

INTRODUCTION TO MULTIPLE CHOICE MCQS

Multiple choice questions each have a number of options for the correct answer, with only one option being right. Different pharmacy exams to be a registered practitioner have varying details and specifics depending on the region where the exam is to be taken.

Multiple choice questions is the basis of most of the entrance exams in all fields of study and by looking at the performance the evaluator can understand the level of knowledge of the students in that particular subject or category. This form of evaluation is widely accepted in most of the study field's .multiple choice questions are generally prepared by qualified specialist after intense preparation. Making the question is as hard as answering .mostly the questions are not based on single textbook or reference. Mcq maker does intense research before come up with the question. The question making is based on multiple reference and the author should specify the reference to the students so that they can go through the relevant textbook

Type of questions

There are different kinds of multiple choice questions some are simple and others are complex. Simple multiple choice questions have not got more than five options where as in the complex form there would be multiple answers so knowing one answer is not enough to answer the questions.in complex form of MCQS the student needs to know wrong answer also in order to get it correctly
How to answer the questions

Answering the questions are sometimes very tricky and students need extreme knowledge and some logical thinking about the answer.one of oldest method is to eliminate the possible wrong answer and narrowing the options. While studying or answering students need to aware the importance of current working practice guideline in order to make a judgement.

Preparation Try to gather as many examples as you can of old papers and previous examples of MCQs used by the department or school in question in the past.Do not, however, try to memorise hundreds of responses to questions. The factual knowledge you will gain will be superficial and dissociated. It is better to look for the topic areas that recur frequently and ensure that you have a deeper knowledge of these topics. Revise with friends and colleagues. You can share knowledge and techniques. Familiarise yourself with the optical reader cards that you will be using to record your answers in the exam. Examples should be available from the examinations office. You should know what type of MCQ is being set for you. Will there be negative marking? How much time will you have and how many questions will there be? On the day Check that your understanding of the MCQ format is correct. It is negative marking, there are 300 questions, and I have two hours to complete this. Always read the stem for each question carefully. Have you understood the question? Are there any ambiguities? If so ask an invigilator who will alert an examiner. There are usually one or two in the room. Allocate three quarters of the time to answering the questions and a period at the end to checking answers and accuracy

PHARMACY REGISTRATION EXAM IN USA

In the United States, there are three exams available to gain license as a pharmacy practitioner. The FPGEE, or Foreign Pharmacy Graduate Equivalency Exam, is for international candidates that desire to practice in the US. There are 250 multiple choice questions to be completed within 5.5 hours. The NAPLEX, or North American Pharmacist Licensure Examination, is to determine a native candidate's knowledge in the practice of pharmacy. It consists of 185 multiple choice questions to be completed within 4.25 hours. The MPJE, or Multistate Pharmacy Jurisprudence Examination, is concerned with the laws, regulations, and legal aspect of practicing in particular states and jurisdictions. There are 120 multiple choice questions to be completed within 2.5 hours. (nabp.net).

PHARMACY REGISTRATION EXAMS IN CANADA

In Canada, the PEBC (Pharmacy Examining Board of Canada) is responsible for the Qualifying Examination that certifies aspiring practitioners. The examination is divided into two parts: the MCQ (multiple choice questions) and the OSCE (objective structured clinical examination). The MCQ is taken for two consecutive days, and each day consists of 150 questions within 3.75 hours. (pebc.ca).

PHARMACY REGISTRATION EXAMS IN AUSTRALIA

In Australia, the APC (Australian Pharmacy Council) administers exams to certify competent practitioners. Foreign candidates will sit for either the KAPS (Knowledge Assessment of Pharmaceutical Sciences) or the CAOP (Competency Assessment of Overseas Pharmacists). The KAPS is divided into two multiple choice sections (theory and practice) each consisting of 100 questions within 2 hours. The CAOP involves 105 multiple choice questions and 1 short-answer question, to be finished within 3 hours. For Australian natives, the Australian Intern Written Examination must be taken. It consists of 125 multiple choice questions to be completed within 3 hours. (pharmacycouncil.org.au).

PHARMACY REGISTRATION EXAMS IN GULF COUNTRIES

In the Persian Gulf, the different countries each have their own regulatory bodies that conduct exams to license candidates. The most notable of these are the three exams conducted in the United Arab Emirates, which are the MOH (Ministry of Health) exam, the DHA (Dubai Health Authority), and the HAAD (Health Authority Abu Dhabi). (www.moh.gov.ae>eServicesUserManuals).

Types of multiple choice questions

There are different sections of multiple choice questions in the pharmacy examination. Pharmacology involves knowledge of the effects of drugs on the brain and nervous system. This area is the major percentage of the whole exam. Pharmaceutics and biopharmaceutics involves drug preparation and drug absorption rates, as dependent on how the drug is administered into the body. Pharmacy calculations are mathematical questions concerning dosage and potency. They make up a smaller percentage of the general exam. Clinical pharmacy is a part of the exam that deals with the

candidate's understanding of prescription medications, and how they can best be used to optimize patient's health and disease prevention.

Tips for preparation of multiple choice questions

In preparation for the multiple choice exam, there are three solid avenues which when combined together will guarantee success. Review classes: these are preparatory lectures designed by pharmacy institutes to thoroughly equip candidates for the exam. They cover all areas, and usually last for a few weeks. Review classes are highly recommended to all candidates. Practice tests and Revisions: exams from past years provide a great example of what future ones will hold. It is of great importance to study these practice tests and get acquainted with them. Mock test: this is a test that resembles the actual one in a similar setting. It is good to go for a mock test before the real exam to eliminate exam-day nervousness and improve your skills in time-management.

Effective time management in exam

And speaking of time management, it is necessary to allocate a specified amount of time to each section of the exam, since different sections will consume different lengths of time. For example, pharmacology is about 50% of the examination, while other areas like biopharmaceutics and clinical pharmacy take up about 15-20% apiece.

