

TERAPIA CHIRURGICA DELL'OBESITÀ: SCELTA DELL'INTERVENTO

Luca Busetto

Servizio Terapia Medica e Chirurgica dell'Obesità
Università degli Studi di Padova

"GESTIONE TERAPEUTICA DEL PAZIENTE OBESO"

Verona, 25-26 gennaio 2008

Indications to bariatric surgery
(NIH Consensus Development Conference Statement)
Bethesda, March 25-27, 1991.

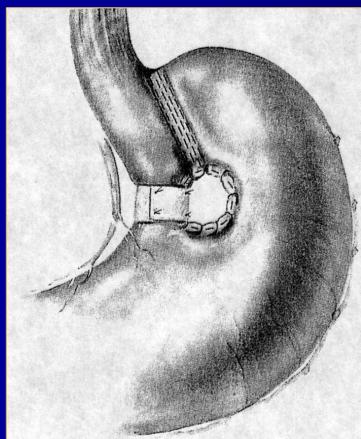
- BMI > 40 kg/m²
(BMI > 35 kg/m² if complicated obesity).
- Age : 18-60 years.
- Longstanding obesity (> 5 years).
- Previous failure of medical therapy.
- Able to participate to long-term follow-up.

Am J Clin Nutr 1992;55:615S

TERAPIA CHIRURGICA: OPZIONI

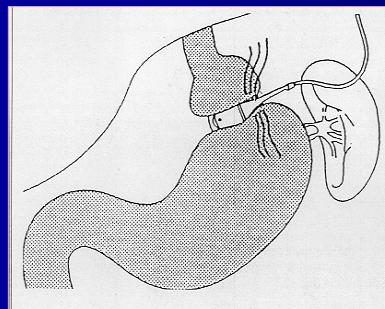
- Restrizione gastrica:
 - Gastroplastica Verticale
 - Bendaggio Gastrico Regolabile
- Restrizione gastrica + by-pass duodeno-digiunale:
 - Bypass gastrico
- Restrizione gastrica + malassorbimento:
 - Diversione bilio-pancreatica
 - Duodenal switch

Gastroplastica Verticale



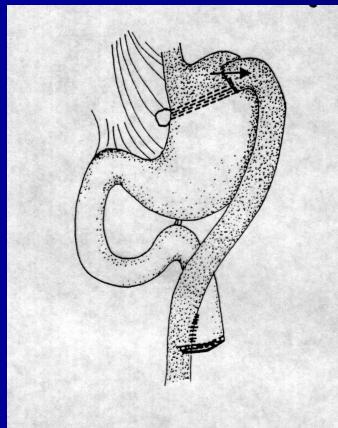
- ✖ Vomito frequente
- ✖ Esofagite
- ✖ Erosione – Stenosi Stoma
- ✖ Deiscenza sutura gastrica
- ✖ Fistola gastro-gastrica
- ✖ Recupero ponderale

Bendaggio Gastrico Regolabile



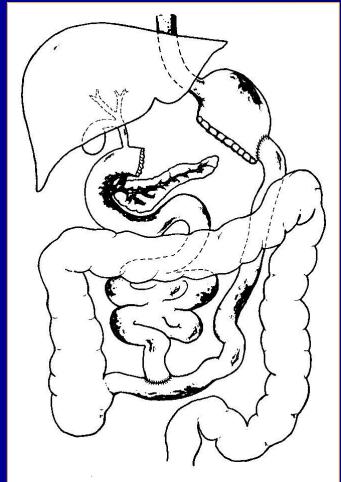
- ✖ Vomito
- ✖ Esofagite
- ✖ Stenosi Stoma
- ✖ Dilatazione tasca
- ✖ Erosione
- ✖ Recupero ponderale

Bypass Gastrico



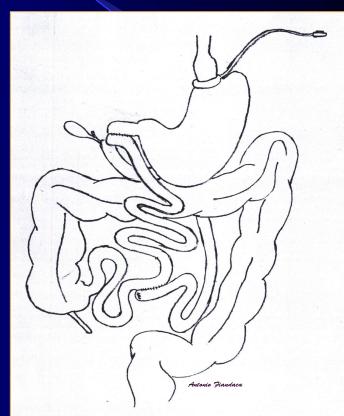
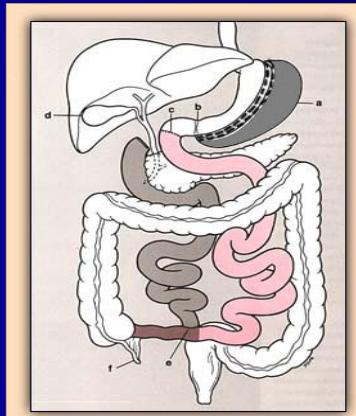
- ✖ Esofagite
- ✖ Dumping Syndrome
- ✖ Deficit di ferro
- ✖ Vit B12,A,D,E, acido folico
- ✖ Ulcera peptica
- ✖ Occlusione dell'Outlet
- ✖ Occlusione intestinale

