

Respiratory Test:- Asthma and Indoor Air

Test Questions

(hint: print questions & mark answers before starting online test)

Major Issues in Understanding Asthma

1. Asthma is always associated with inflammation within the _____.
A. liver
B. heart
C. lungs
D. spleen
2. Asthma can produce which of the following episodic symptoms?
A. wheezing
B. breathlessness
C. chest tightness and coughing
D. all of the above
3. In young children, asthma episodes are usually associated with infections of the respiratory tract.
A. TRUE
B. FALSE
4. Approximately ____% of asthma in children is allergic asthma.
A. 10
B. 33
C. 47
D. 80
5. Which of the following are essential tools for evaluating a patient with asthma?
A. Myelography
B. Pulmonary function tests (primarily spirometry)
C. MRI
D. CT

Methodological Considerations in Evaluating the Evidence

6. ____ is a systematic error in the estimate of association between the exposure and the adverse event.
A. Analytic bias
B. Ethical error
C. Mathematical error
D. Prejudice
7. When an individual exposed to an airborne agent, it results in inhalation of the agent and get deposited into the _____.
A. liver
B. heart
C. lungs
D. spleen
8. _____ exposure is associated mainly with inhalation of mite fecal pellets and aggregates.
A. Passive smoking
B. Carbon monoxide
C. House dust mite (HDM)
D. none of the above
9. Which of the following is a principal cat allergen?
A. DDT 4
B. Fel d I
C. MMR 1
D. PPD
10. Environmental tobacco smoke (ETS) is a complex mixture of sub-micron particles and gases produced by the combustion of tobacco products.
A. TRUE
B. FALSE

11. Nitrogen dioxide (NO₂) is an irritant gas produced by which of the following?
- A. gas stoves
 - B. unvented space heaters
 - C. electric ovens
 - D. both A and B

Patterns of Asthma Morbidity and Mortality

12. _____ is the study of the distribution of a disease and its risk factors in a population.
- A. Myelography
 - B. Epidemiology
 - C. Archaeology
 - D. Oncology
13. Asthma mortality primarily affects adults, with approximately _____% occurring at or after 45 years of age.
- A. 10
 - B. 28
 - C. 49
 - D. 67
14. In national surveys, _____ reported higher rates of asthma and a higher rate of increase over the past decade.
- A. Asian Americans
 - B. Caucasians
 - C. African Americans
 - D. Native Americans
15. Which of the following can be mistaken for asthma?
- A. Chronic obstructive pulmonary disease (COPD)
 - B. Appendicitis
 - C. Meningitis
 - D. Migraine

Pathophysiological Basis of Asthma

16. Asthma is characterized by which of the following fundamental features?
- A. bronchial hyper-responsiveness
 - B. presence of inflamed airways
 - C. Crone's disease
 - D. both A and B
17. Which of the following is a principal mediating agent of the allergic pro-asthmatic response?
- A. gadolinium
 - B. immunoglobulin E (IgE)
 - C. iodine 100
 - D. hemoglobin
18. Associated with asthma, an activation of airway eosinophils result in which of the following?
- A. constriction of airway smooth muscle
 - B. bronchial hyper-responsiveness
 - C. engage other inflammatory cell types and epithelium damage
 - D. all of the above
19. Which of the following helps to regulate the development of allergic inflammation of the airways?
- A. hemoglobin
 - B. thyroxine
 - C. T helper (TH) lymphocytes
 - D. hypothalamus
20. Which of the following inflammatory cells are regulated by the actions of cell adhesion molecules in the asthmatic airway?
- A. eosinophils
 - B. lymphocytes
 - C. osteocytes
 - D. both A and B

21. Respiratory inhalation of which of the following non-biological agent can also trigger acute asthma symptoms?
A. rats
B. tobacco smoke
C. cockroach
D. cats

22. Which of the following is a bronchodilatory agent?
A. prostaglandin E₂
B. acetaminophen
C. neurotransmitters
D. mediators

23. The gene(s) responsible for asthma has been identified by the scientists.
A. TRUE
B. FALSE

24. Exposure to which of the following have been linked to pulmonary complications that include the clinical manifestation of asthma?
A. various allergens
B. specific viruses
C. certain air pollutants
D. all of the above

Indoor Biologic Exposures

25. Cats are kept as pets in _____ % of U.S. homes.
A. 5
B. 7
C. 11
D. 27

26. Particles on which cat allergen is carried come primarily from _____.
A. cat litter
B. dust
C. cat dander
D. pollen

27. Cat allergen is easily carried from home to office, school, or day care center by those who touch cats or visit households with cats.
A. TRUE
B. FALSE

