



**ESG<sup>®</sup>**

## FREQUENTLY ASKED QUESTIONS

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### **WHAT IS ENDOSCOPIC SLEEVE GASTROPLASTY?**

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ESG is an endoscopic, incisionless technique that reduces the size of the stomach through internal suturing. The stomach size is reduced by approximately 70% by internally “plicating” or folding the stomach with stitches. After completion of the procedure, the stomach has a sleeve-like shape, similar to a surgical sleeve gastrectomy.

### **HOW IS ESG DIFFERENT THAN A SURGICAL SLEEVE GASTRECTOMY?**

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The key difference is that ESG is non-surgical. There are no incisions. It is performed entirely through the mouth using an endoscopic suturing system (Overstitch). This allows for a fast recovery and healing, as well as a lower rate of adverse effects. The procedure is done on a same-day, outpatient basis. While ESG reduces the size of the stomach to a similar degree as a surgical sleeve gastrectomy, it does not involve *removal* of any portion of the stomach.

### **HOW MANY SUTURES ARE PLACED IN THE STOMACH?**

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An average of 5-7 sutures are placed along the greater curve of the stomach. The exact number will vary based on the size and shape of the stomach.

### **ARE THE SUTURES PERMANENT OR DISSOLVABLE?**

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The sutures are made out of Prolene (polypropylene), a very durable material. They are not dissolvable and are considered permanent.

## **WHAT HAPPENS TO THE SUTURES AFTER I HEAL?**

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Following the ESG procedure, the internal sutures will hold the stomach in the new, sleeve shape, until it fully heals. After the stomach heals, the sutures will remain in the stomach wall. Over time, the stomach stiffens or “fibroses” and tends to stay in its smaller shape. Therefore, the role of the sutures is less important over time. The sutures themselves do not pose any long-term risk to you, and you would not know they are there.

## **CAN YOU SEE THE SUTURES WITH XRAY?**

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Each suture has a tiny, metallic anchor at its end. These are visible by x-ray. They are inert and do not pose any long-term risk. They are compatible with MRI. They are not detectable by metal detectors.

## **WHAT ARE THE MOST COMMON SIDE EFFECTS?**

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The most common side effects are upper abdominal pain, bloating, cramping, and sometime nausea. These are typically mild and treated with pain relievers and anti-nausea medication. Fatigue may occur for 1-2 weeks after the procedure, due to the initially low caloric intake.

## **WHAT IS THE RISK OF SERIOUS SIDE EFFECTS?**

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While the risks related to ESG are far lower than bariatric surgery, there is a 0.5% to 1% risk of serious adverse effect, including bleeding, infection, or injury to the stomach.

## **AM I A CANDIDATE FOR THIS PROCEDURE?**

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Anyone who is obese and has not achieved their desired weight loss through diet and exercise is a candidate. There is no specific weight or body mass index (BMI) required for the procedure, though most patients will have a BMI somewhere between 30 and 40. However, this procedure has been performed in individuals with higher BMIs who are not interested in pursuing surgical treatments.

## **WHO CANNOT HAVE ESG?**

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The main contraindication to ESG would be the presence of a known stomach problem, such as a stomach ulcer or very large hiatal hernia. Major health problems or bleeding disorders would also be a contraindication.

## **HOW LONG DOES THE PROCEDURE TAKE?**

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Approximately 30-40 minutes. The procedure is performed under sedation in an endoscopy suite. You will recover for 1-2 hours after the procedure. You will then be discharged home.

## **WHEN CAN I RETURN TO WORK?**

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We recommend taking 2-3 days off after the procedure, to rest and recover.

## **HOW MUCH WEIGHT CAN I LOSE WITH ESG?**

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Actual weight loss will vary based on starting weight, motivation level, and adherence to our dietary recommendations. Current studies suggest an *average* of 20% total body weight loss and 60% of excess weight loss. It may take 6-12 months, or more, to lose this amount of weight.

## **IS THE PROCEDURE PERMANENT?**

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Once the stomach heals, it should remain in a smaller size and shape long-term. U.S. studies tell us that weight loss after ESG is maintained for up to 5 years. The key to sustaining weight loss is to adhere to the recommended diet and to maintain a regular exercise regimen. We advise that overeating can lead to weight regain and/or failure of the sleeve over time, as with any weight loss procedure.

