dr. Otto Heinrich Warburg (1883–1970)

Country: Germany

Role in Cancer Research:

He discovered the real cause of the growth of cancer in 1923, which involved a lack of oxygen (hypoxia).

CANCER RESEARCHERS

Past, Present and Future

Additional information on their role in Cancer Research:

Name: Dr. Otto Heinrich Warburg (1883–1970)
Country: Germany

How did he find out about this discovery?

He was the director for cell physiology at the Kaiser Wilhelm Institute (now the Max Planck Institute) in Berlin. (Apex Health, 2017)

Amongst his works, "*The Metabolism of Tumours*," he found out how cancer and normal cells were able to gain energy (respiration) and have chemical reactions (metabolism) (Apex Health, 2017).

"Cancerous tissues are acidic, whereas healthy tissues are alkaline. Water splits into H+ (hydrogen ions) and OH- (hydroxide ions). If there is an excess of H+, it is acidic; if there is an excess of OH- ions, then it is alkaline."

CANCER RESEARCHERS

Past, Present and Future

Name: Dr. Otto Heinrich Warburg (1883–1970)
Country: Germany

Additional information on their role in Cancer Research:

"All normal cells have an absolute requirement for oxygen, but cancer cells can live without oxygen – a rule without exception. Deprive a cell 35% of its oxygen for 48 hours, and it may become cancerous."

This suggests that cancer cells are acidic and lack oxygen brought about by toxemia (a condition characterised by high blood pressure and damage to the kidneys and the liver).

This categorises cancer cells as "anaerobic," meaning they do not breathe oxygen nor survive in high levels of oxygen (Apex Health, 2017).

CANCER RESEARCHERS

Past, Present and Future

Name: Dr. Otto Heinrich Warburg (1883–1970)
Country: Germany

Additional information on their role in Cancer Research:

Another discovery was that Dr. Warburg and his colleagues in the 1920s found out that in the presence of oxygen (aerobic), tumour cells can metabolise more glucose into lactate (ten-fold more) than normal tissues.

This discovery was named after him as the Warburg effect (Koppenol, Bounds, and Dang, 2011).

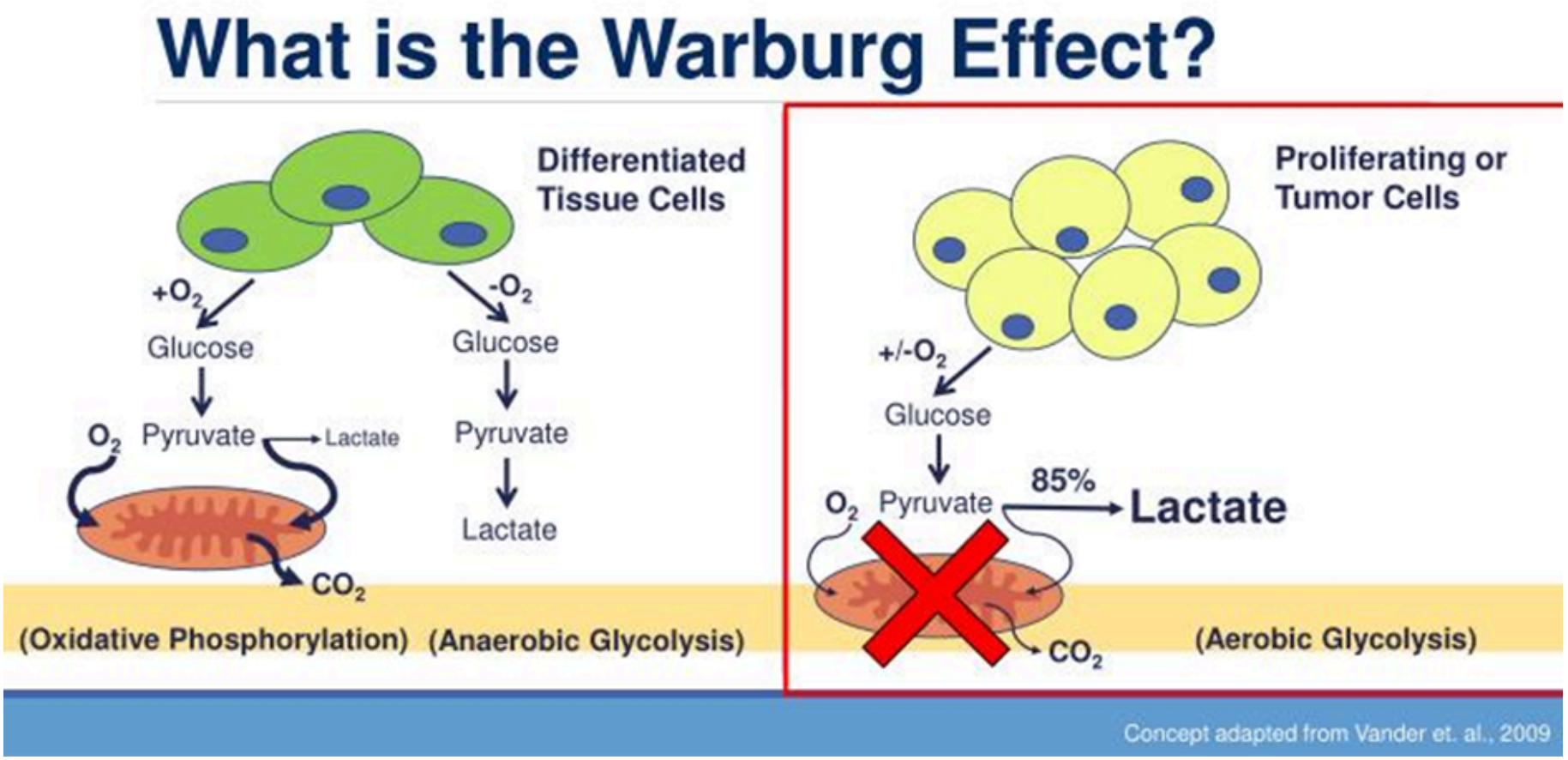
Dr. Otto Warburg received the Nobel Prize for doing so in 1931 (Apex Health, 2017).

CANCER RESEARCHERS

Past, Present and Future

Name: Dr. Otto Heinrich Warburg (1883–1970) **Country: Germany**

Additional information on their role in Cancer Research:



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CANCER RESEARCHERS

Past, Present and Future

Gertrude B. Elion

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CANCER RESEARCHERS

Past, Present and Future

Name: Gertrude B. Elion (1918–1999)

Country: United States of America

Role in Cancer Research:

She worked alongside George Hitchings and developed effective treatments for stomach cancer, leukaemia, gout, malaria, and organ transplantation.

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Past, Present and Future

Name: Gertrude B. Elion (1918–1999)
Country: United States of America

Additional information on their role in Cancer Research:

Her inspiration…

Gertrude's grandfather was diagnosed with stomach cancer whilst she was a teenager. This was the moment that instilled the passion for medicine (MoreHealth, 2021).

Amongst her co-discoveries with George Hitchings were as follows:

A medication to support patients with a low immune system (immunocompromised). This helps to support them when they undergo organ transplants. This helps prevent the body from rejecting them (MoreHealth, 2021).

CANCER RESEARCHERS

Past, Present and Future

Name: Gertrude B. Elion (1918–1999)
Country: United States of America

Additional information on their role in Cancer Research:

Her inspiration…

In 1950, they developed two compounds, 6-mercaptopurine (6-MP) and thioguanine, that were effective against leukaemia cells by blocking the production of deoxyribonucleic acid (DNA).

DNA is a genetic material, and changes in its structure (mutations) cause instability and increase tumour development.

Leukaemia is the overproduction of abnormal white blood cells, which affects the immune system (MoreHealth, 2021).

Some of the thousands of cancer researchers worldwide.

CANCER RESEARCHERS

Past, Present and Future

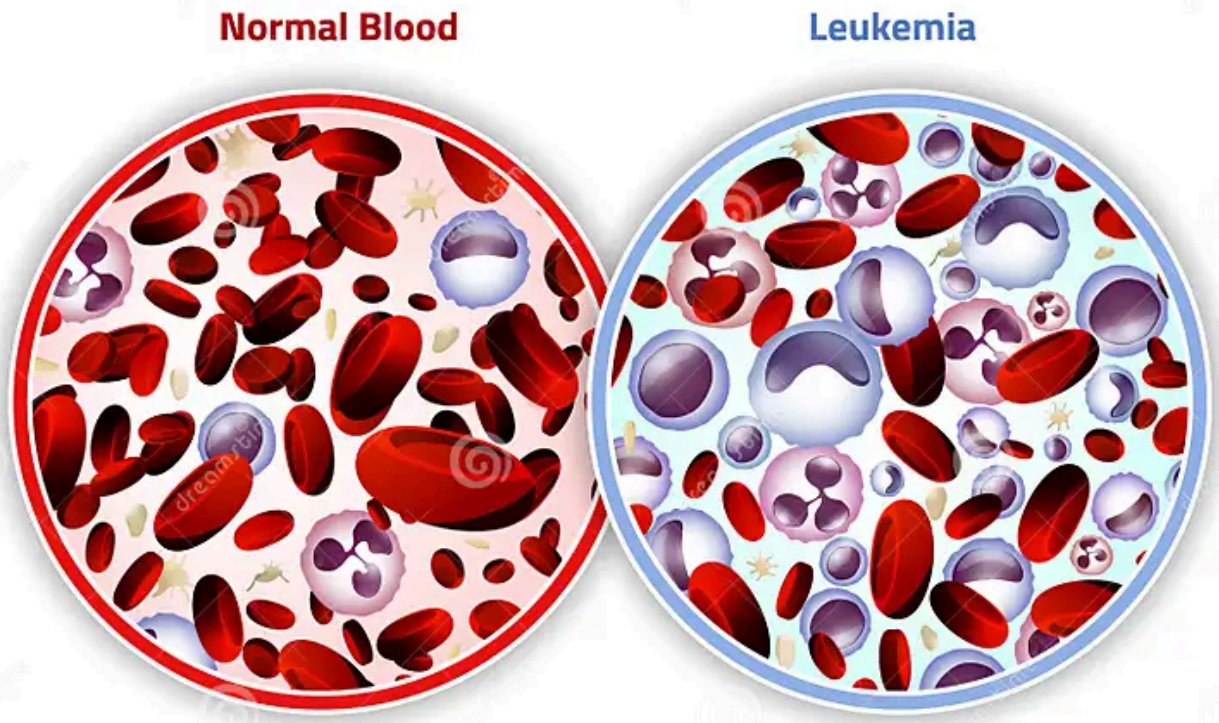
Name: Gertrude B. Elion (1918–1999)

Country: United States of America

Additional information on their role in Cancer Research:

Her inspiration…

Both 6-MP and thioguanine, when combined with other drugs, were even more effective. It cured 80% of children with leukaemia and adult patients with acute myelocytic leukaemia (MoreHealth, 2021).



CANCER RESEARCHERS

Past, Present and Future

Name: Gertrude B. Elion (1918–1999)
Country: United States of America

Additional information on their role in Cancer Research:

Her inspiration…

She published 225 research papers and was awarded a Nobel Prize in Physiology or Medicine in 1988 (MoreHealth, 2021).

Inspirational quotes:

"The Nobel Prize is fine, but the drugs I've developed are rewards in themselves."

“Don't let others discourage you or tell you that you can't do it. In my day, I was told women didn't go into chemistry. I saw no reason why we couldn't.”

