



Learning notes

Valiant Vaccines Vanquish Viruses

The author of this article talks about vaccinations – including different types, how they work, how they are developed, manufactured and the advantages/disadvantages of vaccinations. The article concludes by looking at the future of vaccinations and how the COVID-19 pandemic has demonstrated the need to turnaround vaccine development more swiftly. This topic lends itself to the consideration of ethics and how internationally agreed principles govern the development of new medicines.

Learning Task:

The Declaration of Helsinki Rules

Students consider what ethical rules they think should be in a declaration of medical ethics, such as the Declaration of Helsinki. Following discussion about what such a set of rules should contain, students participate in a true/false quiz about the Declaration of Helsinki. Finally, a discussion is held to ensure students understand the rationale behind the statements in the Declaration of Helsinki.

You will need:

A copy of the Declaration of Helsinki (www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/)

A copy of the New Vaccines Workshop guide from Centre of the Cell – page 5 (www.stem.org.uk/rx32ko)

- Ask students to make a list of ethical rules that they think a declaration of medical ethics, like the Declaration of Helsinki, should contain.
- Briefly discuss the students' reasons for choosing their rules and write ten or so suggestions on the board.
- Now read the statements about the Declaration of Helsinki (page 5-6 of New Vaccines Workshop guide), and ask the pupils to vote whether they think the statements are true or false.
- At the end of the quiz, reveal the answers and discuss the reasons why

Take your learning further:

Follow up questions and tasks to use with the class include:

Ask the class if any of these answers surprised them. Why or why not?

Distribute copies of the Declaration of Helsinki. Ask the class which parts of this declaration would have been violated by historical instances of vaccination (e.g. the work of Dr. Edward Jenner and Lady Wortley Montagu). Was it right to have no consideration for ethics? Why wasn't there any consideration for ethics back then? Could a lack of ethics ever be justified?

Ask the class to research the history of the Declaration of Helsinki and the reasons for the changes that have been made to it over the years.

Take your learning further still:

The Declaration of Helsinki is not the only document that medical researchers apply to their research to ensure that it is ethically sound. The Good Clinical Practice guidelines, set down by the International Conference on Harmonisation, and laws of the country where trials take place also warrant consideration.

Ask students to research some of these other guidelines and write a report comparing them to the Declaration of Helsinki.

To find out more:

Biointeractive have produced a short article that looks at why it's hard to make vaccines and boost supplies (www.biointeractive.org/planning-tools/science-news/explainer-why-its-hard-make-vaccines-and-boost-supplies)

Biointeractive have also produced a comprehensive interactive online tutorial on the immune system and vaccinations, which students can work through and self-assess their understanding (www.biointeractive.org/classroom-resources/immune-system)