

# **ChatGPT and ScholarAI: Cardiothoracic research through artificial intelligence without hallucinations**

August 14 2023

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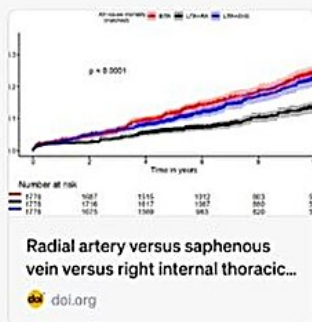
Used ScholarAI



Here are some of the most recent and relevant studies on the topic of radial artery versus saphenous vein versus right internal thoracic artery for coronary artery bypass grafting:

1. **"Systematic comparison of the effectiveness of radial artery and saphenous vein or right internal thoracic artery coronary bypass grafts in non-left anterior descending coronary arteries"** by Xiang Hu and Qiang Zhao, published in 2011. This study systematically compared the efficacies and safeties of coronary bypass with radial artery and other available grafts. The study found that radial arteries had a lower occlusion rate and a lower graft harvest site infection rate than those with great saphenous veins. [Full Text](#)
2. **"Radial Artery Versus Saphenous Vein Patency Randomized Trial"** by Peter L. Collins, Carolyn M. Webb, Chee Fah Chong, and Neil Moat, published in 2008. This study found that radial artery aortocoronary bypass grafts to a stenosed branch of the circumflex coronary artery have an excellent patency rate at 5 years, significantly better than the patency rate for saphenous vein grafts.
3. **"Radial artery versus saphenous vein versus right internal thoracic artery for coronary artery bypass grafting"** by Mario Gaudino et al., published in 2022. This pooled analysis of 4 large coronary bypass surgery trials found that the use of the radial artery was associated with better clinical outcomes when compared to saphenous vein grafts and right internal thoracic artery grafts.
4. **"Radial artery patency and clinical outcomes: five-year interim results of a randomized trial"** by Brian F Buxton et al., published in 2003. This study found that the 5-year interim results do not support the hypothesis that the radial artery has superior patency to or is associated with fewer cardiac events than the right internal thoracic artery or saphenous vein.
5. **"The Society of Thoracic Surgeons Clinical Practice Guidelines on Arterial Conduits for Coronary Artery Bypass Grafting"** by Gabriel S. Aldea et al., published in 2016. This guideline recommends the use of internal thoracic arteries for bypassing the left anterior descending artery and suggests considering a second arterial graft (right ITA or radial artery) in appropriate patients.

Would you like more details on any of these studies?



Response from ChatGPT with the use of the plugin ScholarAI when asked to provide the most recent and relevant references in saphenous vein versus radial artery versus right internal thoracic artery for coronary artery bypass grafting (CABG). Credit: IGI Global

A new plugin for ChatGPT, ScholarAI, enables searching academic literature about various topics without hallucinations (mentioning fictitious papers).

In the realm of cardiothoracic surgery research, a transformation is on the horizon, fueled by the dynamic synergy of artificial intelligence (AI) and [natural language](#) processing (NLP). Spearheading this [paradigm shift](#) is ChatGPT, a new tool that has taken center stage. In the face of existing obstacles and constraints, the potential gains tied to the integration of ChatGPT within cardiothoracic surgery research are promising.

By using a strong language model that has been trained on a variety of data sources, such as academic literature and medical textbooks, ChatGPT harnesses the power of machine learning. Its strength is in its ability to examine and comprehend vast amounts of data, providing significant insights that could revolutionize cardiothoracic research and practice. While ChatGPT has mostly been utilized for text production and other NLP tasks, such as language translation, interest in its potential uses in health care is growing.

Nevertheless, hallucinations (mentioning fictitious papers) are common in ChatGPT responses. Because of that, we have tried also the plugin ScholarAI which provides us with better results than ChatGPT itself.

The plugin was developed by a team around Duke University. This solution provides real papers from respected journals.

[ScholarAI Premium](#) can also extract tables and figures from papers and will include them in any requests for [paper](#) content. This solution is still in beta, results may vary from paper to paper. And the possibility of [Paper Question Answering](#) has the ability to search a PDF to find the best parts of the paper to answer a given question.

The imperative now rests with dedicated researchers and adept clinicians to chart new courses, ingeniously employing this technological marvel to amplify patient outcomes. By orchestrating collaborative endeavors and harnessing the intrinsic capabilities of AI and NLP, the landscape of cardiothoracic surgery stands poised for remarkable advancement, promising a brighter horizon for patients across the globe.

The paper is published in the journal *Interdisciplinary CardioVascular and Thoracic Surgery*.

**More information:** Arian Arjomandi Rad et al, ChatGPT: revolutionizing cardiothoracic surgery research through artificial intelligence, *Interdisciplinary CardioVascular and Thoracic Surgery* (2023). [DOI: 10.1093/icvts/ivad090](https://doi.org/10.1093/icvts/ivad090)

Provided by IGI Global

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