



# History Revision Booklet

## Medicine in Britain and the Western Front

Name: \_\_\_\_\_

Class: \_\_\_\_\_



# MEDICINE IN BRITAIN & THE WESTERN FRONT TIMELINE

Ancient Greece & Rome -  
Hippocrates & Galen  
influencing natural medicine



1300s

1348 - Arrival of  
Black Death in  
Britain



1400s

c1439 - Invention of printing  
press

1500s

1543 - Vesalius' The Fabric of  
the Human Body published

1536-40 - Dissolution of  
monasteries



1628 - Publication of Harvey's  
An Anatomical Account of the  
Motion of the Heart and Blood

1600s

1665 - The Great Plague

1660 - Royal Society established



1676 - Thomas  
Sydenham's  
Observations  
Medicae  
published



1700s

1796-98 - Jenner's development  
of smallpox vaccine

1800s

1854 - John Snow discovered cholera  
was being spread through water pump

1847 - Simpson discovered  
chloroform as anesthetic

1859 - Florence Nightingale's  
Notes on Nursing Published

1857 - Mary Seacole published 'The  
Wonderful Adventures of Mrs  
Seacole in Many Lands'



1861 - Pasteur's  
discovery of Germ  
Theory

1860 - Opening of  
Florence Nightingale's  
School of Nursing



1866 - Lister began  
use of carbolic acid

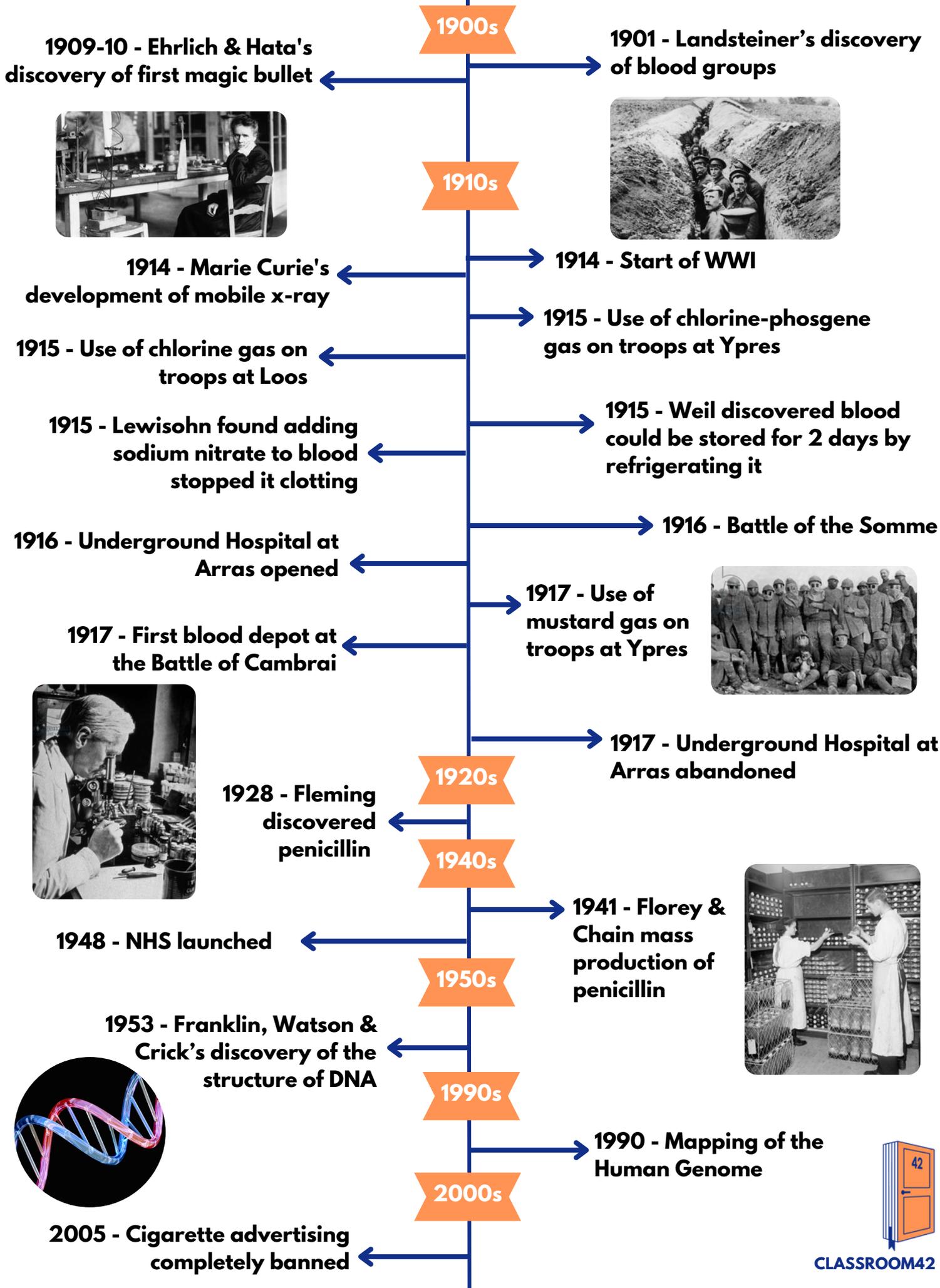
1875 Second Public Health Act

1876 - Koch discovered  
bacteria that causes  
anthrax

1895 - Röntgen's discovery of x-  
rays



# MEDICINE IN BRITAIN & THE WESTERN FRONT TIMELINE



- Trained at universities in Hippocrates, Galen and Arab medical writers (e.g., Rhazes), fewer than 100 in England in 1300 and charged high fees
- Barber Surgeons** Not trained, learned through practice and carried out bloodletting and amputations and also cut \_\_\_\_\_
- Apothecaries** Sold herbal remedies - cheaper than doctors
- Hospitals** Ran by \_\_\_\_\_, the most ill were not admitted due to fear of disease spreading



- **Purging** - Swallowing herbs and fat to make patient \_\_\_\_\_ or taking a laxative to empty bowels
- **Blood-Letting** - Done by a surgeon who drew blood out often with \_\_\_\_\_
- **Zodiac Charts** - It was believed the body was linked to the \_\_\_\_\_ and zodiac charts showed doctors when to avoid treating each part of body



Focused on natural causes

Born in 460BC in Ancient Greece

**Hippocrates**

Theory of the Four