ASTHMA

Disease conditions

1. What is in the composition of airways of lungs?

- I. Cartilaginous bronchi.
- II. Cartilaginous thrombus.
- III. Membranous bronchi.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: F

The airways of the lungs consist of the cartilaginous bronchi, membranous bronchi, and gas-exchanging bronchi termed the respiratory bronchioles and alveolar ducts

2. What is in the composition of airways of lungs?

- I. Gas-exchanging thrombus.
- II. Gas-exchanging bronchi.
- III. Gas-exchanging tubes.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: B

The airways of the lungs consist of the cartilaginous bronchi, membranous bronchi, and gas-exchanging bronchi termed the respiratory bronchioles and alveolar ducts

3. What is the function of mucosa?

- I. Lubrication.
- II. Mucous production.
- III. Transport apparatus.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: E

Mucosa, which is composed of epithelial cells that are capable of specialized mucous production and a transport apparatus

4. What is the function of mast cells?

- I. Control of releasing adrenaline.
- II. Control of releasing antihistamine.
- III. Control of releasing histamine.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: C

Cellular elements include mast cells, which are involved in the complex control of releasing histamine and other mediators. Basophils, eosinophils, neutrophils, and macrophages also are responsible for extensive mediator release in the early and late stages of bronchial asthma

5. What is responsible for extensive mediator release in the early and late stages of bronchial asthma?

- I. Basicphils.
- II. Basophils.
- III. Eosinophils.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: E

Cellular elements include mast cells, which are involved in the complex control of releasing histamine and other mediators. Basophils, eosinophils, neutrophils, and macrophages also are responsible for extensive mediator release in the early and late stages of bronchial asthma

6. Which is responsible for extensive mediator release in the early and late stages of bronchial asthma?

- I. Neutrophils.
- II. Macrophages.
- III. Microphages.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: D

Cellular elements include mast cells, which are involved in the complex control of releasing histamine and other mediators. Basophils, eosinophils, neutrophils, and macrophages also are responsible for extensive mediator release in the early and late stages of bronchial asthma

7. What is the main component involved in the pathophysiology of asthma?

- I. Thrombus hyperresponsiveness .
- II. Bronchial hyperresponsiveness.
- III. Thrombi hyporesponsiveness.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: B

The pathophysiology of asthma is complex and involves the following components:

- *Airway inflammation*
- *Intermittent airflow obstruction*
- *Bronchial hyperresponsiveness*

8. What are the main components of pathophysiology of asthma?

- I. Airway inflammation.
- II. Airway inflation.
- III. Intermittent airflow obstruction.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: F

The pathophysiology of asthma is complex and involves the following components:

- *Airway inflammation*
- *Intermittent airflow obstruction*
- *Bronchial hyperresponsiveness*

9. Which immune cells are identified in airway inflammation?

- I. Activated T leucocytes.
- II. Activated T lymphocytes.
- III. Activated B lymphocytes.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: B

Some of the principal cells identified in airway inflammation include mast cells, eosinophils, epithelial cells, macrophages, and activated T lymphocytes.

10. Which immune cells are identified in airway inflammation?

- I. Basophils.
- II. Mast cells.
- III. Eosinophils.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: E

Some of the principal cells identified in airway inflammation include mast cells, eosinophils, epithelial cells, macrophages, and activated T lymphocytes.

11. Which immune cells are identified in airway inflammation?

- I. Epithelial cells.
- II. Endothelial cells.
- III. Macrophages.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: F

Some of the principal cells identified in airway inflammation include mast cells, eosinophils, epithelial cells, macrophages, and activated T lymphocytes.

12. What is the role of T Lymphocytes?

- I. Regulation of airway obstruction.
- II. Regulation of airway inflammation.
- III. Release of numerous cytokines.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: E

T lymphocytes play an important role in the regulation of airway inflammation through the release of numerous cytokines

13. Which out of the followings are adhesion molecules?

- I. Entegrins.
- II. Selectins.
- III. Integrins.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: E

Adhesion molecules (eg, selectins, integrins)

14. What is an exaggerated response to numerous exogenous and endogenous stimuli?

- I. Thrombi hyperreactivity.
- II. Airway hyperresponsiveness.
- III. Bronchial hyperreactivity.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: E

The presence of airway hyperresponsiveness or bronchial hyperreactivity in asthma is an exaggerated response to numerous exogenous and endogenous stimuli

15. What is the result of increased bronchial hyperresponsiveness only in asthma?

- I. Bronchiolospasm.
- II. Bronchospasm.
- III. Bronchispasm.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: B

Increased bronchial hyperresponsiveness, which leads to bronchospasm and typical symptoms of wheezing, shortness of breath, and coughing after exposure to allergens

16. Which are the typical symptoms observed in bronchospasm?

- I. Sneezing.
- II. Wheezing.
- III. Shortness of breath.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: E

Increased bronchial hyperresponsiveness, which leads to bronchospasm and typical symptoms of wheezing, shortness of breath, and coughing after exposure to allergens

17. Which are the typical symptoms observed in bronchospasm?

- I. Bleeding.
- II. Coughing after exposure to allergens.
- III. Vomiting.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: B

Increased bronchial hyperresponsiveness, which leads to bronchospasm and typical symptoms of wheezing, shortness of breath, and coughing after exposure to allergens

18. Which out of the following is true related to airway remodeling?

- I. Hypoplasia of smooth muscle.
- II. Hypertrophy and hyperplasia of smooth muscle.
- III. Angiogenesis.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: E

Airway remodeling (hypertrophy and hyperplasia of smooth muscle, angiogenesis, and subepithelial fibrosis) that occurs with chronic untreated disease

19. Which out of the following is true related to airway remodeling?

- I. Subepithelial fibrosis.
- II. Hypotrophy of smooth muscles.
- III. Supraepithelial fibrosis.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: A

Airway remodeling (hypertrophy and hyperplasia of smooth muscle, angiogenesis, and subepithelial fibrosis) that occurs with chronic untreated disease

20. Which out of the following Lymphocytes imbalance is responsible for airway Inflammation?

- I. Thh Lymphocytes.
- II. T Lymphocytes.
- III. Th lymphocytes.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: C

Airway inflammation in asthma may represent a loss of normal balance between two "opposing" populations of Th lymphocytes.