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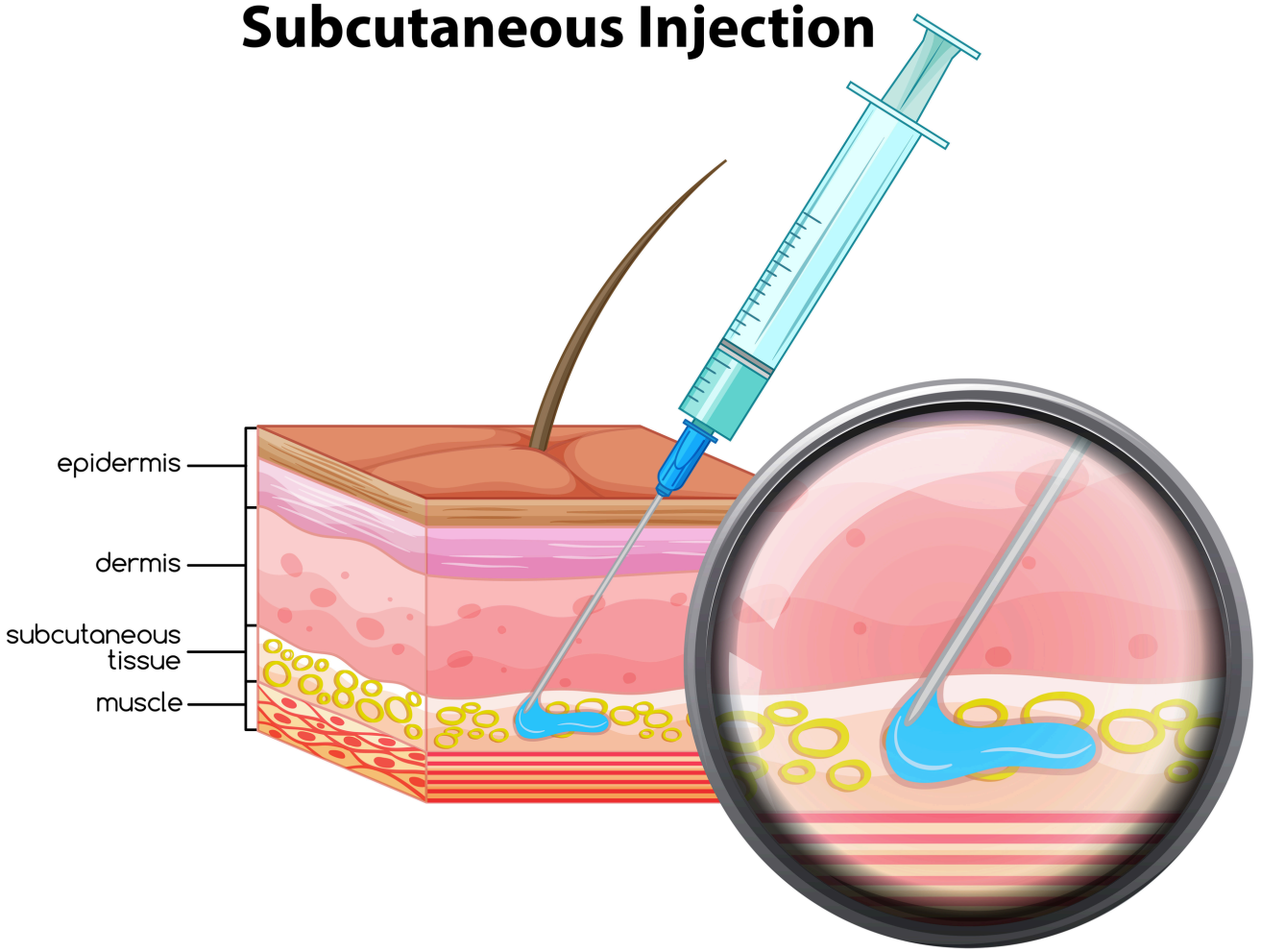
CANCER RESEARCHERS

Past, Present and Future

The Approval Of A Cancer Treatment Injection.

Subcutaneous Injection



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CANCER RESEARCHERS

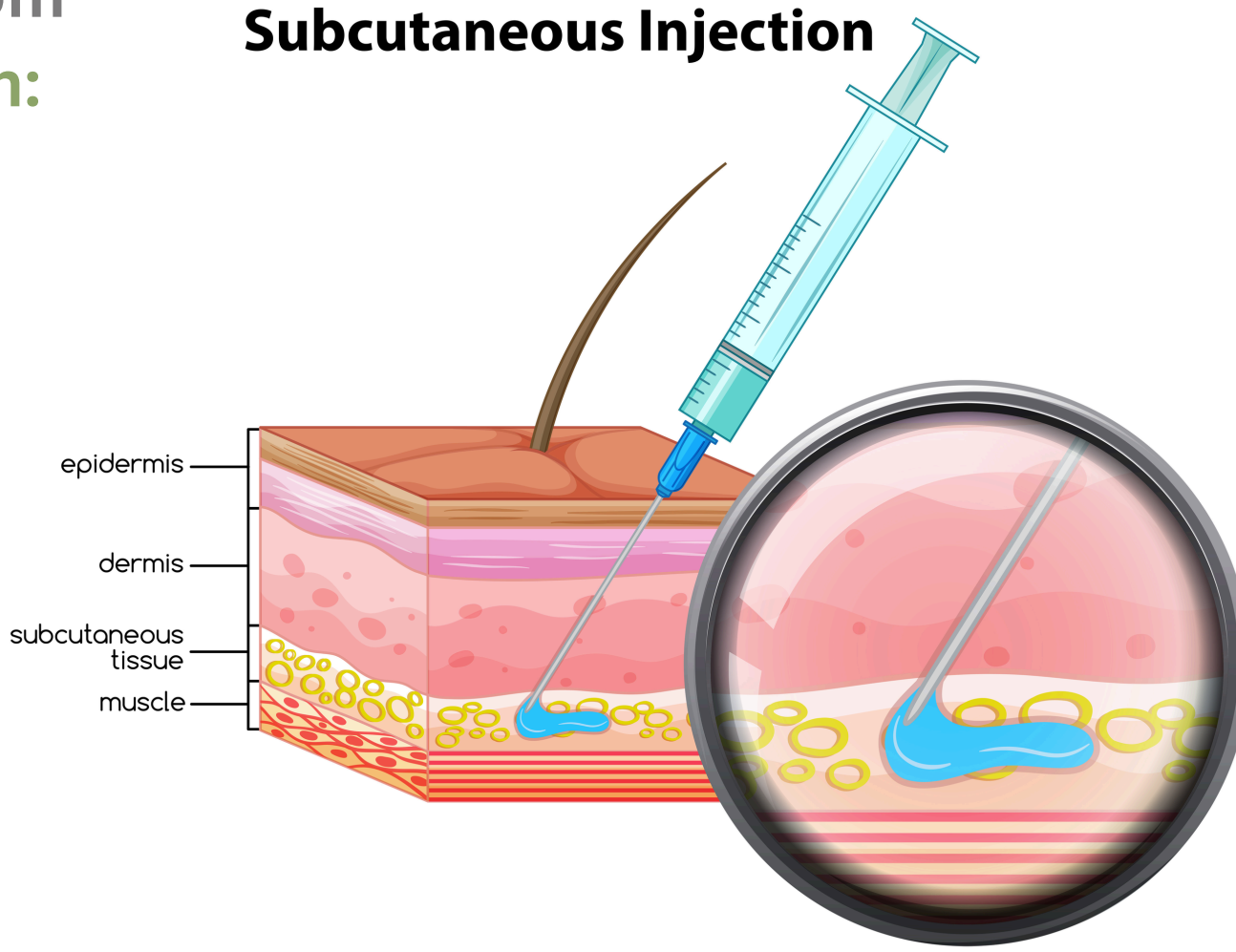
Past, Present and Future

Name: The approval of a cancer treatment injection.

Country: United Kingdom

Role in Cancer Research:

NHS England announced that a cancer treatment injection given under the skin (subcutaneously) that could reduce treatment time by three-quarters to help more patients, and provide faster care was approved by the Medicines and Healthcare products Regulatory Agency (MHRA).



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CANCER RESEARCHERS

Past, Present and Future

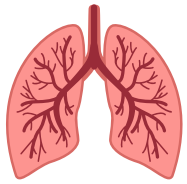
Name: The approval of a cancer treatment injection.

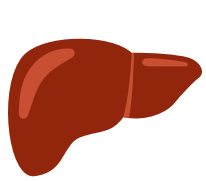
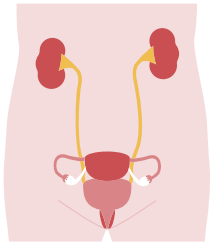
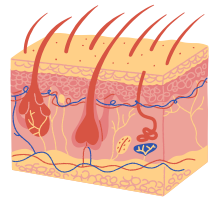
Country: United Kingdom

Additional information on their role in Cancer Research:

The immunotherapy, Atezolizumab, also known as Tecentriq, was developed by Genentech. Atezolizumab is given to patients with the following cancers if surgical intervention cannot be done or has metastasised in the following cancers:

- Lung (non-small cell lung cancer (NSCLC); small cell lung cancer (SCLC)
- Breast
- liver (hepatocellular)
- bladder (urothelial).
- Skin cancer (melanoma)



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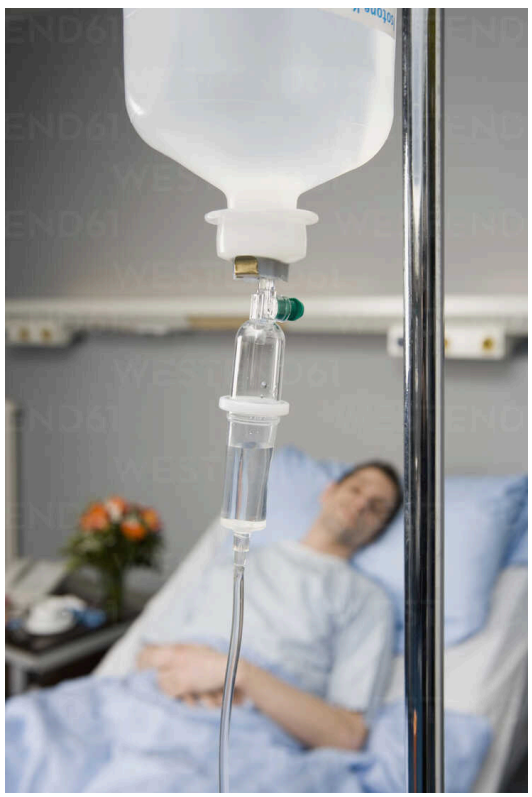
Past, Present and Future



Intravenous injection

Additional information on their role in Cancer Research:

It enhances the recognition of immune cells to kill cancer cells by blocking the protein PD-L1 (Thorton, 2025).
Atezolizumab is an immune checkpoint inhibitor. It can be injected into the vein via a drip (intravenously). It normally takes 30 to 60 minutes due to difficulty in accessing the vein (Reuters, 2023).

However, with the new cancer treatment injection, the administration time of atezolizumab is reduced to seven minutes when administered alone. It is estimated that 3600 patients start every year. However, if atezolizumab combined with chemotherapy needs to be done via transfusion (Reuters, 2023).

Name: The approval of a cancer treatment injection.
Country: United Kingdom

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CANCER RESEARCHERS

Past, Present and Future

Dr. Takashi Sugimura

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CANCER RESEARCHERS

Past, Present and Future

Name: Dr. Takashi Sugimura (1926–2020)

Country: Japan

Role in Cancer Research:

His pioneering work in Japan as Chief of Cancer Research helped globally to understand how genetic mutations lead to cancer via cooking methods and types of foods, and other cancer-causing substances (carcinogens) (Marino, 2024). He also promoted the discoveries of his collaborators. This highlights his passionate personality.

CANCER RESEARCHERS

Past, Present and Future

Name: Dr. Takashi Sugimura (1926–2020)
Country: Japan

Additional information on their role in Cancer Research:

His inspiration…

Amongst his influences was his mother due to her honest and warm character.

Another inspiration was his first patient at Tokyo University Hospital in the 1950s, who motivated him to do cancer research.

