

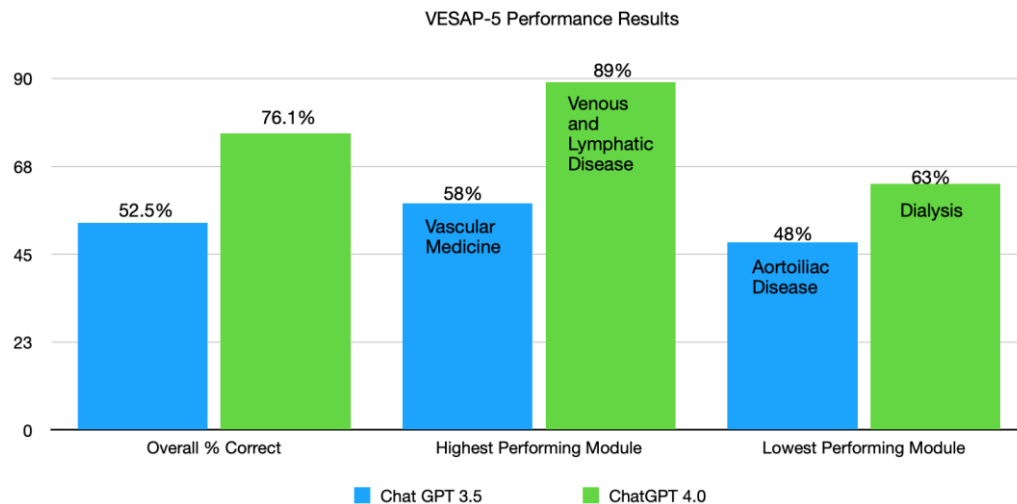
# Chat Generative Pretrained Transformer (ChatGPT-4) Passes the Vascular Education and Self-Assessment Program (VESAP-5)

Robert Tatum, MD, Robyn Guinto, MD, Daniel J Bertges, MD, Matthew Alef, MD  
University of Vermont Medical Center, Burlington, Vermont  
Dartmouth Hitchcock Medical Center, Lebanon, New Hampshire

**Purpose:** To characterize the ability of premier large language models (ChatGPT versions 3.5 and 4.0) to answer questions on vascular surgery topics using the Vascular Education and Self-Assessment Program (VESAP-5).

**Methods:** Three researchers manually transcribed questions from ten VESAP-5 modules into ChatGPT 3.5 and ChatGPT 4.0 to generate responses. Overall performance and module-specific performances were calculated and compared.

## Results



## VESAP Modules (completed questions)

1. cerebrovascular disease (51)
2. upper extremity vascular disease (54)
3. dialysis access management (52)
4. aortoiliac disease (54)
5. renal and mesenteric disease (55)
6. lower extremity (55)
7. venous and lymphatic disease (54)
8. vascular medicine (50)
9. radiation safety (53)
10. vascular lab (203)

**Conclusion:** Current LLMs demonstrate advanced capabilities when presented with exam-style questions regarding general and clinical vascular surgery knowledge. We expect newer LLMs will continue to improve.