

### Use of ChatGPT in Anatomy Learning: A Tool to be Used Wisely

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Artificial intelligence platforms are rapidly developing and are being utilized and incorporated into a multitude of fields including education. It is important for learners as well as educators to keep up with new technology to adapt to the ever-evolving demands of the world. ChatGPT (Chat Generative Pre-Trained Transformer), developed by Open AI is such a tool that has been trained on enormous data content to act as a conversational interface that understands and generates appropriate text (1). This tool gained wide popularity reaching one million users in just a few days following its launch (2). Though it gives prompt and seemingly authentic replies, ChatGPT itself mentions that it may produce inaccurate information

about people, places, or facts which necessitates users to critically think when using it (3).

When looking upon ChatGPT for factual information on Anatomy, we are faced with wrong information as well as important omissions (4). When testing the ChatGPT for anatomy information I asked “Can you explain the ulnar paradox” which is defined as the claw hand produced by ulnar nerve injury at the elbow or above resulting in straighter fingers compared to more distal injuries (5). However, the response received though convincingly phrased was completely false as shown below.

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“The ulnar paradox refers to a situation where a person with an injured or compressed ulnar nerve experiences weak finger flexion (closing the fingers) but strong finger extension (opening the fingers) when attempting to grip an object. It occurs due to the complex innervation of the muscles involved in finger movement, with the ulnar nerve controlling both flexor and extensor muscles. When the ulnar nerve is compromised, the weaker flexor muscles are affected more, resulting in reduced grip strength, while the extensor muscles may remain unaffected or become overactive, leading to increased finger extension ability.”

A recent article exploring the potential benefits of ChatGPT in medical education mentions that it can provide answers and explanations concerning anatomy, histology, and other medical subjects in an understandable and easily accessible manner (6). However, it is made evident by the above example that it is not wise to accept the responses received as factually correct. Especially in a field like medicine, where inaccurate knowledge could cost a life, it is essential that students know the proper and accurate sources of information.

ChatGPT could provide reliable study material and was able to give a comprehensive list of books that could be used to learn human anatomy. It was also able to provide a wide array of valid online resources to learn the human anatomy on request and it provided a detailed comparison as to accessibility, content, and resources available (articles, images, videos, three-dimensional models, animations) which would otherwise need detailed exploration into each.

This natural language processing tool provides a useful and efficient platform for creating lesson/study plans. It was surprisingly detailed and organised when asked to create a two-week study plan for the anatomy of the limbs. It gave daily tasks covering osteology, joints, muscles, nerves, and vessels leaving the last few days for review and practice. Although time was not allocated for studying clinical relevance and applications initially, it was easily included by a prompt. Which shows how we can plan and customize study plans to suit us. As the conclusion, it provided the following message which was considerate of the humane aspect of the student requesting the study plan.

“Customize the study plan based on your learning style and pace, and don't forget to take breaks and prioritize self-care to maintain a balanced and effective study routine.”

Thus, this could be considered an effective and efficient tool to create study plans, which might save time and effort, though they should be carefully scrutinised to include all our requirements before being carried out.

Using its conversational ability, we can ask ChatGPT to test our Anatomy knowledge by questioning us. This could provide us with an interesting learning strategy as it could assist in keeping our focus during long study hours. However, it should be noted that we should not depend on it to give us the correct answers.

Thus, ChatGPT can be considered a beneficial tool in learning Anatomy, although caution and critical evaluation should be exercised in its use. With the rapid and wide engagement of artificial intelligence in the global setting it is

important to explore how it should be integrated in medical education. It may also be valuable to incorporate the intelligent and appropriate use of technological tools into medical curricular to ensure their proper use by the students.

The opportunity exists for the development of more focused artificial intelligence tools for learning medical subjects including anatomy which may revoke the shortcomings observed in ChatGPT which is a generalised language processing tool.

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