

## **Adams, *Pharmacology for Nurse: A Pathophysiologic Approach*, 4/E**

### **Chapter 1**

#### **Question 1**

**Type:** MCMA

The nurse is teaching a pharmacology class to student nurses. What does the nurse include as key events in the history of pharmacology?

Note: Credit will be given only if all correct choices and no incorrect choices are selected.

**Standard Text:** Select all that apply.

1. Initial drugs included morphine, cocaine, and penicillin.
2. Early researchers used themselves as test subjects.
3. The initial intention of pharmacology was to relieve human suffering.
4. Modern pharmacology began in the early 1600s.
5. Pharmacologists synthesized drugs in the laboratory in the twentieth century.

**Correct Answer:** 2,3,5

**Rationale 1:** The early roots of pharmacology included the application of products to relieve human suffering, and early researchers used themselves as test subjects. Initial drugs included morphine, colchicines, curare, and cocaine, but not penicillin. Modern pharmacology began in the early 1800s, not the 1600s. By the twentieth century, pharmacologists could synthesize drugs in the laboratory.

**Rationale 2:** The early roots of pharmacology included the application of products to relieve human suffering, and early researchers used themselves as test subjects. Initial drugs included morphine, colchicines, curare, and cocaine, but not penicillin. Modern pharmacology began in the early 1800s, not the 1600s. By the twentieth century, pharmacologists could synthesize drugs in the laboratory.

**Rationale 3:** The early roots of pharmacology included the application of products to relieve human suffering, and early researchers used themselves as test subjects. Initial drugs included morphine, colchicines, curare, and cocaine, but not penicillin. Modern pharmacology began in the early 1800s, not the 1600s. By the twentieth century, pharmacologists could synthesize drugs in the laboratory.

**Rationale 4:** The early roots of pharmacology included the application of products to relieve human suffering, and early researchers used themselves as test subjects. Initial drugs included morphine, colchicines, curare, and cocaine, but not penicillin. Modern pharmacology began in the early 1800s, not the 1600s. By the twentieth century, pharmacologists could synthesize drugs in the laboratory.

**Rationale 5:** The early roots of pharmacology included the application of products to relieve human suffering, and early researchers used themselves as test subjects. Initial drugs included morphine, colchicines, curare, and cocaine, but not penicillin. Modern pharmacology began in the early 1800s, not the 1600s. By the twentieth century, pharmacologists could synthesize drugs in the laboratory.

**Global Rationale:**

**Cognitive Level:** Applying

**Client Need:** Physiological Integrity

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Implementation

**Learning Outcome:** 1-1

**Question 2**

**Type:** MCSA

The student nurse asks the nursing instructor why he needs to take anatomy and physiology, as well as microbiology, when he only wants to learn about pharmacology. What is the best response by the instructor?

1. "Because pharmacology is an outgrowth of those subjects."
2. "You must learn all, since those subjects, as well as pharmacology, are part of the curriculum."
3. "Knowledge of all those subjects will prepare you to provide the best patient care, including the administration of medications."
4. "Because an understanding of those subjects is essential to understanding pharmacology."

**Correct Answer:** 4

**Rationale 1:** It is essential for the nurse to have a broad knowledge base of many sciences in order to learn pharmacology. The nurse must learn anatomy, physiology, and microbiology to understand pharmacology, not because they are part of the curriculum. Pharmacology is an outgrowth of anatomy, physiology, and microbiology, but this is not the reason for the nurse to learn them. Knowledge of anatomy, physiology, and microbiology prepares the nurse to understand pharmacology, not to provide care such as administration of medications.

**Rationale 2:** It is essential for the nurse to have a broad knowledge base of many sciences in order to learn pharmacology. The nurse must learn anatomy, physiology, and microbiology to understand pharmacology, not because they are part of the curriculum. Pharmacology is an outgrowth of anatomy, physiology, and microbiology, but this is not the reason for the nurse to learn them. Knowledge of anatomy, physiology, and microbiology prepares the nurse to understand pharmacology, not to provide care such as administration of medications.

**Rationale 3:** It is essential for the nurse to have a broad knowledge base of many sciences in order to learn pharmacology. The nurse must learn anatomy, physiology, and microbiology to understand pharmacology, not because they are part of the curriculum. Pharmacology is an outgrowth of anatomy, physiology, and microbiology, but this is not the reason for the nurse to learn them. Knowledge of anatomy, physiology, and microbiology prepares the nurse to understand pharmacology, not to provide care such as administration of medications.

**Rationale 4:** It is essential for the nurse to have a broad knowledge base of many sciences in order to learn pharmacology. The nurse must learn anatomy, physiology, and microbiology to understand pharmacology, not because they are part of the curriculum. Pharmacology is an outgrowth of anatomy, physiology, and microbiology, but this is not the reason for the nurse to learn them. Knowledge of anatomy, physiology, and microbiology prepares the nurse to understand pharmacology, not to provide care such as administration of medications.

**Global Rationale:**

**Cognitive Level:** Applying

**Client Need:** Physiological Integrity

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Implementation

**Learning Outcome:** 1-2

**Question 3**

**Type:** MCMA

The nursing instructor is teaching a pharmacology class to student nurses. The current focus is pharmacology and therapeutics. The nursing instructor determines that learning has occurred when the students make which comments?

Note: Credit will be given only if all correct choices and no incorrect choices are selected.

**Standard Text:** Select all that apply.

1. "Pharmacology is the use of drugs to relieve suffering."
2. "Pharmacology is the study of medicines."
3. "Therapeutics is the study of the therapeutic use of drugs."
4. "Therapeutics is the study of drug interactions."
5. "Pharmacology is the study of drugs to prevent disease."

