

Endoscopic Sleeve Gastroplasty (ESG)

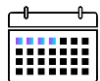
1. About Endoscopic Sleeve Gastroplasty (ESG)	2
2. Who is ESG suitable for?.....	2
3. How does an ESG works	2
4. What to expect from the ESG procedure?	3
5. ESG Patient Stories	3
6. ESG FAQs	3
7. Common obesity-related health conditions	4
8. Clinical Results	5
9. Details on the MERIT Study	6
References	10

1.About Endoscopic Sleeve Gastroplasty (ESG)

Endoscopic Sleeve Gastroplasty (ESG) is a procedure for weight loss that involves reducing the volume of the stomach using an endoscopic suturing device. During the procedure, which is performed under general anaesthetic, a specially trained endoscopist creates 6-8 folds along the greater curve of the stomach.



This results in a 70%-80% reduction in stomach volume, making you fuller for longer and with less food which has been shown to result in significant weight loss¹.



In a clinical study¹, most patients were able to go home on the same day of the procedure and returned to normal daily activities within two to three days.



In a clinical study¹, patients lost an average of 13.6% of their total body weight within the first year.

2. Who is ESG suitable for?

The ESG procedure could be a suitable option for adults living with obesity who have not achieved their personal weight loss goals with diet and exercise alone and are reluctant to undergo more invasive weight loss surgeries.

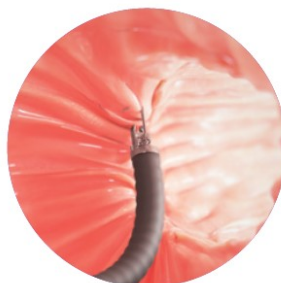
Consult your doctor to determine if you might be a good candidate for this endoscopic procedure.

3. How does an ESG works

A specially trained endoscopist uses a medical device to create a series of folds in the stomach, forming a sleeve-like shape endoscopically. Over time, scarring and bridging tissue help to maintain the reduced gastric volume. Besides reducing volume, studies suggest that the ESG procedure also delays gastric emptying, leading to earlier satiety^{1,2}.



6 to 8 continuous sutures are arranged in a U-shaped pattern along the greater curvature of the stomach.



When tightened and secured, the sutures bring the anterior and posterior walls of the greater curvature together, shortening the gastric length and reducing its diameter



The endoscopic plications create a sleeve-like shape but with the fundus and antrum left intact

[LINK TO VIDEO PROCEDURE: ENDO-1748101-AA](#)

4. What to expect from the ESG procedure?

After the ESG procedure, you will feel fuller with smaller portions, which helps you to develop healthier eating habits for sustained results.

Before the procedure	After meeting with your doctor and nurses, you will be given medication to help you sleep and stay comfortable during the procedure.
Coming home	You may feel some discomfort after the procedure, but most people can go home on the same day after routine observation. Avoid driving, operating motorized vehicles or equipment, and consuming alcoholic beverages as long as your doctor advises. You can resume regular activities as soon as you feel comfortable, following your doctor's specific instructions.
First four weeks	To help you adapt, you will be on a liquid diet for the first week or two, followed by pureed and soft foods for the next two weeks. By week four, you should be able to resume eating solid foods. This can vary between individuals, so it is important to follow the advice of your doctor and aftercare team..

5. ESG Patient Stories

[LINK TO VIDEO TESTIMONIAL: ENDO-1965401-AA](#)

Joanna's story

Listen to Joanna's story as she shares her personal transformative weight loss journey with Endoscopic Sleeve Gastroplasty.

6. ESG FAQs

How much weight can I expect to lose after ESG?

According to a clinical study, patients lost an average of 13.6% of their body weight 12 months after undergoing the ESG procedure. As with any weight loss intervention, results can vary between individuals

as there are multiple contributing factors. In one particular study, ESG has shown to help people reduce their total body weight by an average of 13.6%, one year after having the procedure (see MERIT Study).

Is the procedure permanent?

