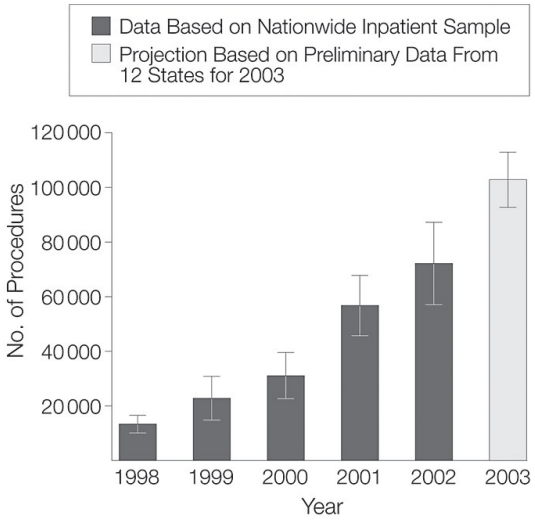
FACOLTÀ DI
MEDICINA E CHIRURGIA
Università degli Studi di Verona

Verona 24-25 Gennaio 2008
Corso Residenziale SIO

Indicazioni alla Terapia Chirurgica dell'Obesità

Vincenzo Di Francesco
Clinica Geriatrica Università di Verona
Servizio di Nutrizione Clinica

National Trends in Annual Numbers of Bariatric Procedures, 1998-2003



Santry, H. P. et al. JAMA 2005;294:1909-1917.

JAMA

Gastroenterology
Official Journal of the AGA Institute

Bariatric Surgery in the United States:

13.386 procedures in 1998 > 121.055 in 2004

KEY-POINTS

-Escalating rate of obesity and complications

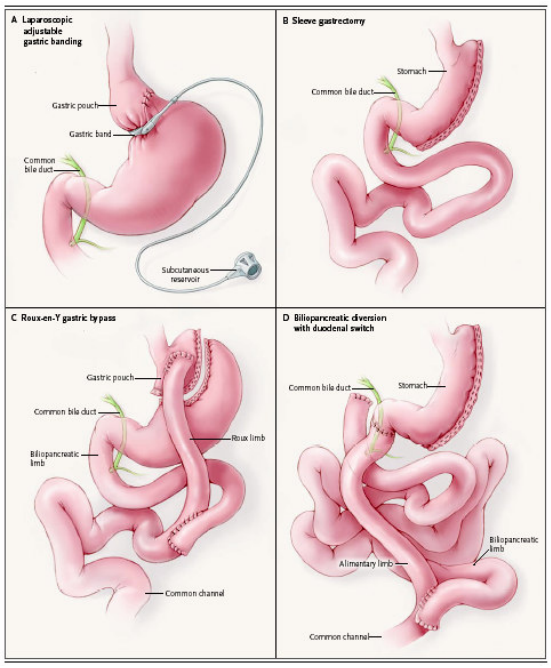
-Lack of long term effectiveness among treatments