21. What are the different types of T Lymphocytes?

- I. Th¹.
- II. Th₁ .
- III. Th₂.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: E

Two types of Th lymphocytes have been characterized: Th₁ and Th₂.

22. Which is critical in cellular defence mechanisms in response to infection produced by Th₁ cells?

- I. Interleukin (IL)-2.
- II. IFN- α .
- III. Interleukin -1.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: D

Th₁ cells produce interleukin (IL)-2 and IFN- α , which are critical in cellular defense mechanisms in response to infection.

23. Which of the following cytokines mediate allergic inflammation?

- I. IL-20.
- II. IL-9.
- III. IL-13.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: E

Th2, in contrast, generates a family of cytokines (IL-4, IL-5, IL-6, IL-9, and IL-13) that can mediate allergic inflammation.

24. Which of the following cytokines mediate allergic inflammation?

- I. IL-2.
- II. IL4.
- III. IL5.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: E

Th2, in contrast, generates a family of cytokines (IL-4, IL-5, IL-6, IL-9, and IL-13) that can mediate allergic inflammation.

25. Which of the followings are the causes for Airflow obstruction?

- I. Chronic bronchoconstriction.
- II. Acute bronchoconstriction.
- III. Airway edema.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: E

Airflow obstruction can be caused by a variety of changes, including acute bronchoconstriction, airway edema, chronic mucous plug formation, and airway remodeling

26. Which out of the followings are the causes for Airflow obstruction?

- I. Smooth muscle hypertrophy.
- II. Chronic mucous plug formation.
- III. Airway remodeling.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: E

Airflow obstruction can be caused by a variety of changes, including acute bronchoconstriction, airway edema, chronic mucous plug formation, and airway remodeling

27. What is the outcome of proceeding bronchoconstriction and airway remodelling?

- I. Airflow obstruction.
- II. Airflow hyperresponsiveness.
- III. Airflow infection.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: A

Airflow obstruction can be caused by a variety of changes, including acute bronchoconstriction, airway edema, chronic mucous plug formation, and airway remodeling

28. What is true from the following related to airway obstruction?

- I. increased resistance to airflow.
- II. increased expiratory flow rates.
- III. decreased expiratory flow rates.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: F

Airway obstruction causes increased resistance to airflow and decreased expiratory flow rates. These changes lead to a decreased ability to expel air and may result in hyperinflation

29. Respiratory failure leads to-

- I. Respiratory acidosis.
- II. Respiratory alkalosis.
- III. Alkalosis.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: A

Respiratory failure leads to respiratory acidosis

30. Which factors contribute to asthma or airway hyperreactivity ?

- I. Environmental allergens.
- II. Genetical.
- III. Viral respiratory tract infections.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: F

Factors that can contribute to asthma or airway hyperreactivity may include any of the following:

- *Environmental allergens (eg, house dust mites; animal allergens, especially cat and dog; cockroach allergens; and fungi)*
- *Viral respiratory tract infections*
- *Exercise, hyperventilation*
- *Gastroesophageal reflux disease*
- *Chronic sinusitis or rhinitis*
- *Aspirin or nonsteroidal anti-inflammatory drug (NSAID) hypersensitivity, sulfite sensitivity*
- *Use of beta-adrenergic receptor blockers (including ophthalmic preparations)*
- *Obesity*
- *Environmental pollutants, tobacco smoke*
- *Occupational exposure*
- *Irritants (eg, household sprays, paint fumes)*
- *Various high- and low-molecular-weight compounds (eg, insects, plants, latex, gums, diisocyanates, anhydrides, wood dust, and fluxes; associated with occupational asthma)*
- *Emotional factors or stress*
- *Perinatal factors (prematurity and increased maternal age; maternal smoking and prenatal exposure to tobacco smoke; breastfeeding has not been definitely shown to be protective)*

31. Which factors contribute to asthma or airway hyperreactivity?

- I. Animal allergens.
- II. House dust mites.
- III. Viral infection.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: D

Factors that can contribute to asthma or airway hyperreactivity may include any of the following:

- *Environmental allergens (eg, house dust mites; animal allergens, especially cat and dog; cockroach allergens; and fungi)*
- *Viral respiratory tract infections*

32. Which factors contribute to asthma or airway hyperreactivity?

- I. Exercise.
- II. Hypoventilation.
- III. Hyperventilation.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: F

Factors that can contribute to asthma or airway hyperreactivity may include any of the following:

- *Exercise, hyperventilation*

33. Which factors contribute to asthma or airway hyperreactivity?

- I. Chronic sinusitis.
- II. Acute sinusitis.
- III. Aspirin or nonsteroidal anti-inflammatory drug (NSAID) hypersensitivity.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: F

Factors that can contribute to asthma or airway hyperreactivity may include any of the following:

- *Gastroesophageal reflux disease*
- *Chronic sinusitis or rhinitis*
- *Aspirin or nonsteroidal anti-inflammatory drug (NSAID) hypersensitivity, sulfite sensitivity*

34. Which factors contribute to asthma or airway hyperreactivity?

- I. Use of beta-adrenergic receptor blockers (including ophthalmic preparations).
- II. Use of calcium channel blockers.
- III. Obesity.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: F

Factors that can contribute to asthma or airway hyperreactivity may include any of the following:

- *Use of beta-adrenergic receptor blockers (including ophthalmic preparations)*
- *Obesity*

35. Which factors contribute to asthma or airway hyperreactivity?

- I. Environmental pollutants.
- II. Tobacco smoke.
- III. Alcoholics.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: D

Factors that can contribute to asthma or airway hyperreactivity may include any of the following:

- *Environmental pollutants, tobacco smoke*
- *Occupational exposure*

36. Which factors contribute to asthma or airway hyperreactivity?

- I. Irritants (eg, household sprays, paint fumes).
- II. Various high- and low-molecular-weight compounds (eg, insects, plants).
- III. Perfumes.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: D