A third inspiration was his wife, whose cooking allowed him to identify that smoke from cooking fish or meat can damage the DNA (mutagens) and cause cancer (Harris and Ronai, 2020).

He was later trained by doctors Greenfield (National Institute of Health), Wood (Case Western), and Nakahara (National Cancer Center Research Institute) in the late 1950s and early 1960s. They guided him and helped with future discoveries (Harris and Ronai, 2020).

CANCER RESEARCHERS

Past, Present and Future

Name: Dr. Takashi Sugimura (1926–2020)

Country: Japan

Additional information on their role in Cancer Research:

His inspiration…

In the 1960s, he worked with several researchers on a polymer called poly(ADP-ribose). Amongst them was M. Miwa, who found that poly (ADP-ribose) was degraded by poly(ADP-ribose)glycohydrolase (PARG) (Harris and Ronai, 2020).

He also found several antibodies that stopped poly(ADP-ribose) from working properly in patients with autoimmune disease.

This led to the development of monoclonal antibodies that targeted poly(ADP-ribose).

Further discoveries focused on the polymerisation of the enzyme poly(ADP-ribose).

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CANCER RESEARCHERS

Past, Present and Future

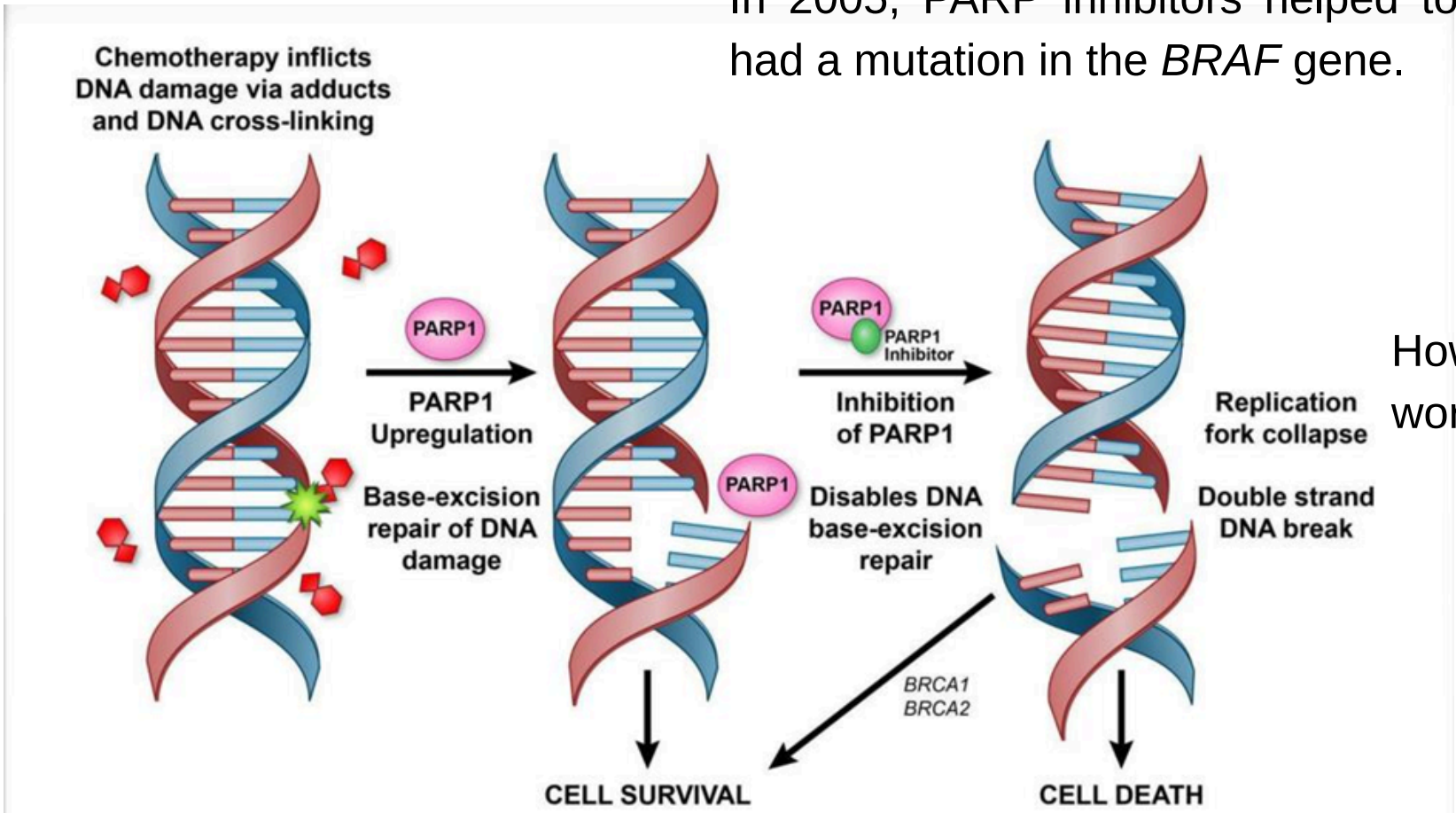
Name: Dr. Takashi Sugimura (1926–2020)

Country: Japan

Additional information on their role in Cancer Research:

In the 1970s, PARP inhibitors were discovered.

In 2005, PARP inhibitors helped to treat tumours that had a mutation in the *BRAF* gene.



How PARP inhibitors work in cancer cells

Slide courtesy of Matthew A. Powell, MD.

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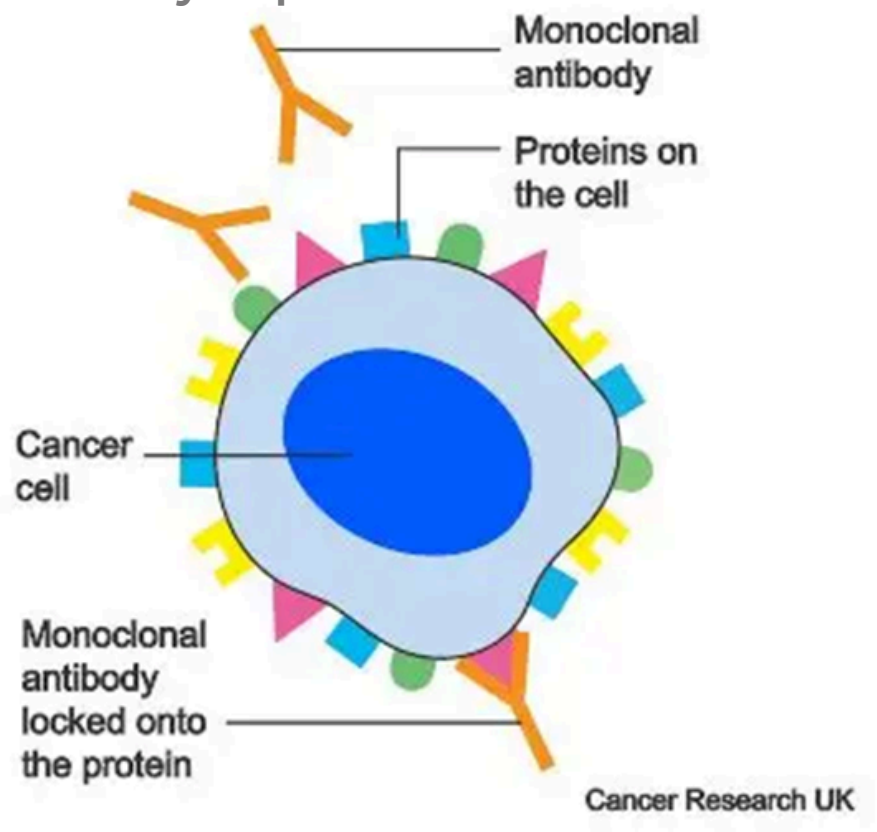
Past, Present and Future

Name: Dr. Takashi Sugimura (1926–2020)

Country: Japan



How monoclonal antibodies work in cancer cells

Additional information on their role in Cancer Research:

Second project

In the 1960s, M. Miwa and Dr. Sugimura also discovered that N-methyl-N′-nitro-N-nitrosoguanidine (MNNG) is a mutagen that causes tumours in rats. This helped develop an understanding of how stomach cancer arises.

CANCER RESEARCHERS

Past, Present and Future

Name: Dr. Takashi Sugimura (1926–2020)

Country: Japan

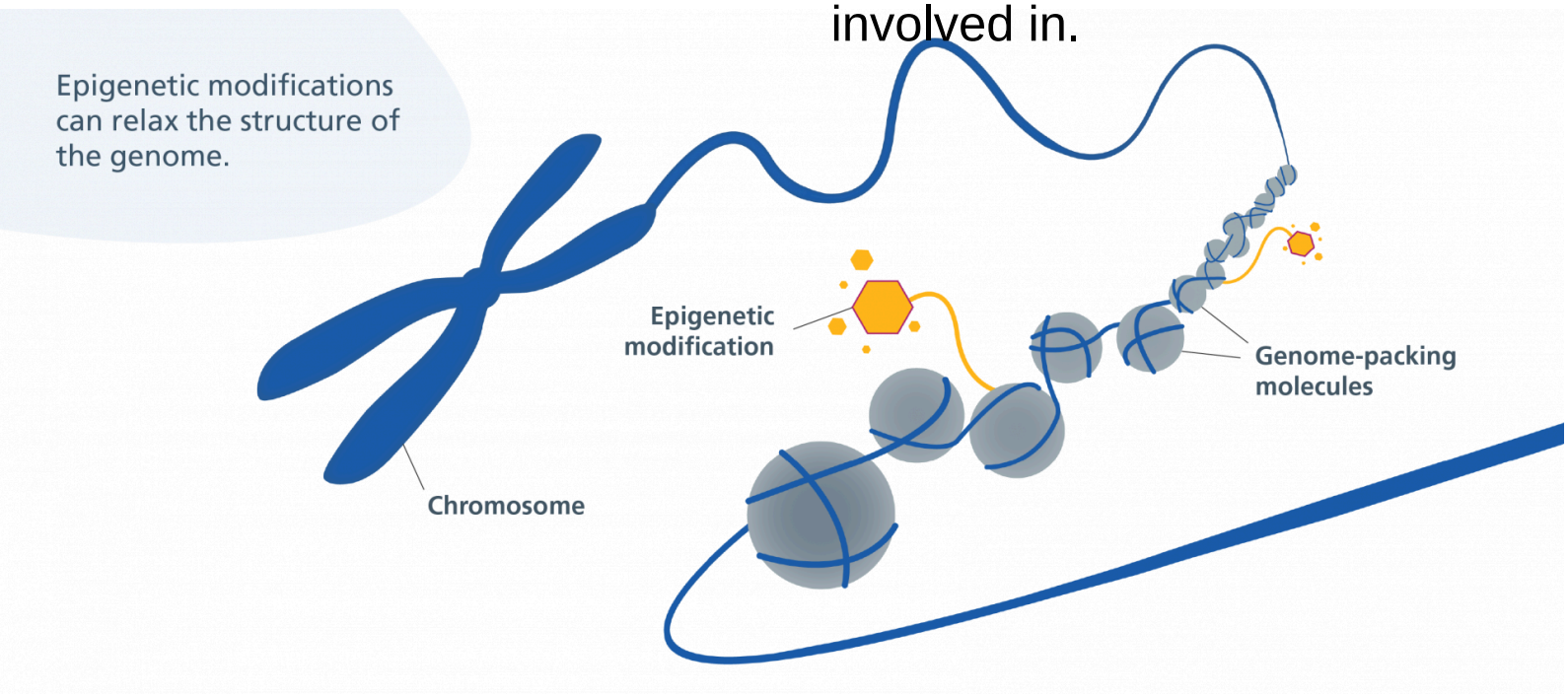
Additional information on their role in Cancer Research:

Third project

In 1968, he found that methylation, the addition of a CH3 group, to proteins and DNA. This helped further understand epigenetic regulation, resistance to chemotherapy, and how cancer cells grow and affect other areas (metastasis).