**Correct Answer:** 1,2

**Rationale 1:** Pharmacology is the study of medicines and the use of drugs to relieve suffering. Therapeutics is the study of disease prevention and treatment of suffering. Pharmacotherapy is the application of drugs for the purpose of disease prevention.

**Rationale 2:** Pharmacology is the study of medicines and the use of drugs to relieve suffering. Therapeutics is the study of disease prevention and treatment of suffering. Pharmacotherapy is the application of drugs for the purpose of disease prevention.

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**Rationale 4:** Pharmacology is the study of medicines and the use of drugs to relieve suffering. Therapeutics is the study of disease prevention and treatment of suffering. Pharmacotherapy is the application of drugs for the purpose of disease prevention.

**Rationale 5:** Pharmacology is the study of medicines and the use of drugs to relieve suffering. Therapeutics is the study of disease prevention and treatment of suffering. Pharmacotherapy is the application of drugs for the purpose of disease prevention.

**Global Rationale:**

**Cognitive Level:** Applying

**Client Need:** Physiological Integrity

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Evaluation

**Learning Outcome:** 1-3

**Question 4**

**Type:** MCSA

The nurse administers a vaccine to a child. What is the best understanding of the nurse as it relates to the manufacture of this vaccine?

1. The vaccine is produced by natural plant extracts in the laboratory.
2. The vaccine is naturally produced in animal cells or microorganisms.
3. The vaccine is produced by a combination of animal and plant products.
4. The vaccine is most commonly synthesized in a laboratory.

**Correct Answer:** 2

**Rationale 1:** Vaccines are naturally produced in animal cells, microorganisms, or by the body itself. Vaccines are not synthesized in a laboratory. Vaccines are not produced by natural plant extracts. Vaccines are not produced by a combination of animal and plant products.

**Rationale 2:** Vaccines are naturally produced in animal cells, microorganisms, or by the body itself. Vaccines are not synthesized in a laboratory. Vaccines are not produced by natural plant extracts. Vaccines are not produced by a combination of animal and plant products.

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**Global Rationale:**

**Cognitive Level:** Applying

**Client Need:** Physiological Integrity

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Evaluation

**Learning Outcome:** 1-4

**Question 5**

**Type:** MCSA

The elderly client has gastrointestinal bleeding. The client says to the nurse "I don't understand this. All I did was take ibuprofen (Advil) for my arthritis." Which plan would be best as it relates to the nurse's education of this client?

1. A plan to teach the client to use drugs that bypass the gastrointestinal system, like topical drugs
2. A plan to teach the client to substitute safer drugs like acetaminophen (Tylenol)
3. A plan to teach the client to obtain physician approval prior to the use of over-the-counter (OTC) medications
4. A plan to teach the advantages and disadvantages of ibuprofen (Advil)

**Correct Answer:** 4

**Rationale 1:** Since elderly clients account for the use of about 40% of all over-the-counter (OTC) medications, it is essential for the nurse to teach clients about the advantages, and the disadvantages, of these medications. Substitution of other drugs may be beneficial, but this cannot be done in all situations. The use of topical drugs may be an option, but the drug a client needs may not be available in this form. It is not a realistic plan to expect clients to contact their physician prior to taking any over-the-counter (OTC) medication.

**Rationale 2:** Since elderly clients account for the use of about 40% of all over-the-counter (OTC) medications, it is essential for the nurse to teach clients about the advantages, and the disadvantages, of these medications. Substitution of other drugs may be beneficial, but this cannot be done in all situations. The use of topical drugs may be an option, but the drug a client needs may not be available in this form. It is not a realistic plan to expect clients to contact their physician prior to taking any over-the-counter (OTC) medication.

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**Rationale 4:** Since elderly clients account for the use of about 40% of all over-the-counter (OTC) medications, it is essential for the nurse to teach clients about the advantages, and the disadvantages, of these medications. Substitution of other drugs may be beneficial, but this cannot be done in all situations. The use of topical drugs may be an option, but the drug a client needs may not be available in this form. It is not a realistic plan to expect clients to contact their physician prior to taking any over-the-counter (OTC) medication.

**Global Rationale:**

**Cognitive Level:** Applying

**Client Need:** Physiological Integrity

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Planning

**Learning Outcome:** 1-5

**Question 6**

**Type:** MCSA

The elderly client has gastrointestinal bleeding. The client says to the nurse "I don't understand this. All I did was take ibuprofen (Advil) for my arthritis." Which plan would be best as it relates to the nurse's education of this client?

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3. A plan to teach the client to obtain physician approval prior to the use of over-the-counter (OTC) medications.
4. A plan to teach the advantages and disadvantages of ibuprofen (Advil).

**Correct Answer:** 4

**Rationale 1:** Since elderly clients account for the use of about 40% of all over-the-counter (OTC) medications, it is essential for the nurse to teach clients about the advantages, and the disadvantages, of these medications. Substitution of other drugs may be beneficial, but this cannot be done in all situations. The use of topical drugs may be an option, but the drug a client needs may not be available in this form. It is not a realistic plan to expect clients to contact their physician prior to taking any over-the-counter (OTC) medication.

**Rationale 2:** Since elderly clients account for the use of about 40% of all over-the-counter (OTC) medications, it is essential for the nurse to teach clients about the advantages, and the disadvantages, of these medications. Substitution of other drugs may be beneficial, but this cannot be done in all situations. The use of topical drugs may be an option, but the drug a client needs may not be available in this form. It is not a realistic plan to expect clients to contact their physician prior to taking any over-the-counter (OTC) medication.