The sutures are made of a durable, permanent material that does not dissolve. Over time, scarring and bridging tissue will maintain the reduced stomach size and sleeve-like shape. If the sutures break or the sleeve-like shape stretches, retightening can be performed.

What are the most common side effects?

The most common side effects are gastrointestinal symptoms such as:

- Nausea
- Abdominal pain
- Vomiting
- Constipation
- Burping
- Diarrhea

These symptoms typically resolve within 30-60 days.

All procedures have risks. Patients should talk with their doctor and understand all risks before having any procedure.

Am I eligible for this procedure?

ESG is for adults with obesity (defined as a BMI > 30) who have not been able to lose weight or maintain weight loss through diet and exercise alone. Patients who are unable to have an upper endoscopy, are pregnant, are using certain types of blood-thinning medications, or have malignant tissue, large hiatal hernia, potentially bleeding gastric lesions, or eating disorders, are not eligible for the procedure. Talk to your doctor about whether you are a candidate for ESG.

7. Common obesity-related health conditions

Obesity is currently defined as having a body mass index (BMI) of 30 or above. In addition to using this measurement, clinical studies have also shown that individuals with a higher BMI are also more likely to be affected by other obesity related health conditions including:

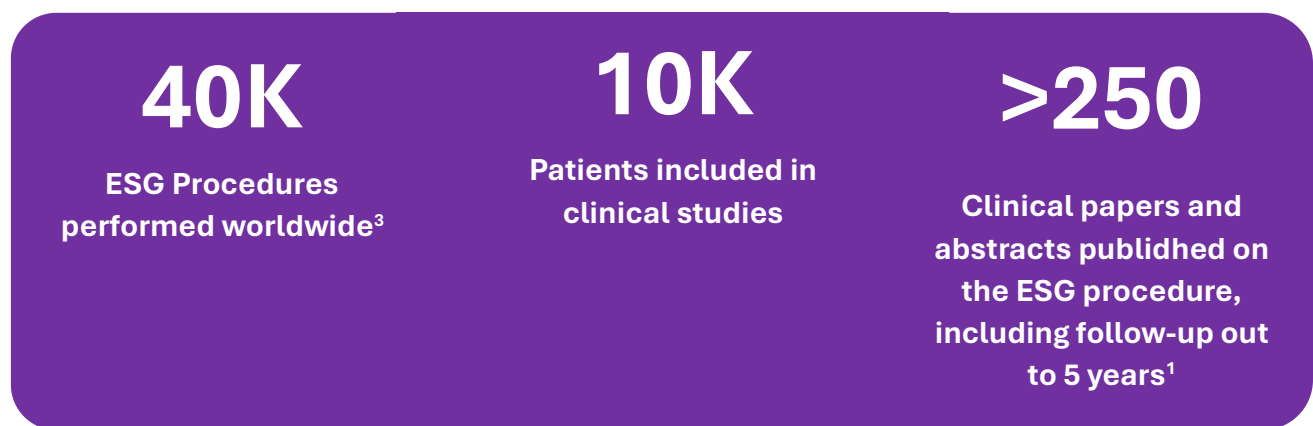
- Hypertension
- Hyperlipidemia
- Type 2 diabetes mellitus (T2DM)
- Coronary artery disease (CAD)

A major concern with this increasing prevalence is the numerous potential adverse outcomes triggered by obesity-associated comorbidities. The literature is rich in publications that highlight the implications and dramatic diseases associated with the current steady worldwide increase in the prevalence of obesity.