Epigenetics are changes in the gene caused by lifestyle and environment without changing the DNA sequence. This is an insight into lots of research Dr Sugimura was involved in.

Epigenetic modifications



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CANCER RESEARCHERS

Past, Present and Future

Dr Rana Dajani

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CANCER RESEARCHERS

Past, Present and Future

Name: Dr Rana Dajani

Country: Palestine and Jordan

Role in Cancer Research:

Dr Dajani is a respected Tenured Professor at Heshemite University in Jordan and a visiting professor for several universities (The Faraday Institute, 2025).

Her research expertise is in understanding the role of genes and stem cells. Stem cells are undifferentiated cells that are able to renew themselves.

She conducted a genomic association study on diabetes and cancer in stem cells. This led to the development of Stem Cell Research Ethics Law.

CANCER RESEARCHERS

Past, Present and Future

Name: Dr Rana Dajani
Country: Palestine and Jordan

Additional information on their role in Cancer Research:

She is considered amongst the most influential women and is ranked 13th in the list of the World's 100 Most Powerful Arab Women (Bharakda, 2022).

She believes in the empowerment of women, which she was part of the board for the United Nations Women Jordan Advisory Council (Bharakda 2022; The Faraday Institute, 2025).

Other research is to discover the genetic link between two respected populations in Jordan: Circassian and Chechan (Bharakda 2022).

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Past, Present and Future

The 100,000 Genome Project

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CANCER RESEARCHERS

Past, Present and Future

Name: The 100,000 Genome Project

Country: United Kingdom

Role in Cancer Research:

This technique ensures accurate diagnosis of cancers with specific mutations. Identifying gene mutations informs patient outcomes and ensures targeted treatment within the UK National Health Service. Genomic testing enables equal access (Sosinky *et al*. 2024).

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Some of the thousands of cancer researchers worldwide.

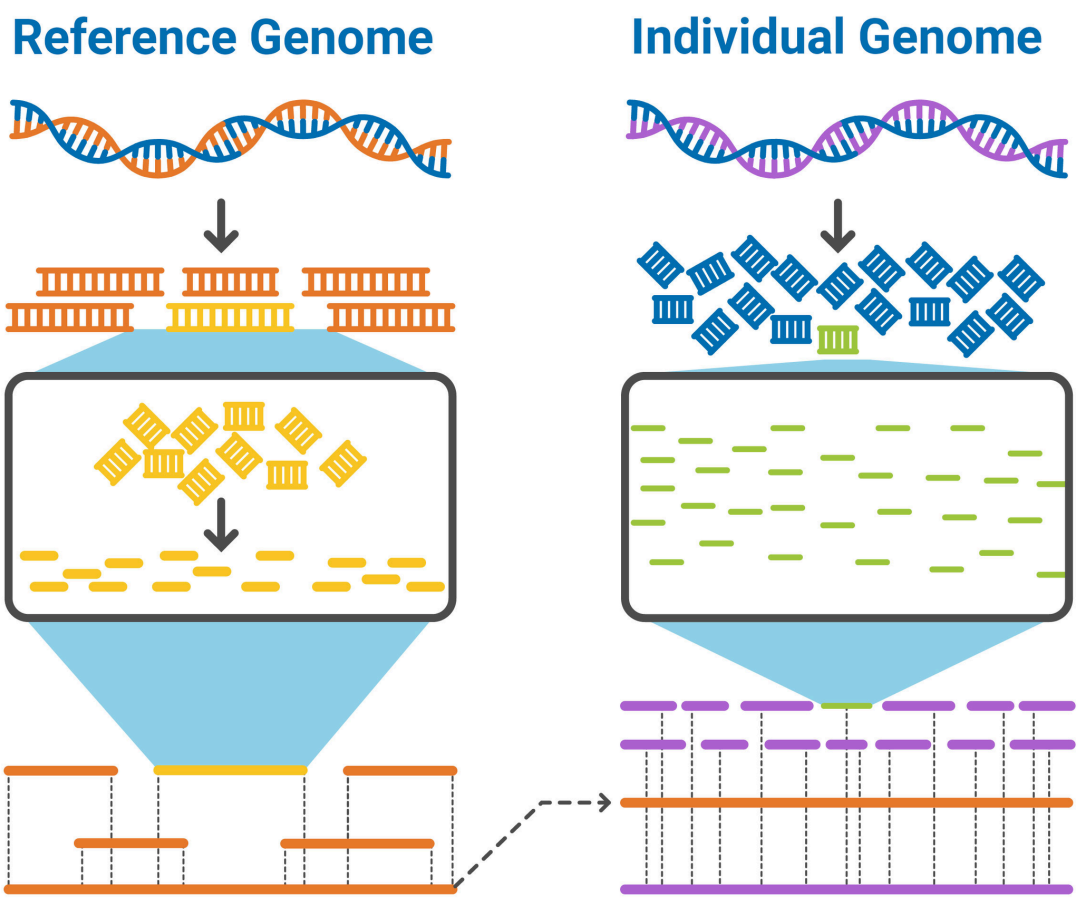
CANCER RESEARCHERS

Past, Present and Future

Name: The 100,000 Genome Project

Country: United Kingdom

The Process of Whole Genome Sequencing



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CANCER RESEARCHERS

Past, Present and Future

Name: The 100,000 Genome Project

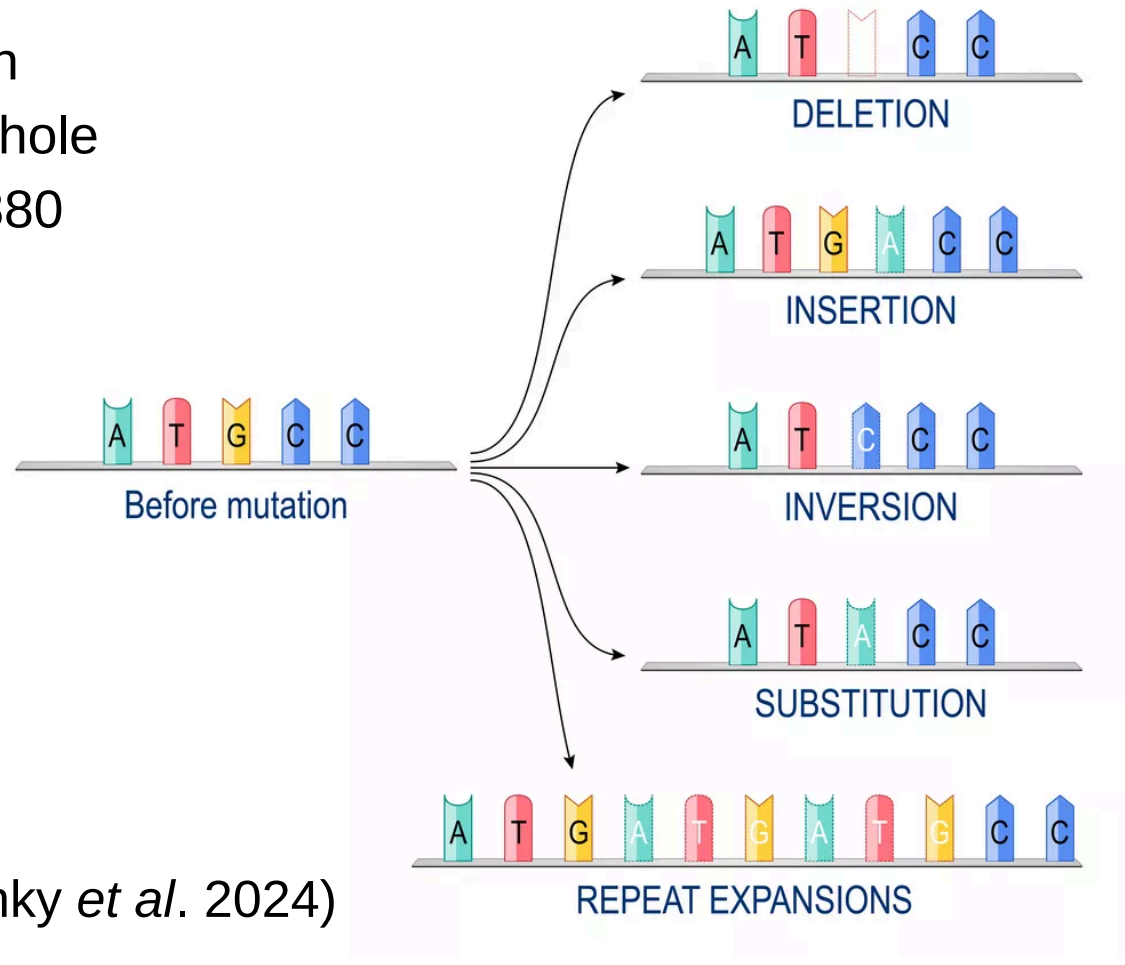
Country: United Kingdom

Be inspired

Genomics England, in collaboration with NHS England, analysed the whole genome sequencing data from 13880 solid tumour samples of 33 cancer types.

They were able to identify various types of somatic mutations:

- Single-nucleotide variants
- Insertions
- Deletions
- Copy number variations/aberrations
- Structural variants
- Gene fusions



(Sosinky *et al*. 2024)

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CANCER RESEARCHERS

Past, Present and Future

Name: The 100,000 Genome Project

Country: United Kingdom

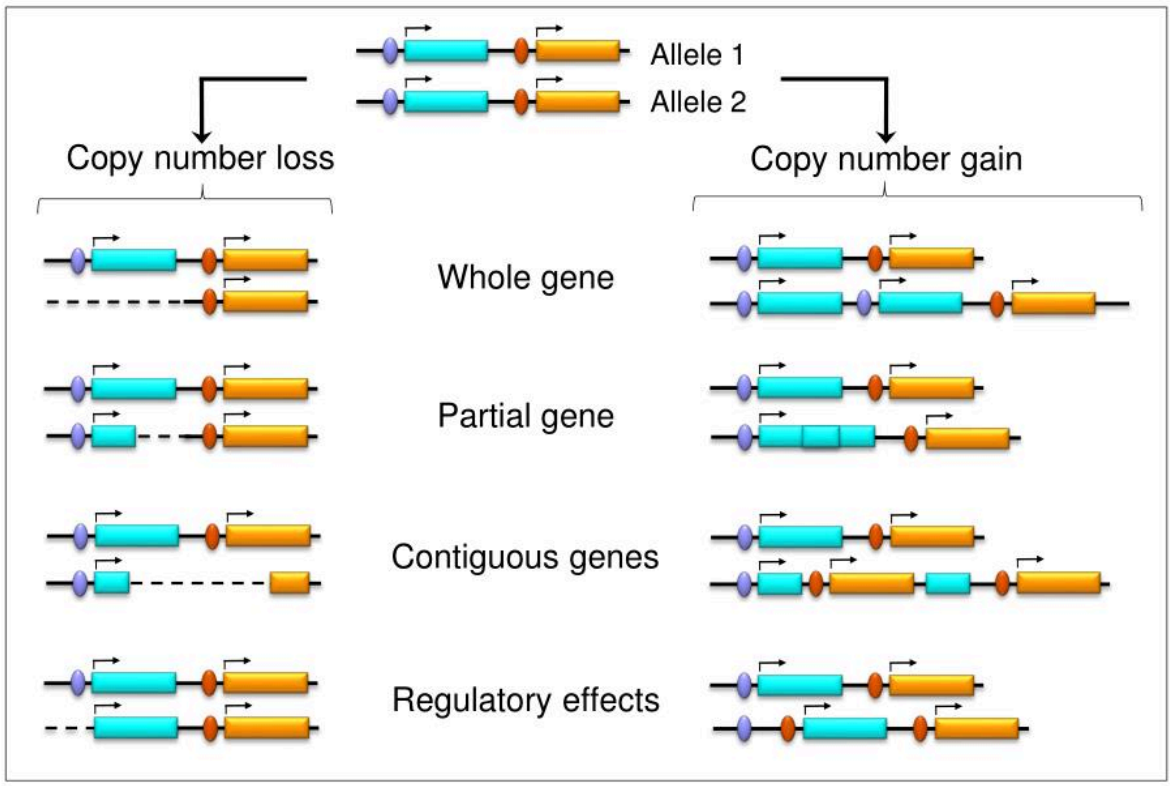
Example of genes that affect

TP53

Among 5411 of 13880 patients (39%), the most common gene mutation was TP53, often found in gynaecological (womb, ovaries), lung, and gastrointestinal (oesophagus, rectum) cancers.

