



Pre Evaluation Medical Technologies 2005



Directions For Numbers 1-25 : Read each of the following multiple-choice items and the possible answers carefully. Mark the letter of the correct answer on your answer sheet or as instructed by your teacher. Remember: Make no marks on this test.

1

A Cardiologist specializes in the treatment of:

- A Muscles and skeletal system.
- B Digestive system.
- C Respiratory system.
- D Heart and circulatory system.

2

During the Renaissance, all the following were established **EXCEPT**:

- A Acupuncture treatments.
- B Medical schools.
- C Advances in medicine.
- D Methods of verifying scientific phenomena.

3

What are some of the advantages that medical technology affords surgeons and doctors in the treatment of illness and disease?

- A Increased exercise and nutrition for patients
- B Increased side effects and longer recovery time
- C Increased medical cost and longer recovery time
- D Reduced side effects and reduced recovery time

4

What are some of the advantages that laser surgery has over traditional surgery?

- A Increased procedure time and increased recovery time
- B Decreased procedure time and decreased recovery time
- C Increased control and reduction of bleeding
- D Decreased control and reduction of bleeding

5

What is Positron Emission Tomography (PET) designed to do?

- A Genetically alter genes to reduce birth defects
- B Blast kidney stones with sound
- C Image the heart, bones, thyroid, etc.
- D Replace the ganglia of the eye with an integrated circuit

6

What are doctors, nurses and researchers **NOT** concerned with?

- A Prevention
- B Treatment
- C Obsolete technology
- D Curing disease

7

Primitive medicine was based mainly on:

- A Past surgical experience.
- B Spiritual beliefs.
- C Pharmaceuticals.
- D Vaccines.

8

Medicine in the Middle Ages consisted of a lot of:

- A Ineffective treatments.
- B Proven technology.
- C Man-made pharmaceuticals.
- D Treatments that have been effective for years.

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9 What did Florence Nightingale establish?

- A Herbal medicines
- B The Red Cross
- C Modern nursing
- D Blood lettings

10 What is genetic engineering **NOT** being used for?

- A Research and manufacture of drugs
- B Research of gene therapy
- C Genetic counseling
- D Creation of robots

11 Sir Alexander Fleming developed:

- A The polio vaccine.
- B Penicillin.
- C Gene therapy.
- D The smallpox vaccine.

12 Which is **NOT** an example of medical rehabilitation?

- A Gene therapy
- B MRI
- C Exercises
- D Diets

13 A physician making a diagnosis after evaluating the condition of blood is an example of which step in the Universal Systems Model?

- A Input
- B Process
- C Output
- D Feedback

14 Endoscopes are used by doctors for all **EXCEPT**:

- A Diagnosing conditions.
- B Performing surgery and reducing recovery times.
- C Reducing incisions.
- D Watching video samples of similar procedures.

15 Which is **TRUE** about telemedicine?

- A Doctors can examine patients from remote locations.
- B It is most beneficial in areas with a lot of physicians and specialists.
- C Elderly people cannot benefit from this service.
- D It will increase medical costs.

16 When it comes to effectively studying sports medicine it is important to:

- A Have an extensive knowledge of all sports.
- B Understand that many sport related injuries may be rehabilitated.
- C Realize that some injuries are prevented through a lack of weight training.
- D Understand that only orthopedic surgeons can make a proper diagnosis.

17 The magnetic resonance imaging machine:

- A Develops images in three-dimensional form.
- B Blends normal tissue in with abnormal tissue.
- C Allows doctors to look inside a body without making an incision.
- D Uses radiation to form images of a body.

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18

Preventative Medicine is best defined as the:

- A Diagnosis of disease, death, injury, and disability.
- B Understanding of the risks of disease, death, injury, and disability.
- C Treatment of disease, death, injury, and disability.
- D Treatment of disease, injury, and disability.

19

Medical Technology is best defined as:

- A Administering drugs.
- B Designed treatments, preventative measures, and cures.
- C Blocking receptors.
- D Bionics, prosthesis, and integrated circuits.

20

Which statement concerning organ harvesting is **FALSE**?

- A It will reduce the amount of people who die waiting on a transplant.
- B Pig hearts are often used to replace defective heart valve in humans.
- C Genetic engineering of organs may reduce the possibility of humans rejecting their transplants.
- D Organs may only be harvested and transplanted from human to human.