28. Which of the following can be reservoirs for deposited cat allergen?
A. Carpeting
B. Bedding
C. Upholstered furniture
D. all of the above

29. Dogs are present in _____% of U.S. households and are also sources of allergens.
A. 5
B. 10
C. 16
D. 31

30. Which of the following is considered a major dog allergen?
A. DDT 4
B. Fel d I
C. Can f I
D. PPD

31. _____% of dog-allergic patients had a positive skin prick test to Can f I.
A. 10
B. 25
C. 55

D. 92

32. There is an inadequate evidence to determine whether or not there is an association between dog allergen exposure and development of asthma.

- A. TRUE
- B. FALSE

33. According to a study, dogs need to be washed at least _____ to maintain a reduction in Can f I from the dog hair.

- A. once a week
- B. twice a week
- C. bi-weekly
- D. once a month

34. Which of the following are sources of allergens?

- A. mice
- B. guinea pigs
- C. rats
- D. all of the above

35. Which of the following allergen comes from the guinea pig?

- A. Rat n I
- B. Mus m I & II
- C. Fel d I
- D. Cav p I & II

36. Allergies to _____ are considered occupational diseases of farm workers and veterinarians.

- A. molds
- B. rats
- C. cows and horses
- D. fungi

37. _____ can be associated with antigens from bird excreta, serum protein, and proteinaceous material in dispersed dust from birds.

- A. Hemothorax
- B. COPD
- C. Hypersensitivity pneumonitis
- D. Whooping cough

38. Bird _____ can harbor mites which can be spread thru dust.

- A. feet
- B. feathers
- C. food
- D. saliva

39. _____ are the only insects that has been repeatedly recognized as common source of indoor allergens.

- A. Cockroaches
- B. Crickets
- C. Locusts
- D. Lake flies

40. High concentrations of cockroach allergen are found in which of the following place in a home?

- A. living room
- B. bedroom
- C. kitchen
- D. garage

41. Which of the following dust mite is the most important source of allergens in house dust?

- A. Cockroaches
- B. Lake flies
- C. Dermatophagoides
- D. Crickets

42. Purification of indoor allergens is dependent on the quality of source materials.
A. TRUE
B. FALSE
43. Which of the following can provide a nest for mites?
A. carpets/rugs
B. sofas and bedding
C. pillows and mattresses
D. all of the above
44. _____ are released when the bacteria die or when the cell wall is damaged.
A. Nitrogen particles
B. Endotoxins
C. Oxygen ions
D. none of the above
45. There are _____ different types of fungi to which people are routinely exposed.
A. 200
B. 1,000
C. 5,000
D. 10,000
46. Fungal toxins could play a role in controlling the immune response from the body and may cause direct lung damage leading to pulmonary diseases other than asthma.
A. TRUE
B. FALSE
47. Fungal growth occurs only in the presence of _____.
A. sunlight
B. heat
C. moisture
D. mites
48. According to the study, _____ is clearly associated with a variety of respiratory symptoms.
A. darkness
B. dampness
C. brightness
D. airiness
49. Which of the following is responsible for a variety of respiratory infections including the common cold?
A. Meningitis
B. Rhinovirus
C. Athlete's foot
D. Fever
50. _____ can cause respiratory diseases like pneumonia, bronchitis, sinusitis, pharyngitis and may be associated with atherosclerosis in adults.
A. Chlamydia pneumoniae
B. Hepatitis B
C. Diabetes
D. Arthritis
51. Chlamydia pneumoniae infection has been associated with asthma increase in both adults and children.
A. TRUE
B. FALSE
52. Houseplants can release which of the following in indoor environment?
A. pollen and sap
B. arthropod pest allergens
C. plant parts and fungi
D. all of the above

53. Exposure to plant materials during production of plant extracts as medicines can cause _____.

- A. diabetes
- B. back pain
- C. occupational asthma
- D. arthritis

54. Which of the following allergic disease is caused by pollen exposure?

- A. diabetes
- B. migraine
- C. hay fever
- D. arthritis

55. _____ spreads pollens into the environment.

- A. Rain
- B. Wind
- C. Sunlight
- D. none of the above

Indoor Chemical Exposures

56. Which of the following is a common indoor and outdoor pollutant produced whenever high-temperature combustion occurs?