- Black Bile
- Yellow Bile
- \_\_\_\_\_
- Phlegm

Put forward the idea of clinical \_\_\_\_\_

Patient was ill if humours out of balance - to be cured must restore balance

**MEDICINE IN BRITAIN c1250- c1500**



Built upon Hippocrates' Theory of the Four Humours Theory of \_\_\_\_\_

**Galen**

Patient must be treated with something opposite to restore balance

Doctor in Ancient Rome  
Not allowed to \_\_\_\_\_ humans so difficult to disprove him

Very influential ideas as supported by \_\_\_\_\_

- The Black Death**
- Reached England in 1348
  - Spread via rats' fleas, however no one knew this
  - Believed to be a punishment from \_\_\_\_\_, so people would practice self-flagellation
  - Some thought it had an astronomical cause
  - Others thought the cause was \_\_\_\_\_ - bad air

Sufferers of the Black Death had:

- Fever
- Headache
- Vomiting

Disease developed very quickly



**Herbal Remedies**  
Many remedies did actually help the sick, such as honey and plantain used in cuts which help fight \_\_\_\_\_



Black Death killed over **20 million people** in Europe, which was 1/3 of population



# Medicine in Britain c1250-c1500

## Quiz Questions

Take 5 minutes to study the Cheat Sheet on this topic, then see how many questions you can get right without looking!



1. Hippocrates' Four Humours were....

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2. What fraction of Europe's population were killed by the black death?

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3. What theory did Galen propose, building on Hippocrates ideas?

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4. When did the black Death reach England?

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5. What was the belief that disease spread through bad air?

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6. What kind of surgeons were untrained and carried out amputations, as well as cutting hair?

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7. What did apothecaries sell?

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8. What was the practice of getting patients to swallow herbs and fat to make them sick?

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9. Who ran hospitals in c1250-c1500?

