

## The aspirin story

### Learning objectives

- 1 Research, design and make a presentation.
- 2 Describe the discovery of aspirin and how its use has developed over time.
- 3 Explain the chemistry of aspirin.

### Introduction

Nearly all of us have used aspirin at some time in our lives, but not many of us know that for hundreds of years a related compound from willow bark was used to relieve pain and treat fevers. Records indicate its use from ancient times; at least 2500 years BC.

In this activity you will find out about the discovery and use of aspirin and present your findings.

### Activity

Work in small groups to prepare a presentation about aspirin. When it is complete, make your presentation to another group or produce a video for another group to watch.

Alternatively, you can prepare and make a poster for your classroom/ laboratory wall.

Finally, peer review the work from a different group.

In your presentation, you should include the following points.

- The conditions that aspirin helps to relieve or cure, including technical terms such as analgesic, antipyretic, anti-inflammatory and myocardial infarction.
- The side effects of aspirin and the precautions or alternative treatments for people affected by them.
- How aspirin was developed over the past 260 years, including the achievements of those responsible for the main developments.
- The chemistry of aspirin, including the basic structures and functional groups involved, including: salicin, salicylic acid, aspirin and the formation of its sodium salt.
- The chemistry involved in developing the medicine in a usable form.
- The nature and importance of clinical trials.

A good place to start your research is the [International Aspirin Foundation](https://www.aspirin-foundation.org/) ([bit.ly/3I9rJKv](https://bit.ly/3I9rJKv)) website or [The aspirin story – from willow to wonder drug](https://www.bjhaematology.com/) ([bit.ly/3nWfdqU](https://bit.ly/3nWfdqU)) from the *British Journal of Haematology*. You may wish to look at some pharmaceutical company websites, such as [Bayer](https://www.bayer.com/) ([bit.ly/3W05pLZ](https://bit.ly/3W05pLZ)), a manufacturer of aspirin. The [Association of the British Pharmaceutical Industry](https://www.abpi.org.uk/) ([bit.ly/3M0usXH](https://bit.ly/3M0usXH)) provides a wealth of information, including clinical trials and drug safety.

### Making a poster

In making a poster, consider the following hints.

- Your poster should be clearly set out, the structure should be clear at a glance.
- People do not like reading a lot of text. Diagrams and flow charts are much easier to take in; text should be readable from at least two metres away.
- Explanations should be separate from the main story, perhaps in distinctive boxes.
- The level must be appropriate for the expected audience: think about what the audience is likely to know already.

### Making a presentation

In making a presentation, consider the following hints.

- Start the presentation with something designed to capture your audience's attention and to help them know what to expect.
- Do not read directly from the slides or your notes: always talk directly to your audience.
- Visual aids are a very effective way of getting information across to your audience; make sure there is always something to look at, such as making molecular models of the key compounds.
- Remember, you are always more familiar with your subject matter than your audience: give them time to take in what you are saying before going on to the next slide.
- Don't forget to smile!

### Making a video

In making a video, consider the following hints, in addition to the presentation hints above.

- Think about the length of the video – five minutes should be long enough.
- Don't get carried away with special effects at the expense of including the content.
- Will you appear in the video, or will you just provide a voiceover for the presentation?

However you decide to deliver your presentation, remember to include all the listed content points.

### References

It is important to cite the sources that you have used to compile your presentation. This includes any diagrams you have obtained online, as well as articles you have used to obtain factual information.

Consult your teacher or librarian on exactly how to format the references, as there are a number of systems in use. You can find information on the Royal Society of Chemistry referencing style at: [bit.ly/3MkMqpf](https://bit.ly/3MkMqpf). Whichever way you do it, you should include if possible:

- the title of the source and the date published,
- the author(s) of the source,
- the URL of any online source and the date you accessed it.