Diversione Biliopancreatica



- ✖ Ulcera dello Stoma
- ✖ Occlusione Intestinale
- ✖ Pancreatite acuta
- ✖ Diarrea - Steatorrea
- ✖ Anemia sideropenica
- ✖ Neuropatia
- ✖ Encefalopatia Wernicke
- ✖ Malnutrizione proteica
- ✖ Demineralizzazione

Duodenal Switch



BARIATRIC SURGERY Systematic Review and Meta-analysis

	%EWL	Deaths
Banding	40-50%	0.1%
Gastric Bypass	55-65%	0.5%
BPD or Duodenal switch	65-75%	1.1%

Buchwald et al. JAMA 2004;292:1724

Inter-disciplinary European guidelines
on surgery of severe obesity
(IFSO-EC, EASO, IOTF, ECOG)

- Assigning a patient to a particular bariatric procedure:

"At this moment, there is insufficient evidence-based data to suggest how to assign a patient to any particular bariatric procedure".

Int J Obesity 2007;31:569-77

BARIATRIC SURGERY

Individualised Treatment



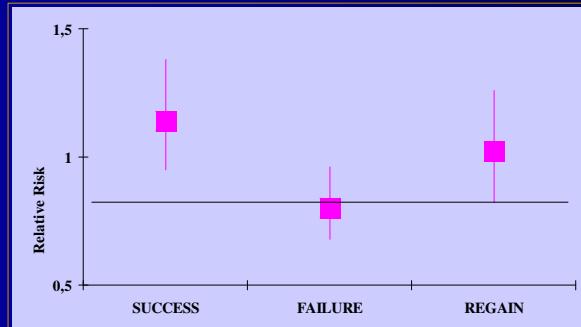
Sequential Treatment

BARIATRIC SURGERY **Individualised Treatment**

- Prader-Willi S. → Malabsorption
- MC4R variants → Gastric By-pas
- Sweet Eating → Gastric By-pass
- Binge Eating → Gastric By-pass
- Type 2 diabetes → Gastric By-pass
- Hyperlipidemia → Malabsorption
- Super-obesity → Gastric By-pass or Malabsorption

Individualised Treatment: Sweet Eaters

- Lower weight loss in VBG patients (Sugerman 1987).
- No differences in weight loss in the SOS study (Lindroos 1996).

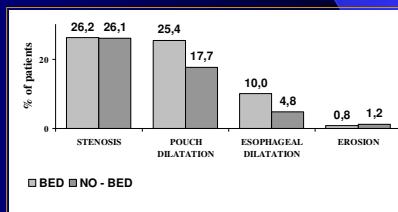
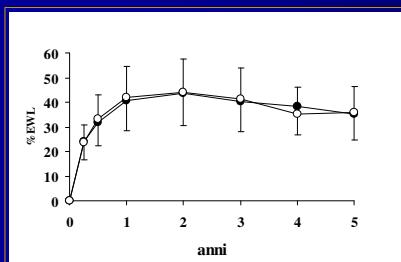


Busetto et al. Obes Surg 2002;12:83

Individualised Treatment: Binge Eaters

"Grazing: A High-Risk Behaviour". Saunders R. Obes Surg 2004;14:98-102.

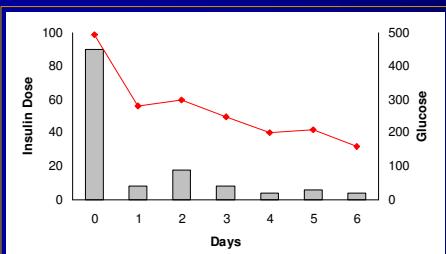
- ♦ Patients with disturbed eating patterns (BED or "grazing") identified before surgery.
→ "Many who had been binge eaters before surgery reported a shift to "grazing"
Although this eating was often perceived as a binge, it involved the intake of smaller amount of food".