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10. Give one symptom of the black death:

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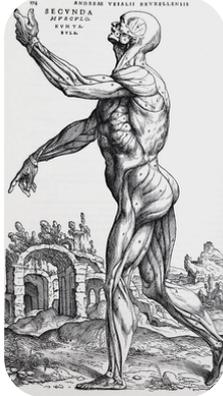
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- Herbal remedies were still popular, many were written in a book called \_\_\_\_\_
- Healers had more access to travel to access ingredients such as rhubarb and tobacco from Asia and America
- Hospitals were run by monasteries so closed when \_\_\_\_\_ dissolved them in the 1530s
- Hospitals were then run by physicians rather than monks and focused on \_\_\_\_\_

**Royal Society**  
 Founded in \_\_\_\_\_ and sponsored scientists to study physics, astronomy, botany and medicine

**Printing Press** invented in c1439 - scientists could \_\_\_\_\_ their discoveries

- Paracelsus - Swiss doctor in early 1500s
- Criticised Theory of Four Humours and argued illness was caused and should be treated by chemicals
- Ideas were rejected



Catholic Church forbade human dissection

A judge allowed Vesalius to dissect executed criminals

**Vesalius**

Vesalius used \_\_\_\_\_ to disprove Galen's theories e.g. that the jawbone was made of two bones as this was true for the animals he dissected

Demonstrated importance of anatomical knowledge

In 1543 Vesalius published 'The Fabric of the Human Body'



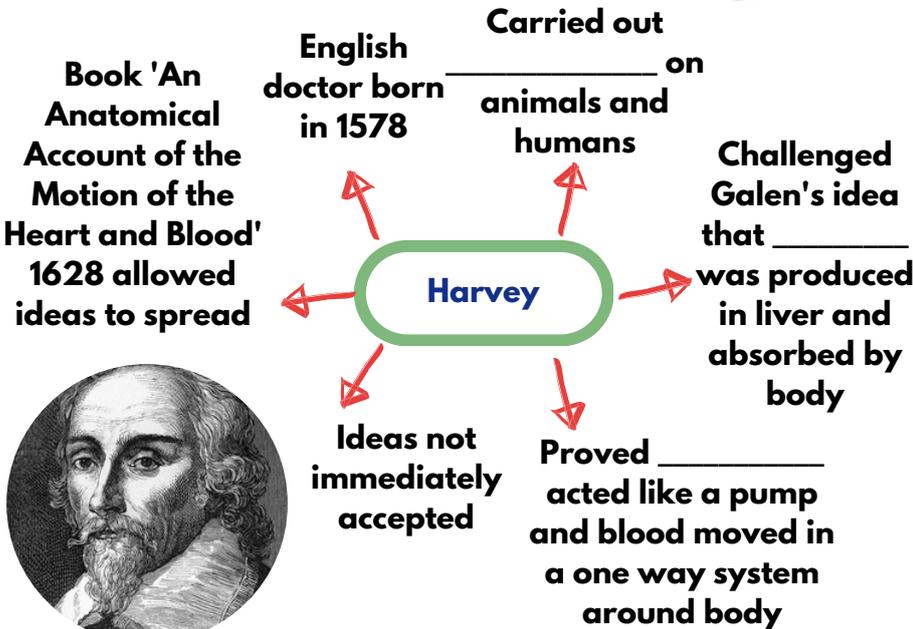
**MEDICINE IN BRITAIN c1500-c1700**

**Thomas Sydenham** - English doctor in late 1600s Believed observation was essential and wrote book *Observationes Medicae* which described how to \_\_\_\_\_ disease



**Great Plague of 1665**

- Cause of spread was still not understood
- Approx. 75,000 people died from the Great Plague in London
- Miasma still popular belief
- Stray animals were killed but this made plague spread faster as cats killed \_\_\_\_\_



# Medicine in Britain c1500-c1700

## Quiz Questions

Take 5 minutes to study the Cheat Sheet on this topic, then see how many questions you can get right without looking!