Factors that can contribute to asthma or airway hyperreactivity may include any of the following:

- *Irritants (eg, household sprays, paint fumes)*
- *Various high- and low-molecular-weight compounds (eg, insects, plants, latex, gums, diisocyanates, anhydrides, wood dust, and fluxes; associated with occupational asthma)*

37. Which factors contribute to asthma or airway hyperreactivity?

- I. Emotional factors or stress.
- II. Neuronal factors.
- III. Perinatal factors.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: F

Factors that can contribute to asthma or airway hyperreactivity may include any of the following:

- *Emotional factors or stress*
- *Perinatal factors (prematurity and increased maternal age; maternal smoking and prenatal exposure to tobacco smoke; breastfeeding has not been definitely shown to be protective)*

38. Which factors contribute to asthma or airway hyperreactivity?

- I. Prematurity and increased maternal age.
- II. Maternal alcoholism.
- III. Prenatal exposure to tobacco smoke.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: F

Factors that can contribute to asthma or airway hyperreactivity may include any of the following:

Perinatal factors (prematurity and increased maternal age; maternal smoking and prenatal exposure to tobacco smoke; breastfeeding has not been definitely shown to be protective)

39. Which factors contribute to asthma or airway hyperreactivity?

- I. Gastroesophageal reflux disease.
- II. Esophageal reflux disease.
- III. Occupational exposure.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: F

Factors that can contribute to asthma or airway hyperreactivity may include any of the following:

Occupational exposure

Gastroesophageal reflux disease

40. Which different types of asthma are recognised?

- I. Immunity related asthma.
- II. Immune-related asthma .
- III. Non-immune-related asthma.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: E

40 Two types of occupational asthma are recognized: immune-related and non-immune-related.

41. Which of the following is true for Immune-mediated asthma?

- I. Has no latency period.
- II. It has a latency of months to years after exposure.
- III. May occur within 24 hours after an accidental exposure of respiratory irritants.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: B

41. Immune-mediated asthma has a latency of months to years after exposure.

42. Which of the following is true for Non-immune-mediated asthma, or irritant-induced asthma?

- I. Has no latency period.
- II. It has a latency of months to years after exposure.
- III. May occur within 24 hours after an accidental exposure of respiratory irritants.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: F

42. Non-immune-mediated asthma, or irritant-induced asthma (reactive airway dysfunction syndrome), has no latency period and may occur within 24 hours after an accidental exposure to high concentrations of respiratory irritants

43. Which Factors that contribute to exercise-induced bronchospasm symptoms?

- I. Exposure to cold or dry air .
- II. Environmental pollutants (eg, sulfur, ozone).
- III. Tobacco smoke.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: D

Factors that contribute to exercise-induced bronchospasm symptoms (in both people with asthma and athletes) include the following:

- *Exposure to cold or dry air*
- *Environmental pollutants (eg, sulfur, ozone)*

44. Which Factors that contribute to exercise-induced bronchospasm symptoms?

- I. Level of bronchial hyperreactivity .
- II. Level of bronchus hyperreactivity.
- III. Chronicity of asthma and symptomatic control.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: F

Factors that contribute to exercise-induced bronchospasm symptoms (in both people with asthma and athletes) include the following:

- *Level of bronchial hyperreactivity*
- *Chronicity of asthma and symptomatic control*

45. Which Factors that contribute to exercise-induced bronchospasm symptoms?

- I. Coexisting lung infection.
- II. Allergen exposure in atopic individuals.
- III. Coexisting respiratory infection.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: E

Factors that contribute to exercise-induced bronchospasm symptoms (in both people with asthma and athletes) include the following:

- *Duration and intensity of exercise*
- *Allergen exposure in atopic individuals*
- *Coexisting respiratory infection*

46. Which key points related regarding asthma should be taught to asthmatic patient?

- I. Patient education should be integrated into every aspect of asthma care.
- II. All members of the healthcare team should provide education. .
- III. Head of the member of the healthcare team should provide education.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: D

The key points of education include the following:

- *Patient education should be integrated into every aspect of asthma care*
- *All members of the healthcare team, including nurses, pharmacists, and respiratory therapists, should provide education.*

47. Which key points related regarding asthma should be taught to asthmatic patient?

- I. Clinicians should teach patients asthma self-management based on basic asthma facts.
- II. Management of asthma discussed to patient.
- III. Treatment goals should be developed for the patient and family.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: F

The key points of education include the following:

- *Clinicians should teach patients asthma self-management based on basic asthma facts, self-monitoring techniques, the role of medications, inhaler use, and environmental control measures. [39, 40, 41]*
- *Treatment goals should be developed for the patient and family.*

48. Which key points related regarding asthma should be taught to asthmatic patient?

- I. orally presented the self management plans.
- II. A written, individualized, daily self-management plan should be developed.
- III. Several well-validated asthma action plans are now available.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: E

The key points of education include the following:

- *A written, individualized, daily self-management plan should be developed.*
- *Several well-validated asthma action plans are now available and are key in the management of asthma and should therefore be reviewed: ACT (Asthma Control Test), ATAQ (Asthma Therapy Assessment Questionnaire), and ACQ (Asthma Control Questionnaire).*

49. Which is most common symptom of asthma?

- I. Cough.
- II. Wheezing.
- III. Pain.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: B

Wheezing, a musical, high-pitched, whistling sound produced by airflow turbulence, is one of the most common symptoms.

