Emil Loots

MBChB (Pret), FCS (SA)
Cert Gastro (SA) Surg
PhD Candidate

The case for reductive surgery: a more efficient and cost-effective option

Big day in Pretoria

Controversies

Controversy around the type of bariatric operation

LRYGB = Laparoscopic Roux-en-Y Gastric Bypass

LSG = Laparoscopic Sleeve Gastrectomy

More efficient
Cost-effective

- LRYGB
  - Flair
  - Power
  - Off days

More efficient
Cost-effective

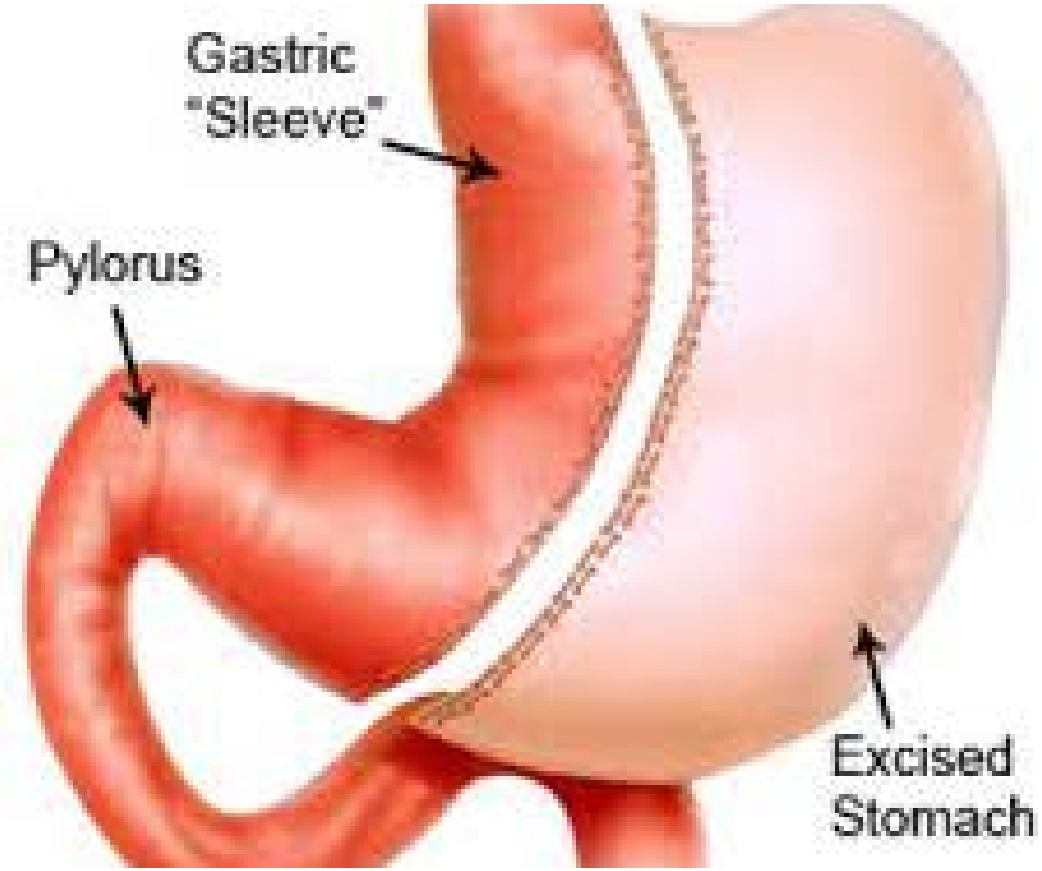
- LSG
  - Systematic
  - Tested
  - Trajectory

Requirement for an ideal operation to keep on winning….

- Simple
- Effective
- Reproducible operation
- Time efficient
- Low complication
- Low readmission rate