8. Clinical Results

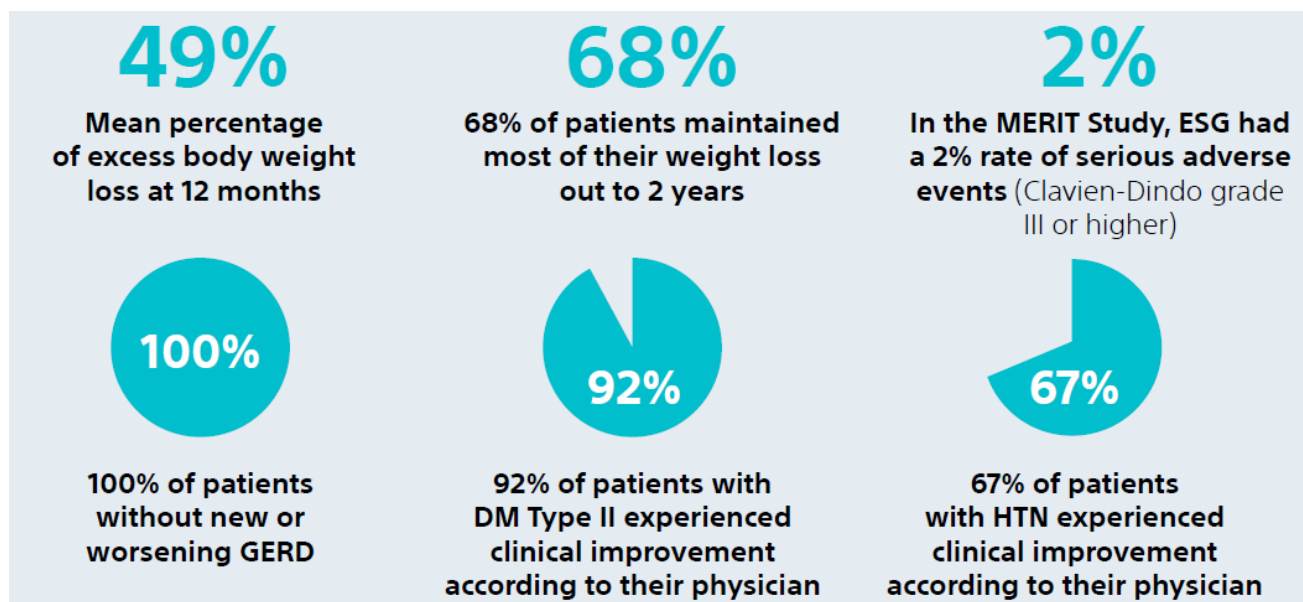
Clinical evidence shows that ESG can result in significant, lasting weight loss when used in conjunction with a prescribed diet and exercise program. The body of evidence supporting the safety, efficacy, and durability of the ESG procedure has been developed over 10 years and includes randomised controlled trials, consensus statements and large meta analyses. In addition to this, in February 2024, The National Institute for Health and Care Excellence (NICE) issued its guidance on the ESG procedure at "Standard Arrangements" which is the most positive level of endorsement that can be achieved.

In November 2024, The International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) also released a position statement supporting the ESG procedure and further establishing it as a safe and clinically effective treatment option for weight loss.



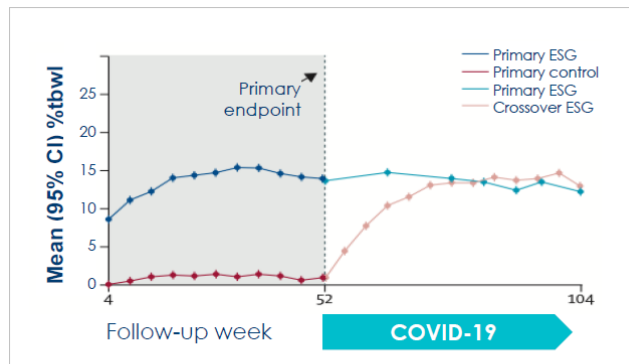
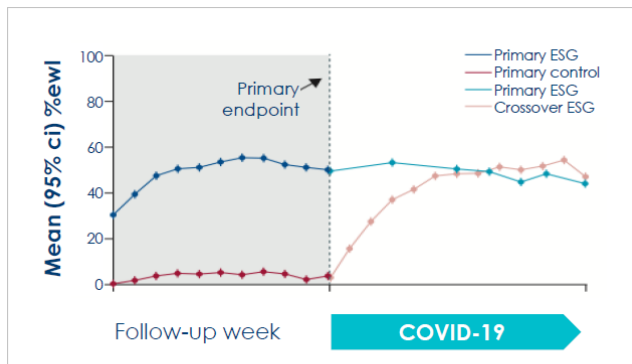
MERIT study¹