50. What is addressed by detailed assessment of the medical history?

- I. Whether symptoms are attributable to respiratory tract.
- II. Whether findings support the likelihood of asthma (eg, family history).
- III. Whether symptoms are attributable to asthma.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer: D

A detailed assessment of the medical history should address the following:

- *Whether symptoms are attributable to asthma*
- *Whether findings support the likelihood of asthma (eg, family history)*

Drugs and pharmacology

1. Which out of the following is used for the pharmacologic management of Asthma?

- I. Diuretics.
- II. Corticosteroids.
- III. Skeletal muscle relaxant.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer B

Pharmacologic management includes the use of control agents such as inhaled corticosteroids, inhaled cromolyn or nedocromil, long-acting bronchodilators, theophylline, leukotriene modifiers, and more recent strategies such as the use of anti-immunoglobulin E (ige) antibodies (omalizumab). Relief medications include short-acting bronchodilators, systemic corticosteroids, and ipratropium

2. Which out of the following is used for the pharmacologic management of Asthma?

- I. Statins.
- II. Skeletal muscle relaxant.
- III. Cromolyn or nedocromil.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer C

Pharmacologic management includes the use of control agents such as inhaled corticosteroids, inhaled cromolyn or nedocromil, long-acting bronchodilators, theophylline, leukotriene modifiers, and more recent strategies such as the use of anti-immunoglobulin E (ige) antibodies (omalizumab). Relief medications include short-acting bronchodilators, systemic corticosteroids, and ipratropium

3. Which out of the following is used for the pharmacologic management of Asthma?

- I. Long-acting bronchodilators.
- II. Ipratropium.
- III. Skeletal muscle relaxant.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer D

Pharmacologic management includes the use of control agents such as inhaled corticosteroids, inhaled cromolyn or nedocromil, long-acting bronchodilators, theophylline, leukotriene modifiers, and more recent strategies such as the use of anti-immunoglobulin E (ige) antibodies (omalizumab). Relief medications include short-acting bronchodilators, systemic corticosteroids, and ipratropium

4. Which out of the following is used for the pharmacologic management of Asthma?

- I. Theophylline.
- II. Systemic corticosteroids.
- III. Skeletal muscle relaxant.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer D

Pharmacologic management includes the use of control agents such as inhaled corticosteroids, inhaled cromolyn or nedocromil, long-acting bronchodilators, theophylline, leukotriene modifiers, and more recent strategies such as the use of anti-immunoglobulin E (ige) antibodies (omalizumab). Relief medications include short-acting bronchodilators, systemic corticosteroids, and ipratropium

5. Which out of the following is used for the pharmacologic management of Asthma?

- I. Skeletal muscle relaxant.
- II. Short-acting bronchodilators.
- III. Immunoglobulin E (IgE) antibodies (omalizumab).

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer E

Pharmacologic management includes the use of control agents such as inhaled corticosteroids, inhaled cromolyn or nedocromil, long-acting bronchodilators, theophylline, leukotriene modifiers, and more recent strategies such as the use of anti-immunoglobulin E (ige) antibodies (omalizumab). Relief medications include short-acting bronchodilators, systemic corticosteroids, and ipratropium

6. What should be the goal for successful management of asthma?

- I. Achieve and maintain control of asthma symptoms.
- II. Maintain normal activity levels, including exercise.
- III. Treatment of infection.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer D

The goals for successful management of asthma outlined in the 2008 US National Heart

- *Achieve and maintain control of asthma symptoms*
- *Maintain normal activity levels, including exercise*

7. What should be the goal for successful management of asthma?

- I. Maintain pulmonary function as close to normal as possible.
- II. Prevent asthma exacerbations.
- III. Treatment of infection.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer D

The goals for successful management of asthma outlined in the 2008 US National Heart

- *Maintain pulmonary function as close to normal as possible*
- *Prevent asthma exacerbations*

8. What should be the goal for successful management of asthma?

- I. Avoid adverse effects from asthma medications.
- II. Treatment of infection.
- III. Prevent asthma mortality.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer F

The goals for successful management of asthma outlined in the 2008 US National Heart

- *Avoid adverse effects from asthma medications*
- *Prevent asthma mortality*

9. The pharmacologic treatment of asthma is based on-

- I. Stepup therapy.
- II. Stepwise therapy.
- III. Stepdown therapy.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer B

The pharmacologic treatment of asthma is based on stepwise therapy

10. What is true related to the use of medication in treatment of intermittent asthma (step 1)?

- I. Reliever medication is a long-acting beta-agonist.
- II. Reliever medication is a short-acting beta-antagonist.
- III. Reliever medication is a short-acting beta-agonist.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer C

Step 1 - Intermittent asthma

A controller medication is not indicated. The reliever medication is a short-acting beta-agonist

(SABA) as needed for symptoms.

11. What is true related to the use of medication in treatment of Mild persistent asthma (step 2)?

- I. The preferred controller medication is a low-dose inhaled corticosteroid.
- II. Reliever medication is a short-acting beta-antagonist.
- III. Reliever medication is a short-acting beta-agonist.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer A

Step 2 - Mild persistent asthma

The preferred controller medication is a low-dose inhaled corticosteroid. Alternatives include sodium cromolyn, nedocromil, or a leukotriene receptor antagonist (LTRA).

12. What is true related to the use of medication in treatment of Mild persistent asthma (step 2)?

- I. Reliever medication is a short-acting beta-agonist.
- II. Alternatives medication includes sodium cromolyn and nedocromil.
- III. Alternatives medication includes leukotriene receptor antagonist (LTRA).

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer E

Step 2 - Mild persistent asthma

Alternatives include sodium cromolyn, nedocromil, or a leukotriene receptor antagonist (LTRA).

13. What is true related to the use of medication in treatment of Moderate persistent asthma (step 3)?

- I. Reliever medication is a short-acting beta-agonist.
- II. The preferred controller medication is either a low-dose inhaled corticosteroid plus a long-acting beta-agonist.
- III. The preferred controller medication is either a low-dose inhaled corticosteroid plus a long-acting beta-agonist.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Step 3 - Moderate persistent asthma

The preferred controller medication is either a low-dose inhaled corticosteroid plus a long-acting beta-agonist (LABA) (combination medication preferred choice to improve compliance)^[75] or an inhaled medium-dose corticosteroid.

14. What is true related to the use of medication in treatment of Moderate persistent asthma (step 3)?

- I. Alternative medication includes an inhaled low-dose ICS plus a leukotriene receptor antagonist theophylline.
- II. Alternative medication includes an inhaled low-dose ICS plus a leukotriene receptor antagonist zileuton.
- III. Reliever medication is a short-acting beta-agonist.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer D

Step 3 - Moderate persistent asthma

Alternatives include an inhaled low-dose ICS plus either a leukotriene receptor antagonist, theophylline, or zileuton (Zyflo).

