

## Review Questions on Winkelstein's Snow Article (1995)

1. When was the first cogent theory of contagion first presented? (p. S3, ¶1)
2. What was the prevailing theory of epidemic diseases in the 1850s? (p. S3, ¶1)
3. Describe the miasma theory. (p. S3, ¶1)
4. Winkelstein mentions Henle and Koch. Why were they famous, and what language did they speak? (p. S3, ¶1)
5. What did Snow do before studying the epidemiology of cholera? (p. S3, ¶2)
6. According to Winkelstein, explain Snow theory of continuous molecular changes. (p. S4, ¶1)
7. What does *propagated* mean. (p. S4, ¶2)
8. Henle used the term *contagium vivum*. What language is this and what does it mean? (p. S4, ¶3)
9. Did Snow believe the epidemic diseases of his day were infectious? (p. S4, ¶3)
10. Snow used the term *materies morbi*. What do you think this means? (p. S4, ¶5)
11. What occurs during the incubation period? (p. S4, ¶6)
12. List the 4 components of Snow's theory of continuous molecular changes. (p. S4, ¶7) [ANS: specific agent; agent is stable over time; infection is necessary; agent multiplies in the host]
13. What does *epidemic* mean? What does *endemic* mean? (p. S4, ¶8)
14. Does Winkelstein offer a conclusion whether Snow was aware of Henle's theories? (p. S5, ¶3)
15. Did Henle believe in infection to the exclusion of miasma? (p. S5, ¶1, ¶5)
16. Did Snow believe in infection to the exclusion of miasma? (p. S5, ¶5)
17. Describe Snow's waterborne transmission theory. (p. S5, ¶6)
18. In what year did Snow come up with his waterborne theory? (p. S5, ¶7)
19. Were clinical observations important for Snow to come up with his theory? If so, how? (p. S6, ¶1)
20. What additional information is needed to interpret the results in Figure 1? (bottom of page S6)
21. Summarize Snow's prescription for preventing cholera. (p. S6, ¶3)
22. Did Snow consider his 1849 arguments to be conclusive or incomplete? Explain. (p. S6, ¶4)
23. In the quote on ¶4 of p. S6, Snow apologizes for "being preoccupied with another subject." What subject was this? (p. S3, ¶2)
24. Snow got a chance to test his theories during the cholera epidemic of London in the years \_\_\_\_\_ (p. S7, ¶1)
25. What three epidemiologic techniques did Snow use to study cholera? (p. S7, ¶2)
26. Briefly summarize the results of Snow's ecological analyses. (p. S7, ¶3; Figure 2).
27. Where did the Southwark & Lambeth company get its water and how were they polluted? (p. S7, ¶4)
28. Paragraph 5 on p. S7 describes Snow's cohort study. (Although Winkelstein refers to it as an "ingenious experiment," it is actually a *non-experimental* cohort study.) How does this study differ from the ecological study discussed earlier?
29. Summarize the results from Snow's cohort analysis. (p. S8, ¶2; Figure 3).
30. Did Snow find any gross impurities in the water from the Broad Street pump? (p. S8, ¶4) Did he find *any* evidence the well could be contaminated? (p. S8, ¶5)
31. Why is the Broad Street pump investigation considered a case-control study? (p. S8, ¶4)
32. Why did the local brewery workers NOT drink Broad Street pump water? (p. S8, ¶4)
33. Did the influential public health authorities of the time (e.g., William Farr) accept Snow's theory at first? (p. S8, ¶6)
34. Did William Farr ultimately accept John Snow's theories? If so, when? (p. S8, ¶6)
35. Did John Snow die a hero? (p. S9, ¶2)
36. Did Snow test his theories with microscopic observations? (p. S8, ¶3)
37. Did Snow test his theories with field observations? (p. S8, ¶4)