PIK3CA

In 2750 of 13880 patients (19.8%), the second most common gene mutation was PIK3CA, frequently found in gynaecological (womb, ovary), breast, and colon cancers (Sosinky *et al.* 2024).

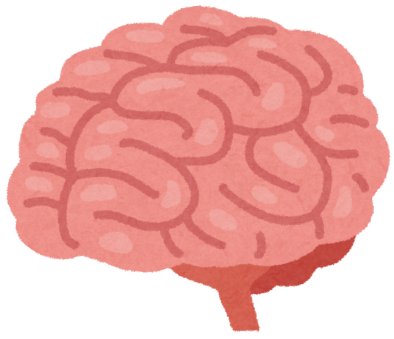


CANCER RESEARCHERS

Past, Present and Future

Name: The 100,000 Genome Project

Country: United Kingdom



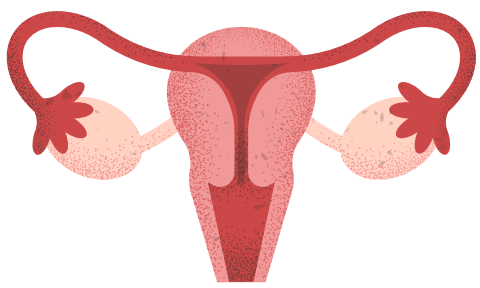
Examples of cancers

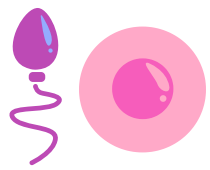
Small genetic variants were found in 94% of patients with glioblastoma multiforme (GBM), an aggressive form of brain cancer. In 58% of GBM patients, there is a minimum of one gene affected by CNA.

13% of sarcoma cases have structural variants.

40% of high-grade ovarian cancer had homologous recombination deficiency. 30% of these cases are linked to germline variants (sex cells).

(Sosinky *et al*. 2024)





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Some of the thousands of cancer researchers worldwide.

CANCER RESEARCHERS

Past, Present and Future

Dr. Jane Cooke Wright

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CANCER RESEARCHERS

Past, Present and Future

Name: Dr. Jane Cooke Wright (1919–2013)

Country: United States of America

Role in Cancer Research:

Dr. Wright played a critical role in developing new techniques for administering chemotherapy as a cancer treatment for patients.

She also explored the link between responses of chemotherapy in in vitro cell culture studies in the laboratory and patients with her father Dr Louis Wright (US National Library of Medicine, 2015).

During her forty-year career, Dr. Jane Wright published many research papers on cancer chemotherapy and collaborated with researchers worldwide, in particular, Africa, the Soviet Union, China, and Eastern Europe (US National Library of Medicine, 2015).

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CANCER RESEARCHERS

Past, Present and Future

Name: Dr. Jane Cooke Wright (1919–2013)
Country: United States of America

Additional information on their role in Cancer Research:

Her Inspirations.

Dr. Wright's father graduated from Harvard Medical School and was the first African American doctor to hold a position in a hospital in New York City, and later became the first African American surgeon to help the police force and forensic investigations.

He also established a Cancer Research Center at Harlem Hospital, where she later joined (US National Library of Medicine, 2015).

CANCER RESEARCHERS

Past, Present and Future

Name: Dr. Jane Cooke Wright (1919–2013)

Country: United States of America

Additional information on their role in Cancer Research:

Her journey with cancer

In 1945, she graduated from New York Medical College (US National Library of Medicine, 2015).

In 1949, Dr. Wright began working as a staff physician at New York City Public Schools and as a visiting physician at Harlem Hospital. She then transitioned to working full-time at Harlem Hospital, where her father had become Director of the Cancer Research Centre.

She collaborated with her father to investigate the effect of anti-cancer chemotherapy. Her father worked in the laboratory whilst she performed patient trials.

CANCER RESEARCHERS

Past, Present and Future

Name: Dr. Jane Cooke Wright (1919–2013)

Country: United States of America

Additional information on their role in Cancer Research:

Her journey with cancer

By 1949, they expanded their research to include blood cancers such as leukaemia (overproduction of abnormal white blood cells) and lymphomas (cancer of the lymphatic system). Several patients achieved positive responses and remission.

Dr Wright became head after her father died in 1952. She was 33 years old. She progressed with other titles related to cancer, such as:

- In 1955, she became an Associate Professor of Surgical Research at New York University.

- In the same year, the Director of Cancer Chemotherapy research at New York University and Bellevue, and University Hospitals (US National Library of Medicine, 2015; More Health, 2021).

CANCER RESEARCHERS

Past, Present and Future

Name: Dr. Jane Cooke Wright (1919–2013)

Country: United States of America

Additional information on their role in Cancer Research:

Her journey with cancer

- In 1964, Dr Wright was appointed by President Lyndon Johnson as part of the President's Commission on Heart Disease. Cancer and Stroke, where a national network of treatment centres was established (US National Library of Medicine, 2015; More Health, 2021).
- In 1967, she held three important positions at New York Medical College, her alma mater, that were related to cancer:
- Professor of Surgery, Head of Cancer Chemotherapy, and Associate Dean (US National Library of Medicine, 2015). She continues to do private research on stroke, heart disease, and cancer.
- She created a programme to instruct doctors in chemotherapy.

Some of the thousands of cancer researchers worldwide.

CANCER RESEARCHERS

Past, Present and Future

Name: Dr. Jane Cooke Wright (1919–2013)

Country: United States of America

Additional information on their role in Cancer Research:

Her journey with cancer

- In 1971, she was the first female to be elected president of the New York Cancer Society.
- She was also the only female member who founded the American Society of Clinical Oncology (ASCO) (US National Library of Medicine, 2015; More Health, 2021)

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CANCER RESEARCHERS

Past, Present and Future

Avicenna (Ibn Sina)

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CANCER RESEARCHERS

Past, Present and Future

Name: Avicenna (Ibn Sina, 980-1037 CE)

Country: Persia

Role in Cancer Research:

He was amongst the Islamic Golden Age's most prominent physicians and philosophers.

He was able to introduce the concept of local metastasis by monitoring a breast cancer patient.

He also identified that in early-stage cancers, the tumour can be removed surgically (Avicenna Foundation, 2025; Kardeh and Kardeh, 2018).

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CANCER RESEARCHERS

Past, Present and Future

Name: Avicenna (Ibn Sina, 980-1037 CE)

Country: Persia

Additional information on their role in Cancer Research:

Amongst his influences was Aristotle, a Greek philosopher.

Avicenna wrote about 450 works. However, only 240 survived: 40 were related to medicine, whereas 150 were related to philosophy (Avicenna Foundation, 2025).

The most famous is “The Book of Healing,” which embeds philosophical and scientific knowledge.

“The Canon of Medicine (Al Qanoon Al Tibb)” was a standard medical text used in many medieval universities in the Western World (Avicenna Foundation, 2025; Kardeh and Kardeh, 2018).

It was translated into Latin by Gerard Cremona in the 12th century and continued until 1650 (Kardeh and Kardeh, 2018).

CANCER RESEARCHERS

Past, Present and Future

Name: Avicenna (Ibn Sina, 980-1037 CE)

Country: Persia

Additional information on their role in Cancer Research:

In the Canon of Medicine, there are several references to cancer. Initially, he introduces the concept of local metastasis by citing a case of breast cancer and how it progressed from the primary site to other sites by studying the patient's malignancy (Zaid *et al*., 2010).

"***A reasonable theory for this case that I think is more appropriate is that cancer material advanced tothe second breastfrom the first breast (before it was excised) or other sources (afflicted tissues).***"

(Avicenna, 2010).

CANCER RESEARCHERS

Past, Present and Future

Name: Avicenna (Ibn Sina, 980-1037 CE)

Country: Persia

Additional information on their role in Cancer Research:

This contradicts previous documented findings before the 15th century, which were unable to identify how cancer spreads to other locations (Kardeh and Kardeh, 2018).

Many considered cancer a generic disease that could affect any organ and is not dependent on the primary site (Kardeh and Kardeh, 2018).

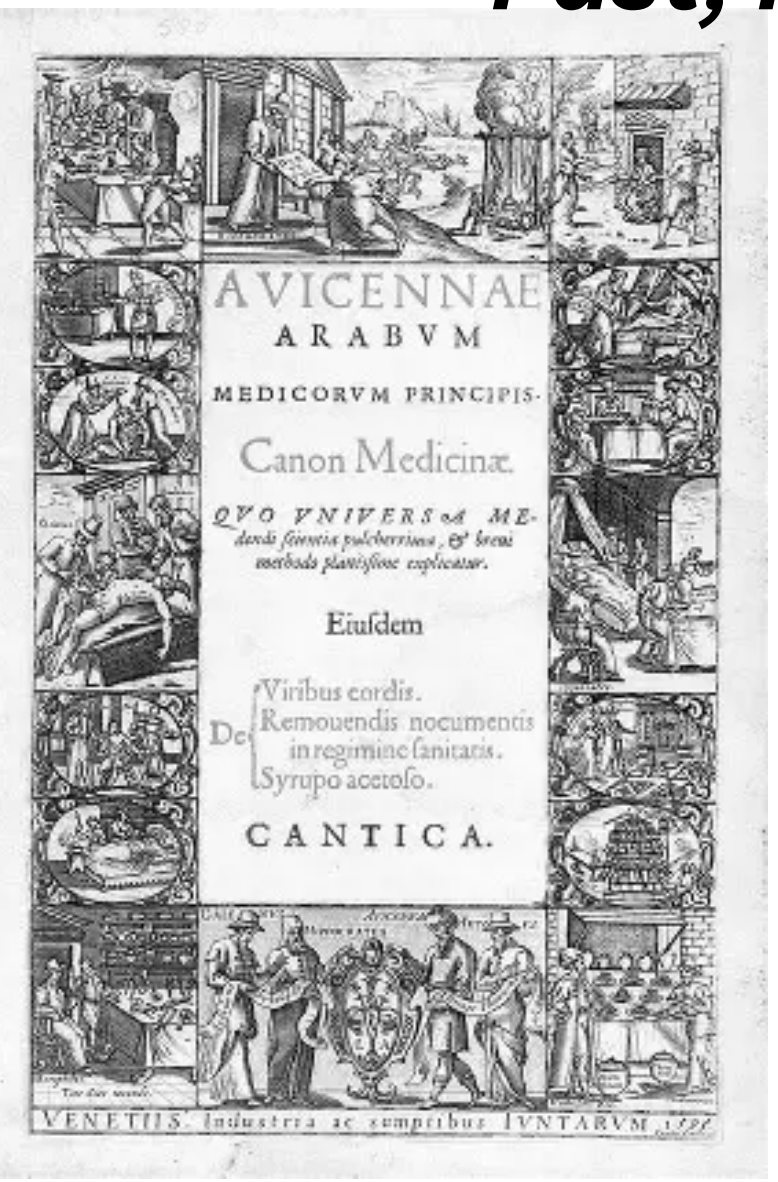
In the Canon of Medicine, the earlier removal of cancer was advised surgically.

