

How Bacteria Cause Disease
Lecture by Dr. Warren Levinson, M.D.
Extra Credit Bonus Point Worksheet

- 1 How many deaths are caused by infectious diseases?
- 2 What are the “cast of characters” that cause infection diseases?
- 3 What is the “worm burden”?
- 4 What two organisms are referenced in the video as protozoa?
- 5 What is the yeast organism that causes meningitis in people with a low CD4 count?
- 6 What stimuli allow some fungi to convert between the yeast to mold form (i.e. unicellular vs multicellular)? What phase is in soil and what phase causes diseases in humans?
- 7 How are viruses described?
- 8 What is “unique” about viruses’ nucleic acids?
- 9 Do viruses vary in size?
- 10 What organism factors determine if the host will become infected?
- 11 What factors contribute to virulence (ability to cause disease)?
- 12 What is the “extra DNA” which code for difference virulence factors called?
- 13 What increases in the blood with an infection during the convalescence period?
- 14 How did Typhoid Mary spread disease?
- 15 What is the benefit of inflammation?
- 16 What is pus?
- 17 What is the function of the “outer capsule” of bacteria?
- 18 How do neutrophils overcome the bacteria capsule?
- 19 What is true about a bacteria if it can not produce a capsule?
- 20 How is Dr. Levinson description different than our text book’s description of a pilus?
- 21 What can not happen if a bacteria is unable to produce a pilus?

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- 22 What are the three shapes of bacteria?
- 23 How may bacteria be transmitted to the host?
- 24 What is the reservoir?
- 25 What is colonization resistance?
- 26 What caused the rapid decline in death from infectious diseases between 1900 - 1940 even before the discovery of penicillin?
- 27 What is the importance of the glycocalyx?
- 28 What is meaning of the term cytokine?
- 29 Inflammation causes the secretion of exudate. How might these secretions cause disease?
- 30 What are the two forms of toxins?
- 31 What is the main cause of death from endotoxins?
- 32 What are the two main actions of an endotoxin?
- 33 What is the molecule type of exotoxins?
- 34 Can exotoxin cause disease without the presence of bacteria? Why is this important?
- 35 What is the difference between exotoxins which cause either flaccid or spastic paralysis?
- 36 What is the mechanism which allows cholera to cause diarrhea?
- 37 How do some bacteria increase the virulence of their exotoxins?
- 38 What makes the botulinum toxin the most potent known exotoxin “molecule for molecule”?
- 39 How can you explain why *E. coli* can be non-pathogen in our intestine but also be responsible for a group of diseases which can cause death? What are the five deadly conditions associated with *E. coli*?