-Technologic advances

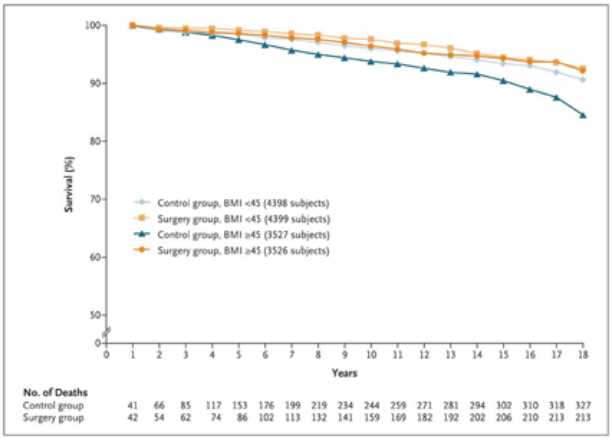
-Media attention

-Coverage by insurance companies

Wolfe BM, 2007

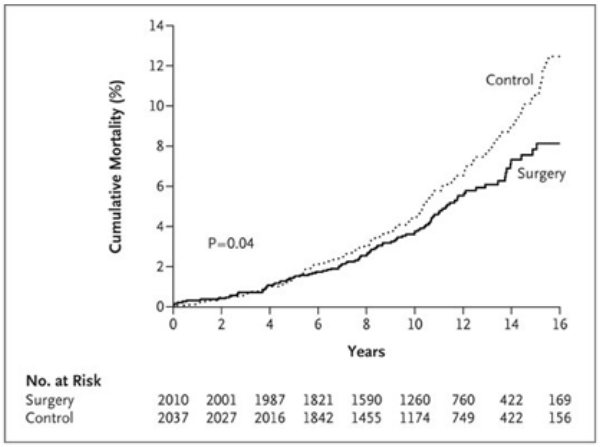


Long-term Mortality after Gastric Bypass Surgery



Adams TD, 2007

Effects of Bariatric Surgery on Mortality in Swedish Obese Subjects



Sjostrom L, 2007

NEJM

The Missing Link - Lose Weight, Live Longer

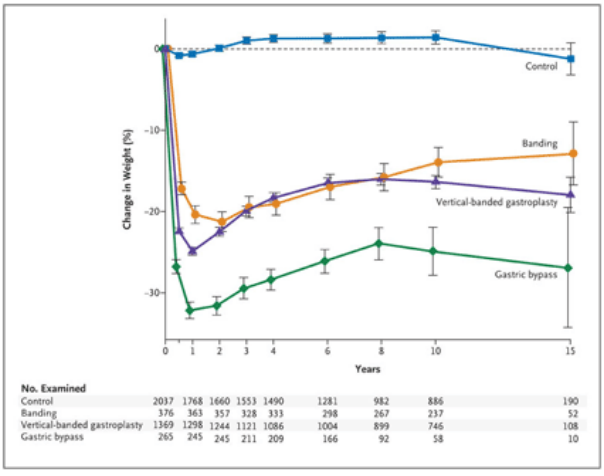
Has the time come to reconsider guidelines for bariatric surgery? In addition to the improvement in the risk of diabetes, the reduction in deaths from cancer may also argue in this direction.

Thus the question as to whether intentional weight loss improves life span has been answered, and the answer appears to be a resounding yes.

George A Bray, Aug 2007

NEJM

Effects of Bariatric Surgery on Mortality in Swedish Obese Subjects



Sjostrom L, 2007

International Journal of Obesity

Svedish obese subjects (SOS) Recruitment

INCLUSION	EXCLUSION
•36-60 years •BMI: males >34; females > 38	•Gastric operations •Ulcer •Malignancy •IMA •BED •Alcohol, narcotics •Psychological problems suspected to result in poor cooperation •Steroids, NSAID •Other severe illness

Sjostrom L, 1992

National Institute of Health

Consensus Development Conference on gastrointestinal surgery for severe obesity

-BMI >40

-BMI >35 con complicanze (OSAS, Cardiomyopathy, diabete mellitus

-Failure of medical weight control

-Absence of medical and psychological controindications

-Patient's understanding of the procedure

-Strong motivation

NEJM

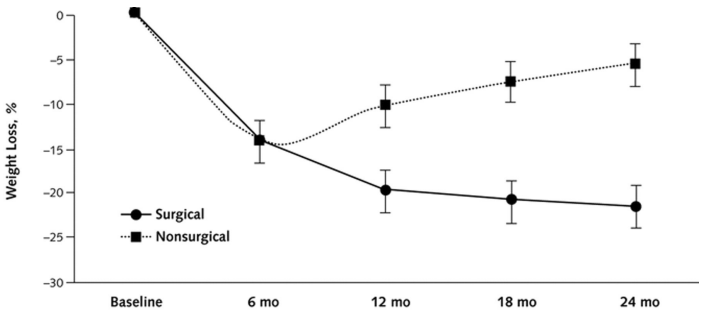
Bariatric Surgery for Morbid Obesity

AREAS OF UNCERTAINTY

- Mild obesity (BMI 30-35?)
- Extremely severe obesity (BMI >70?)
- Age range (18-60?)