**Rationale 3:** Since elderly clients account for the use of about 40% of all over-the-counter (OTC) medications, it is essential for the nurse to teach clients about the advantages, and the disadvantages, of these medications. Substitution of other drugs may be beneficial, but this cannot be done in all situations. The use of topical drugs

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**Rationale 4:** Since elderly clients account for the use of about 40% of all over-the-counter (OTC) medications, it is essential for the nurse to teach clients about the advantages, and the disadvantages, of these medications. Substitution of other drugs may be beneficial, but this cannot be done in all situations. The use of topical drugs may be an option, but the drug a client needs may not be available in this form. It is not a realistic plan to expect clients to contact their physician prior to taking any over-the-counter (OTC) medication.

**Global Rationale:**

**Cognitive Level:** Applying

**Client Need:** Physiological Integrity

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Planning

**Learning Outcome:** 1-5

**Question 7**

**Type:** MCSA

The pharmaceutical representative comes to the physician's office and says his company's pharmaceutical laboratory is marketing a drug that does not need approval by the Food and Drug Administration (FDA). What is the best response by the nurse?

1. "Any pharmaceutical laboratory in America must have approval from the Food and Drug Administration (FDA) before marketing a drug."
2. "Is this an over-the-counter (OTC) drug? They do not need approval by the Food and Drug Administration (FDA)."
3. "Is your pharmaceutical laboratory private? Only public pharmaceutical laboratories need approval from the Food and Drug Administration (FDA)."
4. "Your pharmaceutical laboratory must be involved in academic research because they are exempt from approval by the Food and Drug Administration (FDA)."

**Correct Answer:** 1

**Rationale 1:** Any pharmaceutical laboratory, whether private, public, or academic, must obtain approval from the Food and Drug Administration (FDA) before marketing a drug. Private pharmaceutical laboratories must obtain approval from the Food and Drug Administration (FDA) before marketing a drug. Pharmaceutical laboratories involved in academic research must obtain approval from the Food and Drug Administration (FDA) before marketing a drug. Pharmaceutical laboratories that manufacture over-the-counter (OTC) drugs must obtain approval from the Food and Drug Administration (FDA) before marketing these drugs.

**Rationale 2:** Any pharmaceutical laboratory, whether private, public, or academic, must obtain approval from the Food and Drug Administration (FDA) before marketing a drug. Private pharmaceutical laboratories must obtain

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approval from the Food and Drug Administration (FDA) before marketing a drug. Pharmaceutical laboratories involved in academic research must obtain approval from the Food and Drug Administration (FDA) before marketing a drug. Pharmaceutical laboratories that manufacture over-the-counter (OTC) drugs must obtain approval from the Food and Drug Administration (FDA) before marketing these drugs.

**Rationale 3:** Any pharmaceutical laboratory, whether private, public, or academic, must obtain approval from the Food and Drug Administration (FDA) before marketing a drug. Private pharmaceutical laboratories must obtain approval from the Food and Drug Administration (FDA) before marketing a drug. Pharmaceutical laboratories involved in academic research must obtain approval from the Food and Drug Administration (FDA) before marketing a drug. Pharmaceutical laboratories that manufacture over-the-counter (OTC) drugs must obtain approval from the Food and Drug Administration (FDA) before marketing these drugs.

**Rationale 4:** Any pharmaceutical laboratory, whether private, public, or academic, must obtain approval from the Food and Drug Administration (FDA) before marketing a drug. Private pharmaceutical laboratories must obtain approval from the Food and Drug Administration (FDA) before marketing a drug. Pharmaceutical laboratories involved in academic research must obtain approval from the Food and Drug Administration (FDA) before marketing a drug. Pharmaceutical laboratories that manufacture over-the-counter (OTC) drugs must obtain approval from the Food and Drug Administration (FDA) before marketing these drugs.

**Global Rationale:**

**Cognitive Level:** Applying

**Client Need:** Physiological Integrity

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Implementation

**Learning Outcome:** 1-7

**Question 8**

**Type:** MCSA

The nurse is employed by the Food and Drug Administration (FDA), and is involved in clinical investigation. What is the primary role of the nurse in this phase of the review and approval process by the FDA?

1. To perform tests on the population-at-large
2. To perform tests on various species of animals
3. To perform tests on human cells cultured in the laboratory
4. To perform tests on human clients

**Correct Answer:** 4

**Rationale 1:** Clinical investigation includes performing tests on healthy volunteers, and later, on selected clients with a particular disease. Performing tests on human cells cultured in the laboratory is the preclinical investigation stage. Performing tests on the population-at-large is the stage of post-marketing surveillance. Performing tests on various species of animals is the preclinical investigation stage.

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**Rationale 2:** Clinical investigation includes performing tests on healthy volunteers, and later, on selected clients with a particular disease. Performing tests on human cells cultured in the laboratory is the preclinical investigation stage. Performing tests on the population-at-large is the stage of post-marketing surveillance. Performing tests on various species of animals is the preclinical investigation stage.

**Rationale 3:** Clinical investigation includes performing tests on healthy volunteers, and later, on selected clients with a particular disease. Performing tests on human cells cultured in the laboratory is the preclinical investigation stage. Performing tests on the population-at-large is the stage of post-marketing surveillance. Performing tests on various species of animals is the preclinical investigation stage.

**Rationale 4:** Clinical investigation includes performing tests on healthy volunteers, and later, on selected clients with a particular disease. Performing tests on human cells cultured in the laboratory is the preclinical investigation stage. Performing tests on the population-at-large is the stage of post-marketing surveillance. Performing tests on various species of animals is the preclinical investigation stage.