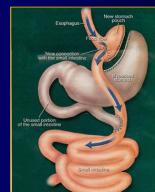
Busetto et al. Obes Surg 2005;15:195

Individualised Treatment: Type 2 diabetes – metabolic syndrome

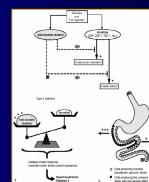
Remission of type II diabetes after gastric bypass



Pories et al. World J Surg 2001;25:527



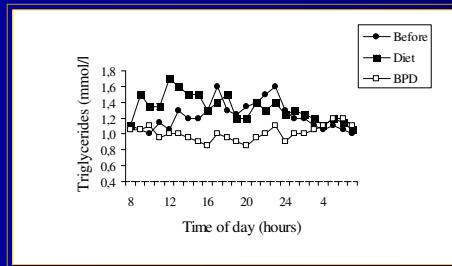
Lower intestinal hypothesis



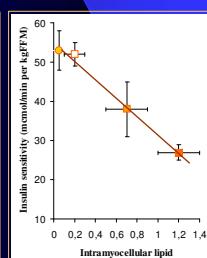
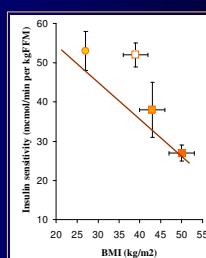
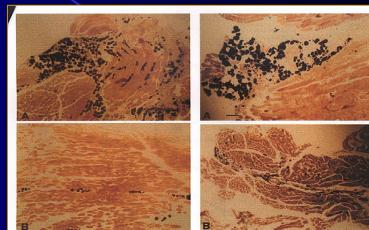
Upper intestinal hypothesis

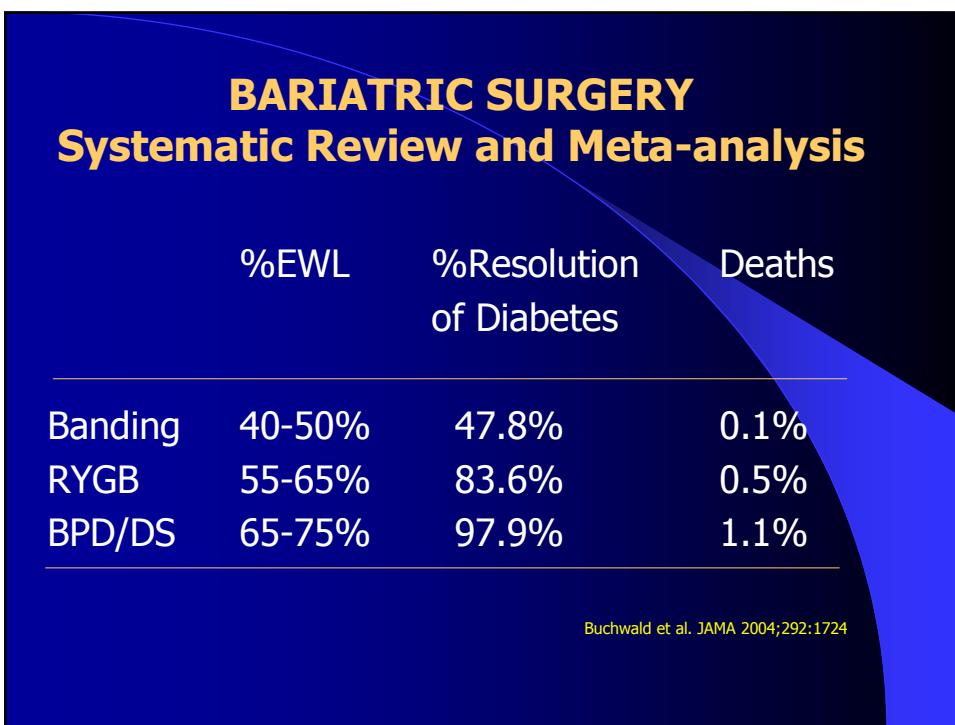
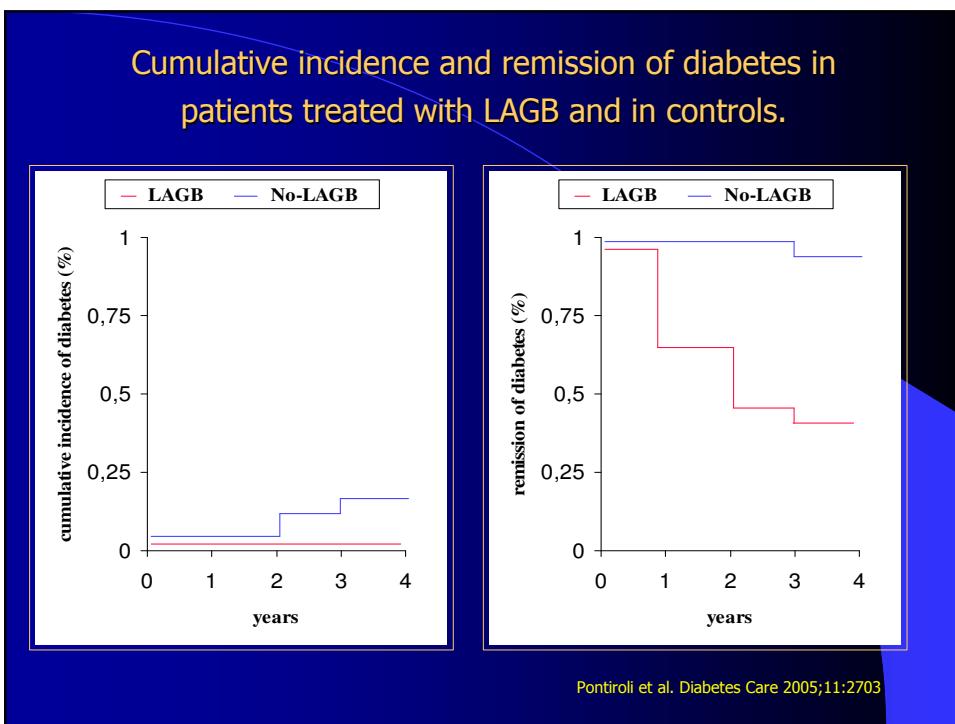
Individualised Treatment: Type 2 diabetes – metabolic syndrome