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Blood Volume Increase (cc) for Drug Dosages (mg)

Dose (mg)	Blood Vol. Inc. (cc) Treatment	Blood Vol. Inc. (cc) Control
5	5	5
10	10	5
15	15	5
20	20	5
25	25	5

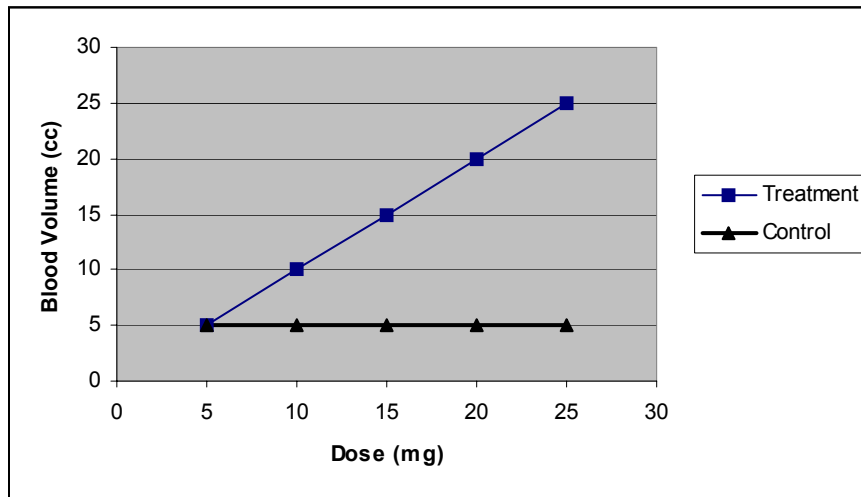


Fig.MT15.01

21 Which procedure would be a good follow-up on the experimental data shown in Fig.MT15.01?

- A Re-doing the exact experiment without the control group
- B Including patients who are receiving higher dosages
- C Including patients who are receiving lower dosages
- D Adding an additional control group

22 The data in Fig.MT15.01 shows that:

- A The drug is ineffective at increasing the blood volume.
- B The drug is only effective at increasing the blood volume at high dosages (20 mg or more).
- C A blood volume increase of 50 cc can be obtained from a 50 mg dosage.
- D The drug is effective at increasing the blood volume for the given dosages.

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23 According to Fig.MT15.01, what kind of relationship can be seen between the dosage of the drug and the blood volume?

- A Direct
- B Indirect
- C Exponential
- D Parabolic

24 Given that the treatment data in Fig.MT15.01 was based on five patients, each receiving one of the five different dosages, what was the mean increase in blood volume for the treatment group?

- A 5 cc
- B 10 cc
- C 15 cc
- D 17.5 cc

25 Medical technology uses math for all **EXCEPT**:

- A Recording blood pressure data from the patient.
- B Researching primitive medicine based upon spiritual beliefs.
- C Using anesthetics in dentistry and surgery.
- D Administering pharmaceuticals to patients.

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?	⊙	Answer/ Scale	Objective	?	⊙	Answer/ Scale	Objective
1	1	E	MT15.03 Technology	14	14	D	MT15.03 Technology
2	2	A	MT15.03 Technology	15	15	A	MT15.03 Technology
3	3	D	MT15.03 Technology	16	16	B	MT15.02 Science
4	4	C	MT15.03 Technology	17	17	C	MT15.02 Science
5	5	C	MT15.03 Technology	18	18	B	MT15.02 Science
6	6	C	MT15.03 Technology	19	19	B	MT15.02 Science
7	7	B	MT15.03 Technology	20	20	D	MT15.02 Science
8	8	A	MT15.03 Technology	21	21	B	MT15.01 Math
9	9	C	MT15.03 Technology	22	22	D	MT15.01 Math
10	10	D	MT15.03 Technology	23	23	A	MT15.01 Math
11	11	B	MT15.03 Technology	24	24	C	MT15.01 Math
12	12	B	MT15.03 Technology	25	25	B	MT15.01 Math
13	13	D	MT15.03 Technology				

Minimum points
required to achieve
mastery category

Total questions on test: 25

Objectives measured: 3	Items	Points	●	◐	Questions measuring this objective
MT15.03 Technology	15	15	11	10	1 2 3 4 5 6 7 8 9 10 11
MT15.03 Technology					12 13 14 15
MT15.02 Science	5	5	4	3	16 17 18 19 20
MT15.01 Math	5	5	4	3	21 22 23 24 25
Totals		25	19	16	

MT15

? = Test Question Number ⊙ = line on GP Form

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Items used in test

?	Item name	?	Item name	?	Item name
1	MT15.03.00.08	10	MT15.03.00.09	18	MT15.02.00.02
2	MT15.03.00.13	11	MT15.03.00.10	19	MT15.02.00.01
3	MT15.03.00.05	12	MT15.03.00.12	20	MT15.02.00.04
4	MT15.03.00.06	13	MT15.03.00.03	21	MT15.01.00.04
5	MT15.03.00.04	14	MT15.03.00.02	22	MT15.01.00.02
6	MT15.03.00.01	15	MT15.03.00.07	23	MT15.01.00.01
7	MT15.03.00.11	16	MT15.02.00.05	24	MT15.01.00.03
8	MT15.03.00.15	17	MT15.02.00.03	25	MT15.01.00.05
9	MT15.03.00.14				

MT15

? = Test Question Number ● = line on GP Form