What is the best choice for a revision surgery?

With Previous Sleeve Gastrectomy

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What Happens after a Sleeve Gastectomy?

* 47% to 64% of Failure in Stand-Alone cases

TABLE 2. Objective Success After 3 yr, Intention-to-Treat After Stand-Alone Sleeve Gastrectomy

	Success	Failure
Evaluated patients; n = 41	n = 28; LSG: >50% EWL	n = 13; *LSG: <50% EWL: n = 2; *LSG + DS: n = 11
No evaluation possible; n = 12		n = 12; *Lost for follow-up: n = 4; *Refused cooperation: n = 8
Total: 53	28/53: 53%	25/53: 47%

LSG indicates laparoscopic sleeve gastrectomy; EWL, excessive weight loss; DS, duodenal switch.

TABLE 3. Objective Success After 6 yr, Intention-to-Treat After Stand-Alone Sleeve Gastrectomy

	Success	Failure
Evaluated Patients; n = 41	n = 19; LSG: >50% EWL	n = 22; *LSG: <50% EWL: n = 11; *LSG + DS: n = 11
No evaluation possible; n = 12		n = 12; *Lost for follow-up: n = 4; *Refused cooperation: n = 8
Total: 53	19/53: 36%	32/53: 64%

LSG indicates laparoscopic sleeve gastrectomy; EWL, excessive weight loss; DS, duodenal switch.

Himpens et al, Ann Surg 2010

What Happens after a Sleeve Gastectomy?

* Complications
  * 18% to 21% Vomiting
  * 23 to 26% of GE Reflux

TABLE 5. Gastro-esophageal Complaints at 6 yr Postoperatively

	Preoperative	Postoperative
Stand alone sleeve gastrectomy		
Gastroesophageal reflux	3.3%	23%
Vomiting	0%	18%
Stand alone sleeve gastrectomy and sleeve gastrectomy + duodenal switch		
Gastroesophageal reflux	0%	26%
Vomiting	0%	21%

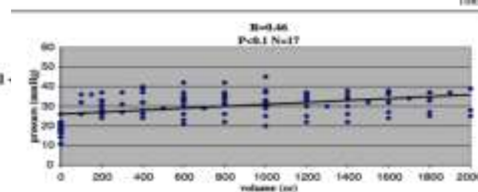
Himpens et al, Ann Surg 2010

Scenarios after a Sleeve Gastrectomy

- Sleeve Gastrectomy
  - Complications (Stenosis, Vomiting, Reflux)
    - RYGB
  - Failure of Weight Loss
    - Reflux
      - RYGB
    - No Reflux
      - DS

Scenario #1
Complications

- Up to 23% of Cases show Vomiting of GE Reflux
- Why?
  - Undiagnosed or misdiagnosed Hiatal Hernia
  - High pressure system created after SG
  - Unappropiate shapes of the Sleeve



OBES SURG (2008) 18:1083–1088
DOI 10.1007/s11695-008-9576-x

RESEARCH ARTICLE

Laparoscopic Sleeve Gastrectomy—Volume and Pressure Assessment

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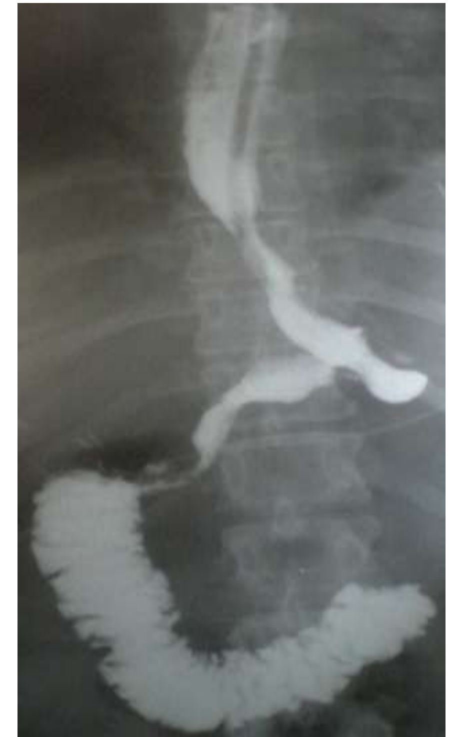
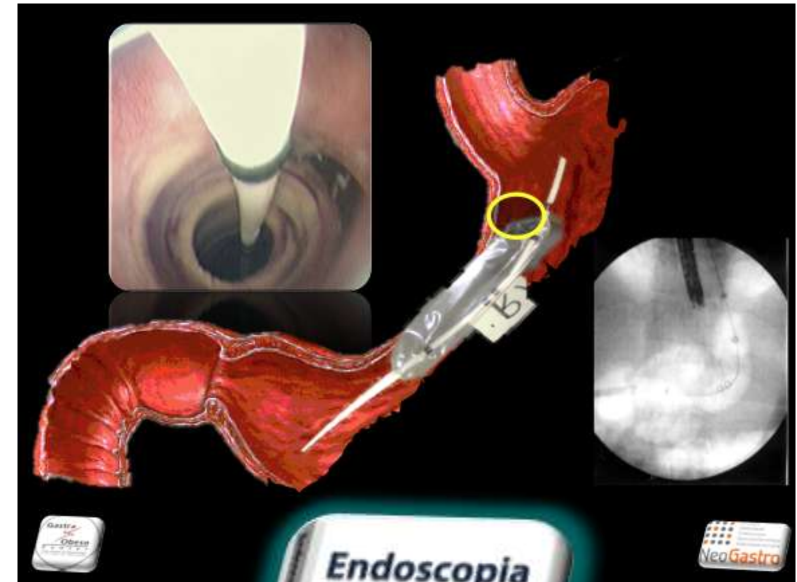