15. What is true related to the use of medication in treatment of Moderate-to-severe persistent asthma (step 4)?

- I. Reliever medication is a short-acting beta-agonist.
- II. The preferred controller medication is an inhaled medium-dose corticosteroid plus a leukotriene receptor antagonist.
- III. Reliever medication is a short-acting beta-antagonist.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer B

Step 4 - Moderate-to-severe persistent asthma

The preferred controller medication is an inhaled medium-dose corticosteroid plus a leukotriene receptor antagonist (combination therapy). Alternatives include an inhaled medium-dose corticosteroid plus either a leukotriene receptor antagonist, theophylline, or zileuton.

16. What is true related to the use of medication in treatment of Moderate-to-severe persistent asthma (step 4)?

- I. Alternative medication include an inhaled medium-dose corticosteroid plus a leukotriene receptor antagonist.
- II. Reliever medication is a short-acting beta-agonist.
- III. Alternatives medication include an inhaled medium-dose corticosteroid plus a theophylline.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer F

What is true related to the use of medication in treatment of Moderate-to-severe persistent asthma (step 4)?

17. What is true related to the use of medication in treatment of severe persistent asthma (step 5)?

- I. Reliever medication is a short-acting beta-agonist.
- II. Reliever medication is a short-acting beta-antagonist.
- III. The preferred controller medication is an inhaled high-dose corticosteroid plus a leukotriene receptor antagonist.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer C

The preferred controller medication is an inhaled high-dose corticosteroid plus a leukotriene receptor antagonist.

18. What is true related to the use of medication in treatment of severe persistent asthma (step 5)?

- I. Penicilline for patients who have allergies.
- II. Omalizumab for patients who have allergies.
- III. Pipracilline for patients who have allergies.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer B

*Step 5 - Severe persistent asthma
Consider omalizumab for patients who have allergies.*

19. What is true related to the use of medication in treatment of severe persistent asthma (step 6)?

- I. Preferred controller medication is a high-dose inhaled corticosteroid plus a leukotriene receptor antagonist plus an oral corticosteroid.
- II. Reliever medication is a short-acting beta-agonist.
- III. Reliever medication is a short-acting alpha-agonist.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer A

Step 6 - Severe persistent asthma

The preferred controller medication is a high-dose inhaled corticosteroid plus a leukotriene receptor antagonist plus an oral corticosteroid. Consider omalizumab for patients who have allergies

20. Which drug is used for the prophylaxis of exercise induced Asthma?

- I. Terbutaline.
- II. Liraglutide.
- III. Albuterol.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer C

Prophylaxis The most commonly used medications are short-acting beta agonists such as albuterol. Sodium cromolyn and nedocromil used 30 minutes prior to exercise have also been effective

21. Which drug is used for the prophylaxis of exercise induced Asthma?

- I. Nedocromil.
- II. Orlistat.
- III. Rimonabant.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer A

Prophylaxis The most commonly used medications are short-acting beta agonists such as albuterol. Sodium cromolyn and nedocromil used 30 minutes prior to exercise have also been effective

22. Which drug is used for the prophylaxis of exercise induced Asthma?

- I. Diazepam.
- II. Sodium cromolyn.
- III. Lorazepam.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer B

Prophylaxis The most commonly used medications are short-acting beta agonists such as albuterol. Sodium cromolyn and nedocromil used 30 minutes prior to exercise have also been effective

23. What are the preventive measures to avoid dust mites Allergy?

- I. Using impervious covers.
- II. Putting clothing away in closets and drawers.
- III. Poison baits and traps.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer D

Measures to avoid dust mites include using impervious covers (eg, on mattresses, pillows, comforters, the most important intervention), washing other bedding in hot water (130°F [54.4°C] most effective), removing rugs from the bedroom, limiting upholstered furniture, reducing the number of window blinds, and putting clothing away in closets and drawers.

24. What are the preventive measures to avoid dust mites Allergy?

- I. Reducing the number of window blinds.
- II. Poison baits and traps.
- III. Washing other bedding in hot water.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer F

Measures to avoid dust mites include using impervious covers (eg, on mattresses, pillows, comforters, the most important intervention), washing other bedding in hot water (130°F [54.4°C] most effective), removing rugs from the bedroom, limiting upholstered furniture, reducing the number of window blinds, and putting clothing away in closets and drawers

25. What are the preventive measures to avoid dust mites Allergy?

- I. limiting upholstered furniture.
- II. Removing rugs from the bedroom.
- III. Poison baits and traps.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer D

Measures to avoid dust mites include using impervious covers (eg, on mattresses, pillows, comforters, the most important intervention), washing other bedding in hot water (130°F [54.4°C] most effective), removing rugs from the bedroom, limiting upholstered furniture, reducing the number of window blinds, and putting clothing away in closets and drawers

26. What are the preventive measures to avoid allergy associated cockroaches?

- I. Reducing the number of window blinds.
- II. Poison baits and traps.
- III. Keep food out of the bedroom.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer E

To control cockroaches, exterminate and use poison baits and traps, keep food out of the bedroom, and never leave food out in the open

27. What are the preventive measures to avoid allergy associated molds?

- I. Keeping areas dry.
- II. Reducing the number of window blinds.
- III. Removing old wallpaper.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer F

For indoor molds (size 1-150 μm), avoidance includes keeping areas dry (eg, remove carpets from wet floors), removing old wallpaper, cleaning with bleach products, and storing firewood outdoors.

28. What are the preventive measures to avoid allergy associated molds?

- I. Reducing the number of window blinds.
- II. Cleaning with bleach products.
- III. Storing firewood outdoors.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer E

For indoor molds (size 1-150 μm), avoidance includes keeping areas dry (eg, remove carpets from wet floors), removing old wallpaper, cleaning with bleach products, and storing firewood outdoors.