- = LAPAROSCOPIC SLEEVE GASTRECTOMY

Sleeve gastrectomy



My opponent will argue

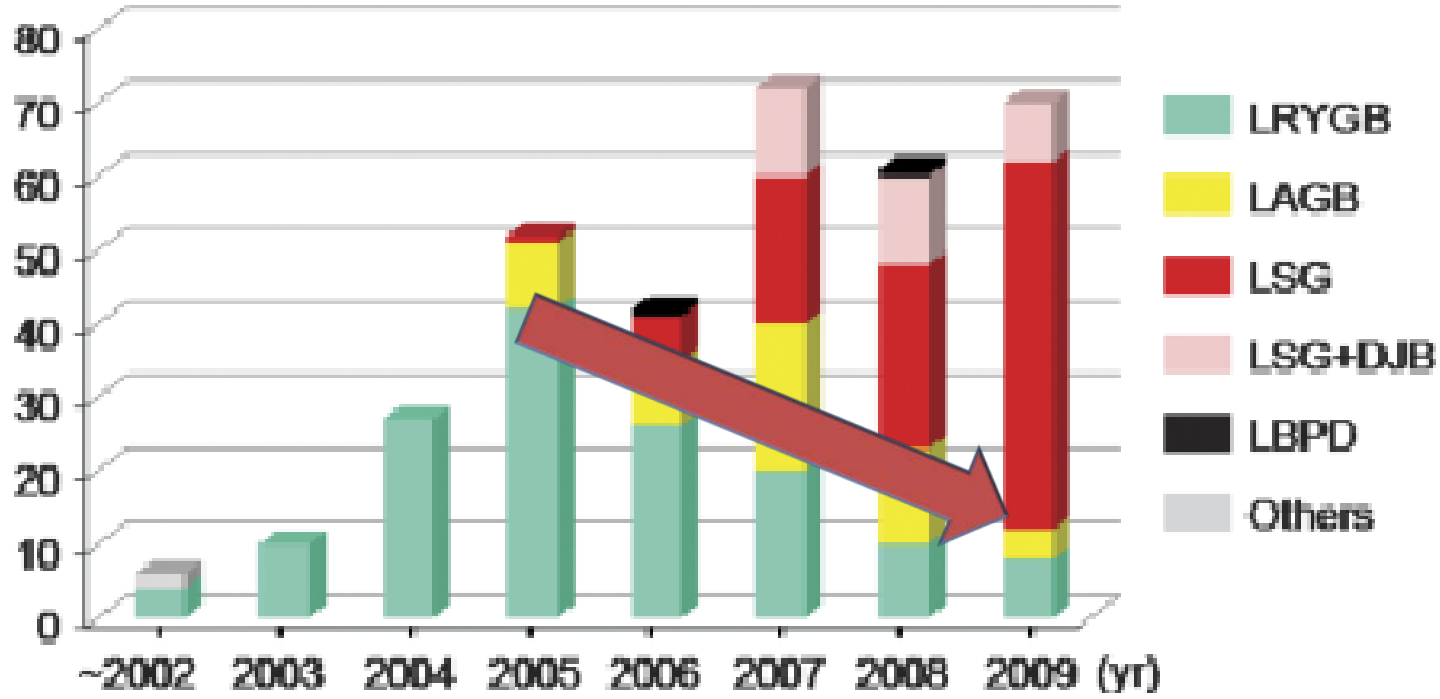
Will try and convince you…

- Argue it is safer
- Cost effective
- Follow up is not an issue

1. LSG has been voted in!

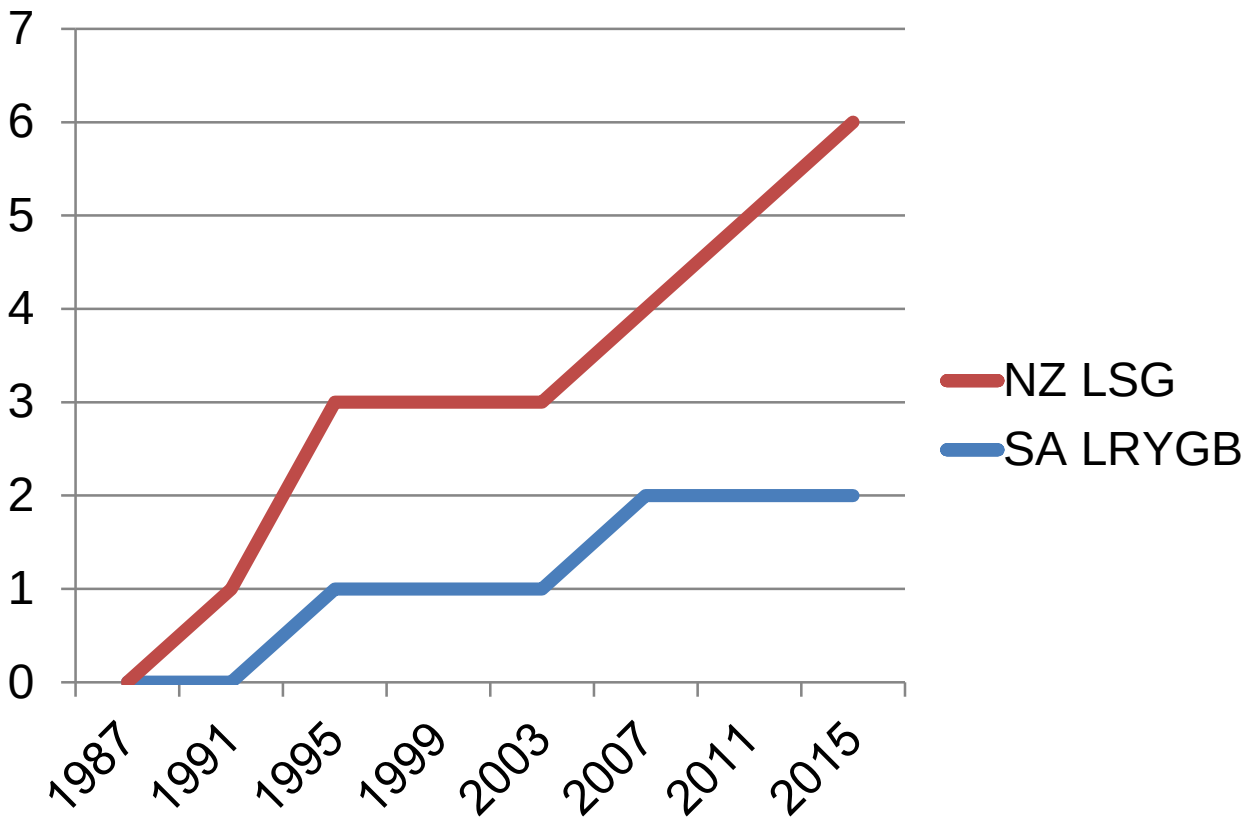
- Surgical democracy
- Voted for Sleeve Gastrectomy
- Surgeons who believe bariatric surgery is the right thing to do
  - Low risk, effective and easier to learn operation
- Experienced bariatric surgeons (LRYGB)
  - Change
  - Less litigation
  - Sleep better – risk and nutrition

LSG is the most commonly performed primary operation for bariatric surgery



LSG is the most commonly performed primary operation for bariatric surgery

Trajectory of World Cup finals



So what's the big deal?

- Conservative operation because the gastro-intestinal tract continuity is maintaned
- It is effective
  - Randomised control trials reaching 5 years or more
- Main attractions
  - it can be converted to almost any of the malabsorptive operations should the need arise
  - This is brilliant!!!
  - Required in 1/25 LSG’s

The big deal

- Reoperation rates are similar to those with LRYGB
  - Also 4%
  - But many more are investigated
- LRYGB are mostly re-operated for internal hernias or late ulcer perforation

- NO OPTION!!
- Revert back to normal anatomy
  - You know what will happen

2. What about weight loss?

- LSG and LRYGB have the same weight loss at five years

- Swiss Multicenter Bypass or Sleeve Study (SM-BOSS)

- Finnish SLEEVEPASS Randomized Clinical Trial

Swiss Multicenter Bypass or Sleeve Study (SM-BOSS)

- **LSG group had 61.1% excess weight loss, wheras the LRYGB had 68.3% excess weight loss**

- **“there was no significant difference in excess BMI loss between laparoscopic sleeve gastrectomy and laparoscopic Roux-en-Y gastric bypass at 5 years of follow-up after surgery.”**

Finnish SLEEVEPASS Randomized Clinical Trial

- **“when assessing the percentage excess weight loss at 5 years, the difference was not statistically significant, based on the prespecified equivalence margins.“**

