Health Technology Review	
Technology Ref.:	**HTA21025**
Technology Name:	**Endoscopic sleeve gastroplasty (ESG)**
Approvals by International Bodies:	**FDA approved**
Company name:	**Sheikh Shakhbout Medical City**
Agent in UAE:	**Dr Mohammed Karajeh**
Email:	**mkarajeh@ssmc.ae**

Short Description of the Technology:	ESG is an incisionless transoral endoscopic procedure that uses commercially available FDA approved endoscopic suturing system (OverStitch, Apollo Endosurgery, Austin, TX) to apply full thickness sutures in the stomach to reduce the stomach volume. ESG reduces the gastric volume by forming a sleeve along the stomach body, similar to laparoscopic sleeve gastrectomy (LSG).

Health Technology Assessment Team Recommendation:	**Approved**

Summary of Review:

The procedure having been used in Mayo Clinic since 2012. It is expected that there may be some weight regain as the stitches loosen or break, however this can be prevented by avoidance of overeating and vomiting. A systematic review and meta analysis of eleven studies with a total of 2170 patients (the data retrieved for 24,666 records out of 6677 duplicatons and other records excluded) in 18 months showed the safety and effectiveness of the procedure for primary obesity therapy using ESG (*https://doi.org/10.1007/s11695-020-04449-9 Efficacy and Safety of Endoscopic Sleeve Gastroplasty at Mid Term in the Management of Overweight and Obese Patients: a Systematic Review and Meta-Analysis*).

Some studies state that side effects after the procedure may include abdominal pain, nausea, cramping and vomiting, so proper diet and certain medications after the procedures would minimize the risk of these side effects, particularly nausea and vomiting. These side effects last 2-3 days and then typically disappear.

The risks of complications are surprisingly small. Until recently reported, complications that have occurred have been able to be managed with endoscopies, medications or minor procedures. No complication has yet required surgery to resolve, however there is a very small risk that this may be required.

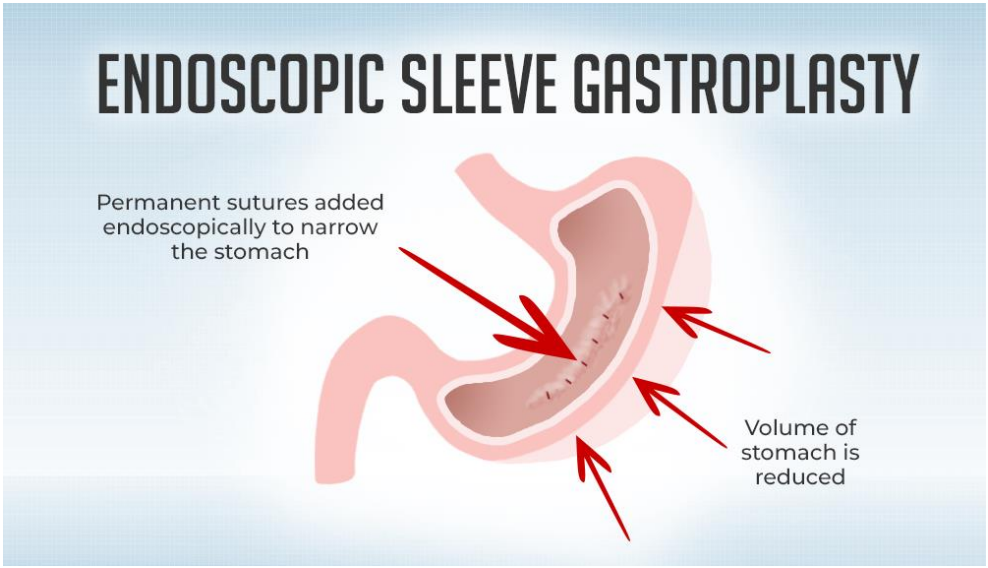
Advantages	Disadvantages
15 to 22% of body weight loss and showed improvement in diabetes mellitus type 2, hypertension, and other obesity-related comorbidities	Many complications of the procedures include but not limited to bleeding and stomach pain but can last in 2-3 days. In a study of 1000 patients, only 24 were readmitted due to severe abdominal pain, post procedure bleeding, perigastric fluid collection, or post procedure fever.

Safe, reproducible and effective in several multicenter studies and can replace the LSG. Endoscopic bariatric therapies (EBT) are important since they are more effective than pharmacological therapy and lifestyle modification and present lower adverse event rates compared with bariatric surgery	This is a rare problem which occurs in less than 1% of patients. Obese patients are more prone to developing blood clots in the veins of the legs than are normal weight patients. However, this is preventable by early mobilization
It is a non-surgical option for losing weight and has faster recovery and returning to normal life routine	Since the ESG is done under endoscopic observation it is unlikely that the stomach would be closed off by a suture. More conceivable is a case where the particular patient's gastric squeezing function is mismatched to the degree of tapering that has been done
According to literature significantly more effective than other non-surgical option of intragastric balloon insertion	
No requirement for hospitalisation after the procedure	

We recommend an **Approval** of the technology with the following:

1. Establishing a proper quality monitoring process and reporting of any adverse events or unwarranted consequences including safety issues of employees and Patients
2. Obtaining the approval of DOH-HSF if requires the coverage of Thiqa
3. Provision of regular updates and reports about the product to DOH upon request.
4. Any other documents or information requested regarding the product and cost to finalize the approval process.

Moreover, DOH has the right to stop the product at any stage if deemed necessary, initial conditions and any subsequent conditions must be satisfied before obtaining final approval. Failure to do so will reflect in provoking the approval.

Technology Image


Endoscopic sleeve gastroplasty (ESG) Use Criteria

Question	Answer	Comments
Which case?	Have a body mass index (BMI) of 30 or higher	
Which doctors?	Bariatric Surgeon	
Which hospital?	Hospitals that provide bariatric surgery service	
Inclusion criteria	Body mass index (BMI) between 30 and 40, or higher if they are not a surgical candidate (e.g., they have previously undergone other types of surgery, have had adhesions, or have had a frozen abdomen) or do not want to undergo surgery.	Informed patient consent that includes alternative options
	adult patients (age 18-75 years)	
	Contraindication against surgery	
Exclusion criteria	BMI less than 30	
	BMI more than 40	
	Patients less than 18 or more than 75 years	
	Neoplastic lesions of the stomach	
	Potential bleeding gastric lesions (ulcers, gastritis)	
	Coagulopathy	
	Hiatal hernia >3 cm	
	Psychiatric disorders	
	Pregnancy	
	Significant medical comorbidities precluding sedation/anaesthesia	
	History of prior gastric surgery	