The Multicentre Endoscopic Sleeve Gastroplasty Randomised Interventional Trial (MERIT) is a randomised clinical trial conducted across 9 specialist centres in the US. In this trial, 209 individuals aged between 21-65 and living with class 1 (BMI 30-35) or class 2 (BMI 35-40) received either an ESG or were enrolled into a medically monitored programme of diet and lifestyle modification. The results of the ESG patients are as follows:



9. Details on the MERIT Study

Design	Primary endpoints
- Multi-center, prospective, randomized clinical trial - Evaluated safety & effectiveness of ESG procedure vs medically monitored regimen of diet & healthy lifestyle - Direct response to collaborative surgical and GI society position statement	EFFICACY: At least 25% excess body weight loss (%EBWL) at 12 months and at least 15% EBWL vs. control at 12 months SAFETY: SAE rate of less than 5% (SAE defined as Grade III Clavien-Dindo, ZERO grade IV or V)
Population	Secondary endpoints
21 – 65 years - Class I or II Obesity (BMI 30 – 40 kg/m²) - Failed non-surgical weight loss methods - Agreed to comply with lifelong dietary restrictions - Quota of >50 pts with HTN, >50 pts with DM (oral agents only)	Patients also evaluated for improvement in hypertension and type 2 diabetes at 24 months



49%

± 32%, target 25%

45%

delta vs lifestyle [95% CI 39 – 51];
target 15%

77%

responder rate ≥ 25% EWL

16%

± 7% TBWL among responders;
11% > control

ESG compared to standard of care

	ESG		SoC		p
	Improve	Worsen	Improve	Worsen	
Diabetes Mellitus Type II (DMII)	92%	0%	15%	44%	<0.001
Metabolic Syndrome + NAFLD + Inflammation	83%	0%	35%	38%	<0.001
Hypertension (HTN)	67%	6%	40%	23%	=0.01

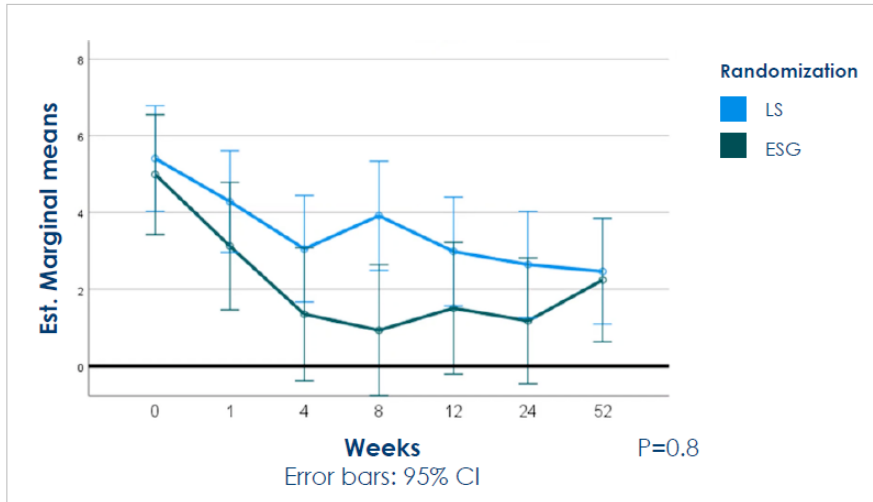
Diabetes mellitus type II (DMII)

	Improve ESG	Worsen (SoC)	P
HOMA-IR	- 3 (SD 6.354)	+1.35 (SD 3.2)	p=0.01
HgA1c (Diabetics)	- 0.87 (SD 1.1)	+0.39 (SD 0.7)	p<0.001
HgA1c (baseline>7)	- 1.77 (SD 0.755)	+0.16 (SD 0.635)	p<0.001