"All diseased tissue should be removed with radical excision, which could utilize amputation and removal of veins surrounding the growth, or catheterization if necessary."

(Zaid *et al*. 2010).

CANCER RESEARCHERS

Past, Present and Future



Name: Avicenna (Ibn Sina, 980-1037 CE)

Country: Persia

Additional information on their role in Cancer Research:

Other topics were also amongst his published works: geology, maths, physics, logic, theology, poetry, alchemy, geography, and psychology.

Some of the thousands of cancer researchers worldwide.

CANCER RESEARCHERS

Past, Present and Future

Dr. Minoti Apte

Some of the thousands of cancer researchers worldwide.

CANCER RESEARCHERS

Past, Present and Future

Name: Dr. Minoti Apte

Country: India and Australia

Role in Cancer Research:

Dr Minoti Apte is a Professor of Medicine at the University of New South Wales in Australia.

Dr Apte conducted significant research in the laboratory on the diagnosis and treatment of pancreatic cancer, a cancer that has a poor survival rate at 6% (Press Trust Of India, 2015; University of New South Wales, 2025).

CANCER RESEARCHERS

Past, Present and Future

Name: Dr. Minoti Apte

Country: India and Australia

Additional information on their role in Cancer Research:

Be Inspired

In 1982, Dr Apte graduated from medical school at the University of Poona in India. She later moved to Australia with her family.

She entered the world of research with a focus on pancreatic cancer. Amongst her objectives:

- To find out the methods by which pancreatic cancer cells were able to grow rapidly, and why.

CANCER RESEARCHERS

Past, Present and Future

Name: Dr. Minoti Apte

Country: India and Australia

Additional information on their role in Cancer Research:

Be Inspired

She was the first in the world who create a method on how to isolate pancreatic stellate cells.

This enabled to study of pancreatic fibrosis, scarring of the pancreas, and a feature found in both chronic pancreatitis (inflammation of the pancreas) and pancreatic cancer (Press Trust Of India, 2015; University of New South Wales, 2025).

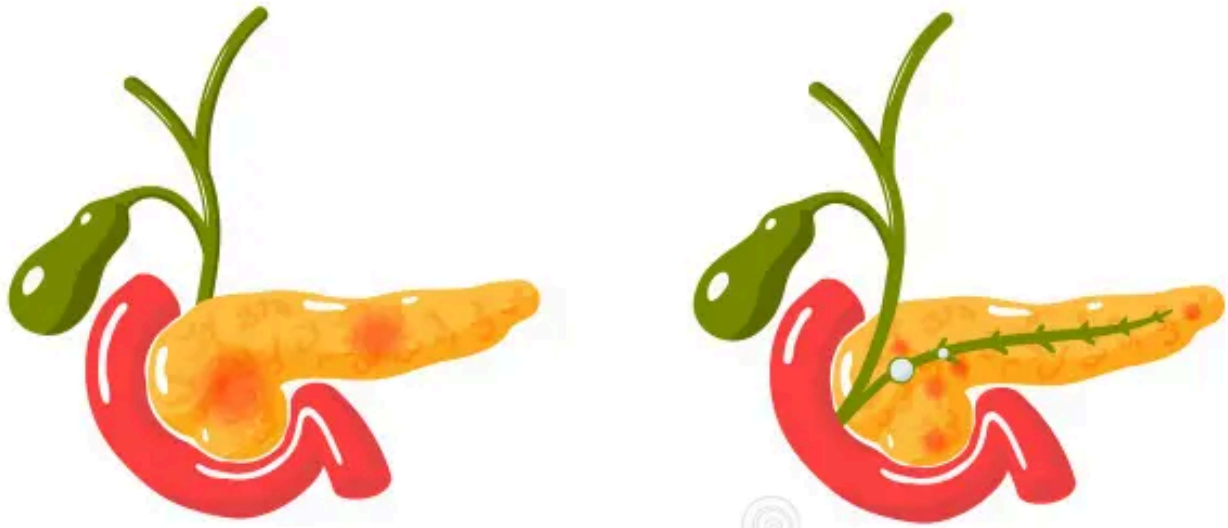
Some of the thousands of cancer researchers worldwide.

CANCER RESEARCHERS

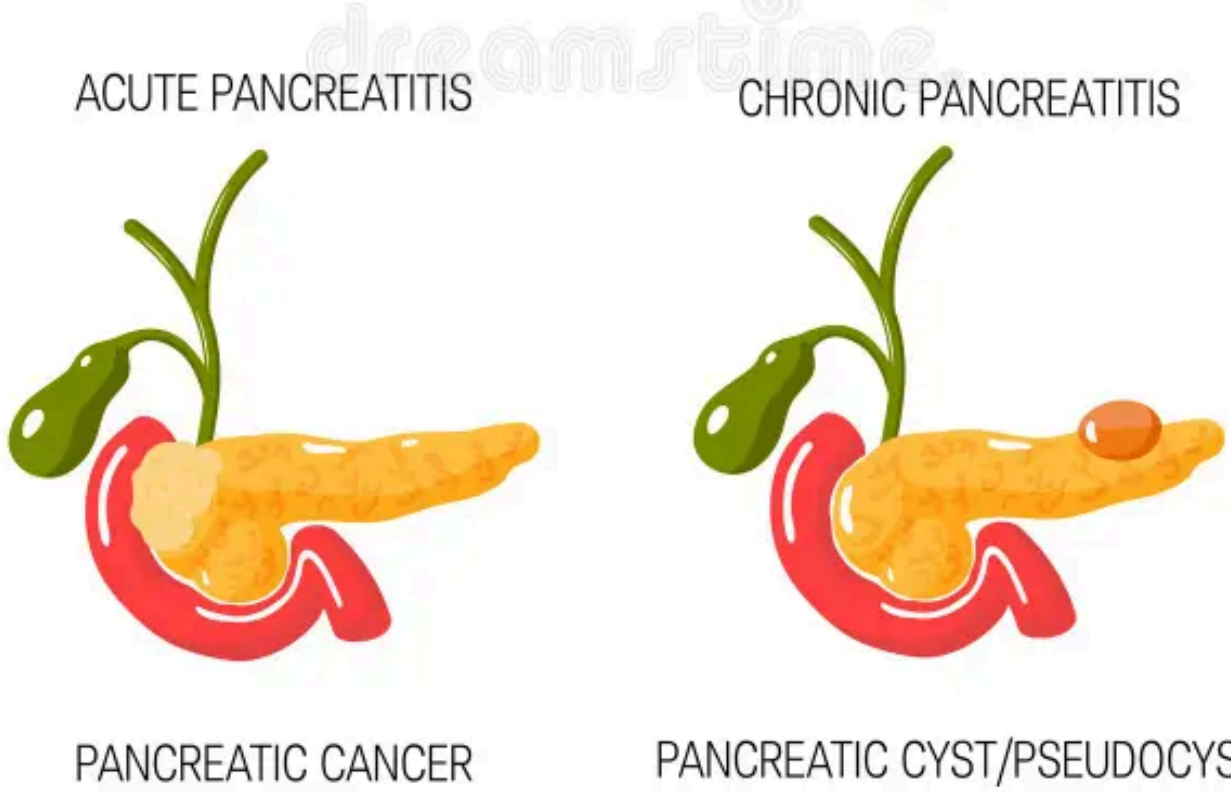
Past, Present and Future

Name: Dr. Minoti Apte

Country: India and Australia



Types of pancreatic diseases



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CANCER RESEARCHERS

Past, Present and Future

Name: Dr. Minoti Apte

Country: India and Australia

Additional information on their role in Cancer Research:

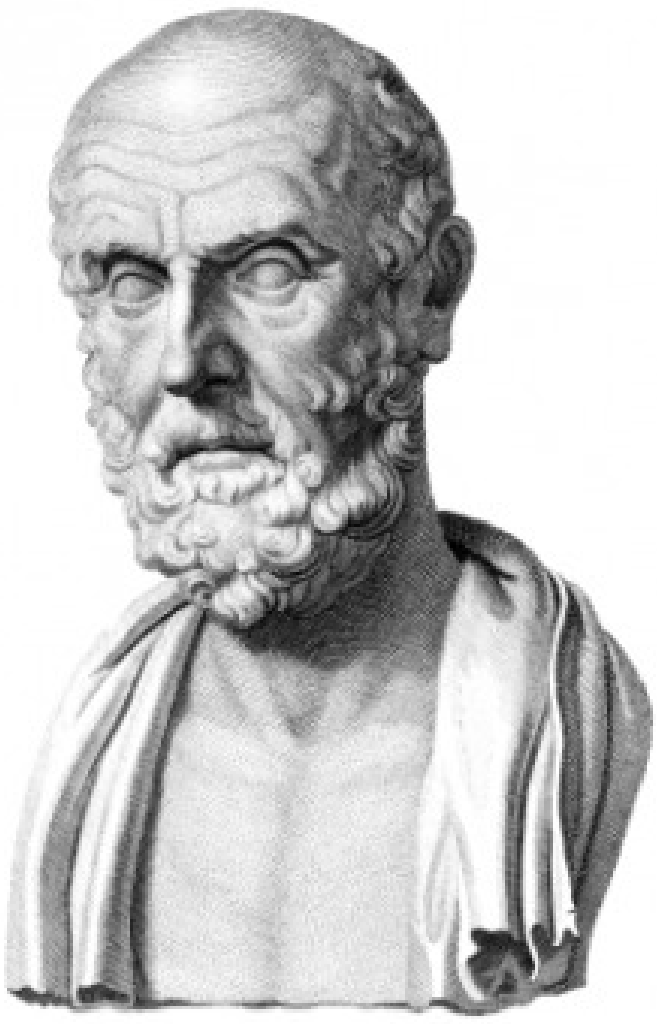
Dr. Apte is currently leading pre-clinical studies for the treatment of pancreatic cancer (Press Trust Of India, 2015; University of New South Wales, 2025).

Dr Apte received several rewards for her contribution towards medical research, helping the Indian community, and tertiary education. Amongst them was New South Wales (NSW) Woman of the Year 2015 (Press Trust Of India, 2015; University of New South Wales, 2025).

Some of the thousands of cancer researchers worldwide.