29. What are the preventive measures to avoid allergy associated Pollen?

- I. Closing windows and doors.
- II. Using air conditioning and high-efficiency particulate air filters in the car and home.
- III. Storing firewood outdoors.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer D

Pollen (size 1-150 μm) avoidance is difficult or impossible, but efforts to reduce exposure include closing windows and doors, using air conditioning and high-efficiency particulate air filters in the car and home, staying inside during the midday and afternoon when pollen counts are highest, wearing glasses or sunglasses, and wearing a face mask over the nose and mouth when mowing the lawn

30. What are the preventive measures to avoid allergy associated Pollen?

- I. Storing firewood outdoors.
- II. Staying inside during the midday and afternoon.
- III. Removing rugs from the bedroom.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer B

Pollen (size 1-150 μm) avoidance is difficult or impossible, but efforts to reduce exposure include closing windows and doors, using air conditioning and high-efficiency particulate air filters in the car and home, staying inside during the midday and afternoon when pollen counts are highest, wearing glasses or sunglasses, and wearing a face mask over the nose and mouth when mowing the lawn

31. What are the preventive measures to avoid allergy associated Pollen?

- I. Wearing glasses or sunglasses.
- II. Removing rugs from the bedroom.
- III. Wearing a face mask over the nose and mouth when mowing the lawn.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer F

Pollen (size 1-150 μm) avoidance is difficult or impossible, but efforts to reduce exposure include closing windows and doors, using air conditioning and high-efficiency particulate air filters in the car and home, staying inside during the midday and afternoon when pollen counts are highest, wearing glasses or sunglasses, and wearing a face mask over the nose and mouth when mowing the lawn

32. According to the National Asthma Education and Prevention Program Expert Panel Report, What are the criteria for the use of immunotherapy in Asthmatic Patient?

- I. Symptoms occur all year or during a major portion of the year.
- II. Symptoms are difficult to control with Non-pharmacologic management.
- III. Symptoms are difficult to control with pharmacologic management.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer F

The National Asthma Education and Prevention Program Expert Panel Report recommends that immunotherapy be considered if the following criteria are fulfilled:

- *Symptoms occur all year or during a major portion of the year.*
- *Symptoms are difficult to control with pharmacologic management because the medication is ineffective, multiple medications are required, or the patient is not accepting of medication.*

33. According to the National Asthma Education and Prevention Program Expert Panel Report, What are the criteria for the use of immunotherapy in Asthmatic Patient?

- I. Medication is ineffective.
- II. Multiple medications are required.
- III. Symptoms are difficult to control with Non-pharmacologic management.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer D

The National Asthma Education and Prevention Program Expert Panel Report recommends that immunotherapy be considered if the following criteria are fulfilled:

- *Symptoms occur all year or during a major portion of the year.*
- *Symptoms are difficult to control with pharmacologic management because the medication is ineffective, multiple medications are required, or the patient is not accepting of medication.*

34. What is being used for more than almost 100 years to treat allergic rhinitis?

- I. Repeated injections of small doses of allergen.
- II. Beta agonist.
- III. Corticosteroids.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer A

Repeated injections of small doses of allergen have been used for more than almost 100 years to treat allergic rhinitis

35. Dosing of allergen extracts is in-

- I. Bioavailability allergy units (BAU).
- II. Bioequivalent allergy units (BAU).
- III. Weight per volume (w/v).

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer E

Dosing of allergen extracts is in bioequivalent allergy units (BAU), weight per volume (w/v), or protein nitrogen units (PNU), but "major allergen content" may be a more standardized and reliable method of dosing and characterizing allergen extracts

36. Which is more standardized and reliable method of dosing and characterizing allergen extracts?

- I. Bioequivalent allergy units (BAU).
- II. Major allergen content.
- III. Weight per volume (w/v).

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer B

Dosing of allergen extracts is in bioequivalent allergy units (BAU), weight per volume (w/v), or protein nitrogen units (PNU), but "major allergen content" may be a more standardized and reliable method of dosing and characterizing allergen extracts

37. Which drug was approved by the FDA in 2003 for adults and adolescents (≥ 12 y) for the treatment of moderate-to-severe persistent asthma?

- I. SIBUTRAMINE.
- II. Pregabalin.
- III. Omalizumab.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer C

Omalizumab was approved by the FDA in 2003 for adults and adolescents (≥ 12 y) with moderate-to-severe persistent asthma

38. What is true related to the use of Omalizumab for the treatment of asthma?

- I. Patients should have IgE levels between 30 and 700 IU.
- II. Patients should not weigh more than 150 kg.
- III. Patients should weigh less than 150 kg.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer D

Patients should have ige levels between 30 and 700 IU and should not weigh more than 150 kg

39. Which is a novel intervention for asthma delivers controlled thermal energy to the airway wall during a series of bronchoscopy procedures?

- I. Bronchial irradiation.
- II. Bronchial thermoplasty (BT).
- III. Bronchial thermoirradiation.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer B

Bronchial thermoplasty (BT) is a novel intervention for asthma in which controlled thermal energy is delivered to the airway wall during a series of bronchoscopy procedures

40. What is the mainstay of ED therapy for acute asthma?

- I. Inhaled beta2 antagonist
- II. Inhaled beta₂ agonists.
- III. Inhaled alpha agonist.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer B

The mainstay of ED therapy for acute asthma is inhaled beta₂ agonists.

41. What is the most effective particle size of droplet expelled by inhaler device for asthma?

- I. 0.1-0.5 μm .
- II. 0.5-0.9 μm .
- III. 1-5 μm .