3. The cost factor

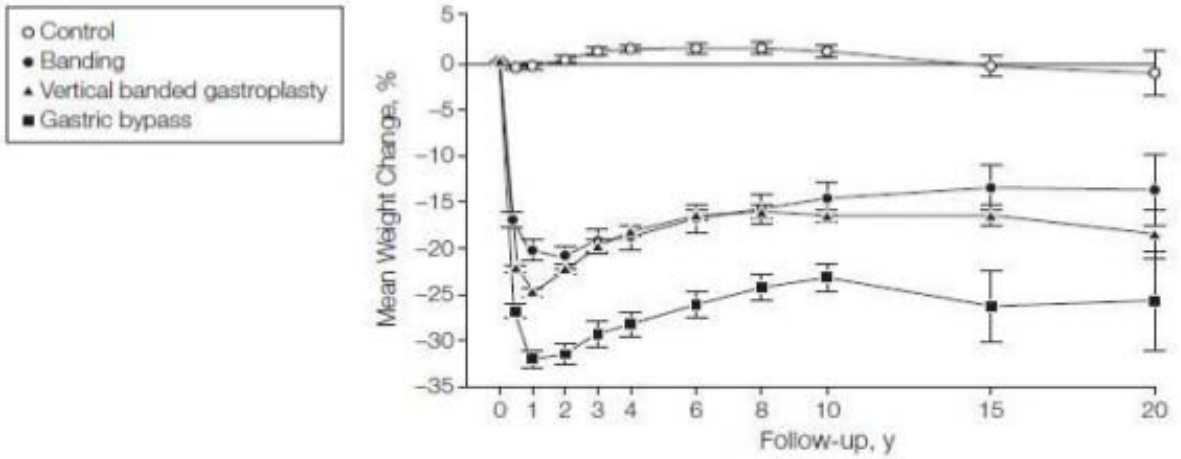
- A low to middle income country (Iran) studied the cost comparison between the two operations.
- The direct cost of services for a LRYGB
  - $ 2991 in their public sector
  - $4221in their private sector
- For a LSG
  - $ 1952 in their public sector
  - $ 3177 in their private sector
- Reduced time it takes to perform an LSG, which translates into less theatre minutes

What about medium term costs?

- LSG has less complications in the short and long term
- Less ER visits and hospital admissions.
- The fewer nutritional complications means less follow-up
- Fewer laboratory tests and nutritional supplements.

The Swedish Obesity Subjects (SOS) study, a long-term, prospective, controlled trial

Figure 1. Mean Weight Change Percentages From Baseline for Controls and the 3 Surgery Groups Over 20 Years in the Swedish Obese Subjects Study



No. of patients						
Control	2037	1490	1242	1267	556	176
Banding	376	333	284	284	150	50
Vertical banded gastroplasty	1369	1086	987	1007	489	82
Gastric bypass	265	209	184	180	37	13

Swedish Obese Subjects study's

- Long-term problems
  - Suicide
  - Falls and fractures
  - Alcohol/substance abuse
  - More worrying complications include bowel obstruction, which can be life-threatening
  - Stomal ulcers can bleed or perforate
  - Gastric dumping syndromes and severe hypoglycemia

The Successful Implementation of a Modified Enhanced Recovery After Surgery (ERAS) Program for Bariatric Surgery in a South African Teaching Hospital

Emil Loots, FCS(SA),† Benn Sartorius, PhD,‡*
Imran M. Paruk, FCP(SA),§ and Damian L. Clarke, PhD†‖

Surg Laparosc Endosc Percutan Tech • Volume 28, Number 1, February 2018

The Successful Implementation of a Modified Enhanced Recovery After Surgery (ERAS) Program for Bariatric Surgery in a South African Teaching Hospital

Profiles

Characteristics	N = 62	Adherent (N = 53)	Nonadherent (N = 9)	*P*
Male sex [n (%)]	17 (27.4)	15 (28.3)	2 (22.2)	0.705
Age (mean ± SD) (y)	40.5 ± 9.8	40 ± 10.1	43 ± 7.1	0.405
Race [n (%)]				
Black	19 (30.6)	15 (28.3)	4 (44.4)	0.587
Indian	21 (33.9)	19 (35.8)	2 (22.2)	
White	15 (24.2)	12 (22.6)	3 (33.3)	
Mixed ethnicity	7 (11.3)	7 (13.2)	0 (0)	
First BMI	54.8 ± 11.0	54.5 ± 10.9	56.4 ± 12.4	0.649
Last BMI	40.0 ± 11.5	38.4 ± 8.7	42.4 ± 10.4	0.219
Change in BMI	−15.8 ± 7.3	−16.1 ± 7.4	−13.9 ± 6.5	0.413
LRYGB	9 (14.5)	9 (17)	0 (0)	0.333
LSG	53 (85.5)	44 (83)	9 (100)	
Complications	2 (3.2)	1 (1.9)	1 (11.1)	0.149
Mortality	0	0	0	

BMI indicates body mass index; LRYGB, laparoscopic Roux-en-Y

The Successful Implementation of a Modified Enhanced Recovery After Surgery (ERAS) Program for Bariatric Surgery in a South African Teaching Hospital

Emil Loots, FCS(SA),† Benn Sartorius, PhD,‡*
Imran M. Paruk, FCP(SA),§ and Damian L. Clarke, PhD†‖

