



Laparoscopic gastric sleeve procedure in mega obese patients

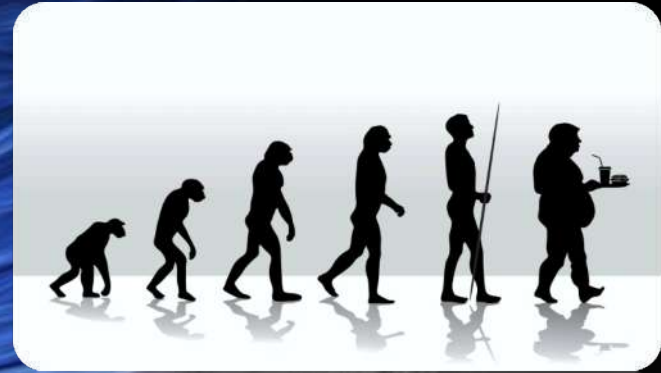
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„GLOBESITY”

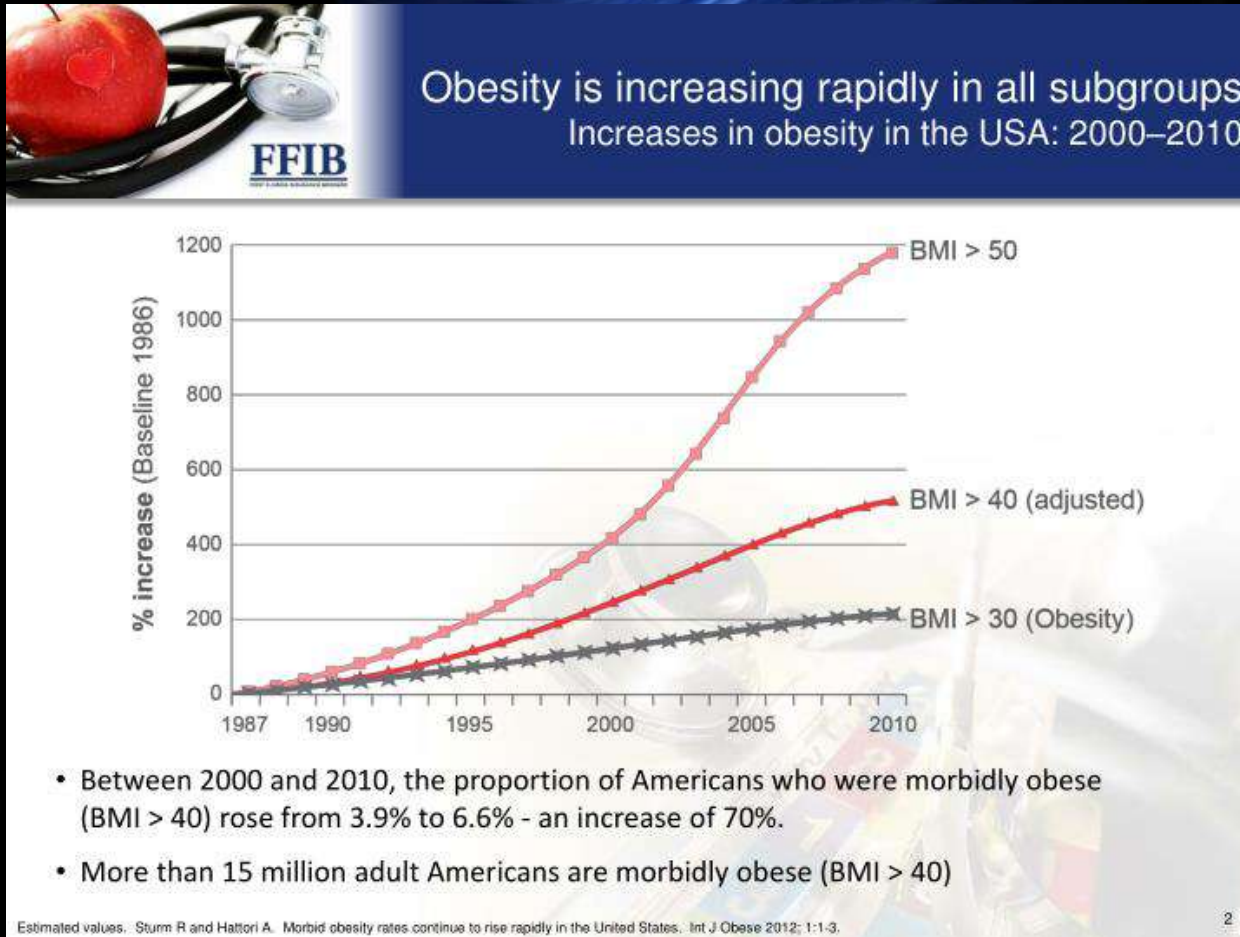


- ✓ world-wide epidemic
- ✓ prevalence (USA) 36% adult, 17% adolescent
- ✓ 15% adult population in USA = severe obesity (BMI > 35 kg/m²)
- ✓ fifth leading risk of death world-wide (WHO)
- ✓ responsible for 80% cases with DMT2, 35% ischemic heart disease, 55% hypertensive disease

Fried M, Yumuk V, Oppert JM, Scopinaro N, Torres AJ, Weiner R, Yashkov Y, Fruhbk G. Interdisciplinary European Guidelines on Metabolic and Bariatric Surgery. Obes Facts 2013;6:449-468 .



