

### NOVA Vaccines—Calling the Shots

Season 41 Episode 14 | 53m 10s

**Video Overview and Lesson Objectives:** Vaccines have been touted as one of the most successful advances of modern medicine, yet an increasing number of parents are choosing not to vaccinate their children because of possible side effects. In this video students will examine the debate among public health officials, doctors and parents around vaccine safety and hear differing perspectives on the benefits and risks of vaccination. These lessons should take 75-120 minutes to complete.

**Directions:** Click on the link below to access the video from PBS.

<https://www.pbs.org/video/nova-vaccinescalling-shots/>

Answer the questions pertaining to the video. Each question is worth 5 points. Please answer each question using complete sentences and use correct grammar and spelling.

1. In the U.S., more than \_\_\_\_\_ % of parents vaccinate their children (2:42 in video).
2. About \_\_\_\_ % of parents do not vaccinate their children.
3. Describe the symptoms of whooping cough (pertussis).
4. Explain why are outbreaks of diseases such as whooping cough and measles back?
5. Why are airborne viruses so easily transmitted?
6. Why do some families choose not to vaccinate their children?
7. In your own words, explain how the immune system works.
8. How does a vaccine work (21:30 in video)?

9. When the researcher discusses “bumping into someone” (at time 24:00 in video) who’s either vaccinated or not against a certain disease, how can this scenario (bumping into someone infectious) be related to our current social distancing plan for our Covid-19 pandemic. In other words, in what ways is social distancing likely beneficial to us?
  
10. What is “herd” immunity?
  
11. For highly infectious diseases, such as measles, we need **what percentage** of the “herd” to be vaccinated in order to provide some protection for the unvaccinated or for the herd immunity to hold?
  
12. Luke’s story reminds us that there is a population of individuals that cannot be vaccinated for various reasons. His vaccination was a \_\_\_\_\_, not a cause of his disease (Dravet syndrome).
  
13. In the 1950’s which disease was considered the most feared disease of the 20<sup>th</sup> century?
  
14. In the year 2000, the Polio oral vaccine was replaced with what type of vaccine?
  
15. Autism is thought to have fetal origins (10-24 weeks in gestation) or to begin in the \_\_\_\_\_ (time 40:25 in video).
  
16. HPV (Human Papillomavirus) is the most cancer-causing virus on earth and around \_\_\_\_\_ % of Americans will catch it at some stage in their lives.
  
17. Is there a vaccine for HPV? \_\_\_\_\_

**After finishing the video, answer the following two questions using your own opinion. While there are no right or wrong answers, your answer should reflect that you watched the entire video as you should use terms (herd immunity, etc...) and/or ideas presented throughout the video when you respond.**

18. Outbreaks continue to be reported around the world. California has passed laws making it harder for parents to choose to “opt out” of getting the required vaccines for their children. If California suddenly made it easy to opt out, what could be the result?
  
  
  
  
  
  
  
  
  
  
19. Since it’s harder to “opt out” here in California, are unvaccinated children protected by “herd” immunity? Explain your answer.

20. What did you learn about vaccination that you did not know or understand before watching the video?

If you want to learn more about the controversy associated with vaccines, watch Frontline's video "Vaccine Wars" on YouTube <https://www.youtube.com/watch?v=VPOrnU3Imxl>