

RS for third year MD students – School of Medicine – the University of Jordan

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Activity for the 1st lecture (in-campus)

1. The oropharynx has a higher microbial density than the nasal cavity. TRUE
2. Detection of bacteria in bronchoalveolar lavage means an infection. FALSE
3. Turbinate-induced turbulent airflow increases deposition of microbes onto mucus-coated surfaces and form a major factor in the mechanical defenses of the respiratory tract. TRUE
4. In the respiratory tract chemical defence, lysozyme hydrolyzes Gram-positive bacteria. TRUE
5. Surfactant proteins A and D opsonize bacteria, enhancing phagocytosis in the respiratory tract. TRUE
6. Aspiration pneumonia is invasion of environmental bacteria through inhalation. FALSE
7. Oxygen tension plays a recognizable role in the formation of respiratory microbial communities. TRUE
8. The lungs are sterile because they lack nutrients for microbial growth. FALSE
9. The dominance *Prevotella* in the oropharynx is driven by reduced oxygen tension relative to the nasal cavity. TRUE
10. Early-life microbial exposure is associated with long-term respiratory infection susceptibility through modulating adaptive mucosal immunity. TRUE
11. *Staphylococcus epidermidis* is a dominant colonizer of the nasal cavity but rarely persists in the lower respiratory tract. TRUE
12. Mucosal IgA is preferred in the URT because it neutralizes pathogens without activating complement-mediated inflammation. TRUE

13. Antibiotics reduce respiratory infection risk by elimination of pathogenic bacteria.
FALSE

14. Ventilator-associated pneumonia occurs because intubation bypasses multiple innate mechanical defenses. TRUE

15. Vaccination changes respiratory microbiota composition exclusively by preventing infection-related inflammation. FALSE

16. Aspiration pneumonia results from altered host reflexes rather than increased bacterial virulence. TRUE

17. Corticosteroids increase respiratory infection risk by suppressing innate immune cell activation. TRUE

18. Upper and lower respiratory tracts have distinct microbial communities in terms of composition but similar in terms of microbial density. FALSE

19. Many host and environmental factors influence the respiratory microbiota with the exception of the mode of birth. FALSE

20. *Staphylococcus epidermidis* produces serine protease that inhibits *Staphylococcus aureus* colonization in the upper respiratory tract. TRUE

21. *Corynebacterium diphtheriae* release free fatty acids toxic to pathogens to protect the upper respiratory tract. FALSE

22. The lower respiratory tract contains abundant and consistent microbial population.
FALSE

23. Th1 cells are essential for clearing extracellular pathogens from the respiratory tract.
FALSE

24. Ventilator-associated pneumonia occurs since mechanical defenses are bypassed with biofilm formation by bacteria in endotracheal tubes. TRUE