Increasing trend of super obese patients





Classification of Obesity

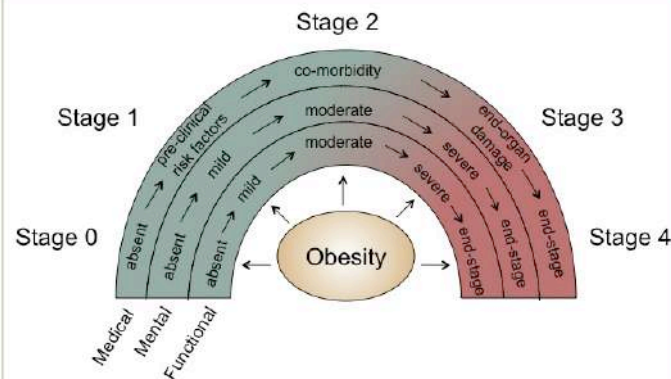
WHO Classification

BMI

Classification

- ▶ < 18.5 Underweight
- ▶ 18.5-24.9 Normal weight
- ▶ 25-29.9 Overweight
- ▶ 30-34.9 Obesity Class I
- ▶ 35-39.9 Obesity Class II
- ▶ 40-49.9 Obesity Class III
- ▶ 50 and above Super Obesity

Edmonton Obesity Staging System (EOSS)



Sharma AM & Kushner RF, *Int J Obes* 2009

	BMI
Underweight	<18.5 kg/m ²
Normal or acceptable weight	18.5-24.9 kg/m ²
Overweight	25-29.9 kg/m ²
Obese	≥30 kg/m ²
Grade 1	30-34.9 kg/m ²
Grade 2	35.0-39.9 kg/m ²
Grade 3	≥40 kg/m ² (severe, extreme or morbid obesity)
Grade 4	≥50 kg/m ²
Grade 5	≥60 kg/m ²
Abdominal obesity in Caucasians	Waist girth
Men	≥94 cm
Women	≥80 cm

Table 1 The Modified King's Obesity Staging systems. CPAP: continuous positive airway pressure, PCOS: polycystic ovarian syndrome, QoL: Quality of life

	Stage 0 Normal health	Stage 1 At risk of disease	Stage 2 Established disease	Stage 3 Advanced disease
Airways	Normal	Snoring	CPAP therapy	Cor pulmonale
BMI	<35kg/m ²	35-40kg/m ²	40-60kg/m ²	> 60kg/m ²
Cardiovascular	<10% risk	10-20% risk	Heart disease	Heart failure
Diabetes	Normal	Impaired fasting glucose	Type 2 diabetes	Uncontrolled type 2 diabetes
Economic	Normal	Increased expense for clothes and travel	Workplace discrimination	Unemployment due to obesity
Functional	Can walk three flights of stairs	Can walk one or two flights of stairs	Requires mobility aid	Housebound
Gonadal	Normal	PCOS or erectile dysfunction	Subfertility	Severe sexual dysfunction
Health Status (perceived)	Normal	Low mood or QoL	Depression of poor QoL	Severe depression
Image(body)	Normal	Dislikes body	Body image dysphoria	Eating disorder



Mega obese patients

BMI ≥ 70 kg/m²



Is there scientific data how to treat mega obese patients?

The Washington Post
Democracy Dies in Darkness

Health & Science

A morbidly obese patient tests the limits of a doctor's compassion

According to the CDC, more than one-third of U.S. adults are obese. Obesity-related conditions include heart disease, stroke, type-2 diabetes and certain types of cancer. (Lucas Jackson/Reuters)

By Edward Thompson
February 24, 2014

The patient is large. Very large. At more than 600 pounds, he is a mountain of flesh.

wp Real journalism matters. Try one month for \$1



Mega Obese Patients in Era of Laparoscopic Gastric Sleeve Procedure (LGS)

- Is it LGS a procedure of choice in MO pts?
- Treatment and improvement of comorbidities in MO before LGS?
- LGS as a „life saving“ procedure in MO?
- What are clear contraindications for LGS in MO?
- What are technical difficulties for LGS in MO?
- Conversion to open SG in MO?
- Panniculectomy as a synchronous or delayed procedure?



