

WHAT IS THE AIM OF ANTIBIOTICS?

This resource has been written for students to investigate primary source material as a means of historical enquiry.

It is aimed at Key Stage 4 students studying history GCSE and could be used to support a controlled assessment or simply to develop skills of investigating primary source material.

Antibiotics aims to:

- Inspire students using the example of others who have helped shape the world of medicine in the twentieth century.
- Motivate enquiring minds.
- Stimulate group work through debate.

The resource also supports the Science, English, Citizenship and PSHE Programmes of Study.

ANTIBIOTICS CONTENTS

The resource is an **interactive PowerPoint presentation** inlaid with primary sources of different types:

- Museum objects
- Oral history accounts
- Journal articles
- Contemporary written accounts
- Photographs
- Public information

Students are encouraged to investigate each source and assess its value.

In addition to the PowerPoint presentation, the resource includes a **Debate Pack**, which asks the question:

“Is penicillin the greatest medical discovery of the twentieth century?”

The Debate Pack includes arguments for and against the question, as well illustrations and suggested web-based material. Primary source material from the PowerPoint presentation can also be used to inform students in the putting together of their argument.

You can find more information on how to hold a debate in our Pharmacy Debate Packs Teachers' guidelines

The source material provided in *Antibiotics* could inspire further debates about who deserves the credit in the development of penicillin.

SUGGESTED ACTIVITIES AND DISCUSSION TOPICS

Hot seating

Using the sources, along with additional research work, students take on the role of one of the key players in the story of the development of penicillin. Students present to the class their version of events and answer questions posed by classmates. A vote at the end would decide

the most convincing argument. This activity requires careful selection of strong primary evidence to back up claims and information presented.

Discussion topics

- What role do you think World War II played in both helping and hindering the development of penicillin?
- Who do you think is the hero in the story of penicillin? Use the sources along with your own knowledge.
- *"Without Fleming, no Chain; without Chain, no Florey; without Florey, no Heatley; without Heatley, no penicillin."* Sir Henry Harris, 1998 Discuss this statement using the sources and your own knowledge.

INFORMATION ABOUT SOME OF THE SOURCES

Slide 4 – Penicillin timeline

John Parkinson reported a number of cases where mould like substances were used to treat illnesses:

"...a whitish short kind of Mosse somewhat like unto the Mosse of trees, and groweth upon the bare scalps of men and women that have lyeen long and are kept in Charnell houses in divers Countries."

This 'Mosse' was the principle ingredient of an ointment called *Unguentum Sympatheticum* and "cureth wounds without local application". With different medical knowledge and language it's hard to know for sure whether Parkinson is describing the work of antibiotics. However the results and the observations appear very similar.

Ref: A Parkinson, *Nature's Alchemist: John Parkinson, Herbalist to Charles I*, 2007

Slide 6 - So what is all the fuss about?

The information in this slide has been taken from an article written by Florey and team in 1940 for The Lancet medical journal. A transcript has been used here so that the message of why penicillin was so important could be put across as background information for your students.

Slides 8, 10, 18 & 23 - Norman Heatley interview excerpts

Pharmacist John Hunt interviewed Norman Heatley in March 1994. It was an informal discussion about Heatley's life with a focus on the penicillin story. Hunt is not a historian and has not had any training in oral history interview techniques. At the time of the interview Heatley was 83, and it is clear from the full interview that he had some trouble remembering specific details of the story. Hunt had clearly done a lot of research prior to the interview, and was able to fill these gaps, but in doing so tends to lead Heatley's answers somewhat. This is a good discussion point to have with your students.

An interesting news clip about Norman Heatley can be found at:

http://news.bbc.co.uk/local/oxford/hi/people_and_places/history/newsid_8828000/8828836.stm

There are many other news articles written about Heatley and his role in the penicillin story, which can be found on the internet and would be useful as background information for you or as a secondary source comparison for your students.

Slides 27-30 – Antibiotic resistance

Video and audio clips about C-difficile at: <http://www.cdifff-support.co.uk/media.htm>

Articles about MRSA at: <http://mrsaactionuk.net/pressandmedia.html>

There are also some games on this website to help your students understand bacteria and the importance of hygiene <http://mrsaactionuk.net/ebug.html>

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- Anna Parkinson

