

# Artificial Intelligence in Surgery



**The integration of Artificial Intelligence (AI) in surgery is advancing surgical and procedural medicine to tremendous levels of sophistication.**

Artificial intelligence simulates human intelligence in machines that have undergone programming to make them think like human beings and imitate their activities—which can help improve facets of pre-op, intra-op, and post-op procedures.<sup>1,2</sup>

Using AI in surgery guarantees enhanced efficiency by enabling quicker performance of minimal and repetitive tasks and prompts safe, accurate, and efficient solutions more so than traditional methods as well as improved. It ensures reduced human errors as machines cannot get tired of doing tasks that would be cumbersome to humans and uses factual vs. emotional decisions to ensure quality, reasonable conclusions.<sup>1</sup>

While there is some concern about potential healthcare disparity via distorted outcomes from biased AI algorithms, it's important to note that researchers are developing and testing these algorithms to assist in medical imaging and the training of hernia surgeons.<sup>3,4</sup> These efforts are paving the way for the potential future incorporation of AI in hernia repair procedures as well as opening the door to improved communication between professionals and patients.<sup>1</sup>

As we move forward, it's crucial to balance the potential benefits of AI in surgery with careful consideration of its challenges. The “newness” of AI in the field proves the need for additional research to determine its overall pros and cons.<sup>4</sup> Continued research, ethical considerations, and thoughtful implementation will be key to harnessing the full potential of AI in hernia repair.

## **How Hernia Surgery May Be Impacted<sup>4</sup>**

Integrating AI into hernia repair is still a new concept, and while it may not be at the forefront of hernia surgery (yet), it's important to know that studies are currently being performed to test and validate the results. Continued research, ethical considerations, and thoughtful implementation will be key to harnessing the full potential of AI in hernia repair.

Learn more about [Advancing Hernia Care Through New Technologies](#).

1. <https://blog.engineering.vanderbilt.edu/what-is-ai-in-surgery> 2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9178189/> 3. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10613559/>