LGS in MO

LGS as single stage procedure (26 pts.) and 2-stage (followed by gastric by pass. EWL= 36% vs. 54.5% (follow up 17.4 m)

Eldar SM et al. Laparoscopic bariatric surgery for those with BMI of 70-125 kg/m². Surg Obes Relat Dis. 2012; 8(6):736-40.

LGS (VG) is equally good as BPD-DS. 3/3 patients EWL~ 82.2% (follow up 2 years).

Papavramidis T et al. Mega-obese Patients Weighting More than 250 kg:a Problematic Group. Acta Chir Belg. 2009; 109: 61-64.

Mortality rate in BPD RYGBP in MO 9%.

Spiropoulos C et al. A Prospective Evaluation of a Variant of BPD with RYGBP Reconstruction in Mega-obese Patients (BMI≥70 kg/m²). Obes Surg. 2008; 18:803-09.

SG is most commonly performed procedure in the world (45.9%)

Angrisani L et al. Bariatric Surgery and Endoluminal Procedures: IFSO Worldwide Survey 2014. Obes Surg. 2017; 27(9):2279-89.

Although %EWL was lower in the SSO group, LSG was a feasible and safe stand-alone procedure for the resolution of comorbidities in morbid O, SO, and SSO patients.

Ece L et al. Comparative Effectiveness of Laparoscopic Sleeve Gastrectomy on Morbidly Obese, Super-Obese, and Super-Super Obese Patients for the Treatment of Morbid Obesity. Obes Surg. 2017.



Technique of LGS in MO

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Surgical Technique: Laparoscopic Gastric Sleeve Resection in Super-Obese Patients

M. Ilic PhD & S.S. Putnik MD

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 Published online: 07 Apr 2017.





LGS in MO - results (1)

initial BMI=70,2 kg/m²

Resolution of comorbidities: all (4/4)

Long-term result: excellent

No additional surgeries

Pt satisfaction: excellent



	2 years after operation	8 years after operation
BMI (kg/m ²)	28,4	34,3
%EWL	87,5	75
%TWL	59,3	51
%EBMIL	92,4	79,3



LGS in MO - results (2)

Initial BMI = 87 kg/m²



BMI after 2 years: 62 kg/m² (bad result)
Problem: no physical activity, sweet eater
Planned for subsequent metabolic procedure



LGS in MO - results (3)

initial BMI=86kg/m²



Intraoperative conversion to **OPEN GS**:
insufficient pneumoperitoneum

BMI after 2 years: 30 kg/m² (good short
term result)

No additional surgery

Resolution of comorbidities: all (2/2)



LGS in MO - results (4)

Initial BMI=89 kg/m²

One month of preoperative intrahospital treatment of comorbidities and diet.

Cardiomyopathia, unregulated hypertension, arrhythmia extrasystolica.

Preoperative weight loss: 17 kg.
He demand ANY operation.

Intraoperative conversion to OPEN GS due to insufficient pneumoperitoneum.

At the end of operation IMPOSIBLLE to suture abdominal wall. Reapproximation with metal sutures and wound packing.



Prolonged postop care. **Panniculus!**



LGS in MO - results (4)

Initial BMI=89 kg/m²



Indication for panniculectomy and ventral hernia for a one year. Expecting further weight loss.

One year after SG BMI=49 kg/m² %EWL 58,5
Resolution of comorbidities: Most (4/5)
Full social rehabilitation.

Hindawi Publishing Corporation
Surgery Research and Practice
Volume 2015, Article ID 193670, 10 pages
<https://doi.org/10.1155/2015/193670>

Clinical Study
Panniculectomy Combined with Bariatric Surgery by Laparotomy: An Analysis of 325 Cases
Vincenzo Colabianchi,¹ Giancarlo de Bernardinis,² Matteo Giovannini,³ and Marika Langella¹

Synchronous panniculectomy with open SG?



Conclusion (1)

Surgeons will be faced with MO pts in surgical units more often than ever earlier.

In some cases surgery will be a life saving procedure, both in emergency cases or „semielective“ metabolic programme.

Whenever possible correction of comorbidities should be of the great importance at least one month or until acceptable condition for general anesthesia.

MO pts should be operated under the team of specialists who have experience in metabolic surgery.

LGS in MO is procedure of choice with acceptable short, mid-term and long term results.



Conclusion (2)

There is no long period after LGS to verify a success or failure (up to two years).

After LGS various subsequent metabolic procedures should be done.

There is no difference in weight loss success in LGS or Open SG.

SG as an open procedure is faced with problems related to anterior abdominal wall and panniculus.

Panniculus in open SG could be removed not only for esthetic reasons but to prevent late lymphedema.

Further studies are needed to establish an algorithm in MO pts who underwent metabolic surgery.