**Global Rationale:**

**Cognitive Level:** Applying

**Client Need:** Physiological Integrity

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Implementation

**Learning Outcome:** 1-8

**Question 9**

**Type:** MCSA

The student nurse is taking a pharmacology course and studying about the Food and Drug Administration (FDA). What has the student learned about how the FDA has decreased the amount of time involved in bringing a new drug to the market?

1. The Food and Drug Administration (FDA) is not as strict as it once was with regard to drug approval.
2. Since consumers have demanded more drugs, the Food and Drug Administration (FDA) has streamlined the review/approval process.
3. Drug manufacturers are required to pay yearly user fees, which allow the Food and Drug Administration (FDA) to hire more employees to increase its efficiency.
4. Drug manufacturers are required by the Food and Drug Administration (FDA) to test more drugs on an annual basis.

**Correct Answer:** 3

**Rationale 1:** In 1992, the Prescription Drug User Fee Act was passed. This required drug manufacturers to provide yearly product user fees so the Food and Drug Administration (FDA) could restructure, hire more employees, and operate more efficiently. The Food and Drug Administration (FDA) is just as strict now as it always was with regard to drug approval. The Food and Drug Administration (FDA) has not streamlined the

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review/approval process. The Food and Drug Administration (FDA) does not require drug manufacturers to test more drugs on an annual basis.

**Rationale 2:** In 1992, the Prescription Drug User Fee Act was passed. This required drug manufacturers to provide yearly product user fees so the Food and Drug Administration (FDA) could restructure, hire more employees, and operate more efficiently. The Food and Drug Administration (FDA) is just as strict now as it always was with regard to drug approval. The Food and Drug Administration (FDA) has not streamlined the review/approval process. The Food and Drug Administration (FDA) does not require drug manufacturers to test more drugs on an annual basis.

**Rationale 3:** In 1992, the Prescription Drug User Fee Act was passed. This required drug manufacturers to provide yearly product user fees so the Food and Drug Administration (FDA) could restructure, hire more employees, and operate more efficiently. The Food and Drug Administration (FDA) is just as strict now as it always was with regard to drug approval. The Food and Drug Administration (FDA) has not streamlined the review/approval process. The Food and Drug Administration (FDA) does not require drug manufacturers to test more drugs on an annual basis.

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**Global Rationale:**

**Cognitive Level:** Applying

**Client Need:** Safe Effective Care Environment

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Evaluation

**Learning Outcome:** 1-9

**Question 10**

**Type:** MCSA

The student nurse has completed an initial pharmacology course and tells the nursing instructor that it was difficult and she is glad it is over. What is the best response by the nursing instructor?

1. "It may be over, but now you must apply what you have learned to patient care."
2. "Learning is gradual and continuous; we never completely master all areas of pharmacology."
3. "Learning is always painful, but we must continue anyway."
4. "It really isn't over; you should take a graduate course next."

**Correct Answer:** 2

**Rationale 1:** Learning pharmacology is a gradual, continuous process that does not end with graduation. Never does one completely master every facet of drug action and application. There is no reason for the student nurse to take a graduate level pharmacology course at this time. It is true that the student must apply what has been learned to patient care, but this response implies that learning is over. Learning is not always painful.

**Rationale 2:** Learning pharmacology is a gradual, continuous process that does not end with graduation. Never does one completely master every facet of drug action and application. There is no reason for the student nurse to take a graduate level pharmacology course at this time. It is true that the student must apply what has been learned to patient care, but this response implies that learning is over. Learning is not always painful.

**Rationale 3:** Learning pharmacology is a gradual, continuous process that does not end with graduation. Never does one completely master every facet of drug action and application. There is no reason for the student nurse to take a graduate level pharmacology course at this time. It is true that the student must apply what has been learned to patient care, but this response implies that learning is over. Learning is not always painful.

**Rationale 4:** Learning pharmacology is a gradual, continuous process that does not end with graduation. Never does one completely master every facet of drug action and application. There is no reason for the student nurse to take a graduate level pharmacology course at this time. It is true that the student must apply what has been learned to patient care, but this response implies that learning is over. Learning is not always painful.

**Global Rationale:**

**Cognitive Level:** Applying

**Client Need:** Physiological Integrity

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Implementation

**Learning Outcome:** 1-2

**Question 11**

**Type:** MCSA

The client says to the nurse, "My wife and I take the same drug, but we have different side effects. Are we doing something wrong?" What is the best response by the nurse?

1. "No. Differences such as your sex can result in different side effects."
2. "I'll have to check. What is the name of the drug you were using?"
3. "Possibly. This could happen if one uses generic or brand name drugs."
4. "I'm not sure. Maybe the drug is not the same; you should check it."

**Correct Answer:** 1

**Rationale 1:** Drugs may elicit different responses depending on individual client factors such as age, sex, body mass, health status, and genetics. Asking the client to check a medication is fine, but this does not answer the client's question. There are differences between some generic and brand name drugs, but this is not the best

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answer. The nurse should not have to check the drug; basic knowledge should include knowing that the sex of clients can result in different side effects.

**Rationale 2:** Drugs may elicit different responses depending on individual client factors such as age, sex, body mass, health status, and genetics. Asking the client to check a medication is fine, but this does not answer the client's question. There are differences between some generic and brand name drugs, but this is not the best answer. The nurse should not have to check the drug; basic knowledge should include knowing that the sex of clients can result in different side effects.

**Rationale 3:** Drugs may elicit different responses depending on individual client factors such as age, sex, body mass, health status, and genetics. Asking the client to check a medication is fine, but this does not answer the client's question. There are differences between some generic and brand name drugs, but this is not the best answer. The nurse should not have to check the drug; basic knowledge should include knowing that the sex of clients can result in different side effects.