Remission of type 2 diabetes
after BPD



Greco et al. Diabetes 2002;51:144





BARIATRIC SURGERY Individualised Treatment

- **Gastric Restriction**
- **Gastric By-Pass**
- **Malabsorption**
- **Risk of Overtreatment**

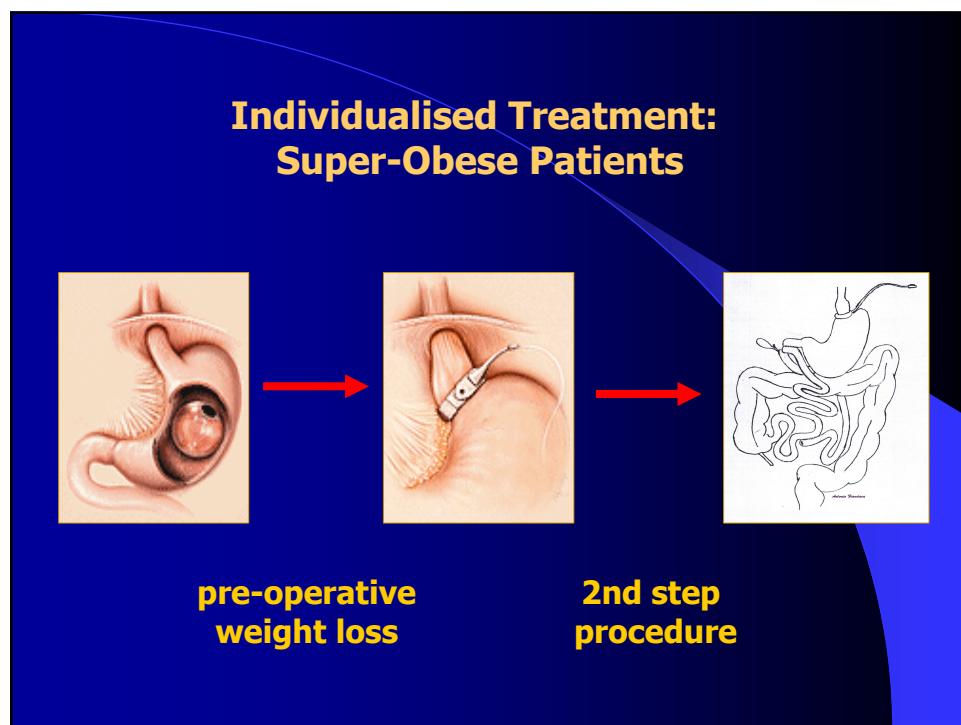
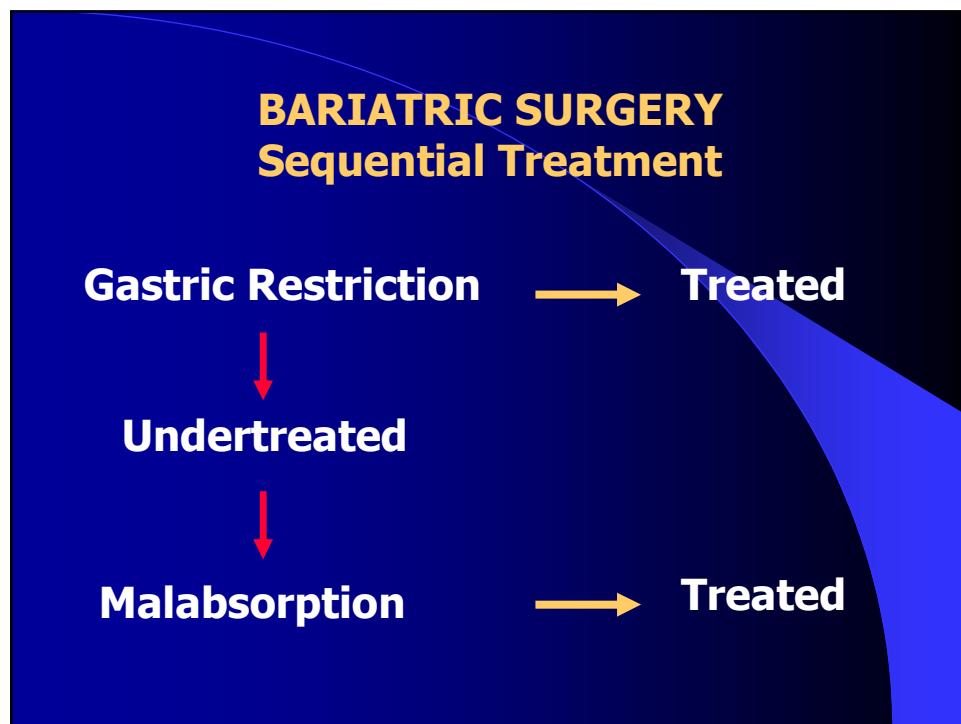
Individualised Treatment: Super-Obese Patients

	%EWL	Deaths
Banding	40-50%	0.1%
Gastric Bypass	55-65%	0.5%
