

AUCKLAND | WEIGHT LOSS | SURGERY



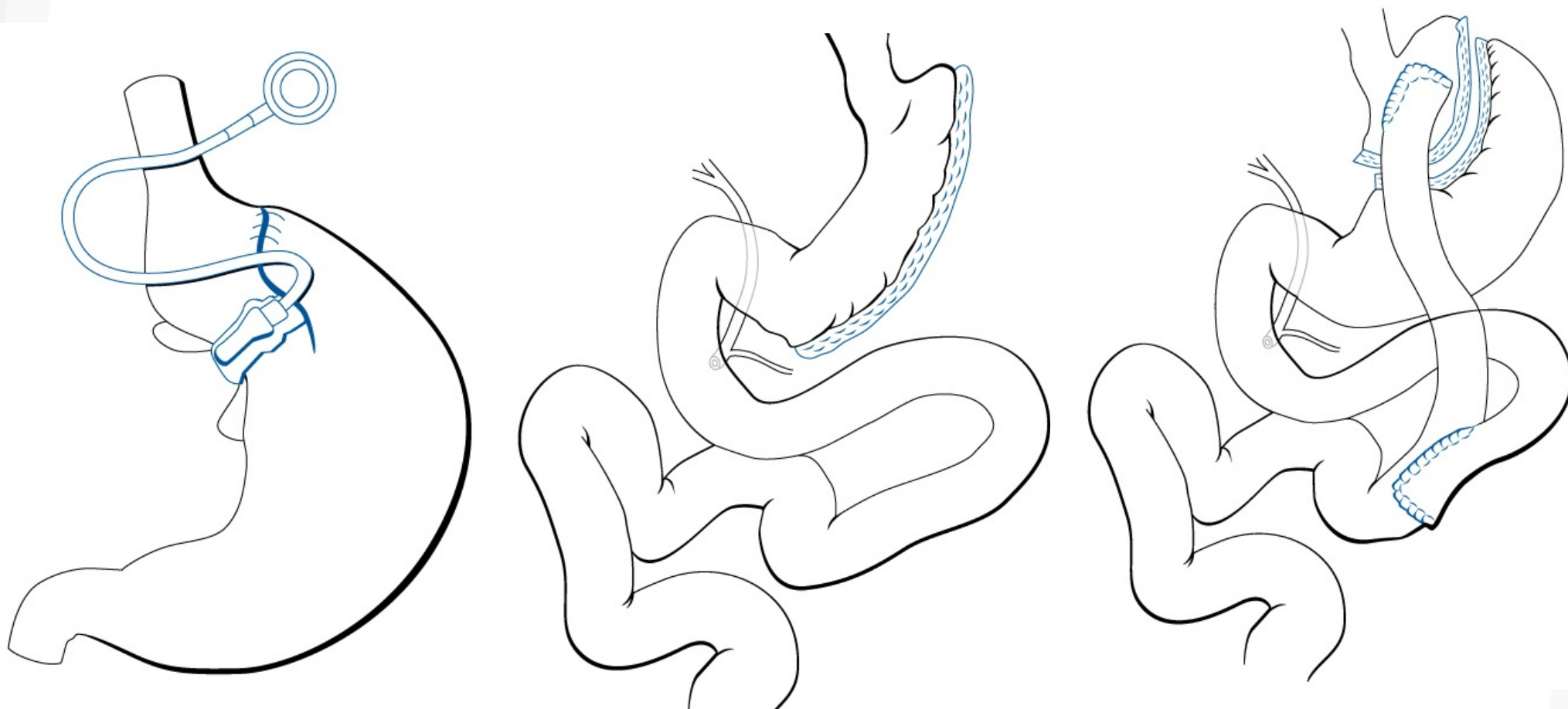
Surgical Options for Obesity

Operations

Case studies

- Outcomes
- Eligibility
- Follow up





AUCKLAND | WEIGHT LOSS | SURGERY

CASE

Female 49 Maori Weight 140 (down from 190)
DM2 (Dx 10yrs ago, Protophane 30U, retinopathy)
HT, Hchol
Referred by Diabetologist

November 2009 Lap Gastric Bypass

May 2010 SB Diabetologist Weight 110
Normal HbA1C off DM2 meds
Meds for HT and Hchol also stopped



CASE

Male 46 Maori BMI 45 Weight 145
HT, HChol, GORD
Osteomyelitis R Tibia, OA L Hip

June 2009 Lap Gastric Bypass

December 2009 BMI 33 Weight 109
HT, HChol, GORD resolved

March 2010 “70 kg weight loss”
To Plastics pre hip replacement



CASE

Female 54 European
BMI 43 Weight 106

T2DM on metformin
HT
OA, R THJR
Snorer
Strong family history of T2DM, IHD

Insured
Prefers Sleeve Gastrectomy
Strong family history of T2DM, IHD



CASE

Dietetic consult

Lap Sleeve Gastrectomy

4 months post op

81 kg

Off metformin

Sleeping like a baby

Greatly improved mobility



CASE

Male 49 Fijian Indian
BMI 29 Weight 110

Type Diabetes 10 years
20 + 20 protophane + Metformin
HbA1c 8.2
Retinopathy
Microalbumiuria
Bilateral neuropathy
Charcot foot + R toe amputation
Strong family history of IHD and CVA



