UNIT 2 – Technology and Medicine

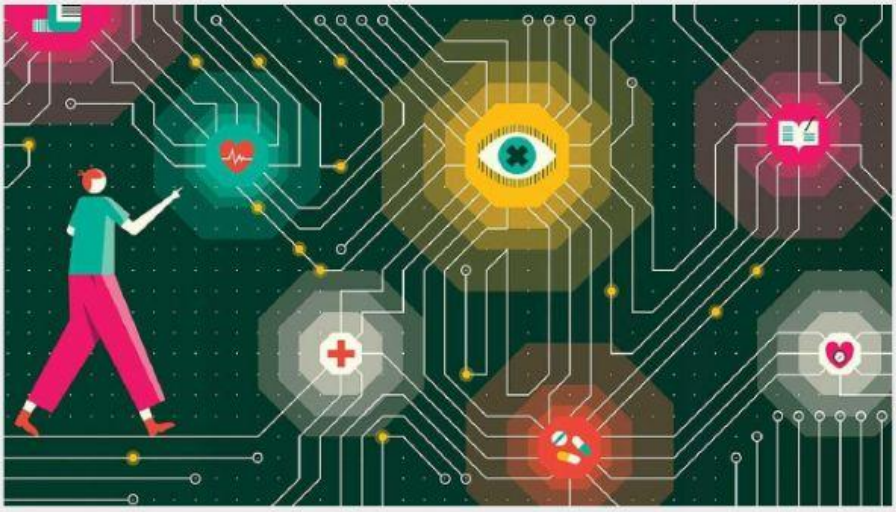
Reading 1

Skills:

- Details
- Identify synonyms
- Understand negative facts
- Understand word combinations

Getting started: Do you know any case of technology used to treat patients?

ARTIFICIAL INTELLIGENCE AND VIRTUAL REALITY APPLIED TO MEDICINE



Without any doubt, artificial intelligence (AI) has the potential to redesign healthcare completely. For example, AI algorithms are able to analyze medical records, design treatment plans or create drugs way faster than any current actor on the healthcare world including any medical professional.

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Atomwise, an American developer, uses supercomputers that select therapies from a database of molecular structures. In 2015, the start-up launched a virtual search for safe, existing medicines that could be redesigned to treat the Ebola virus. They found two drugs predicted by the company's AI technology which may significantly reduce Ebola infectivity. More recently, Google's British laboratory DeepMind created an AI for breast cancer analysis. The algorithm was even better ____ all human radiologists on pre-selected data sets to identify breast cancer, on average by 11.5%.

Virtual reality (VR) is also changing the lives of patients and physicians. VR is being used to train future surgeons and for **actual** surgeons to practice operations. Additionally, software programs are developed and provided by companies like Osso VR and ImmersiveTouch and are in active use with promising results. A recent Harvard study showed that VR-trained surgeons had a 230% improvement in their overall performance compared to their traditionally trained counterparts. The **former** were also faster and more accurate in performing surgical procedures.

The technology is also benefiting patients and has been proven to be effective in pain management. Women are being equipped with VR headsets to visualize soothing landscapes **so as to** help them get through labor pain. Patients suffering from gastrointestinal, cardiac, neurological and post-surgical pain have shown a decline in their pain levels when using VR to distract them from painful stimuli. A 2019 pilot study even showed that patients undergoing surgery lessened their pain and anxiety and improved their overall hospital experience.

These are only some of the many examples of ways technology is contributing to progress in the healthcare field. With all this tangible evidence, imagine what horizons would open for humanity if more technology is used to prevent and treat diseases.

**Adapted from https://medicalfuturist.com/ten-ways-technology-changing-healthcare/#*

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Answer the following questions:

1. What is stated about AI in paragraph 1?
   a. AI is a powerful tool that is now used in all medical centers.
   b. AI is used to help actors who need medical treatment.
   c. AI algorithms are used to eradicate drugs.
   d. AI algorithms are used to treat patients.

2. What is NOT stated about Atomwise in paragraph 2?
   a. Their AI technology has helped find a solution to a major health issue.
   b. Their system can choose treatments out of stored data.
   c. It is a medical business that was set up in2015.
   d. It is a company based in the United States.

3. What word can be inserted in the gap (____) in paragraph 2?
   a. than
   b. of
   c. to
   d. that

4. What is stated about DeepMind in paragraph 2?
   a. DeepMind is owned by Google.
   b. British doctors use their algorithm.
   c. It only identifies 11.5% of cancer types.
   d. Their AI technology helps cure breast cancer.

5. The word **actual** in paragraph 3 is related to the word
   a. now
   b. real
   c. effective
   d. important

6. What sentence summarizes the essential information of the highlighted part in paragraph 3?
   a. Harvard surgeons are better at performing medical procedures than other doctors.
   b. Surgeons that have practiced using VR are more effective at performing surgeries.
   c. VR might help students to graduate from Harvard as surgeons.
   d. 230 surgeons were trained to use VR during their surgeries.

7. The word **former** in paragraph 3 refers to
   a. study
   b. improvement
   c. trained surgeons
   d. traditionally trained counterparts

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8. What is the function of the phrase so as to in paragraph 4?
   a. Express opinion
   b. Express addition
   c. Express contrast
   d. Express purpose

What do you think?

Do you think robots might replace doctors while surgeries are being performed?

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