1. When was the Royal Society founded?

\_\_\_\_\_

2. Who ran hospitals after 1530s?

\_\_\_\_\_

3. Name one aspect of the heart that William Harvey proved.

\_\_\_\_\_

4. Approximately how many people died from the Great Plague in London?

\_\_\_\_\_

5. What was invented in c1439 that helped medicine develop?

\_\_\_\_\_

6. What book did Vesalius publish in 1543?

\_\_\_\_\_

7. True or False? Vesalius used animal dissection to disprove some of Galen's theories.

\_\_\_\_\_

8. Which doctor wrote the book 'Observationes Medicae'?

\_\_\_\_\_

9. When did Harvey publish his book 'An Anatomical Account of the Motion of the Heart and Blood'?

\_\_\_\_\_

10. Which Swiss doctor argued that illness was caused by chemicals and should be treated with chemicals in 1500s?

\_\_\_\_\_



- In **1842** **Chadwick** compiled a report on \_\_\_\_\_ conditions of poor citizens
- Argued there should be organised drainage and refuse collection and clean \_\_\_\_\_
- **1848** outbreak of cholera pressured government to pass **Public Health Act** - but was not compulsory
- **Second Public Health Act 1875** - forced authorities to provide clean water and sewerage systems

Published \_\_\_\_\_  
\_\_\_\_\_ in **1861**  
but spontaneous  
generation belief still  
popular



French chemist  
and micro-  
biologist in mid-  
late 1800s



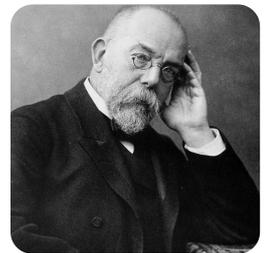
**Louis Pasteur**

Discovered that  
bacteria could be  
killed with heat -  
**pasteurisation**

In **1879** discovered  
exposing the germ that  
caused chicken cholera  
to air weakened it and  
injecting this  
weakened version  
prevented chickens  
catching the disease -  
**vaccine**

**Robert Koch**

- German doctor and microbiologist in late 1800s
- Applied Germ Theory to prove how bacteria caused disease and identified bacteria that caused anthrax, TB and \_\_\_\_\_
- Found a way of isolating \_\_\_\_\_ making it easier for future scientists
- Discovered using dyes to stain microbes



In **1847** Simpson first used  
\_\_\_\_\_ successfully  
and was used for  
childbirth and operations



**Mary Seacole**

- In **1854** she travelled to England and asked to be sent to \_\_\_\_\_ to care for soldiers but was refused
- Funded her own trip and established the **British Hotel** to provide care for soldiers
- In **1857** published 'The Wonderful Adventures of Mrs Seacole in Many Lands'

**MEDICINE IN  
BRITAIN c1700-  
c1900**

**John Snow**

Published 'On the Mode of  
Communication of Cholera'  
**1849**  
Cholera outbreak in **1854** in  
Soho  
Discovered a \_\_\_\_\_  
was cause of spread, when  
pump was removed spread  
reduced  
However, could not explain  
why cholera was  
waterborne



Jenner heard \_\_\_\_\_  
would not catch smallpox, but  
a milder form of cowpox

Very  
influential -  
\_\_\_\_\_ had French  
army  
vaccinated  
by **1805**

**Edward Jenner**



In **1796**, Jenner injected James  
Phipps with pus from a  
milkmaid's sores, then  
smallpox - Phipps developed  
cowpox but not smallpox

**Florence Nightingale**

- In **1854** during the Crimean War she went to Turkey and cared for wounded soldiers
- She significantly **improved** \_\_\_\_\_ in the hospital e.g., washing bedding
- She also suggested opening the windows to circulate air and better quality food
- In **1859** wrote 'Notes on Nursing' which was a bestseller



# Medicine in Britain c1700-c1900

## Quiz Questions

Take 5 minutes to study the Cheat Sheet on this topic, then see how many questions you can get right without looking!



1. Who published Germ Theory in 1861?

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2. Who applied Germ Theory and identified the bacteria that causes TB, anthrax and cholera?

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3. What was successfully used as an anesthetic in 1847 for childbirth and operations?

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4. Who first used the anesthetic mentioned above?

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5. What did John Snow discover was the cause of a major cholera outbreak in 1854?

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6. Which disease did Jenner create a vaccine for in 1796?

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7. What was the name of the child Jenner successfully tested his vaccine on?

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8. Name one improvement Florence Nightingale suggested in hospitals during the Crimean War:

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9. What was the name of the establishment Mary Seacole opened to help soldiers during the Crimean War?

