

IELTS READING

MULTIPLE CHOICE-1

Exercise 1: Read the text and answer the questions below.

3D heart printed using multiple imaging techniques

Congenital heart experts from Spectrum Health Helen DeVos Children's Hospital have successfully integrated two common imaging techniques to produce a three-dimensional anatomic model of a patient's heart.

The 3D model printing of patients' hearts has become more common in recent years as part of an emerging, experimental field devoted to enhanced visualization of individual cardiac structures and characteristics. But this is the first time the integration of computed tomography (CT) and three-dimensional transesophageal echocardiography (3DTEE) has successfully been used for printing a hybrid 3D model of a patient's heart. A proof-of-concept study authored by the Spectrum Health experts also opens the way for these techniques to be used in combination with a third tool - magnetic resonance imaging (MRI).

"Hybrid 3D printing integrates the best aspects of two or more imaging modalities, which can potentially enhance diagnosis, as well as interventional and surgical planning," said Jordan Gosnell, Helen DeVos Children's Hospital cardiac sonographer, and lead author of the study. "Previous methods of 3D

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printing utilize only one imaging modality, which may not be as accurate as merging two or more datasets."

The team used specialized software to register images from the two imaging modalities to selectively integrate datasets to produce an accurate anatomic model of the heart. The result creates more detailed and anatomically accurate 3D renderings and printed models, which may enable physicians to better diagnose and treat heart disease.

Complete the sentences below.

Write **NO MORE THAN THREE WORDS** from the passage for each answer.

1. A three-dimensional
.....of a patient's heart was created by integrating two imaging techniques.
2. Spectrum Health scientists have found a way to combine and use three techniques: computed tomography, three-dimensional transesophageal echocardiography and
3. The new method of 3D printing is more efficient than previous methods because it merges two and more
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4. With more accurate 3D renderings and
physicians will be able to better diagnose and treat heart disease.

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