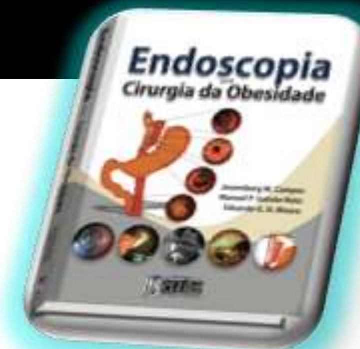
Scenario #1 Complications

* Why do we choose a RYGB
  * Avoids distal complicated areas
  * Allows rapid transit of the food to the bowel
  * May not add too much weight loss

Scenario #1
Complications

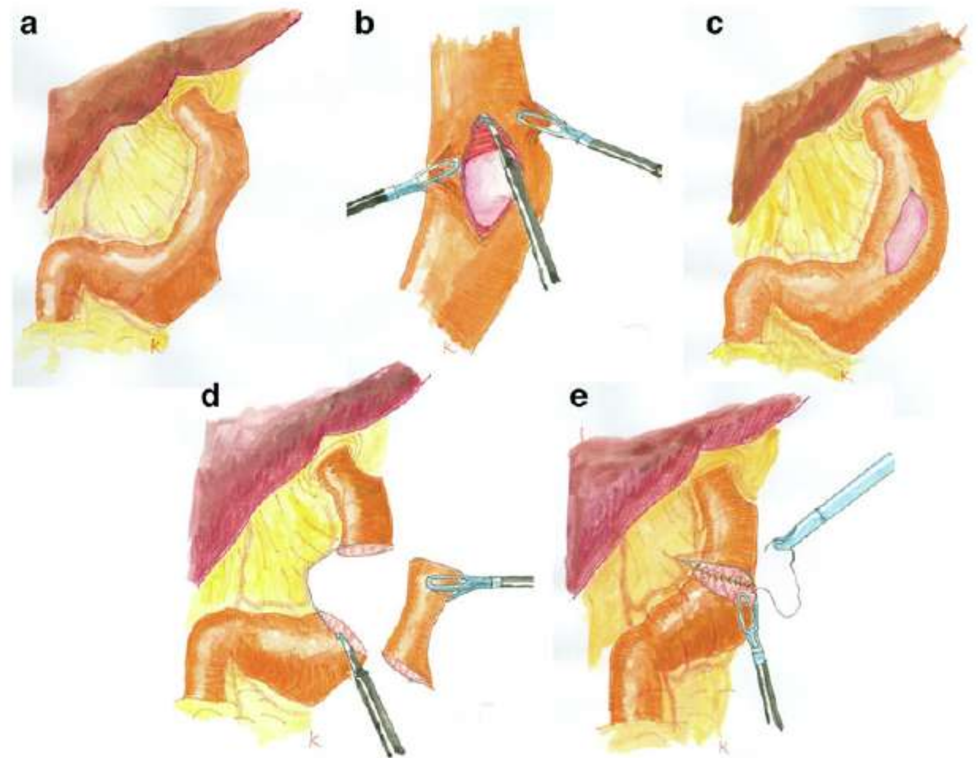
* Other options
  * Endoscopic
    * Balloon dilation
    * Stenting