BPD or Duodenal switch	65-75%	1.1%

Buchwald et al. JAMA 2004;292:1724

Superobese patients have higher early (≤ 30 days) mortality (RR: 1.25%; 95% CI: 0.56-1.94).

Buchwald et al. Surg 2007;142:621

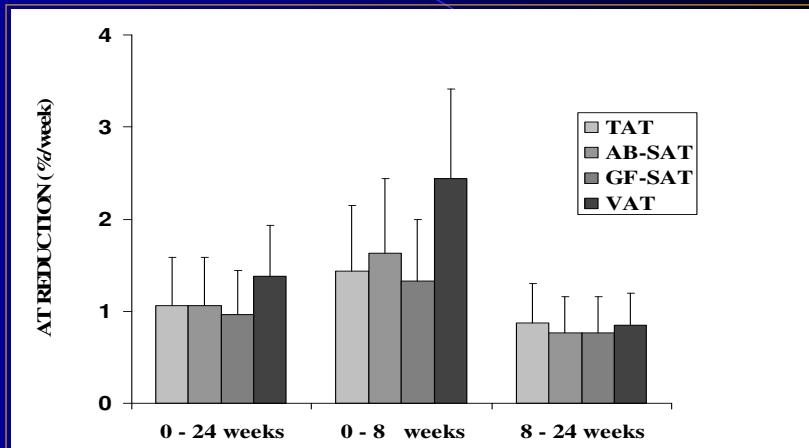


Operative data in Case-Control study

	BIB-LAPBAND (case pts)	LAPBAND (control pts)
Op time	82.5±20.9	102.6±35.1*
H stay	3.0±0.2	3.3±0.8*
Conversion	0/43 (0%)	7/43 (16.3%)*
IO Compl	0/43 (0%)	3/43 (7.0%)