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer C

The most effective particle sizes are 1-5 μm . Larger particles are ineffective because they are deposited in the mouth and central airways. Particles smaller than 1 μm are too small to be effective because they move in the airways by Brownian motion and do not reach the lower airways

42. Why larger particles (>5 μm) expelled from inhaler device for asthma are ineffective?

- I. They move in the airways by Newtonian motion.
- II. They move in the airways by Brownian motion.
- III. They are deposited in the mouth and central airways.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer C

The most effective particle sizes are 1-5 μm . Larger particles are ineffective because they are deposited in the mouth and central airways. Particles smaller than 1 μm are too small to be effective because they move in the airways by Brownian motion and do not reach the lower airways

43. Why smaller particles (<1 µm) expelled from inhaler device for asthma are ineffective?

- I. They move in the airways by Brownian motion and do not reach the lower airways.
- II. They are deposited in the mouth and central airways.
- III. They move in the airways by newtonian motion.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer A

The most effective particle sizes are 1-5 µm. Larger particles are ineffective because they are deposited in the mouth and central airways. Particles smaller than 1 µm are too small to be effective because they move in the airways by Brownian motion and do not reach the lower airways

44. What is the dose of Albuterol for the treatment of asthma?

- I. 2.5-5 mg every 10 minutes for 3 doses, then 2.5-10 mg every 1-4 hours as needed.
- II. 2.5-5 mg every 20 minutes for 3 doses, then 2.5-10 mg every 1-4 hours as needed.
- III. 2.5-5 mg every 30 minutes for 3 doses, then 2.5-10 mg every 1-4 hours as needed.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer B

Albuterol is administered 2.5-5 mg every 20 minutes for 3 doses, then 2.5-10 mg every 1-4 hours as needed; dilution of 2.5 mg in 3-4 ml of saline or use of premixed nebulers is standard.

45. Oxygen or compressed air delivery of the inhaled beta agonists should be at a rate of-

- I. 6-8 L/min.
- II. 7-10 L/min.
- III. 10-12 L/min.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer A

Oxygen or compressed air delivery of the inhaled beta agonists should be at a rate of 6-8 L/min.

46. What is the dose of Albuterol in children for the treatment of asthma?

- I. 0.15 mg/kg every 5 minutes for 3 doses, then 0.15-0.3 mg/kg up to 10 mg every 1-4 hours.
- II. 0.15 mg/kg every 10 minutes for 3 doses, then 0.15-0.3 mg/kg up to 10 mg every 1-4 hours.
- III. 0.15 mg/kg every 20 minutes for 3 doses, then 0.15-0.3 mg/kg up to 10 mg every 1-4 hours.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer C

For children, use 0.15 mg/kg (minimum dose 2.5 mg) every 20 minutes for 3 doses, then 0.15-0.3 mg/kg up to 10 mg every 1-4 hours as needed

47. Which method is superior to the MDI/holding chamber method in a patient with severe exacerbations?

- I. Nebulization.
- II. Inhalation.
- III. Continuous nebulization.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer C

Continuous nebulization may be superior to the MDI/holding chamber method in a patient with severe exacerbations (eg, PEF < 200 L/min). DAPRMCQ49 The dose of albuterol is 10-15 mg in 70 ml of isotonic saline. DAPRMCQ50 For children, this method is reserved for severe asthma at an albuterol dose of 0.5 mg/kg/h

48. Which method is used during severe exacerbations of asthma?

- I. Continuous nebulization.
- II. Inhalation.
- III. MDI/holding chamber.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer F

Continuous nebulization may be superior to the MDI/holding chamber method in a patient with severe exacerbations (eg, PEF < 200 L/min).

49. What is the dose of Albuterol for Continuous nebulization in a patient with severe exacerbations?

- I. 1-1 mg in 70 mL of isotonic saline.
- II. 5-10 mg in 70 mL of isotonic saline.
- III. 10-15 mg in 70 mL of isotonic saline.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer C

Continuous nebulization may be superior to the MDI/holding chamber method in a patient with severe exacerbations (eg, PEF < 200 L/min). DAPRMCQ49 The dose of albuterol is 10-15 mg in 70 ml of isotonic saline. DAPRMCQ50 For children, this method is reserved for severe asthma at an albuterol dose of 0.5 mg/kg/h

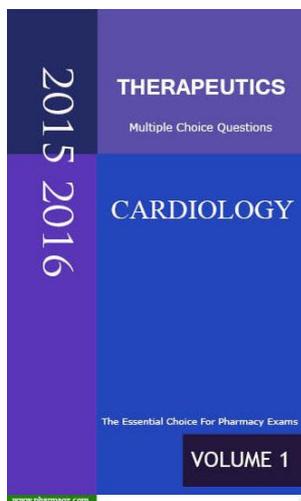
50. What is the dose of Albuterol in children for Continuous nebulization in a patient with severe exacerbations?

- I. 0.5 mg/kg/h.
- II. 0.8 mg/kg/h.
- III. 1.2 mg/kg/h.

- A) I only
- B) II only
- C) III only
- D) I and II
- E) II and III
- F) I and III

Answer A

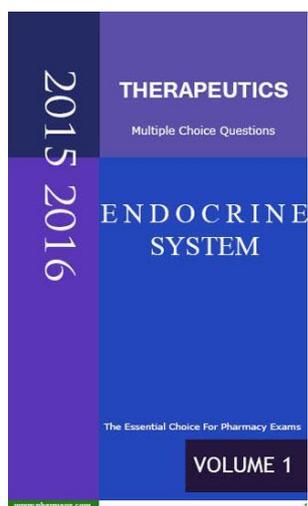
Continuous nebulization may be superior to the MDI/holding chamber method in a patient with severe exacerbations (eg, PEF < 200 L/min). The dose of albuterol is 10-15 mg in 70 ml of isotonic saline. For children, this method is reserved for severe asthma at an albuterol dose of 0.5 mg/kg/h



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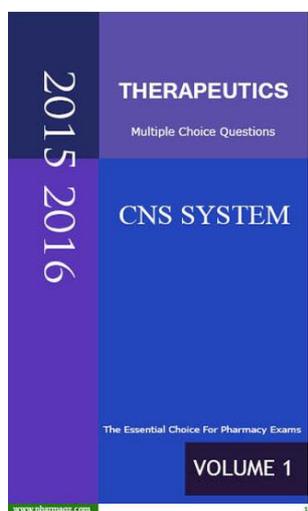
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