Scenario #1
Complications

* Other options
  * Surgical
    * Seromyotomy
    * Wedge Resection



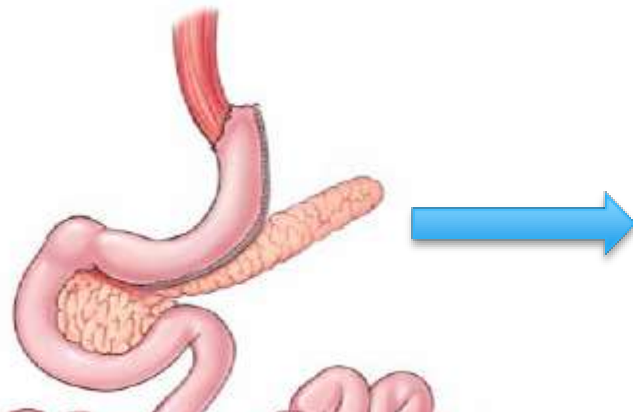
Vilallonga et al. Obes Surg 2013

Scenario #2
Poor Weight Loss + Reflux

- Preoperative workup
  - Gastrographyn Swallow
  - Endoscopy
- Problems to detect
  - Esophagitis
  - Sleeve abnormal dilatation
  - Sleeve abnormal stenosis

Scenario #2
Poor Weight Loss + Reflux

* RYGB may be the solution
  * Allows rapid transit of the food to the bowel
  * May improve esophagitis
  * May add some malabsortion



Scenario #2
Poor Weight Loss + Reflux

- Do not forget
  - Restore normal anatomy to the GE area
    - Complete dissection of the distal esophagus
    - Reduction and treatment of hiatal hernia
    - Closure of the crus

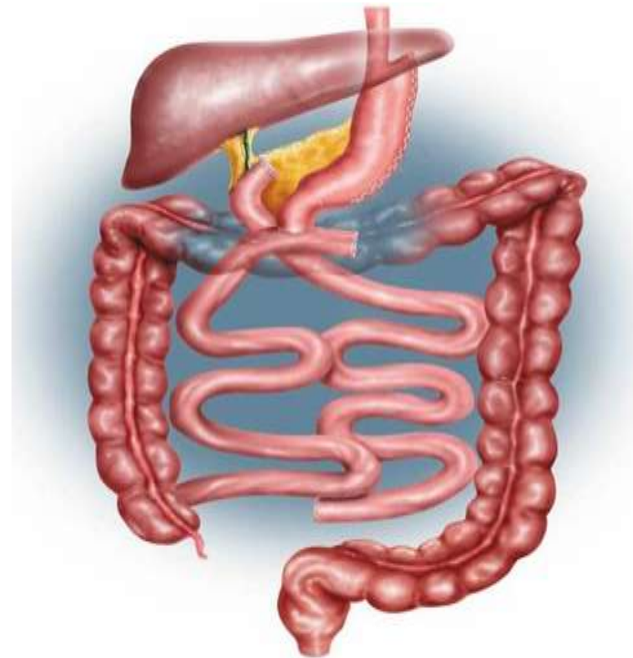
Scenario #3
Poor Weight Loss

* Up to 64% of poor weight loss after Sleeve Gastrectomy
* Why?
  * It was planned
    * Staged procedures for high risk patients
  * Failed of a restrictive procedure
    * Bad selection of the patient
    * Bad selection of the technique

Scenario #3
Poor Weight Loss

* What to do?

vs



Why do Prefer Duodenal Switch?