- A. Nitrogen dioxide (NO₂)
- B. Hydrogen
- C. Oxygen
- D. Citric acid

57. Use of which of the following can cause indoor exposure to NO₂?

- A. lawn mover
- B. smoke detector
- C. gas appliances
- D. vacuum cleaner

58. According to the study, approximately _____% of U.S. homes use pesticides.

- A. 25
- B. 40
- C. 57
- D. 90

59. Smoking, auto exhaust, passive smoking, driving, and pumping gas are major sources of which of the following chemical?

- A. Trichloroethane
- B. Benzene
- C. Carbon tetrachloride
- D. p-Dichlorobenzene

60. Formaldehyde is highly soluble in water and thus is rapidly absorbed in the mucous membranes of the upper respiratory system.

- A. TRUE
- B. FALSE

61. Which of the following chemicals soften or enhance the flexibility of resins?

- A. benzene
- B. octane
- C. plasticizers
- D. toluene

62. _____ is part of an atmosphere that is also a by-product of the chemical reactions that create smog.

- A. Milky-way
- B. Octane
- C. Ozone (O₃)
- D. Carbon monoxide

63. Studies consistently report an association between exposure to high outdoor levels of air pollutants, including Particulate matter (PM), and adverse respiratory health effects.
- A. TRUE
 - B. FALSE

Exposure to Environmental Tobacco Smoke

64. Involuntary exposure to environmental tobacco smoke (ETS) is also called _____.
- A. active smoking
 - B. tobacco smoking
 - C. passive smoking
 - D. direct smoking
65. Environmental tobacco smoke (ETS) is composed of which of the following?
- A. sidestream tobacco smoke (SS)
 - B. mainstream smoke (MS)
 - C. any smoke that escapes from the burning part of the tobacco
 - D. all of the above
66. Which of the following constituents are most extensively measured as means of assessing ETS concentrations in indoor air?
- A. Nicotine
 - B. Particulate matter (PM)
 - C. Carbon monoxide
 - D. all of the above
67. Long-term exposure to ETS can cause which of the following?
- A. effects on lung development
 - B. cancers
 - C. diabetes
 - D. both A and B
68. Nicotine and cotinine are sensitive biomarkers indicative of exposure to ETS and can be found in which of the following?
- A. spinal fluid
 - B. muscle
 - C. blood, urine, and saliva
 - D. digestive tract
69. Which of the following may represent the most important environments for exposure to ETS because of the amount of time individuals spend there?
- A. home
 - B. school
 - C. vacations
 - D. bowling alley
70. Tobacco smoke, whether mainstream, sidestream, or ETS, is a _____ irritant.
- A. liver
 - B. lung
 - C. spleen
 - D. pancreas
71. In utero exposure from active maternal smoking during pregnancy is known to be associated with which of the following?
- A. reduced size of the placental arteries
 - B. altered lung function in baby after birth
 - C. low birth-weight
 - D. all of the above

72. _____ is associated with increased prevalence of asthma and respiratory symptoms in school children and more severity among children with established asthma.
- A. public smoking
 - B. teacher smoking
 - C. parental smoking
 - D. none of the above

Indoor Dampness and Asthma

73. Which of the following environmental factor most commonly associated with respiratory disease?
- A. building dampness
 - B. heat
 - C. rain
 - D. wind
74. Moisture can cause the growth of microorganisms on building materials that influences asthma.
- A. TRUE
 - B. FALSE
75. Which of the following allergen thrives in damp humid environment?
- A. Bats
 - B. Fungi and Dust Mites
 - C. Ragweed
 - D. Pollen

Asthma and Nonresidential Indoor Environments

76. Which of the following are common sources of moisture problems in nonindustrial building?
- A. HVAC coils, drain pans, and duct liners
 - B. parking lot
 - C. doors and windows
 - D. elevators

Impact of Ventilation and Air Cleaning on Asthma

77. Which of the following are the primary processes used within buildings to remove pollutants from the indoor air and maintain acceptable indoor environmental conditions?
- A. Space heaters
 - B. Building ventilation and air cleaning
 - C. AC units
 - D. Humidifier
78. Ventilation is also needed to maintain _____ concentrations inside buildings.
- A. carbon dioxide
 - B. nitrogen
 - C. carbon monoxide
 - D. oxygen
79. The most common method of air cleaning is to circulate air through a _____.
- A. fibrous filter
 - B. damp cloth
 - C. humidifier
 - D. space heater

Summary of Research Recommendations and Overall Conclusions

80. While a number of indoor exposures are associated with asthma, none is by itself a necessary cause, since asthma is associated with other factors as well.
- A. TRUE
 - B. FALSE