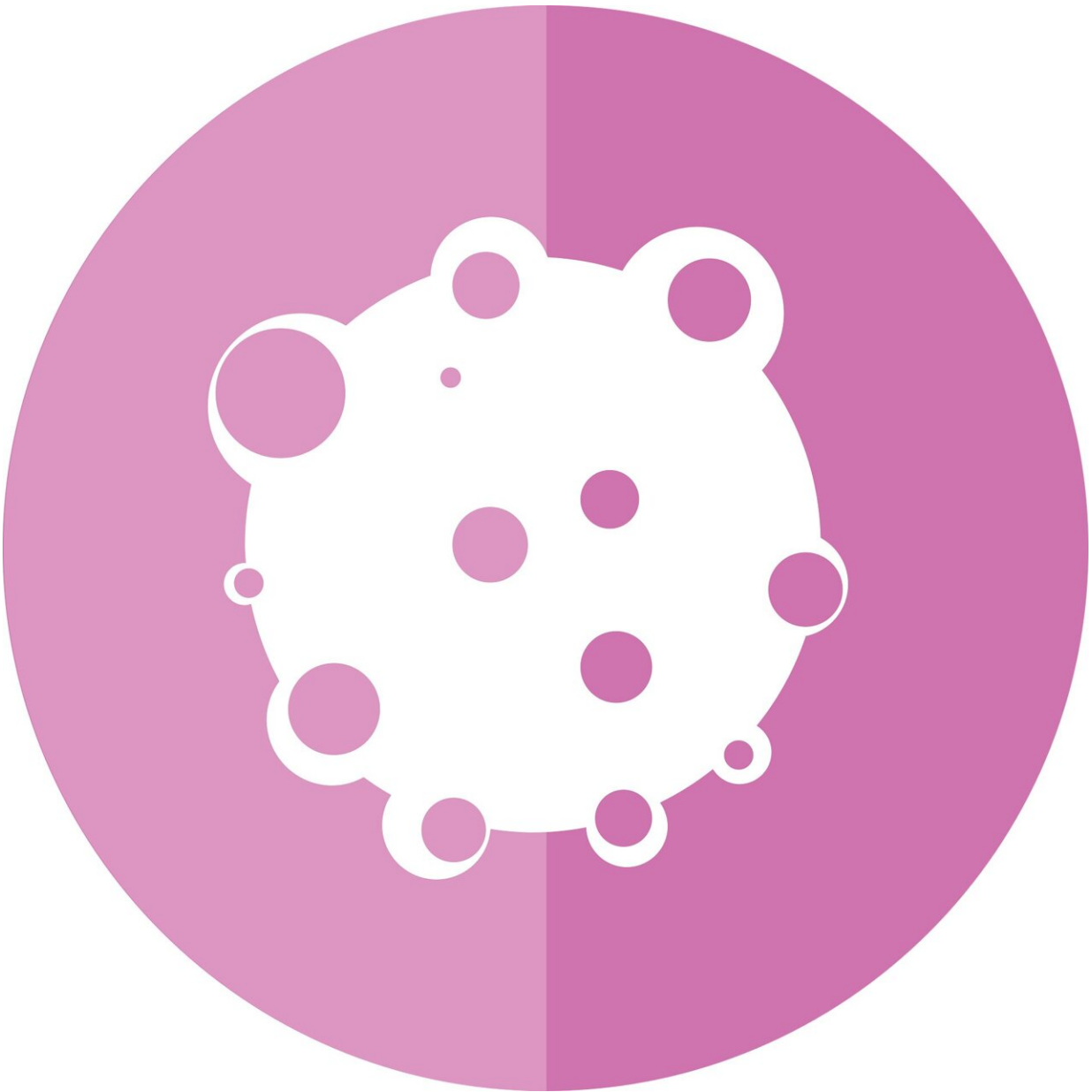


Study affirms use of robotic approach in challenging gastric GIST resections

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Gastric gastrointestinal stromal tumors (GISTs) are rare tumors of the gastrointestinal tract that start in the stomach or small intestine. For GISTs that originate in the stomach (gastric GISTs), surgery is the standard treatment. However, gastric GISTs situated in hard-to-reach locations in the stomach such as the gastroesophageal junction (GEJ) or lesser curvature present unique challenges—especially with laparoscopic surgery. In particular, it is difficult to completely remove the tumor while also preserving organ function.

In a new study, investigators from Dana-Farber Brigham Cancer Center at Brigham and Women's Hospital, a founding member of the Mass General Brigham healthcare system, evaluated the use of robot-assisted resection of gastric GISTs in these unfavorable locations. The results, published in the *Journal of Surgical Research*, confirm the safety and effectiveness of this approach.

"Brigham and Women's Hospital is a high-volume center for robotic gastric GIST resections," said Jiping Wang, MD, Ph.D., research director and surgical oncologist in the Division of Surgical Oncology at the Brigham and [surgical oncologist](#) in the Gastrointestinal Cancer Treatment Center at Dana-Farber Cancer Institute. "We have seen that the robotic approach enables us to perform GIST and other forms of oncological surgery without compromising the extent of tumor removal or the patient's quality of life."

The study involved 25 consecutive patients who underwent a robot-assisted partial gastrectomy at Brigham and Women's between 2019 and 2021. Tumors were located at the GEJ (n=12), lesser curvature (n=7), posterior gastric wall (n=4), fundus (n=3), greater curvature (n=3), and

antrum (n=2).

The most common approach for surgical removal of gastric GISTs is a stapled gastric wedge resection. In this procedure, the GIST is treated by using a linear stapler to remove a wedge-shaped portion of the stomach and close the wound at the same time. For gastric GISTs positioned in certain parts of the stomach or inward growth tumors, however, this is not a viable option.

For instance, following the removal of a tumor in the GEJ, stapling the tissue may damage the lower esophageal (proximal) sphincter. This ring of muscle allows for food to pass from the esophagus into the stomach and prevents the acidic contents of the stomach from backing up into the esophagus. If the proximal sphincter is compromised, the patient could experience problems such as heartburn or difficulty swallowing.

At the lower end of the stomach, a stapled gastric wedge resection could put the pyloric (distal) sphincter at risk. This sphincter regulates the passage of partially digested food from the [stomach](#) into the small intestine. Loss of function can lead to dumping syndrome, in which food quickly passes into the small intestine without being digested. The many unpleasant symptoms of dumping syndrome include diarrhea, nausea, and vomiting.

Wang and his colleagues found that using a robotic surgical platform for GIST resection offers many advantages over laparoscopic or open surgery. Visibility into challenging anatomic locations is far superior thanks to 10x magnification and a three-dimensional view. In addition, the robotic arms operated by the surgeon are much steadier, which reduces the chance of error, facilitates complete [tumor](#) removal, and allows for very fine suturing to minimize damage to surrounding tissue.

In the study, both the GEJ and pylorus were successfully preserved in all

cases.

More information: Thinzar M. Lwin et al, Robotic Function-Preserving Resection of Gastric Gastrointestinal Stromal Tumor, *Journal of Surgical Research* (2023). [DOI: 10.1016/j.jss.2023.04.021](https://doi.org/10.1016/j.jss.2023.04.021)

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