**Rationale 4:** Drugs may elicit different responses depending on individual client factors such as age, sex, body mass, health status, and genetics. Asking the client to check a medication is fine, but this does not answer the client's question. There are differences between some generic and brand name drugs, but this is not the best answer. The nurse should not have to check the drug; basic knowledge should include knowing that the sex of clients can result in different side effects.

**Global Rationale:**

**Cognitive Level:** Applying

**Client Need:** Physiological Integrity

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Implementation

**Learning Outcome:** 1-4

**Question 12**

**Type:** MCSA

The client comes to the emergency department with a myocardial infarction. The client's husband tells the nurse that his wife has been taking calcium carbonate (Tums) for years for what she thought was indigestion. What is the best response by the nurse?

1. "Your wife should not have self-diagnosed herself. I hope she will be okay."
2. "Why did you let her do that? She should have seen a doctor."
3. "Well, I am glad she is here, as it certainly wasn't indigestion."
4. "Your wife was self-diagnosing, which is generally not a good idea."

**Correct Answer:** 4

**Rationale 1:** Clients take over-the-counter (OTC) drugs for many reasons. Self-treatment is sometimes ineffective, and the potential for harm may increase if the disease is allowed to progress. Asking the husband why he let his wife take Tums is non-therapeutic and too accusatory; do not ask "why" questions. Telling the husband that "it certainly wasn't indigestion" is judgmental and will alienate the client and husband. Telling the husband "I hope she will be okay" is a very frightening response that implies she might die, and this is non-therapeutic.

**Rationale 2:** Clients take over-the-counter (OTC) drugs for many reasons. Self-treatment is sometimes ineffective, and the potential for harm may increase if the disease is allowed to progress. Asking the husband why he let his wife take Tums is non-therapeutic and too accusatory; do not ask "why" questions. Telling the husband that "it certainly wasn't indigestion" is judgmental and will alienate the client and husband. Telling the husband "I hope she will be okay" is a very frightening response that implies she might die, and this is non-therapeutic.

**Rationale 3:** Clients take over-the-counter (OTC) drugs for many reasons. Self-treatment is sometimes ineffective, and the potential for harm may increase if the disease is allowed to progress. Asking the husband why he let his wife take Tums is non-therapeutic and too accusatory; do not ask "why" questions. Telling the husband that "it certainly wasn't indigestion" is judgmental and will alienate the client and husband. Telling the husband "I hope she will be okay" is a very frightening response that implies she might die, and this is non-therapeutic.

**Rationale 4:** Clients take over-the-counter (OTC) drugs for many reasons. Self-treatment is sometimes ineffective, and the potential for harm may increase if the disease is allowed to progress. Asking the husband why he let his wife take Tums is non-therapeutic and too accusatory; do not ask "why" questions. Telling the husband that "it certainly wasn't indigestion" is judgmental and will alienate the client and husband. Telling the husband "I hope she will be okay" is a very frightening response that implies she might die, and this is non-therapeutic.

**Global Rationale:**

**Cognitive Level:** Applying

**Client Need:** Physiological Integrity

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Implementation

**Learning Outcome:** 1-5

**Question 13**

**Type:** MCSA

The nurse is teaching a class for clients about over-the-counter (OTC) medications. The nurse determines that education has been effective when the clients make which statement?

1. "We should not take any over-the-counter (OTC) medicine without first calling and checking with the doctor's office."
2. "We should always ask the pharmacist about how to take the over-the-counter (OTC) medicine."
3. "We must read all the directions on the label and call the doctor's office if they are not clear."
4. "Medicines that are available over-the-counter (OTC) are really safe, or they would be prescription medicines."

**Correct Answer:** 3

**Rationale 1:** In most cases, clients may treat themselves safely if they carefully follow instructions included with the medication. It is not realistic to expect clients to call the doctor's office before taking any over-the-counter (OTC) medicine. Most OTC medicines have a high margin of safety, but none is considered completely safe. Asking the pharmacist is a good idea, but does not replace reading the label directions. Also, the pharmacist might not always be in the store when the medicine is purchased.

**Rationale 2:** In most cases, clients may treat themselves safely if they carefully follow instructions included with the medication. It is not realistic to expect clients to call the doctor's office before taking any over-the-counter (OTC) medicine. Most OTC medicines have a high margin of safety, but none is considered completely safe. Asking the pharmacist is a good idea, but does not replace reading the label directions. Also, the pharmacist might not always be in the store when the medicine is purchased.

**Rationale 3:** In most cases, clients may treat themselves safely if they carefully follow instructions included with the medication. It is not realistic to expect clients to call the doctor's office before taking any over-the-counter (OTC) medicine. Most OTC medicines have a high margin of safety, but none is considered completely safe. Asking the pharmacist is a good idea, but does not replace reading the label directions. Also, the pharmacist might not always be in the store when the medicine is purchased.

**Rationale 4:** In most cases, clients may treat themselves safely if they carefully follow instructions included with the medication. It is not realistic to expect clients to call the doctor's office before taking any over-the-counter (OTC) medicine. Most OTC medicines have a high margin of safety, but none is considered completely safe. Asking the pharmacist is a good idea, but does not replace reading the label directions. Also, the pharmacist might not always be in the store when the medicine is purchased.

**Global Rationale:**

**Cognitive Level:** Applying

**Client Need:** Physiological Integrity

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Evaluation

**Learning Outcome:** 1-5

**Question 14**

**Type:** MCSA

The client has skin lesions that have not responded to prescription drugs. He tells the nurse he has heard about some research going on with a new drug and questions why he can't take it. What is the best response by the nurse?