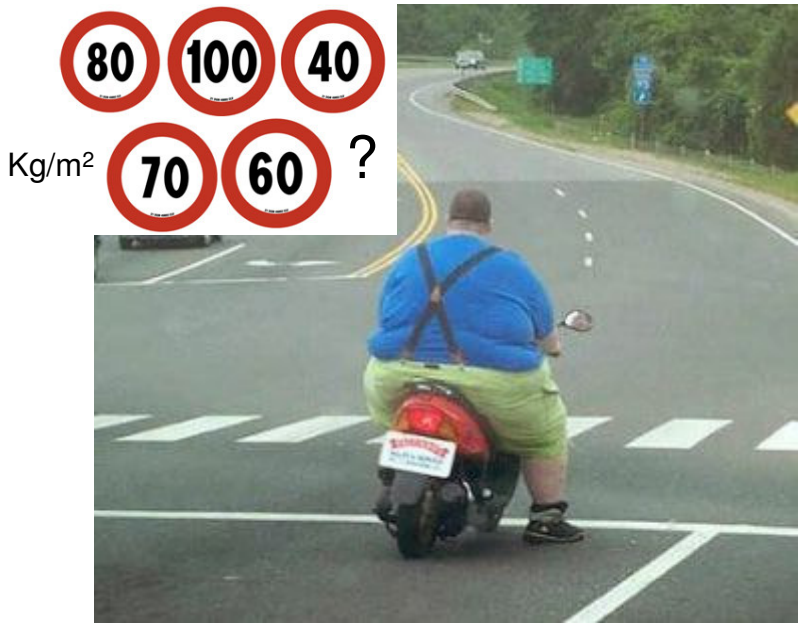
Eric J DeMaria, 2007

Treatment of Mild to Moderate Obesity with Laparoscopic Adjustable Gastric Banding or an Intensive Medical Program A Randomized Trial



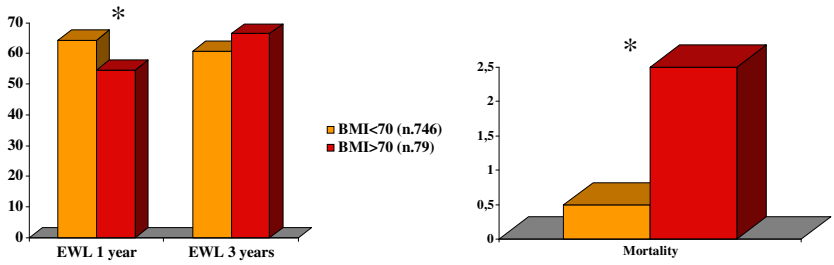
O'Brien, P. E. et. al. Ann Intern Med 2006;144:625-633

Annals of Internal Medicine



JOURNAL OF GASTROINTESTINAL SURGERY

Roux-en-Y gastric bypass stratified by a BMI of 70 kg/m²



Raftopoulos, 2005

Adolescents Being Considered for Bariatric Surgery Should:

-Have failed 6 months of organized attempts at weight management

-Have attained or nearly attained physiologic maturity

-Be very severely obese (BMI 40) with serious obesity-related comorbidities or have a BMI of 50 with less severe comorbidities

-Demonstrate commitment to comprehensive medical and psychologic evaluations both before and after surgery

- Agree to avoid pregnancy for at least 1 year postoperatively

-Be capable of and willing to adhere to nutritional guidelines postoperatively. Demonstrate decisional capacity

-Have a supportive family environment

Inge TH 2004

ANNALS OF SURGERY
A Monthly Review of Surgical Science Since 1885

Effects of Bariatric Surgery in Older Patients

Harvey J. Sugerman, 2004

TABLE 1. Preoperative and Postoperative Weight Parameters in Patients ≥ 60 Years Versus < 60 Years of Age

	Preop		1 yr Postop		5 yr Postop	
	≥ 60 yr	< 60 yr	≥ 60 yr	< 60 yr	≥ 60 yr	< 60 yr
No. of patients	80	2843	65	2120	15	375
Follow-up			94%	89%	58%	46%
Weight (kg)	133 ± 22	143 ± 31†	92 ± 20	93 ± 24	91 ± 21	96 ± 26
BMI (kg/m²)	49 ± 7	51 ± 10†	35 ± 7	33 ± 7	34 ± 8	34 ± 9
%EBMIL			72 ± 11	64 ± 22†	66 ± 26	56 ± 25*
%IBW	217 ± 32	228 ± 42†	153 ± 31	148 ± 36	156 ± 35	153 ± 39
%WL			30 ± 8	35 ± 8†	25 ± 13	32 ± 12*
%EWL			57 ± 18	65 ± 18†	49 ± 11	59 ± 23

BMI, body mass index; %EBMIL, %BMI > 25 kg/m² Lost; %IBW, % ideal body weight; %WL, % weight lost; %EWL, % excess weight lost.
*$P < 0.05$, †$P < 0.01$ patients < 60 vs. ≥ 60 years of age.

