

LIFE AS A CLINICIAN SCIENTIST WITH DR JAMES SEDDON

TALKING POINTS

KNOWLEDGE

1. What is tuberculosis (TB)?
2. What is the difference between TB infection and TB disease?

COMPREHENSION

3. Why does James take blood samples from the children in his clinical trial?
4. Why is multidrug-resistant TB a problem?

APPLICATION

5. What health-related topics would you like to investigate as a medical researcher? Why?

ANALYSIS

6. Why is it necessary to give a placebo to some participants in a clinical trial? What is the purpose of the placebo group?
7. Why is it important that researchers, participants and their families do not know who has received a placebo drug during a clinical trial?
8. Why do you think James likes being both a doctor and a researcher? What are the similarities between these two roles?
9. How have James's experiences influenced the work he does?
10. Why do you think clinician scientists must be good at teamwork?

EVALUATION

11. How would you assess the outcomes of a clinical trial to decide whether a new medical treatment is safe and effective?
12. Do you think treatment should only be given to children at high risk of developing TB disease, or do you think all children exposed to TB should be treated just in case? What are the advantages and disadvantages of each option?

ACTIVITIES

- Go to the World Health Organization (WHO) website (www.who.int/health-topics), use the drop-down menu to select 'Diseases and conditions' and choose a disease or condition that interests you.
- Research your chosen condition. What causes it? What are its symptoms? Who does it affect? Are cases on the rise? Why? How is it treated?
- Imagine you are a clinician scientist. What questions would you want to answer about this condition? What new tests or treatments would you want to develop? Remember James's advice to always ask 'how can this be improved?' and 'how can we understand this better?' What research would you conduct to answer these questions? What clinical trials would you develop?
- The US National Library of Medicine lists clinical trials conducted around the world (www.clinicaltrials.gov). Are there any clinical trials for your chosen condition?
- Make a poster or a PowerPoint presentation to educate your classmates about your chosen condition. Think about how to visually present all this information to your audience. Include a section entitled 'Future research' to discuss what you would investigate as a clinician scientist, and how.
- Bonus: find out about the four phases of clinical trials by looking at the WHO website (www.who.int/health-topics/clinical-trials). Why do you think there are four phases? Why is it important to have strict protocols for clinical trials?

MORE RESOURCES

Learn more about TB from the WHO: www.who.int/news-room/fact-sheets/detail/tuberculosis

Watch this TED video to understand how antibiotic resistance evolves and how scientists and doctors are trying to tackle the problem: ed.ted.com/lessons/how-antibiotics-become-resistant-over-time-kevin-wu

Read James's article about why we need to improve estimates of the number of children with TB: www.theconversation.com/we-dont-know-how-many-children-have-tb-and-we-cant-help-them-until-we-do-28991

HEAD TO JAMES'S FUTURUM WEBPAGE FOR AN ANIMATION AND POWERPOINT ABOUT HIS WORK:

www.futurumcareers.com/combining-medicine-and-research-to-treat-children-with-tuberculosis