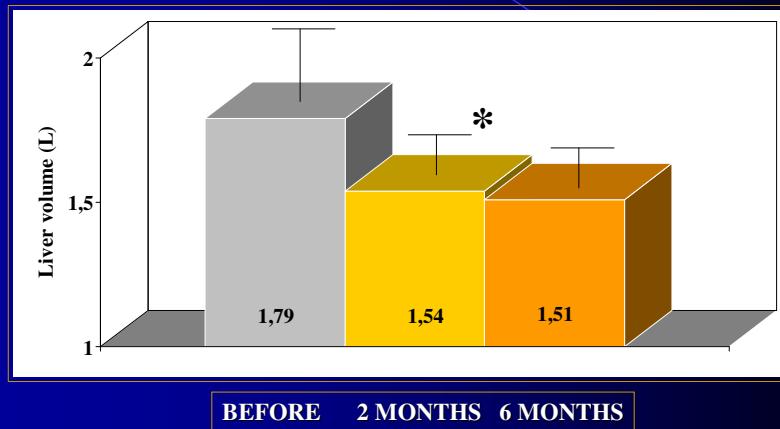
Busetto et al. Obes Surg 2004;14:671

% Changes of AT volumes in 6 morbid obese women before and 6 months after LAGB.

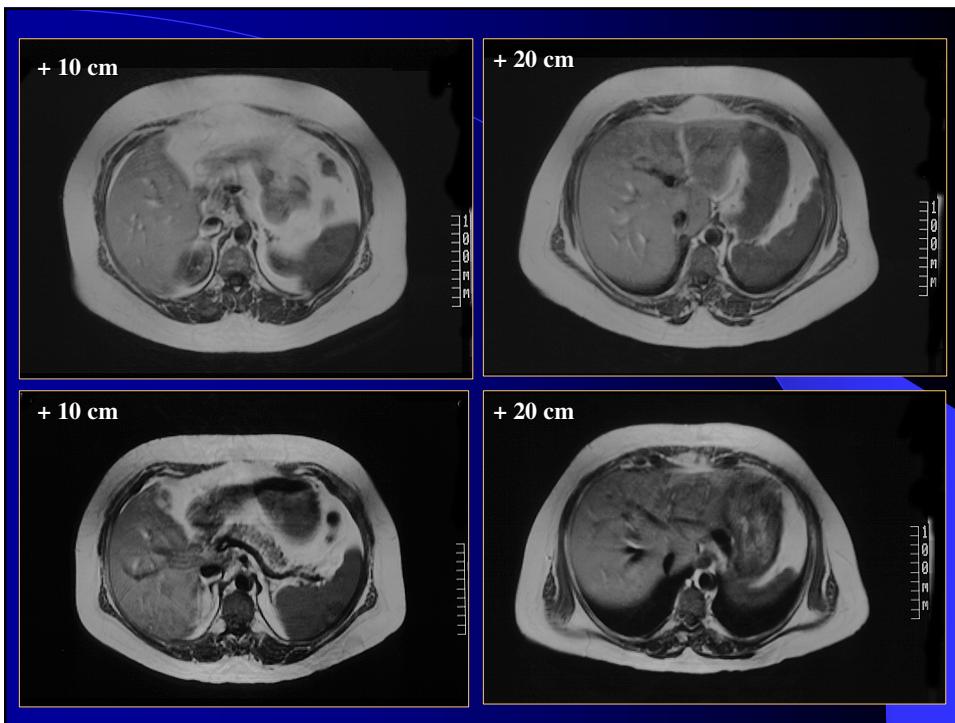


Busetto et al. Int J Obes 2000;24:60

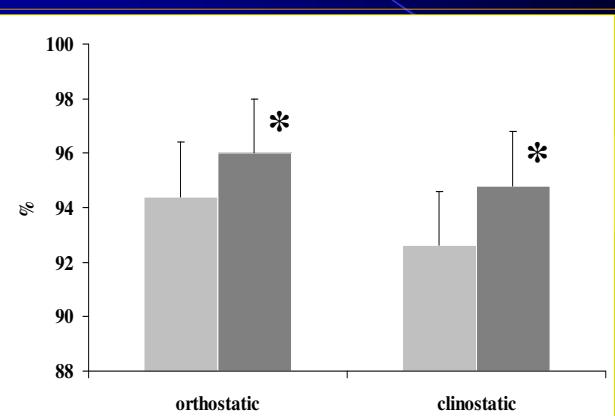
Reduction of Liver Volume in the early weight loss period after LAGB.