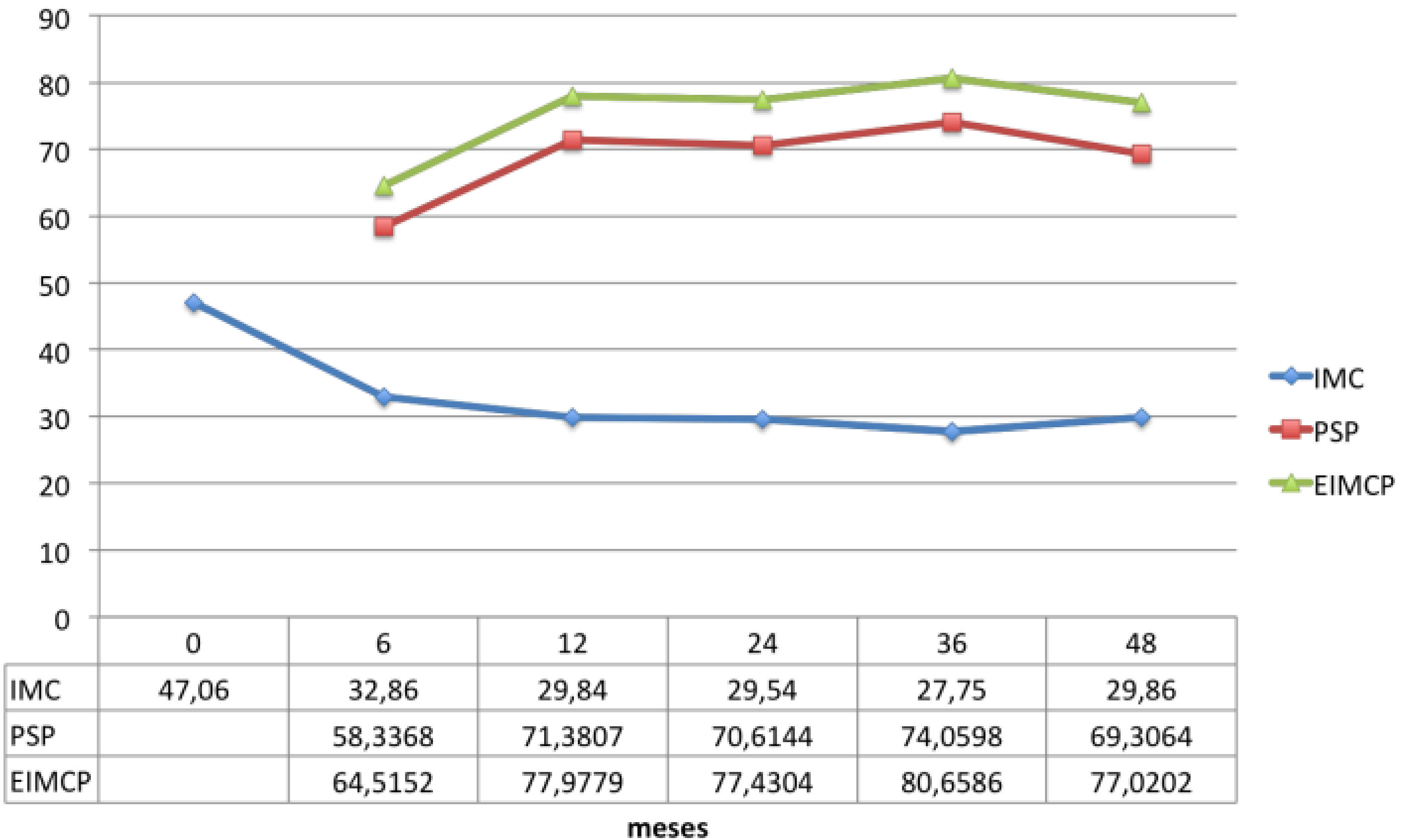
* Up to 80% EWL after 5 years
* Low Morbidity and Mortality
* Best choice for difficult patients
  * BMI over 50kg/m^2
  * Age over 50 years old

Laparoscopic Simplified Duodenal Switch with Right Gastric Artery Ligation

Our Experience with DS

* 170 patients up to December 2012
  * 21 cases staged
* 16 cases with complications
  * 10 Haemoperitoneum
  * 2 Anastomotic leaks
  * 2 Port site hernias
  * 1 Internal Hernia
  * 1 Malnutrition
* 10 cases with Reoperation
* 0 Mortality