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10. When was the Second Public Health Act that forced authorities to provide clean water and sewerage systems?

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People better understood how \_\_\_\_\_ can cause disease: can cause disease:

- Smoking
- Poor diet
- Alcohol
- Pollution
- Stress

**Franklin, Watson & Crick** mapped out structure of \_\_\_\_\_ in 1953 - led to better understanding of genetic diseases



**Magic Bullets** - idea of killing germs inside body without harming \_\_\_\_\_ tissue

**Ehrlich and Hata** tested various substances that could be used to cure a \_\_\_\_\_ from **syphilis**. They found Salvarsan worked - this was the first magic bullet which went onto the market in 1910

Booth and Rowntree published reports to demonstrate need for a \_\_\_\_\_

**Bevan (Minister of Health)** launched creation of \_\_\_\_\_ in 1948



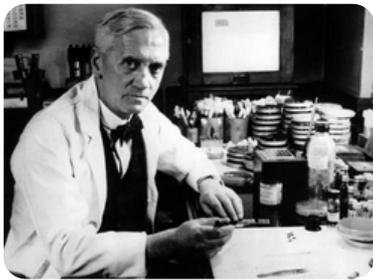
**NHS**

Introduced healthy living campaigns - Smokefree and Change4Life

Made healthcare \_\_\_\_\_ at the point of delivery

- **Blood Groups** discovered in 1901 by Landsteiner
- Röntgen discovered **X-rays** in 1895
- Hounsfield created **CAT scanners** in 1972
- **Self monitoring** - patients can measure own blood pressure and blood \_\_\_\_\_ levels with tech such as Apple Watches

## MEDICINE IN BRITAIN c1900- PRESENT



### Lung Cancer

- In 1950 the British Medical Research Council published research connecting lung cancer to \_\_\_\_\_
- Each lung cancer patient costs the NHS more than £9000
- In 2005 \_\_\_\_\_ advertising was completely banned
- In 2012 cigarettes were removed from display in shops



### Alexander Fleming

In 1928 Fleming left a window open in his lab and bacteria had been killed by a \_\_\_\_\_ - penicillin

### Margaret Hutchinson Rousseau

Developed technology to mass produce \_\_\_\_\_

### Florey & Chain

They were given funding by government to produce penicillin for war. In 1941 USA entered war and gave \$80 million to fund research. By 1943 penicillin was mass produced



### Current treatments for lung cancer:

- Radiotherapy
- Chemotherapy
- Transplant
- Immunotherapy



# Medicine in Britain c1900-Present

## Quiz Questions

Take 5 minutes to study the Cheat Sheet on this topic, then see how many questions you can get right without looking!



1. When was the NHS launched?

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2. Who discovered blood groups in 1901?

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3. Give one current treatment for lung cancer.

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4. How much does each lung cancer patient cost the NHS?

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5. What did Fleming accidentally discover after leaving a window open in his lab?

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6. Name one individual who published a report demonstrating the need for a welfare state.

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7. The first magic bullet helped to cure which disease?

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8. Which individuals mapped out the structure of DNA in 1953?

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9. Name one lifestyle aspect that is now understood to cause disease.

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10. When did Röntgen discover X-rays?

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### X-Rays

Discovered by Röntgen in 1895

Used in \_\_\_\_\_ from 1896  
Not fully understood

**Aseptic Surgery**  
Lister used carbolic acid to kill infection from 1865  
Required to wash self and surgical instruments \_\_\_\_\_

### Medical Developments Before WWI

**Blood Transfusions**  
First performed by Blundell in 1818  
In 1894 Wright found chemicals which prevented it from \_\_\_\_\_  
In 1901 Landsteiner discovered blood groups

### Shelling



Destroyed roads



Used to be farmland so bacteria from fertiliser remained

### Ambulance Wagons



Drawn by \_\_\_\_\_ but shaky so worsened injury

### Base Hospitals



On the coast, had operating theatres



### The Underground Hospital at Arras

- Opened in 1916
- Fully operational
- 700 spaced for stretchers and beds
- Operating theatre, electricity and water
- Abandoned when water supply was destroyed in Battle of Arras 1917