Metabolic syndrome + NAFLD + inflammation

	Improve ESG	Worsen (SoC)	p
Hepatic Steatosis Index (HSII)	- 2.24 (SD 3.075)	- 0.61 (SD 3.409)	p=0.01
CRP	- 1.78 (SD 4.04)	+ 0.51 (SD 3.525)	p<0.01
Waist/ Hip Ratio (% Change)	- 2.91 (SD 8.5188)	- 0.36 (SD 7.2852)	p=0.02

Gerd – HRQL total score



ESG patients demonstrated reduction in GERD

+ NO NEW OR WORSENING GERD

12.3%

SAE rate among all ESG completers n=150
All recovered

SAE defined as Grade III Clavien-Dindo, ZERO grade IV or V

Peri-Gastric Abscess

Endoscopy
Antibiotics

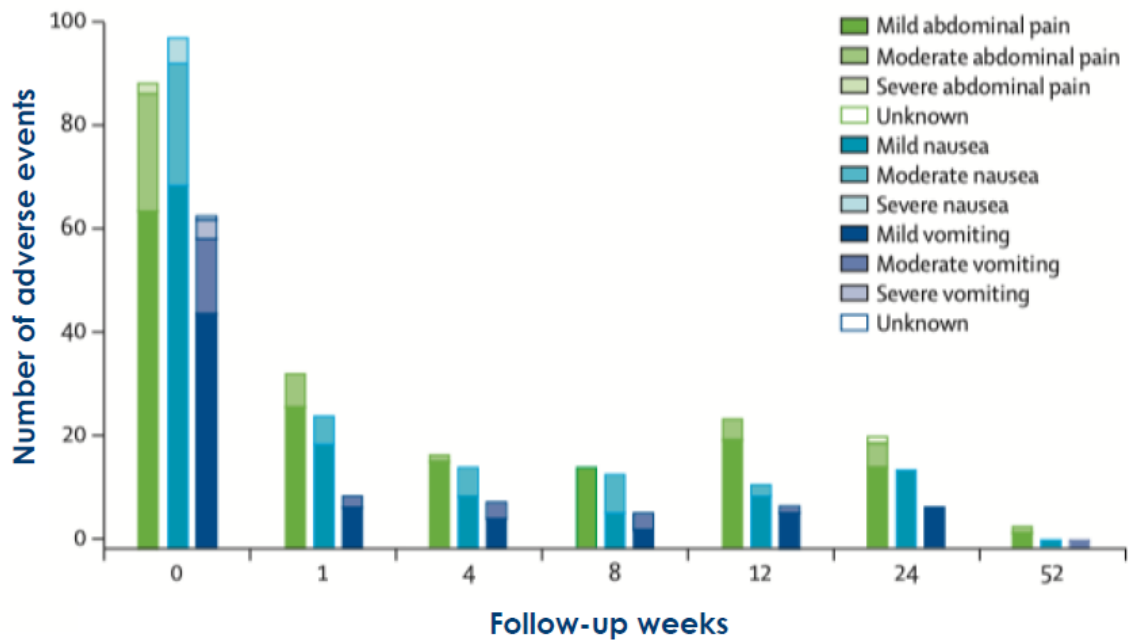
Upper GI Bleed

Endoscopy
No transfusion

Malnutrition

Endoscopic
Reversal

6 additional patients (4%) hospitalized for conservative management of accommodative symptoms. These were not considered SAEs, per protocol, because they were anticipated with same day discharge following ESG.



References

¹ MERIT Study. The Lancet. 2022. Dayyeh, Barham K. Abu, et al. "Endoscopic sleeve gastropasty for treatment of class 1 and 2 obesity (MERIT): a prospective, multicentre, randomised trial." *The Lancet* 400.10350 (2022): 441-451.

² Sharaiha, et al. CGH. 2020. Sharaiha, Reem Z., et al. "Five-year outcomes of endoscopic sleeve gastropasty for the treatment of obesity." *Clinical Gastroenterology and Hepatology* 19.5 (2021): 1051-1057.

³ Dayyeh, B.K.A., et al. IFSO Bariatric Endoscopy Committee Evidence-Based Review and Position Statement on Endoscopic Sleeve Gastropasty for Obesity Management. OBES SURG (2024).

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