Duodenal Switch



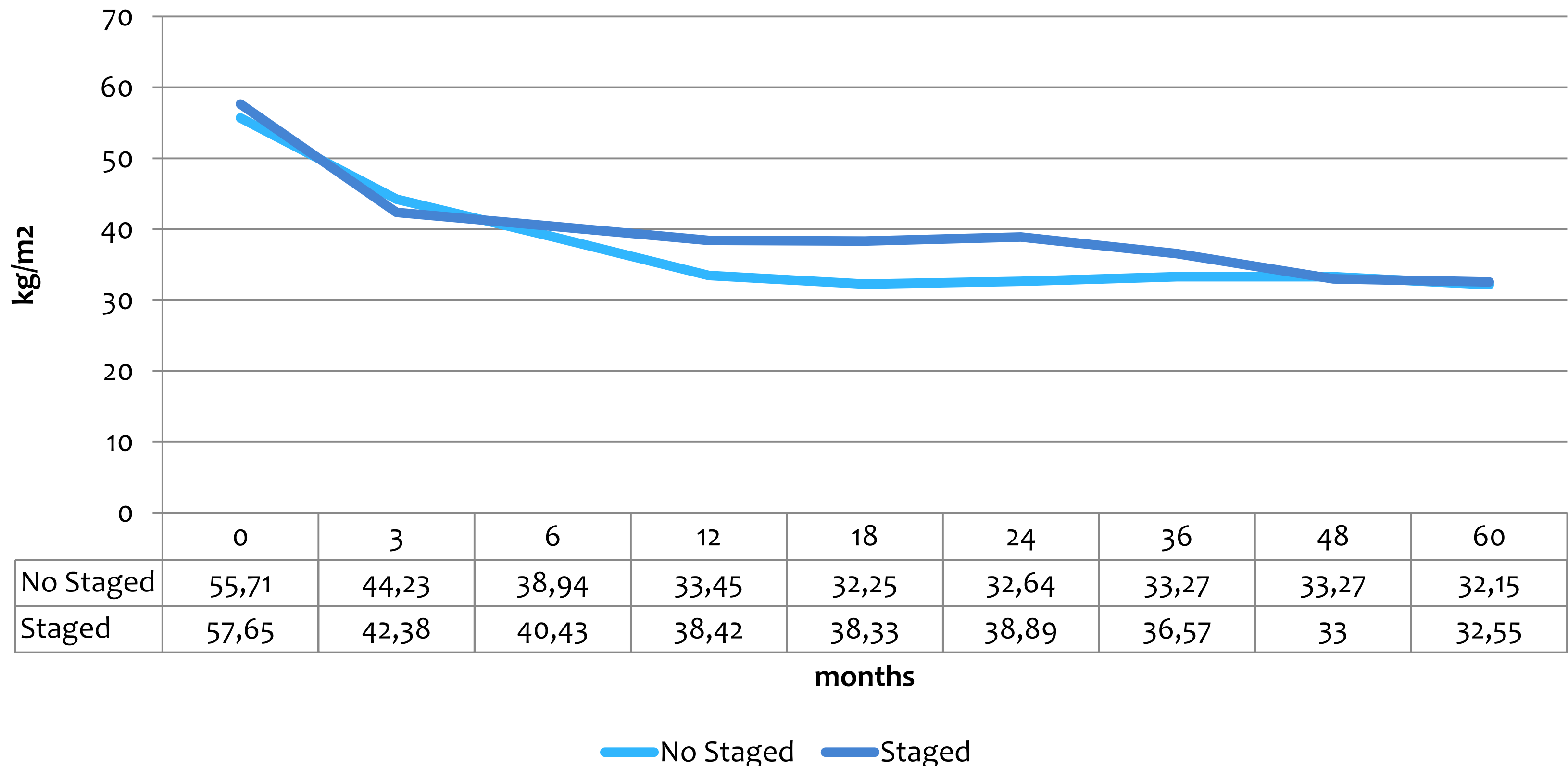
	0	6	12	24	36	48
IMC	47,06	32,86	29,84	29,54	27,75	29,86
PSP		58,3368	71,3807	70,6144	74,0598	69,3064
EIMCP		64,5152	77,9779	77,4304	80,6586	77,0202

Data from Hospital Universitari de Bellvitge

DS as a Staged Procedures

* 21 cases
  * Final result equivalent to Non Staged DS
* Less complications in patients BMI over 60kg/m^2
* Some considerations
  * Better results if scheduled
  * Consider plication of the Sleeve

DS as Staged Procedure



	0	3	6	12	18	24	36	48	60
No Staged	55,71	44,23	38,94	33,45	32,25	32,64	33,27	33,27	32,15
Staged	57,65	42,38	40,43	38,42	38,33	38,89	36,57	33	32,55

Staged Procedures

	BMI<60kg/m2			BMI≥60kg/m2		
	No-Staged	Staged	p	No-Staged	Staged	p
Surgery performed	175 RYGB 33 DS	1 RYGB 10 DS	NS	46 RYGB 1 DS	0 RYGB 6 DS	NS
Length of stay (days)	5.52 (3-64)	5.89 (3-31)	NS	7.3 (3-35)	3.1 (3-4)	NS
Morbidity	42 (20.19%)	4 (14.29%)	NS	**15 (31.91%)**	**0**	**$p<0.05$**
Anastomotic leaks	8 (3.85%)	1 (3.57%)	NS	3 (6.38%)	0	NS
Bleeding	2 (0.96%)	2 (7.14%)	NS	1 (2.13%)	0	NS
Mortality	1 (0.48%)	0	NS	0	0	NS

Scenario #3
Poor Weight Loss

* Alternatives to DS
  * Add malabsortion
    * RYGB
      * Worse long term Results compared to DS
  * Restore lost restriction
    * ReSleeve
      * High risk of fistula and stenosis
    * Sleeve Plication
      * Not properly evaluated yet

Conclussions

* Sleeve gastrectomy as a stand-alone procedure has up to 23% of complications and 63% of poor weight loss
* RYGB is the best option in case of complications
* DS is the best option in case of poor weight loss
* Further options as plication, resleeve of seromyotomy have to be properly evaluated