Busetto et al. Obes Res 2002;10:408

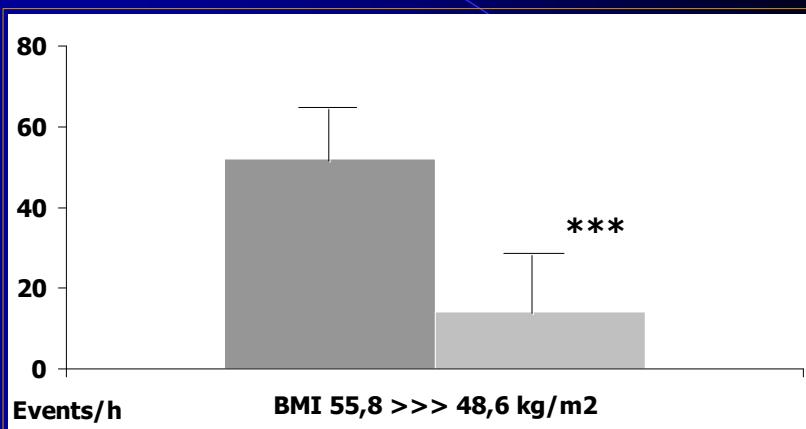


Oxygen Saturation in 17 super-obese patients before and after BIB™ Intragastric Balloon.



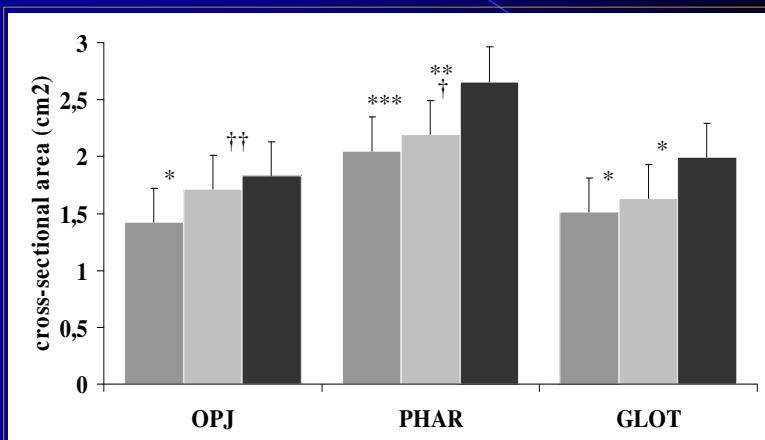
Busetto et al. Chest 2005;128:618

AHI in 17 morbid obese patients with OSA before and after intra-gastric balloon.



Busetto et al. Chest 2005;128:618

**Pharyngeal area in 17 morbid obese patients
with OSA before and after BIB and in 20 controls.**



Busetto et al. Chest 2005;128:618

Sequential treatment: 2° step procedure

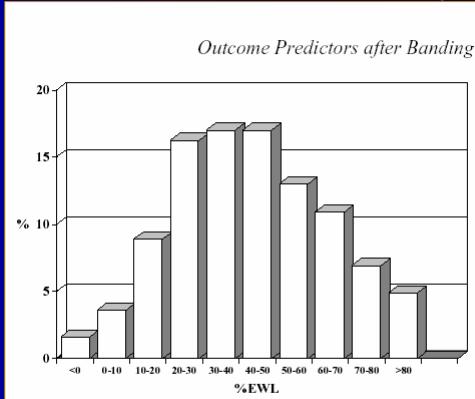
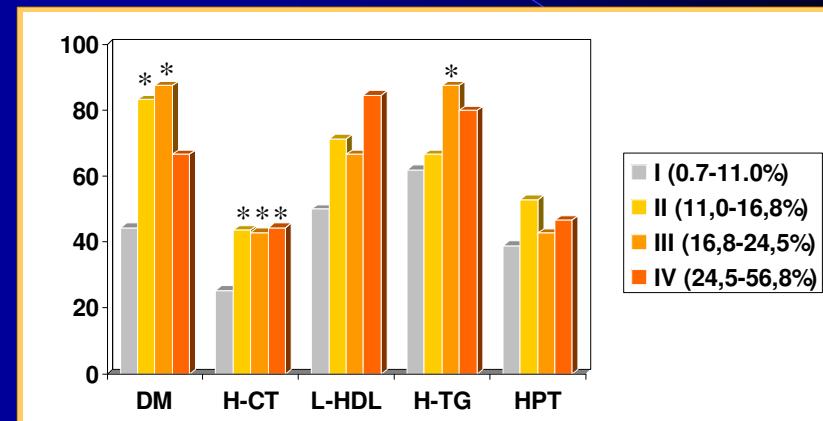


Figure 2. Distribution of %EWL after LAGB in the 260 morbidly obese patients.