- **Durban early experience**
- **Converted 1 out of 53 LSG patients to a LRYGB.**
  - **A small price to pay**
- **Re-explored a LRYGB for internal hernia**

Surg Laparosc Endosc Percutan Tech • Volume 28, Number 1, February 2018

- **The Two European RCT’s looked at this and it seems that patients in the early learning curve of a surgeons career performing LSG**
- **LSG and LRYGB head to head and found readmissions more common after LRYGB compared with LSG (6.1% versus 3.8)**

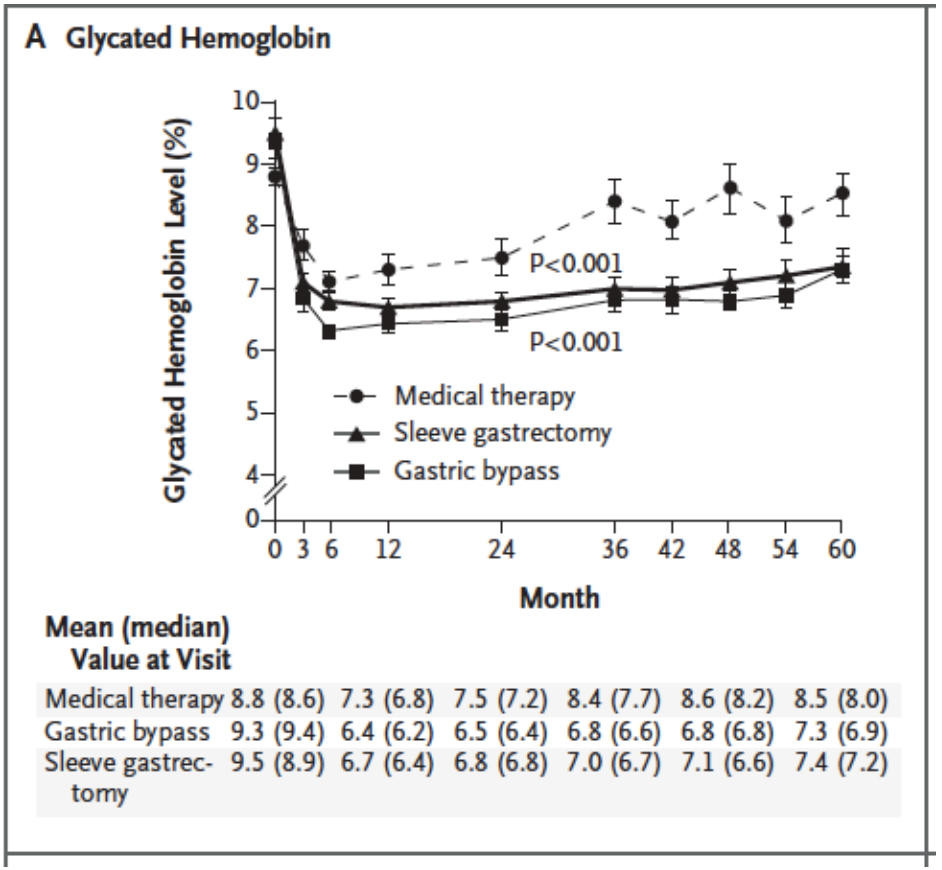
4. Diabetes remissions and other disease remission

- SOS study - sustained mean weight loss of 18% by 20 years
- Bariatric surgery
  - Remission of diabetes in up to 80%
  - Improvement in hypertension and dyslipidemia
  - Reduced incidence of myocardial infarction (29%), stroke (34%), cancer in women (42%), and overall mortality (30–40%)

Bariatric Surgery versus Intensive Medical Therapy for Diabetes — 5-Year Outcomes