1. "I know it is frustrating, but the Food and Drug Administration (FDA) approval process is in place to ensure that drugs are safe."
2. "The Food and Drug Administration (FDA) has very strict rules about new drugs; it is important to be patient regarding the review/approval process."

3. "Your skin lesions really aren't that bad, but maybe the new drug will be available soon."
4. "Maybe you could contact the drug company about becoming involved in a clinical trial."

**Correct Answer:** 1

**Rationale 1:** Although the public is anxious to receive new drugs, the fundamental priority of the Food and Drug Administration (FDA) is to ensure that drugs are safe. Also, telling the client that the nurse knows he is frustrated is therapeutic because it communicates that the nurse recognizes what he is feeling. The client could contact the drug company, but this response fosters false hope as he may not be a viable candidate for this drug. Telling the client his skin lesions "aren't that bad" is a non-therapeutic response; the client's perception is his reality. Telling the client to be patient is a condescending response; the client wants relief from the skin condition.

**Rationale 2:** Although the public is anxious to receive new drugs, the fundamental priority of the Food and Drug Administration (FDA) is to ensure that drugs are safe. Also, telling the client that the nurse knows he is frustrated is therapeutic because it communicates that the nurse recognizes what he is feeling. The client could contact the drug company, but this response fosters false hope as he may not be a viable candidate for this drug. Telling the client his skin lesions "aren't that bad" is a non-therapeutic response; the client's perception is his reality. Telling the client to be patient is a condescending response; the client wants relief from the skin condition.

**Rationale 3:** Although the public is anxious to receive new drugs, the fundamental priority of the Food and Drug Administration (FDA) is to ensure that drugs are safe. Also, telling the client that the nurse knows he is frustrated is therapeutic because it communicates that the nurse recognizes what he is feeling. The client could contact the drug company, but this response fosters false hope as he may not be a viable candidate for this drug. Telling the client his skin lesions "aren't that bad" is a non-therapeutic response; the client's perception is his reality. Telling the client to be patient is a condescending response; the client wants relief from the skin condition.

**Rationale 4:** Although the public is anxious to receive new drugs, the fundamental priority of the Food and Drug Administration (FDA) is to ensure that drugs are safe. Also, telling the client that the nurse knows he is frustrated is therapeutic because it communicates that the nurse recognizes what he is feeling. The client could contact the drug company, but this response fosters false hope as he may not be a viable candidate for this drug. Telling the client his skin lesions "aren't that bad" is a non-therapeutic response; the client's perception is his reality. Telling the client to be patient is a condescending response; the client wants relief from the skin condition.

**Global Rationale:**

**Cognitive Level:** Applying

**Client Need:** Physiological Integrity

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Implementation

**Learning Outcome:** 1-7

**Question 15**

**Type:** MCSA

What percentage of Americans takes at least one prescription drug per year?



1. 50%
2. 10%
3. 40%
4. 25%

**Correct Answer:** 1

**Rationale 1:** About half of Americans take prescription drugs while about 17% takes at least three prescription drugs.

**Rationale 2:** About half of Americans take prescription drugs while about 17% takes at least three prescription drugs.

**Rationale 3:** About half of Americans take prescription drugs while about 17% takes at least three prescription drugs.

**Rationale 4:** About half of Americans take prescription drugs while about 17% takes at least three prescription drugs.

**Global Rationale:**

**Cognitive Level:** Remembering

**Client Need:** Health Promotion and Maintenance

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Assessment

**Learning Outcome:** 1-1

**Question 16**

**Type:** MCSA

Modern pharmacology was introduced to the United States by the opening of the first department of pharmacology at the University of Michigan in the year

1. 1805.
2. 1890.
3. 1847.
4. 1908.

**Correct Answer:** 2

**Rationale 1:**

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**Rationale 2:**

**Rationale 3:**

**Rationale 4:**

**Global Rationale:**

**Cognitive Level:** Remembering

**Client Need:** Health Promotion and Maintenance

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Assessment

**Learning Outcome:** 1-1

**Question 17**

**Type:** MCSA

The application of drugs for the purpose of disease prevention and treatment of suffering is known as

1. biologics.
2. pharmacotherapeutics.
3. alternative therapies.
4. therapeutics.

**Correct Answer:** 2

**Rationale 1:** Pharmacotherapeutics is the application of drugs for the purpose of disease prevention and the treatment of suffering.

**Rationale 2:** Pharmacotherapeutics is the application of drugs for the purpose of disease prevention and the treatment of suffering.

**Rationale 3:** Pharmacotherapeutics is the application of drugs for the purpose of disease prevention and the treatment of suffering.

**Rationale 4:** Pharmacotherapeutics is the application of drugs for the purpose of disease prevention and the treatment of suffering.

**Global Rationale:**

**Cognitive Level:** Remembering

**Client Need:** Health Promotion and Maintenance

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Assessment

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**Learning Outcome:** 1-3

**Question 18**

**Type:** MCSA

A patient with chronic back pain informs the nurse he has been receiving therapeutic touch in addition to his medications. This type of therapy is best classified as

1. pharmacotherapy.
2. drug-absence therapy.
3. complementary therapy.
4. biologic therapy.

**Correct Answer:** 3

**Rationale 1:** The patient is using a non-conventional type of treatment (therapeutic touch) that is classified as complimentary to his conventional pharmacotherapy. Biologic therapy involves the use of naturally produced substances by microorganisms or within the body. The patient is using medications as well as an alternative therapy which is why complementary therapy is the best choice.

