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### Current trends in hiatal hernia repair

It has been well documented that primary hiatal herniorraphy (laparoscopic or open), without mesh, has a high recurrence rate (up to 42%). Furthermore the most common intra-operative finding during re-operations for failed primary anti-reflux operations is wrap herniation into the mediastinum. Crural closure, however when supplemented with prosthetic mesh results in a substantially lower rate of recurrence compared to simple sutured cruroplasty. There is little agreement on a number of issues involving mesh-reinforced hiatal hernia repair. Debate exists regarding when surgical mesh is indicated, the type of mesh to be employed, the shape and size of mesh in relation to the defect, the method of mesh fixation, and even if mesh should ever be employed at all. There is an ongoing controversy over the rationale and safety of placing prosthetic material at the esophageal hiatus. Most of the data in this field is retrospective, but there have been a few controlled trials which have demonstrated the efficacy of non-biologic mesh at the hiatus. The pro-mesh data is tempered by a body of case reports of erosion and/or stricture in mesh-reinforced hiatoplasty. Our policy has been to employ permanent (non-biologic) mesh (Polytetrafluoroethylene/PTFE or light weight coated polyester/LCP) in a circumferential fashion in specific patients. Our main indication for mesh reinforcement of a sutured cruroplasty, in our prospective randomized study (1991-2000), was a hiatal defect with a transverse diameter of 8 cm or greater. Since the completion of our trial the utilization of mesh was reduced to 5 cm of hiatal defect. We also would apply mesh reinforcement in cases where the crural bundles are weak. Currently there are a number of lightweight permanent meshes (made with polyester or polypropylene) available that have more benign long-term implantation effects than the older heavyweight permanent meshes. There have been a number of techniques described for the placement of mesh during hiatal hernia repair. The technique we have utilized is to place a circumferential sheet of permanent mesh (PTFE or LCP) around the gastroesophageal junction and against the diaphragm. An alternative method of mesh hiatoplasty is the use of a V-shaped, U-shaped, or rectangular LCP or PTFE mesh which is slipped underneath the gastroesophageal junction, and applied to the primary cruroplasty as a buttress. A survey of SAGES Members has shown that the vast majority of surgeons are currently using mesh for the repair of large hiatal hernias.

### Biography

Constantine T Frantzides is the Director of the Chicago Institute of Minimally Invasive Surgery; Director of the Laparoscopic and Bariatric Fellowship Program at St. Francis Hospital and visiting Professor of surgery at University of Illinois in Chicago. He is recognized worldwide as an expert in the field of laparoscopic surgery and is a charter member of the United States Laparoscopic Founders Society. He was also named "America's Top Doctor" by the acclaimed Castle Connolly Medical Guide for 5 consecutive years (2009-2014). In addition, he was named "Top Doctor" by the Chicago Magazine (2012-2014), and the US News and World Report for 2011-2013. In addition he was Professor of Surgery at Northwestern University from 2004-2009. He was the first surgeon to define and publish the importance of preserving the Vagus nerve during a gastric bypass for avoidance of the dumping syndrome (Obesity Surgery 2011). He is credited with inventing two surgical instruments used in laparoscopic surgery. He is a member of numerous professional societies and has been the recipient of several awards and honors as well as grants from the National Institutes of Health (NIH) and from the surgical industry. He has made more than 200 contributions to the medical literature and has written three books on laparoscopic surgery. He was the first in the world to introduce and perform 14 different laparoscopic procedures.

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