CANCER RESEARCHERS

Past, Present and Future

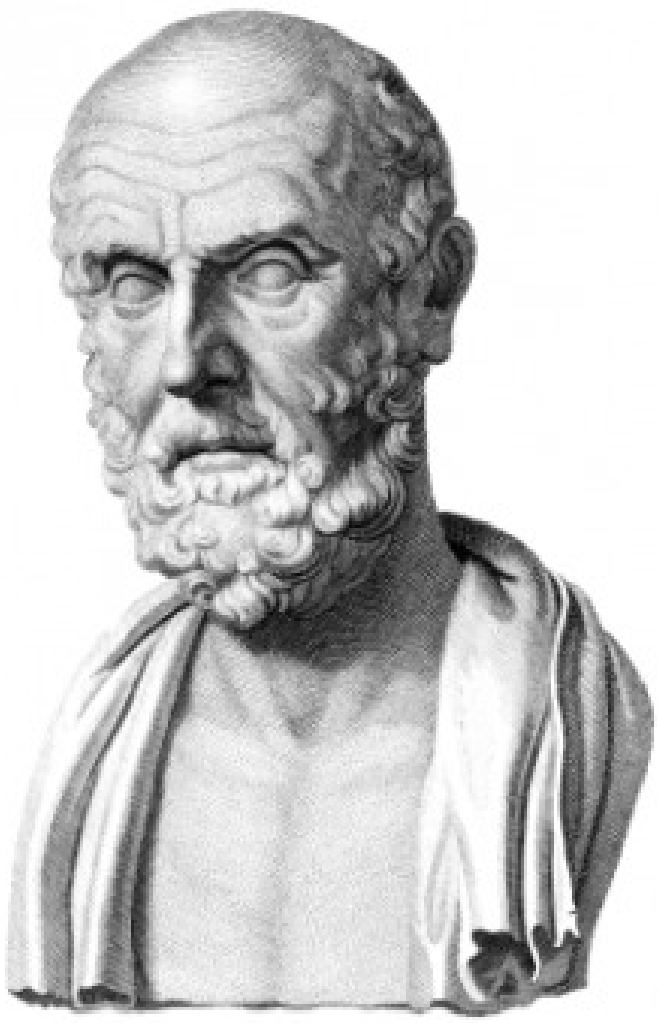


Hippocrates

Galen

CANCER RESEARCHERS

Past, Present and Future



Name: Hippocrates (460-375 BC)

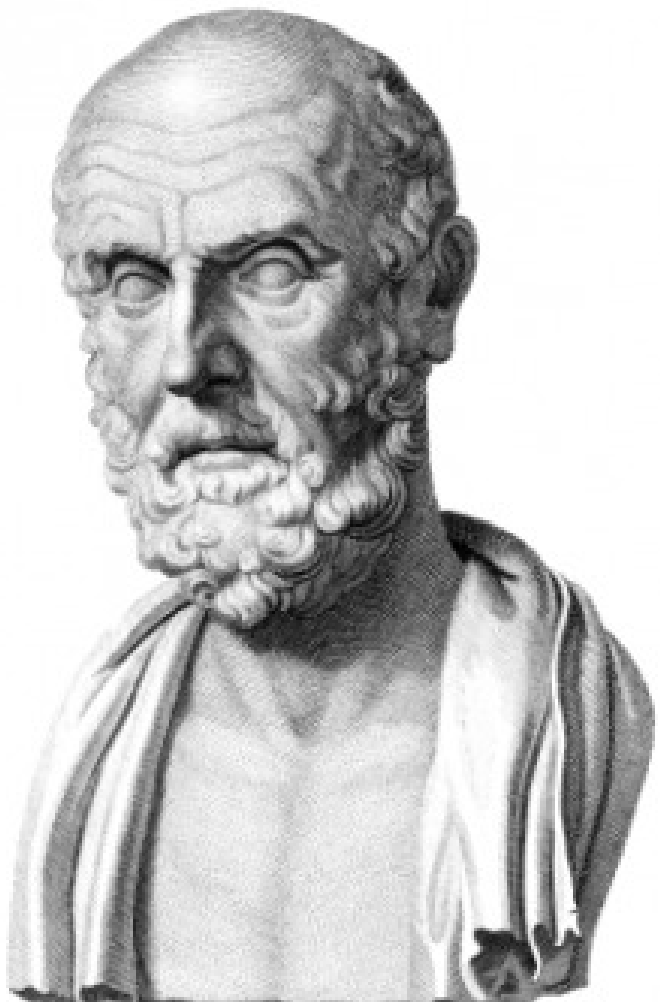
Country: Kos, Greece

Role in Cancer Research:

Hippocrates was known as the Father of Western medicine and a philosopher (FamousScientists.org, 2020). In his works, he published several of his discoveries on cancer. For example, he compared the growth of tumours to a moving crab, which led to the establishment of terms: cancer (a non-healing malignant ulcer) and carcinoma (a malignant tumour) (Ward and Eggener, 2015). He also realised that tumours affected adults (Zheng, Nan and Zheng, 2010).

CANCER RESEARCHERS

Past, Present and Future



Name: Hippocrates (460-375 BC)
Country: Kos, Greece

Additional information on their role in Cancer Research:

Be inspired

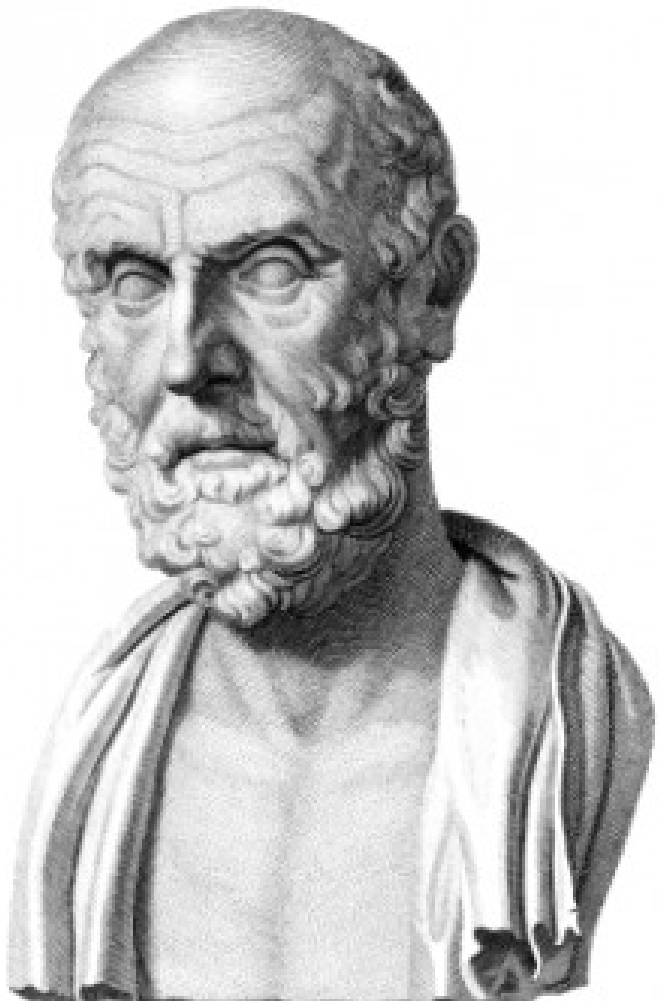
Hippocrates was a common name in Ancient Greece and therefore, alternative names were given to differentiate: Hippocrates of Kos and Hippocrates the Great (famousscientists.org, 2020).

He considered that the disease was caused by an imbalance of body humour. The body humour was a concept he structured and consisted of blood, phlegm, yellow bile, and black bile (Zheng, Nan, and Zheng, 2010; Kardeh and Kardeh, 2018).

This concept was standardized for medical practice for centuries because dissections on the human body after death (autopsies) were forbidden due to religious beliefs (Sudakhar, 2009).

CANCER RESEARCHERS

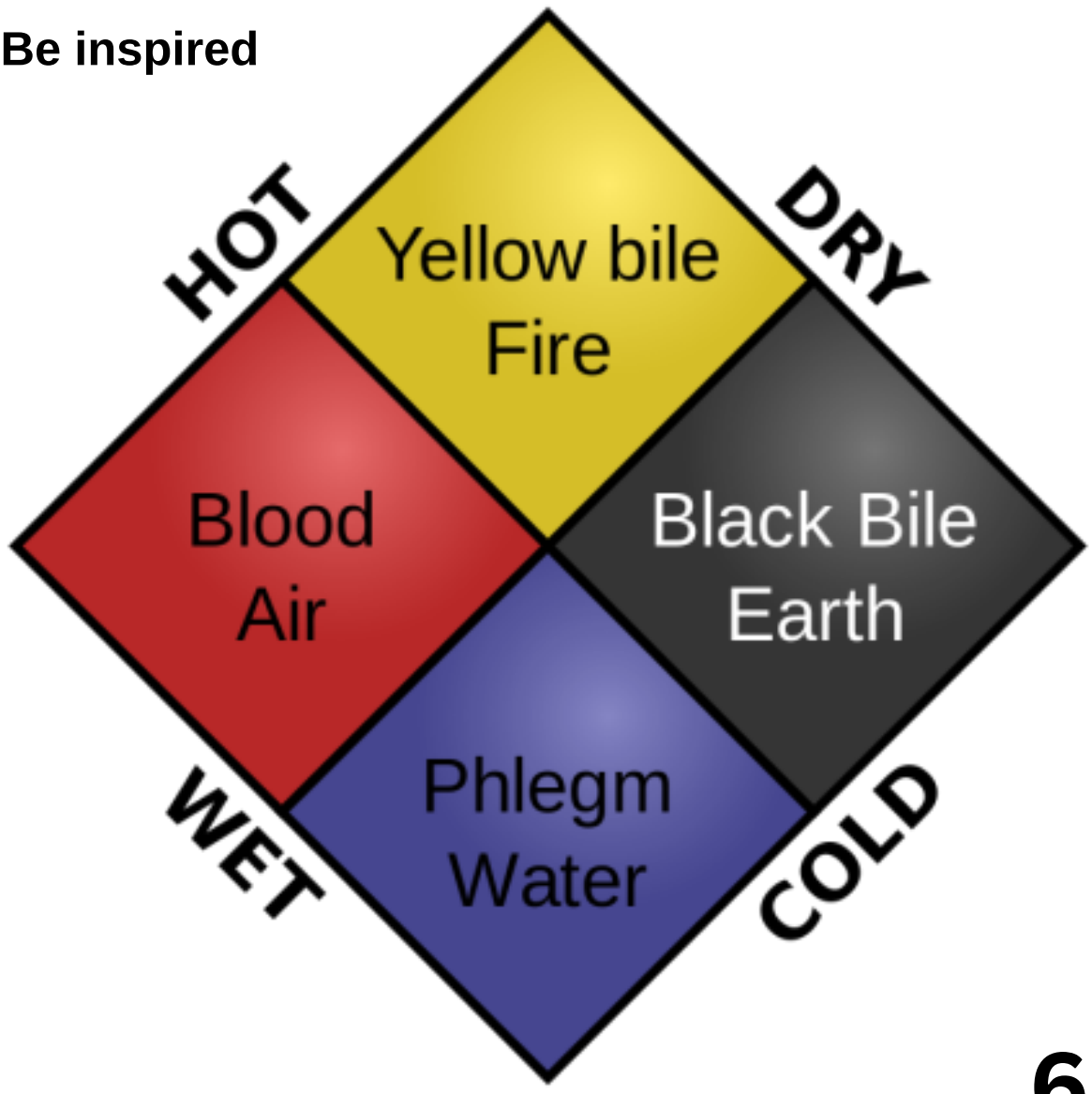
Past, Present and Future



Name: Hippocrates (460-375 BC)
Country: Kos, Greece

Additional information on their role in Cancer Research:

Be inspired



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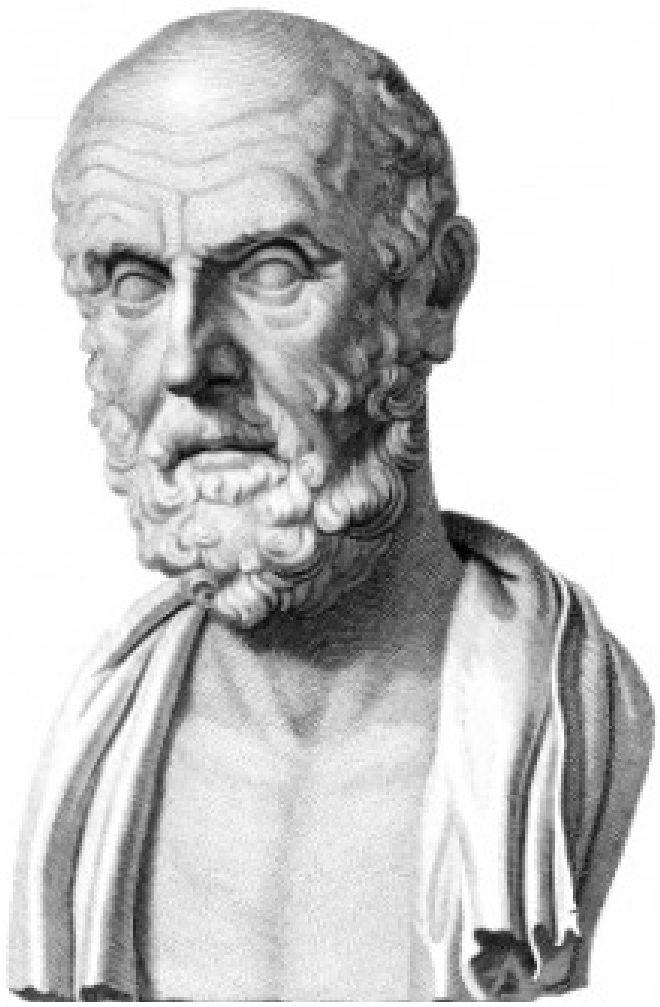
CANCER RESEARCHERS

Past, Present and Future



Name: Hippocrates (460-375 BC)
Country: Kos, Greece

Additional information on their role in Cancer Research:

Be inspired

Excess black bile was considered the cause of cancer and its development (Zaid *et al.*, 2010).