**Rationale 2:** The patient is using a non-conventional type of treatment (therapeutic touch) that is classified as complimentary to his conventional pharmacotherapy. Biologic therapy involves the use of naturally produced substances by microorganisms or within the body. The patient is using medications as well as an alternative therapy which is why complementary therapy is the best choice.

**Rationale 3:** The patient is using a non-conventional type of treatment (therapeutic touch) that is classified as complimentary to his conventional pharmacotherapy. Biologic therapy involves the use of naturally produced substances by microorganisms or within the body. The patient is using medications as well as an alternative therapy which is why complementary therapy is the best choice.

**Rationale 4:** The patient is using a non-conventional type of treatment (therapeutic touch) that is classified as complimentary to his conventional pharmacotherapy. Biologic therapy involves the use of naturally produced substances by microorganisms or within the body. The patient is using medications as well as an alternative therapy which is why complementary therapy is the best choice.

**Global Rationale:**

**Cognitive Level:** Understanding

**Client Need:** Physiological Integrity

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Evaluation

**Learning Outcome:** 1-4

**Question 19**

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**Type:** MCSA

How many years does it generally take to research and develop a drug before it is submitted to the FDA for review?

1. 6 years
2. 5 years
3. 11 years
4. 9 years

**Correct Answer:** 3

**Rationale 1:** PharmFacts (p.8)

**Rationale 2:** PharmFacts (p.8)

**Rationale 3:** PharmFacts (p.8)

**Rationale 4:** PharmFacts (p.8)

**Global Rationale:**

**Cognitive Level:** Remembering

**Client Need:** Safe Effective Care Environment

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Assessment

**Learning Outcome:** 1-7 and 1- 8

**Question 20**

**Type:** MCSA

A drug manufacturer that is performing the effects of a drug on laboratory animals would be in which phase of the new drug development timeline?

1. Clinical Investigation
2. Preclinical Investigation
3. New Drug Application Review
4. Postmarketing Studies

**Correct Answer:** 2

**Rationale 1:** Preclinical investigation involves laboratory research on nonhuman subjects.

**Rationale 2:** Preclinical investigation involves laboratory research on nonhuman subjects.

**Rationale 3:** Preclinical investigation involves laboratory research on nonhuman subjects.

**Rationale 4:** Preclinical investigation involves laboratory research on nonhuman subjects.

**Global Rationale:**

**Cognitive Level:** Understanding

**Client Need:** Health Promotion and Maintenance

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Assessment

**Learning Outcome:** 1-8

**Question 21**

**Type:** MCMA

The nurse is categorizing a client's list of medications completing a health history. Which agents would be categorized as complementary and alternative medicine?

Note: Credit will be given only if all correct choices and no incorrect choices are selected.

**Standard Text:** Select all that apply.

1. Garlic
2. Vitamin C
3. Zinc
4. Aspirin
5. Benadryl

**Correct Answer:** 1,2,3

**Rationale 1:** Garlic is considered an herb, which is considered complementary and alternative medicine therapy.

**Rationale 2:** Vitamins are considered complementary and alternative medicine therapy.

**Rationale 3:** Zinc is a mineral and is considered complementary and alternative medicine therapy.

**Rationale 4:** Aspirin is an over-the-counter medication.

**Rationale 5:** Benadryl is an over-the-counter medication.

**Global Rationale:**

**Cognitive Level:** Applying

**Client Need:** Health Promotion and Maintenance

**Client Need Sub:**

**Nursing/Integrated Concepts:** Nursing Process: Assessment

**Learning Outcome:** 1-4

**Question 22**

**Type:** MCMA

While reading a medication package inserts the nurse notes the information contained within the “black box.” What is the significance of this information to the nurse?

Note: Credit will be given only if all correct choices and no incorrect choices are selected.

**Standard Text:** Select all that apply.

1. The drug can cause “special problems.”
2. It identifies extreme adverse drug reactions.
3. It differentiates a prescribed medication from an over-the-counter medication.
4. It highlights the cost of the medication.
5. It signifies the medication is generic.

**Correct Answer:** 1,2

**Rationale 1:** The FDA created boxed warnings in order to regulate drugs with “special problems.”

**Rationale 2:** The black box warning is a primary alert for identifying extreme adverse drug reactions.

**Rationale 3:** A black box warning is a primary alert for identifying extreme adverse drug reactions. It is not a mechanism to differentiate a prescribed medication from an over-the-counter medication.

**Rationale 4:** A black box warning is a primary alert for identifying extreme adverse drug reactions. It does not highlight the cost of the medication.

**Rationale 5:** A black box warning is a primary alert for identifying extreme adverse drug reactions. It does not signify the medication as being generic.

**Global Rationale:**

**Cognitive Level:** Analyzing

**Client Need:** Physiological Integrity

**Client Need Sub:** Pharmacological and Parenteral Therapies

**Nursing/Integrated Concepts:** Nursing Process: Planning

**Learning Outcome:** 1-7

**Question 23**

**Type:** MCMA

The nurse is participating in the New Drug Review step for a new therapeutic agent. Which activities will the nurse most likely perform during this phase of the drug approval process?

Note: Credit will be given only if all correct choices and no incorrect choices are selected.

**Standard Text:** Select all that apply.

1. Attend meetings to finalize the brand name for the drug.
2. Check on the results of animal testing.
3. Survey for harmful effects in a larger population.
4. Evaluate the results of the drug on cultured cells.
5. Provide the medication to large groups of people with a particular disease.

**Correct Answer:** 1,2

**Rationale 1:** During the NDA or the third stage of the drug approval process the drug's brand name is finalized.

**Rationale 2:** During the NDA stage of the drug approval process animal testing may continue.

**Rationale 3:** Surveying for harmful effects in a larger population occurs during the postmarketing surveillance step of the drug approval process.

