ACS 2025 Surgeons and Engineers: A Dialogue on Surgical Simulation Meeting

P-A-01

Promoting Technology and Collaboration

Navigating Bariatric Surgery in the Age of Artificial Intelligence

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Background: For many patients struggling with obesity, traditional weight loss methods aren't enough. Bariatric surgery could offer patients a powerful tool to reclaim their health. Bariatric surgery encompasses a range of procedures, from restricting stomach size to limiting nutrient absorption. While the path to bariatric surgery can be long and complex, it shouldn't leave patients feeling lost with unanswered questions. This is where artificial intelligence (AI) steps in, shining a bright light on this important topic.

Technology Overview: Artificial intelligence (AI) is a progressively-evolving form of technology that mimics human intelligence. It can be used as a powerful tool to demystify bariatric surgery and address specific concerns. Three cutting-edge AI systems - ChatGPT, Bard, and Meta AI - were prompted with identical questions about bariatric surgery. These inquiries delved into eligibility, weight loss expectations, costs, side effects, and recovery timelines, directly addressing key concerns for potential patients.

Potential Application in Surgical Simulation and Education: All 3 AI provided similar and detailed responses. The table below shows the responses from the AI systems and whether they were easy to navigate through. For too long, a lack of accessible and comprehensive information has been a barrier to bariatric surgery. Google searches, while helpful, leave patients overwhelmed with conflicting information. However, AI now provides a platform where all the bariatric surgery questions are answered in one place, with clear, reliable, and expert-backed information. AI could revolutionize the way we approach surgery.

Potential Opportunities to Collaborate: Collaborations between healthcare providers and AI developers can ensure accurate, up-to-date information for bariatric surgery patients. Medical researchers can refine AI algorithms by analyzing patient outcomes, while healthcare workers can help tailor AI systems to address real patient concerns effectively. Additionally, partnerships with educational institutions can prepare future healthcare professionals to integrate AI tools seamlessly into patient care.

AI System	Surgery Requirements	% Weight Loss and Cost	Side Effects	Downtime	Easy to Access
ChatGPT	- **BMI** of 40 or higher or BMI between 35-39.9 with obesity related conditions - Previous **attempts** at weight loss	**1) Gastric Sleeve: 60-70%** excess weight by 1 year - $10,000-$20,000 without insurance **2) Gastric Bypass: 60-80%** excess weight by 1 year - $15,000-$30,000 without insurance	**Short term:** Nausea, Vomiting - Dumping Syndrome - Nutritional deficiencies **- Long term complications:** hernias, strictures and nutritional deficiencies	**- Hospital stay:** 1-3 days - Recovery at home: a **few weeks to a month** - Dietary progression: **clear liquids to pureed foods to solid food** over several weeks	Yes!
BARD	- **BMI** of 40 or higher or BMI between 35-39.9 with obesity related conditions - Failed other weight loss methods after 6 months of trying	**1) Gastric Sleeve: 40-60%** of excess weight by 2 years - $9,350 - $26,000 without insurance **2) Gastric Bypass: 60-80%** of excess weight by 2 years - $15,000-$35,000 without insurance	**Short term:** - Nausea, Vomiting - Dumping Syndrome - Constipation - Pain - Infection **Long Term:** - Nutrient deficiencies - Strictures - Acid reflux - Mental health changes	**Hospital Stay:** **- Gastric Bypass 2-3 days** **- Gastric Sleeve 1-2 days** - Exercise: light exercise in 1-2 weeks increase intensity **-** Diet: start with **clear liquids and gradually progress to solid foods**	Yes!
Meta AI	- **BMI:** of 40 or higher or BMI between 35-39.9 with obesity related conditions - **Weight History:** Tried nonsurgical methods like medication and lifestyle changes	**1) Gastric Sleeve: 60%** excess weight by 1 year - $17,000 - $26,000 without insurance **2) Gastric Bypass: 60%** excess weight - $17,000 to $26,000 without insurance	- Nutritional Deficiencies - Digestive issues - Dumping Syndrome - Infections - Adhesions - Emotional Challenges - Revision surgery	- Hospital stay: **2-5 days** depending on the surgery - **Initial** Recovery: **1-2 weeks** to rest and focus on pain management	Yes!