## BRITISH SECTOR OF THE WESTERN FRONT 1914-18 P1

### Chain of Evacuation

**Stretcher Bearers** - collected wounded from frontline



**Regimental Aid Posts** - gave immediate \_\_\_\_\_, aimed to get soldiers back to combat



**Main Dressing Stations** - dealt with more serious injuries in \_\_\_\_\_ and tents



**Casualty \_\_\_\_\_ Stations** - dealt with more critical injuries in old factories or schools



**Base Hospitals** - near the coast so wounded could travel back to \_\_\_\_\_, doctors specialised in specific injuries



### Royal Army Medical Corps (RAMC)

- included \_\_\_\_\_, ambulance drivers and stretcher bearers

### First Aid Nursing Yeomanry (FANY)

- sent \_\_\_\_\_ volunteers to work as nurses on Western Front



**Trench Foot** - caused by standing in cold water and \_\_\_\_\_ for long periods

**Trench Fever** - caused by \_\_\_\_\_

**Shrapnel and Bullet Injuries** - caused by explosions and combat

### Medical Conditions

- caused by stress of warfare

**Gas Injuries** - caused by burning \_\_\_\_\_, blisters & suffocation

**Gas \_\_\_\_\_** - wounds infected by bacteria from soil



### 3 Ways of Dealing with Infection:

1. **Debridement** - removing dead or infected tissue
2. **Carrel-Dakin Method** - killed infection using sterilised \_\_\_\_\_ solution
3. \_\_\_\_\_ - removing infected limbs



**Blood Banks** - in 1915 **Lewisohn** found adding sodium nitrate to blood prevented it from clotting, and **Weil** discovered it would be stored for 2 days by refrigerating it

- ➔ **Thomas Splint** kept limbs and joints \_\_\_\_\_ during surgery - wounded soldiers often died from wounds in legs if not kept still as lost so much blood and infections
- ➔ **Improved survival rates** from \_\_\_\_\_ injuries from **20% to 82%**

- ➔ **Blood Transfusions** - used from 1915 on Western Front
- ➔ A British doctor in RAMC - **Keynes** - designed a portable kit so could be carried out near \_\_\_\_\_

**Marie Curie** - spent WWI building mobile \_\_\_\_\_ units to be used to detect shrapnel on the frontline



## BRITISH SECTOR OF THE WESTERN FRONT 1914-18 P2

### The Battle of Cambrai

- November - December 1917
- 1st successful, large-scale use of \_\_\_\_\_ (nearly 500)
- Advanced on German position
- Success limited by lack of infantry

### 1st Battle of Ypres

- Oct-Nov 1914
- Salient = 3 sides of the area surrounded by enemy
- British lost >50,000 troops

### The 2nd Battle of Ypres

- April - May 1915
- British unprepared for use of \_\_\_\_\_ as a weapon
- Used urine-soaked cloths as gas masks
- British lost 59,000 troops

### The Battle of Passchendaele (3rd Battle of Ypres)

- July - November 1917
- British aimed to break out of the Ypres Salient
- The ground was waterlogged due to bad weather; many men \_\_\_\_\_ in the mud
- 245,000 British casualties



### The Battle of the Somme

- July - November 1916
- 20,000 British troops died on the 1st day of the battle
- >400,000 British soldiers died altogether
- British used the creeping barrage = launching artillery from the \_\_\_\_\_ just in front of advancing British troops

### The Battle of the Arras

- April - May 1917
- With help from New Zealand, Britain dug a network of underground caves at Arras
- 24,000 British troops attacked from the tunnels
- Nearly 16,000 British and Canadian casualties



# British Sector of the Western Front

## Quiz Questions



Take 5 minutes to study the Cheat Sheets on this topic, then see how many questions you can get right without looking!

1. When did the Underground Hospital of Arras open?

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2. What is the first step in the chain of evacuation?

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3. What does RAMC stand for?

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4. What was gas gangrene caused by?

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5. Why were ambulance wagons problematic?

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6. What was the Carrel-Dakin Method?

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7. Who kept limbs and joints still in surgery which greatly increased survival rates of leg injuries?

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8. What did soldiers use as masks when they did not have gas masks during the 2nd Battle of Ypres?

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9. What could be added to blood to prevent it from clotting for blood banks?

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10. Which scientist built mobile x-ray units to be used on the frontline?

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