**Rationale 4:** Evaluation of the results of the drug on cultured cells occurs during the preclinical investigation step of the drug approval process.

**Rationale 5:** Providing the medication to large groups of people with a particular disease occurs during the clinical phase trials which is in the second stage of the drug approval process.

**Global Rationale:**

**Cognitive Level:** Applying

**Client Need:** Physiological Integrity

**Client Need Sub:** Pharmacological and Parenteral Therapies



**Nursing/Integrated Concepts:** Nursing Process: Implementation

**Learning Outcome:** 1-8

**Question 24**

**Type:** MCMA

Which statements regarding the role of the U.S. Food and Drug Administration (FDA) are true?

*Note: Credit will be given only if all correct choices and no incorrect choices are selected.*

**Standard Text:** Select all that apply.

1. The FDA is responsible for ensuring the security of human drugs.
2. The FDA publishes a summary of the standards of drug purity and strength.
3. The FDA ensures the availability of effective drugs.
4. The FDA takes action against any supplement that is deemed to be unsafe.
5. The FDA facilitates the availability of safe drugs.

**Correct Answer:** 1,3,4,5

**Rationale 1:** The FDA mission is to protect public health by ensuring the safety, efficacy, and security of human and veterinary drugs, biologic products, medical devices, the nation's food supply, cosmetics, and products that emit radiation.

**Rationale 2:** It is the role of the U.S. Pharmacopeia (USP) to publish a summary of drug standards (purity and strength).

**Rationale 3:** Ensuring the availability of effective drugs is one of the FDA's roles.

**Rationale 4:** It is the FDA's role to take action against any supplement that is deemed to be unsafe.

**Rationale 5:** It is the role of the FDA to facilitate the availability of safe drugs.

**Global Rationale:**

**Cognitive Level:** Remembering

**Client Need:** Physiological Integrity

**Client Need Sub:** Pharmacological and Parenteral Therapies

**Nursing/Integrated Concepts:** Nursing Process: Implementation

**Learning Outcome:** 2-4

**Question 25**

**Type:** MCMA

Which statements regarding the preclinical research stage of drug development are true?

*Note: Credit will be given only if all correct choices and no incorrect choices are selected.*

**Standard Text:** Select all that apply.

1. Most drugs do not proceed past the preclinical stage because they are found to be too toxic or just ineffective.
2. At the end of the preclinical research stage, client variability is determined and potential drug-to-drug interactions are examined.
3. The preclinical stage of research involves extensive testing on animals in the laboratory to determine if the drug will cause harm to humans.
4. Preclinical research results are always inconclusive.
5. The Food and Drug Administration (FDA) is responsible for extensive testing for safety before the pharmaceutical company can begin the preclinical research stage of development.

**Correct Answer:** 1,3,4

**Rationale 1:** Most drugs do not proceed past the preclinical research stage of development because they are found to be either too toxic or just ineffective.

**Rationale 2:** Client variability and potential drug-to-drug interactions are examined in Phase 3 of the clinical investigation process after Food and Drug Administration (FDA) approval.

**Rationale 3:** The preclinical stage involves extensive testing on human, microbial cells, and animals to determine drug action and to predict whether the drug will cause harm to humans.

**Rationale 4:** Because lab tests cannot accurately predict human response to a drug, these results are always inconclusive.

**Rationale 5:** This extensive testing is done by the pharmaceutical company in the preclinical research stage of drug development, not the FDA.

**Global Rationale:**

**Cognitive Level:** Remembering

**Client Need:** Physiological Integrity

**Client Need Sub:** Pharmacological and Parenteral Therapies

**Nursing/Integrated Concepts:** Nursing Process: Implementation

**Learning Outcome:** 2-5

**Question 26**

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**Type:** MCMA

A client says to the admitting nurse, “Why do you need to know the names of all the over-the-counter supplements I take? They aren’t drugs.” Which of the nurse’s responses are appropriate?

*Note: Credit will be given only if all correct choices and no incorrect choices are selected.*

**Standard Text:** Select all that apply.

1. “The admitting physician needs to know everything you are taking.”
2. “You’re right. I’m not sure why the admitting paperwork asks for this information. Would you mind listing them anyway?”
3. “The law requires us to keep a list of over-the-counter drugs and supplements that you are taking.”
4. “It is true that supplements are not considered drugs; however, some of these products can cause adverse effects with prescribed drugs.”
5. “We need to know if you are having an allergic reaction to one of them.”

**Correct Answer:** 1,4

**Rationale 1:** The health care providers involved in this client’s care will need to know everything she is taking—both prescription and over-the-counter (OTC).

**Rationale 2:** While it is true that supplements are not considered drugs, there is a specific reason why the health care team needs to know this information, which is the reason for the requested list on the paperwork. The nurse’s answer did not address the client’s question appropriately.

**Rationale 3:** No law requires hospitals to keep records of OTC drugs and supplements that clients take. This information is needed, however, for other reasons.

**Rationale 4:** Supplements are not subject to the same regulatory process as drugs, and some of these products can cause adverse effects and interact with medications.

**Rationale 5:** It is possible that this client could be having an allergic reaction, but there is not enough information to determine this, and this is not the main reason why the health care team needs to know what OTC medications she is taking.

**Global Rationale:**

**Cognitive Level:** Applying

**Client Need:** Physiological Integrity

**Client Need Sub:** Pharmacological and Parenteral Therapies

**Nursing/Integrated Concepts:** Nursing Process: Implementation

**Learning Outcome:** 2-8

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