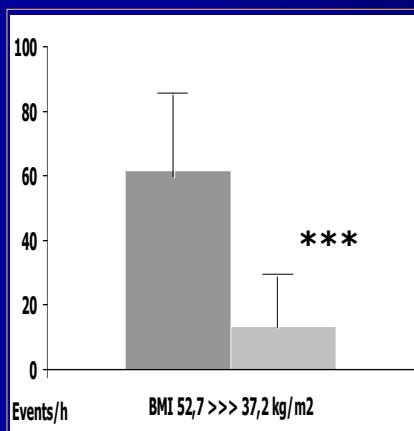
Busetto et al. Obes Surg 2002;12:83

Remission of diabetes, dyslipidaemia and hypertension after LAGB, according to quartiles of percent weight loss.



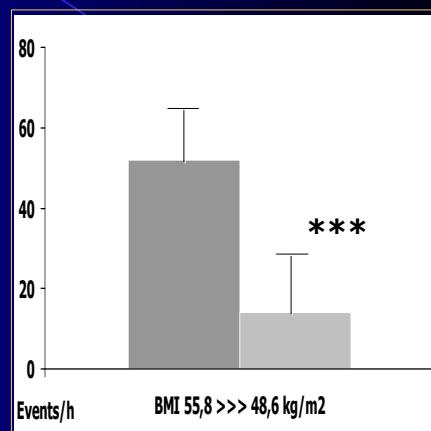
Busetto et al. Obes Res 2004;12:1256

AHI in 25 obese patients with OSA before and after LAGB.



Dixon et al. Int J Obes 2005;29:1048

AHI in 17 obese patients with OSA before and after BIB.



Busetto et al. Chest 2005;128:618

Comparative long-term mortality after LAGB versus non surgical controls.

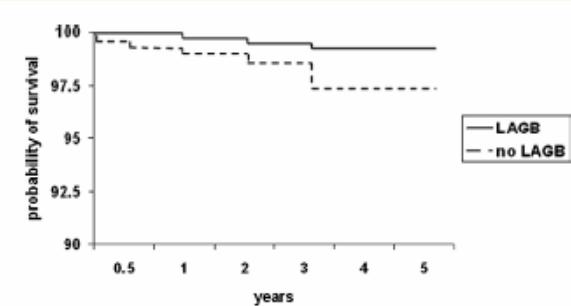


Fig. 2. Kaplan-Meier estimates of survival in 821 obese patients with BMI >40 kg/m² consecutively treated with LAGB at University of Padova and 821 morbidly obese patients observed at 6 tertiary obesity care Italian centers not using bariatric surgery (no LAGB).

Adj. HR of death in LAGB group: 0.36 (95%CI: 0.16-0.79)

Busetto et al. SOARD 2007; 3:496

BARIATRIC SURGERY Mortality studies

	FU	case and controls deaths	ADJ- HR
Christou 2004	5 yrs	7/1118	0.11 (0.04-0.27)
Sjostrom 2007	10 yrs	101/2010	0.76 (0.59-0.99)
Adams 2007	7 yrs	213/7925	0.60 (0.45-0.67)
Busetto 2007	6 yrs	8/821	0.36 (0.16-0.79)
Peeters 2007	4 yrs	5/1015	0.27 (0.09-0.81)

"We believe that, providing that operative mortality is kept at the very low level now achievable by modern procedures, this evidence is sufficient to conclude that bariatric surgery really improves long-term survival in morbidly obese patients."

Busetto et al. SOARD 2007; 3:496

Chirurgia Bariatria : gold standards

- **Selezione multidisciplinare dei pazienti (chirurgo, obesiologo, psicologo, ...).**
- **Team chirurgico con esperienza in più di una tecnica operatoria.**
- **Supporto nutrizionale post-operatorio.**
- **Follow up multidisciplinare routinario.**
- **Commitment al follow up a lungo termine.**
- **Trattamento rapido delle complicanze.**