One of his followers was Galen (131-200 AD), who built on Hippocrates' theory that the curative status depended on the density and volume of bile.

Thin bile was considered as curable cancer, whereas black bile was incurable (Reedy, 1975).

Galen

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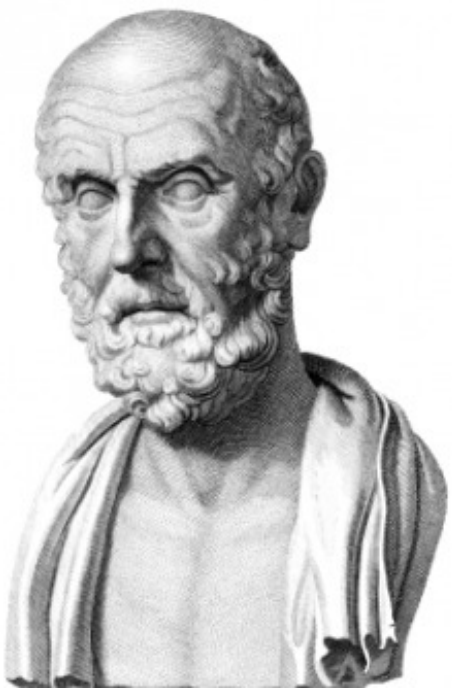
CANCER RESEARCHERS

Past, Present and Future



Name: Hippocrates (460-375 BC)
Country: Kos, Greece

Additional information on their role in Cancer Research:

Be inspired

Hippocrates wanted to leave behind the medical textbooks he authored and the adoption of his methods for medical treatment to his students.

It helped to differentiate medicine from the idea of disease, which was caused by superstitions and religious perceptions (famousscientists.org, 2020).

Until this date, each person who completes a medical degree is sworn to the Hippocratic Oath to apply good ethical practices (famousscientists.org, 2020).

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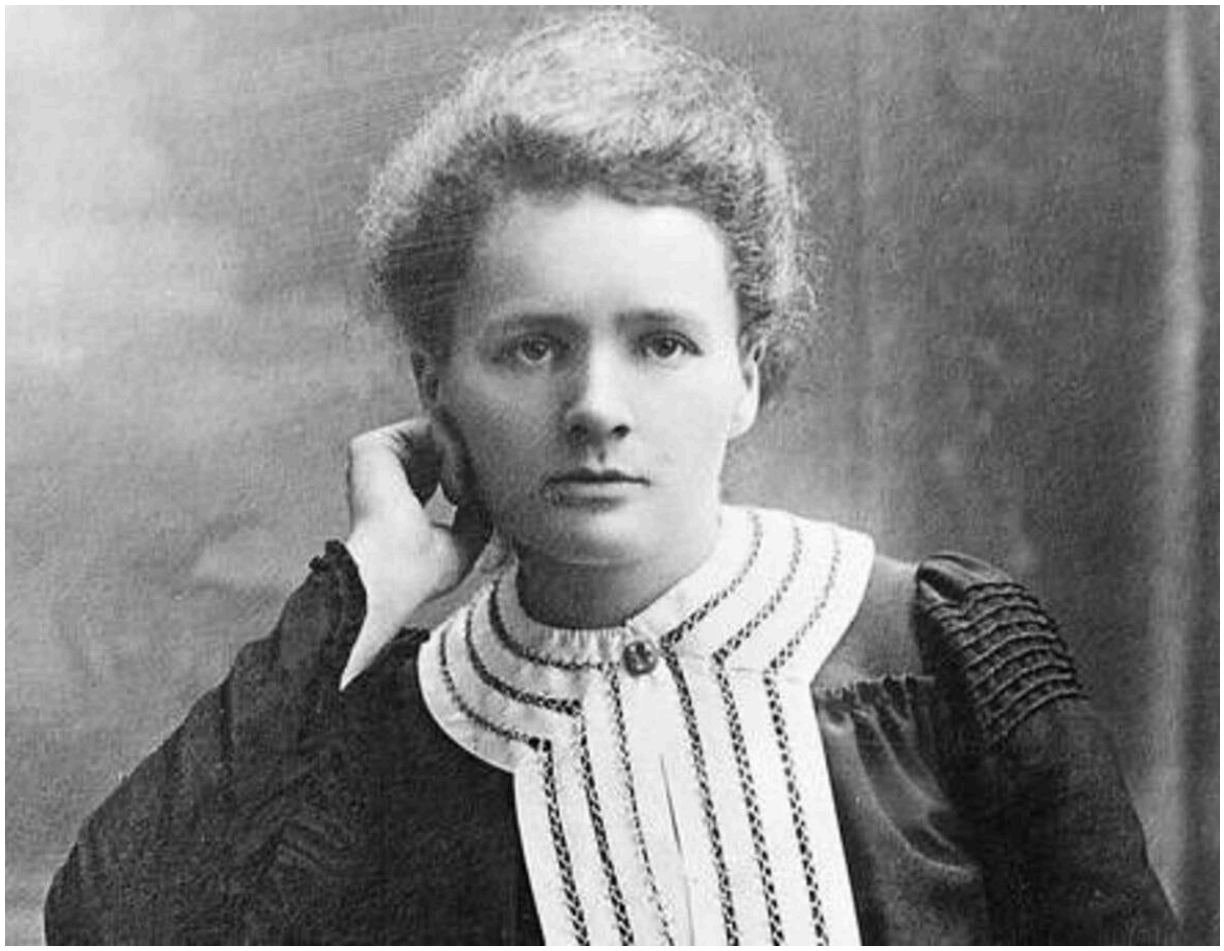
CANCER RESEARCHERS

Past, Present and Future



Marie Curie

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Some of the thousands of cancer researchers worldwide.

CANCER RESEARCHERS

Past, Present and Future

Name: Marie Curie

Country: Poland and United Kingdom

Role in Cancer Research:

Marie Curie conducted significant research in the radioactive elements, polonium and radium. This was pivotal for radiotherapy treatment for cancer patients. Radiotherapy uses high-energy beams to kill cancer cells (Marino, 2024)

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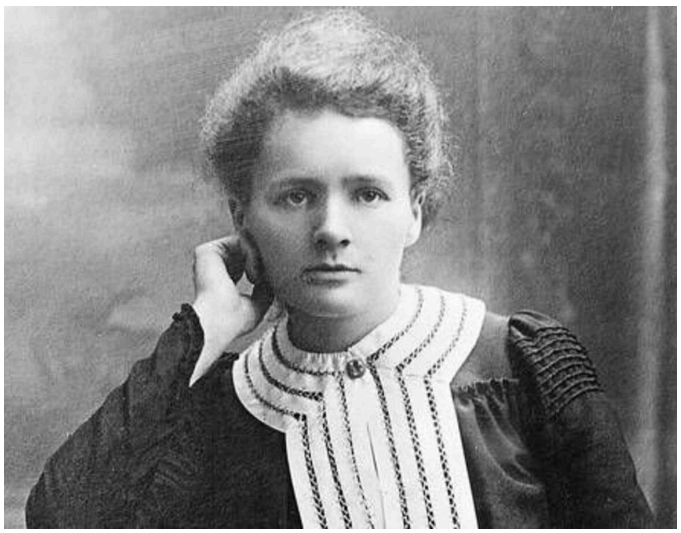
CANCER RESEARCHERS

Past, Present and Future



Name: Marie Curie (1867- 1934)
Country: Poland and United Kingdom

In 1881, Marie moved from Poland to Paris to study physics, chemistry, and mathematics.

During her study, she met her husband Pierre, where together they conducted several research projects.

For example, the glow released from uranium was discovered by Henri Becquerel.

This led to the discovery of both polonium and radium (University of Oxford, 2025).

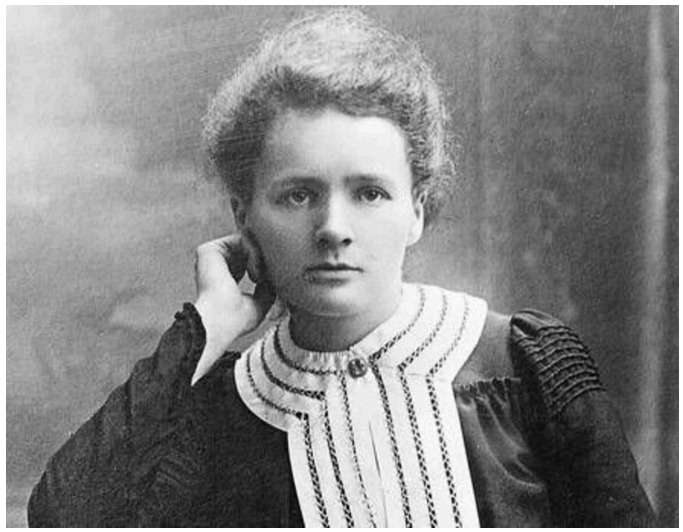
Pierre and Marie

CANCER RESEARCHERS

Past, Present and Future

During World War I, she inspired her daughter Irene who collaborated with her to create a mobile X-ray machine that helped over 1,000,000 soldiers who were wounded (Marino, 2024; University of Oxford, 2025).

Marie also helped to train other women on how to use the machine.



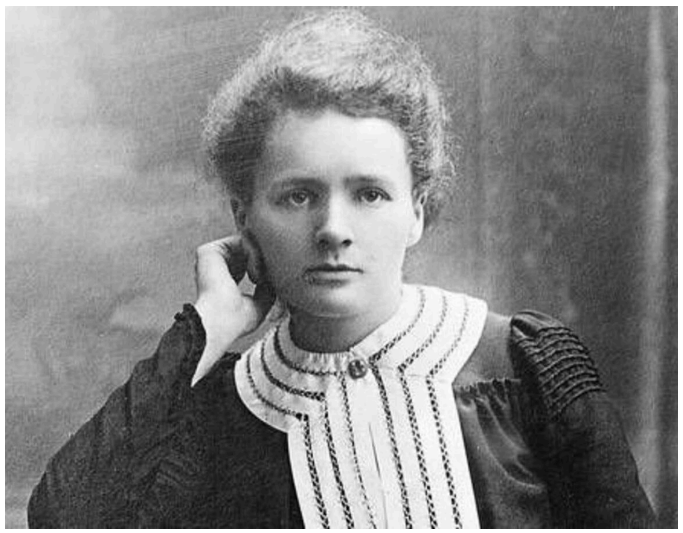
Name: Marie Curie (1867- 1934)

Country: Poland and United Kingdom

MME CURIE AND HER DAUGHTER IRÈNE, 1925

CANCER RESEARCHERS

Past, Present and Future



Name: Marie Curie (1867- 1934)
Country: Poland and United Kingdom

Marie was exposed to dangerous chemicals that affected her health in order to help society excel in medicine.

She was quoted as saying:

"Progress is neither swift nor easy."

Marie was the first person to hold a professorship at the University of Paris (Marino, 2024).

She won two Nobel Prizes: Physics in 1903 and Chemistry in 1911 (Marino, 2024).

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Past, Present and Future

Thank you to my family and the Farah Saeed Team for their moral support.

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