TABLE 2. Preoperative and Postoperative Percent Obesity Comorbidity in Patients ≥ 60 Years and < 60 Years of Age

	Preop		1 yr Postop		5 yr Postop	
	≥ 60 yr	< 60 yr	≥ 60 yr	< 60 yr	≥ 60 yr	< 60 yr
DM	49	17†	17	4†	19	2†
HTN	80	47†	52	18†	50	20†
DJBD	89	74	44	18†	25	19
GERD	51	40	5	3	0	5
SAS	37	25*	?‡	?‡	?‡	?‡
OHS	9	5	0	0	0	0
CVSD	16	3	3	0.3*	0	0.5
PC	1	2	0	0.1	0	0.3
UI	51	31†	5	3	13	5

DM, type 2 diabetes mellitus; HTN, systemic hypertension; DJBD, degenerative joint and back disease; GERD, gastroesophageal reflux disease; SAS, sleep apnea syndrome; OHS, obesity hypoventilation syndrome; CVSD, chronic venous stasis disease; PC, pseudotumor cerebri; UI, urinary incontinence.
*$P < 0.05$, †$P < 0.01$ patients < 60 vs. ≥ 60 years of age.
‡SAS patients did not have routine follow-up sleep polysomnography.

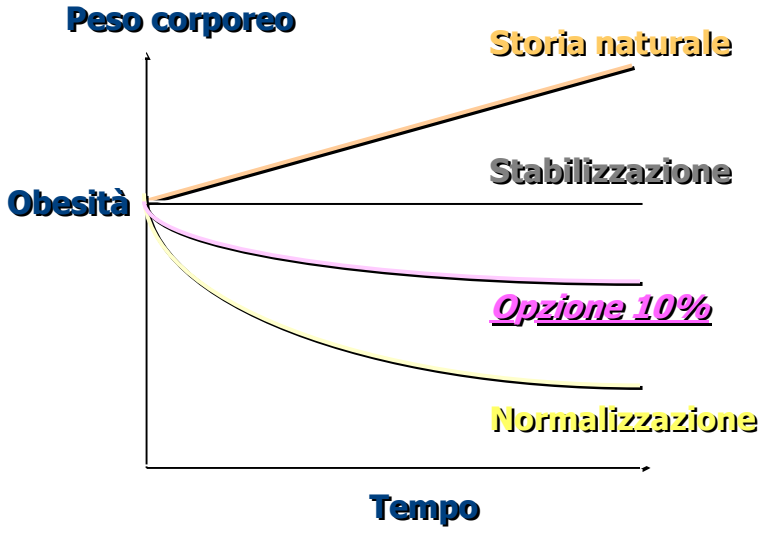
The American Journal of CLINICAL NUTRITION

Obesity in older adults: technical review and position statement of the American Society for Nutrition and NAASO, The Obesity Society

Bariatric surgery should be considered in selected older subjects who have disabling obesity that can be ameliorated with weight loss and who meet the criteria for surgery. The specific bariatric surgical procedure that is performed will depend on the skill and experience of the surgeon. Potential surgical candidates should be carefully evaluated by a multidisciplinary team to ensure that the risk of postoperative morbidity and mortality is acceptable and that the perceived benefits of the procedure warrant the risk of potential complications. Preoperative evaluation should include an assessment for clinical depression, which occurs in up to 25% of older subjects (205) and could influence outcome. Postoperative management should include monitoring for nutrition-related abnormalities, particularly iron deficiency, vitamin B-12 deficiency, and osteoporosis.

Villareal DT, 2005

Obiettivi del trattamento



The American Journal of CLINICAL NUTRITION

NIH CONSENSUS CONFERENCE STATEMENT

What are the nonsurgical treatment options for severe obesity and their consequences?

- Low very Low-calorie diet
- Behavioral modification
- Exercise
- Pharmacologic agents

  weight loss, diabetes, hypertension, dyslipidemia

March 25-27, 1991

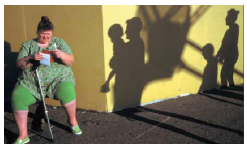
nature.com
The world's best science and medicine on your desktop

Postoperative Categories associated with poor Outcome

- Poor patient knowledge
- Psychosocial maladaptation
- Anatomic complications
- Gastrointestinal pathophysiology
- Weight-related symptomatology
- (African-American?)