## **CAN THE SUTURES COME LOOSE?**

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When performed correctly, the sutures in an ESG should remain in place and not come loose. However, suture failure has been reported and has been experienced at a very small rate (less than 1%) in our program. If needed, re-suturing can be performed to further tighten the ESG.

## **WHAT DOES THE “RESTRICTION” FEEL LIKE AFTER ESG?**

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The feeling of fullness, or restriction, will vary from person to person and will typically change over time. For the first few days to weeks, you will only be able to consume very small amounts of liquids and eventually soft foods at a time. Some patients describe a feeling of indigestion, fullness, or even discomfort when they reach their new capacity. For

some patients, this is very obvious and noticeable. For others, it may be subtler. We emphasize the important of eating slowly to allow your brain to register fullness. After many months, the feeling of fullness will still occur at a much earlier point in a meal, but you should be able to consume a balanced diet with a full variety of healthy foods.

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## **WHAT HAPPENS TO THE PART OF THE STOMACH THAT IS SUTURED?**

During ESG, the greater curve of the stomach is stitched together, creating a “thicker” stomach wall in that area. The blood supply remains completely intact. After the stomach heals, it looks like a normal stomach from the inside, albeit smaller. There are no known long-term risks of plicating the stomach in this manner.

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## **DOES ESG AFFECT THE HUNGER HORMONE GHRELIN?**

Ghrelin is key hormone involved in maintaining body weight. It is produced by the stomach and rises when we have an empty stomach, and decreases after we eat. With the surgical Vertical Sleeve Gastrectomy, ghrelin levels remain very low for months, since a large part of the stomach was removed. They then gradually return to normal. In comparison, early studies suggest that ghrelin levels may decrease after ESG, though likely to a lesser degree and for a shorter time. However, because the stomach is smaller after ESG, the amount of food that it takes to “turn off” ghrelin should be significantly less.

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## **WHY DON'T YOU SUTURE THE TOP OF THE STOMACH?**

With ESG, the top of the stomach (called the Fundus) is left intact. This part of the stomach has a very thin wall and is close to other organs (such as the spleen, diaphragm, and lungs) and therefore suturing in this area is felt to be higher risk. By leaving the fundus intact, the stomach configuration after ESG looks more like a small pouch sitting atop a narrow sleeve. This is different than the Vertical Sleeve Gastrectomy (VSG), which creates a long, narrow tube. The stomach in ESG tends to be more scrunched up and pouch-like, due to the plication that is performed.

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## **CAN I EXERCISE OR LIFT WEIGHTS AFTER ESG?**

Yes. There are no specific lifting restrictions immediately after ESG. However, we recommend starting first with light walking, even as soon as the day of your procedure. This helps with the recovery and passage of gas. Once you are meeting your protein and fluid goals on a consistent basis, you can begin to exercise more intensely. We generally recommend avoiding very strenuous exercise for 3-4 weeks, as your caloric intake may be

too low to support this at first (you may get tired). After the first month, you should be able to do any form of exercise without limitation.

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### **IS IT OK TO GET PREGNANT AFTER ESG?**

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After you have healed and recovered from your procedure, it is safe to become pregnant, though we generally recommend waiting a minimum of 6 months before trying to get pregnant. We advise patients that fertility *may* increase after ESG, due to the metabolic improvements associated with weight loss.

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### **WHAT HAPPENS IF I DON'T LOSE AS MUCH WEIGHT AS I WANT, OR IF MY WEIGHT LOSS IS SLOWER THAN EXPECTED?**

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We will closely monitor your progress following the ESG procedure, to ensure that your weight loss is on track. It is very common and expected to have periods of slower weight loss during the 12-month process. If, despite optimizing your diet and exercise, you still need further assistance, we may recommend weight loss medications (pharmacotherapy). This would be provided under the guidance of your treating physician. These medications can greatly enhance your weight loss, when used in conjunction with the ESG procedure.

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### **CAN THE ESG PROCEDURE BE REPEATED?**

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Yes. If the initial procedure was not completely successfully, it can be safely repeated or tightened.

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### **IF I DON'T SUCCEED WITH ESG, COULD I GO ON TO HAVE BARIATRIC SURGERY?**

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Yes. Patients have safely converted to surgical procedures (such as gastric bypass, vertical sleeve gastrectomy, or duodenal switch) in select instances.