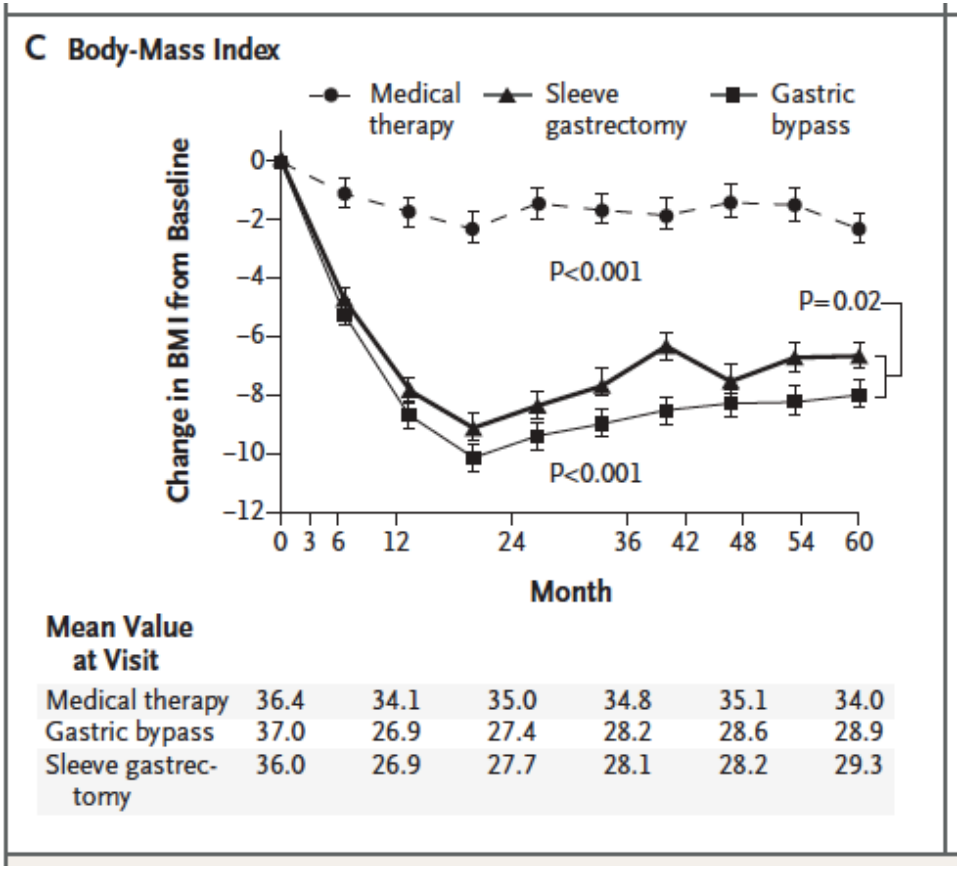
Philip R. Schauer, M.D., Deepak L. Bhatt, M.D., M.P.H., John P. Kirwan, Ph.D., Kathy Wolski, M.P.H., Ali Aminian, M.D., Stacy A. Brethauer, M.D., Sankar D. Navaneethan, M.D., M.P.H., Rishi P. Singh, M.D., Claire E. Pothier, M.P.H., Steven E. Nissen, M.D., and Sangeeta R. Kashyap, M.D., for the STAMPEDE Investigators*

Bariatric Surgery versus Intensive Medical Therapy for Diabetes — 5-Year Outcomes



Mean (median) Value at Visit						
Medical therapy	8.8 (8.6)	7.3 (6.8)	7.5 (7.2)	8.4 (7.7)	8.6 (8.2)	8.5 (8.0)
Gastric bypass	9.3 (9.4)	6.4 (6.2)	6.5 (6.4)	6.8 (6.6)	6.8 (6.8)	7.3 (6.9)
Sleeve gastrectomy	9.5 (8.9)	6.7 (6.4)	6.8 (6.8)	7.0 (6.7)	7.1 (6.6)	7.4 (7.2)

Bariatric Surgery versus Intensive Medical Therapy for Diabetes — 5-Year Outcomes



Mean Value at Visit						
Medical therapy	36.4	34.1	35.0	34.8	35.1	34.0
Gastric bypass	37.0	26.9	27.4	28.2	28.6	28.9
Sleeve gastrec-tomy	36.0	26.9	27.7	28.1	28.2	29.3

Long-term Diabetes remission

- 10 years follow up after LRYGB have shown a weight loss closer to 50% of excess body mass and
- But …. resolution of type 2 diabetes at only 50%
- This is a problem,
  - Revision of gastric bypass is one of the most difficult clinical situations
- Sleeve gastrectomy can be converted to
  - a duodenal switch (or single anastomosis duodeno-ileostomy [SADI] or stomach intestinal pylorus–sparing [SIPS] procedure

LSG fulfilled criteria in many ways…

- Simple ✓
- Effective ✓
- Reproducible operation ✓
- Time efficient ✓
- Low complication ✓
- Low readmission rate ✓

Conclusion

- “the choice of surgical procedure should be based on evaluation of
- the risk-to-benefit ratio in individual patients, weighing long-term nutritional hazards
- versus effectiveness on glycemic control and cardiovascular disease risk.”