Kral, 2007

BMJ



Predictors of response

Demographic—Age, sex, race, marital status, education, job, insurance
Physiological—Body mass index, body composition (fat cell size, fat distribution, lean body mass), metabolic rate (resting, total, diet*), blood chemistry
Comorbidity—Diabetes, hypertension, cardiopulmonary disease, sleep apnoea, musculoskeletal disorders, thromboembolism
Psychological—MMPI disorder,† sexual abuse, negative life experience, secondary gain, codependency, denial of disease
Past performance—Weight loss, smoking cessation, attendance at appointments, drug and alcohol use
Eating behaviour—Eating sweets, nibbling, gorging, binge eating, restrained eating, poor impulse control

*Diet induced thermogenesis.
†According to Minnesota multiphasic personality inventory

Kral, 2006

Rate of Early Mortality After Bariatric Surgery, Stratified by Surgeon Volume*

Table 4. Rate of Early Mortality After Bariatric Surgery, Stratified by Surgeon Volume*

Annual Surgeon Volume†	No.	Mortality Rate, %		
		30 Days	90 Days	1 Year
Patients aged <65 y				
<15	3200	2.2	3.0	5.0
15-35	3191	1.7	2.2	3.5
36-70	3295	1.7	2.3	4.2
71-268	3205	1.2	1.8	3.1
Total	12 891	1.7	2.3	4.0
Patients aged ≥65 y				
<15	480	9.0	13.8	21.0
15-35	282	3.2	4.6	6.4
36-70	284	1.8	2.1	4.2
71-268	274	1.1	1.1	3.6
Total	1320	4.5	6.7	10.7

*Numbers are adjusted to reflect complete-case-only analysis.
†Number of open bariatric procedures in Medicare beneficiaries, 1997-2002.

Flum, D. R. et al. JAMA 2005;294:1903-1908.

JAMA

ASMBS American Society for Metabolic & Bariatric Surgery

GUIDELINES FOR GRANTING PRIVILEGES IN BARIATRIC SURGERY

Rev. October 2005

-Accredited* facility to perform gastrointestinal and biliary surgery

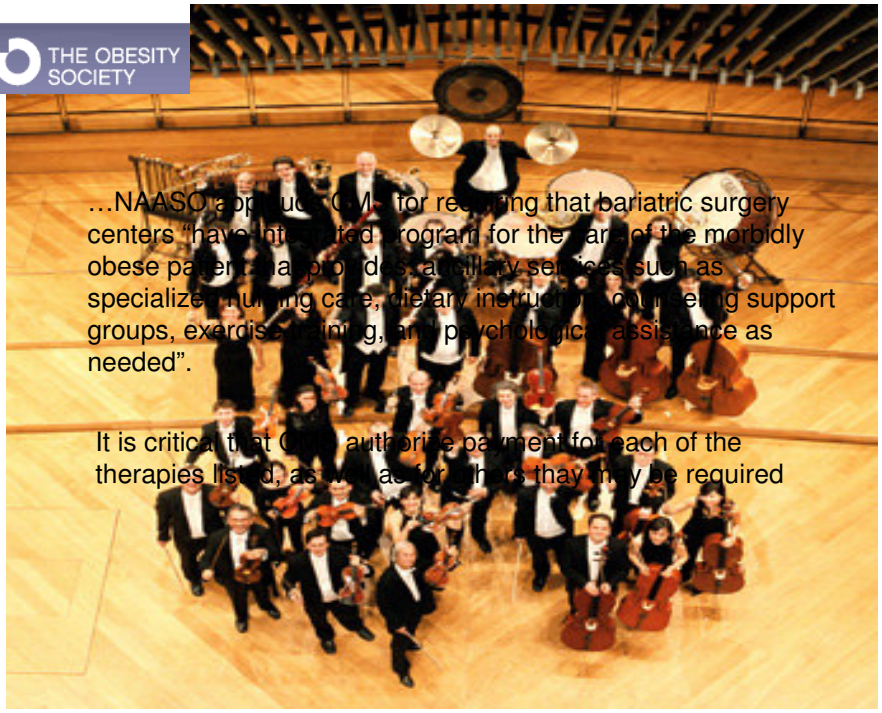
-Documented integrated program (nursing, dietary, support groups, exercise training, psychological assistance)

-Program in place to prevent, monitor and manage short-term and long-term complications.

-Provide follow-up for all patients

(*) center: 125 operations/year
individual surgeon: 50/year

THE OBESITY SOCIETY



…NAASO applauds CMS for requiring that bariatric surgery centers "have [an] integrated program for the care of the morbidly obese patient that provides ancillary services such as specialized nursing care, dietary instruction, counseling support groups, exercise training, and psychological assistance as needed".

It is critical that CMS authorize payment for each of the therapies listed, as well as for others that may be required