CASE

Endocrinology, dietetic consult

Lap Sleeve Gastrectomy

2 weeks post op

98 kg

Off insulin

Off antihypertensive

BSL 4-6

HbA1c 6.1



CASE

Male 60 NZ Maori
BMI 59 Weight 167

Type 2 Diabetes 10+ years
HT
Hypercholesterolemia
COPD exsmoker
IHD AF on warfarin
?Pulmonary sarcoidosis
Early renal impairment
GORD

Strong family history of T2DM, IHD and Cancer



CASE

Female 38 European BMI 35

December 2004 Lap Band placed BMI 38 Weight 101

BMI 27 Weight 71

February 2009 port removed for infection

May 2009 new port

August 2009 repair hernia near port

September 2009 further surgery on port

January 2010 Band erosion

April 2010 Band removed BMI 34.9



What do patients struggle with?

Most serious complications occur within 48H

Nausea

Dehydration

Regurgitation

Low energy

Constipation

Hair loss



Follow Up

Discharge post op day 2-4

Some see GP at 1 week for check up

Rooms: 2, 6 weeks, then 3, 6, 9, 12 months

Review medications at 6 weeks, 3 months, 6 months

Review exercise at each follow up

Dietician review – in hospital, 6 weeks, 3/6 months

Support Group



NIH Selection Criteria

BMI > 40 or BMI > 35 & other co morbidities

Between 18 and 60 years of age

Repeated failure of dietary control

Well informed, Motivated and willing to change

Accept lifelong medical surveillance

No or controlled psychiatric illness

Acceptable operative risks



Case series at CMDHB

253 Patients

73% female

21% Maori

14% PI

Mean Age 44 (20-64)

Mean BMI 50 (32-73)

Median stay = 2

Complication Rate 7% (n=17)

Clavien-Dindo classification utilised

Mean EWL 56%

Follow up exceeds 1 year in 171

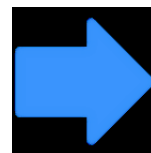
Mean EWL in this group 65%

Case series at CMDHB

Table 2- Comorbidity Resolution

Comorbidity	Improved	Resolved
Hypertension n= 113; 45%	33 (29%)	54 (48%)
Diabetes n= 81; 32%	7 (9%)	66 (81%)
Hyperlipidaemia n= 117; 46%	6 (5%)	56 (48%)
OSA n= 39; 15%	19 (49%)	15 (38%)

OSA: Obstructive Sleep Apnoea



90% improvement

Complications: ASMBS v CMDHB

	ASMBS (%)	CMDHB (%)
Leak	2.2	2.4
Bleeding	1.2	1.6
Stricture	0.6	1.2
Mortality	0.19	0

LSG: Systematic review of results

Table 2
Co-morbidity remission and improvement after sleeve gastrectomy

Investigator	Patients (n)	Follow-up (mo)		HTN (%)	Hyperlipidemia (%)	Sleep apnea (%)	DJD/joint pain (%)	GERD (%)	Peripheral edema (%)	Depression (%)
Cottam et al. [9], 2006	126	12		78 R 7 I	73 R 5 I	80 R 7 I	85 R 6 I	70 R 8 I	91 R 3 I	67 R 9 I
Hamoui et al. [10], 2005	118	24		15 R 16 I	—	—	—	—	—	—
Moon Han et al. [19], 2005	60	12		93 R 7 I	45 R 30 I	100 R	76 R 24 I	80 R 20 I	—	—
Silecchia et al. [14], 2006	41	18		62.5 R 25 I	—	56.2 R 31.2 I	—	—	—	—
Weiner et al. [6], 2007	120	60		42 R 55 I	5 R 77 I	39 R 61 I	36 I	57 R 43 I	—	—
Gan et al. [26], 2007	21	11.4		—	—	—	—	—	—	—
Ou Yang et al. [18], 2008	138	24		29 R 48 I	48 R 39 I	52 R 33 I	—	—	—	—
Kasalicky et al. [31], 2008	61	18		65 R 23 I	—	45 R	—	—	—	—
Vidal et al. [5], 2008	39	12		50 R	50 R	—	—	—	—	—
Tagaya et al. [36], 2008	30	18		56 R 44 I	33 R 33 I	—	—	—	—	—

T2DM = type 2 diabetes mellitus; HTN = hypertension; DJD = degenerative joint disease; GERD = gastroesophageal reflux disease; R = remission; I = improved.

Adapted, with permission, from Brethauer et al. [2].

Who Would Have Thought It?

An Operation Proves to Be the Most Effective Therapy for Adult-Onset Diabetes Mellitus

Walter J. Pories, M.D., Melvin S. Swanson, Ph.D., Kenneth G. MacDonald, M.D.,
Stuart B. Long, B.S., Patricia G. Morris, B.S.N., Brenda M. Brown, M.R.A.,
Hisham A. Barakat, Ph.D., Richard A. deRamon, M.D., Gay Israel, Ed.D.,
Jeanette M. Dolezal, Ph.D., and Lynis Dohm, Ph.D.

From the Departments of Surgery and Biochemistry of the School of Medicine and the Human Performance Laboratory of East Carolina University, Greenville, North Carolina



AUCKLAND | WEIGHT LOSS | SURGERY

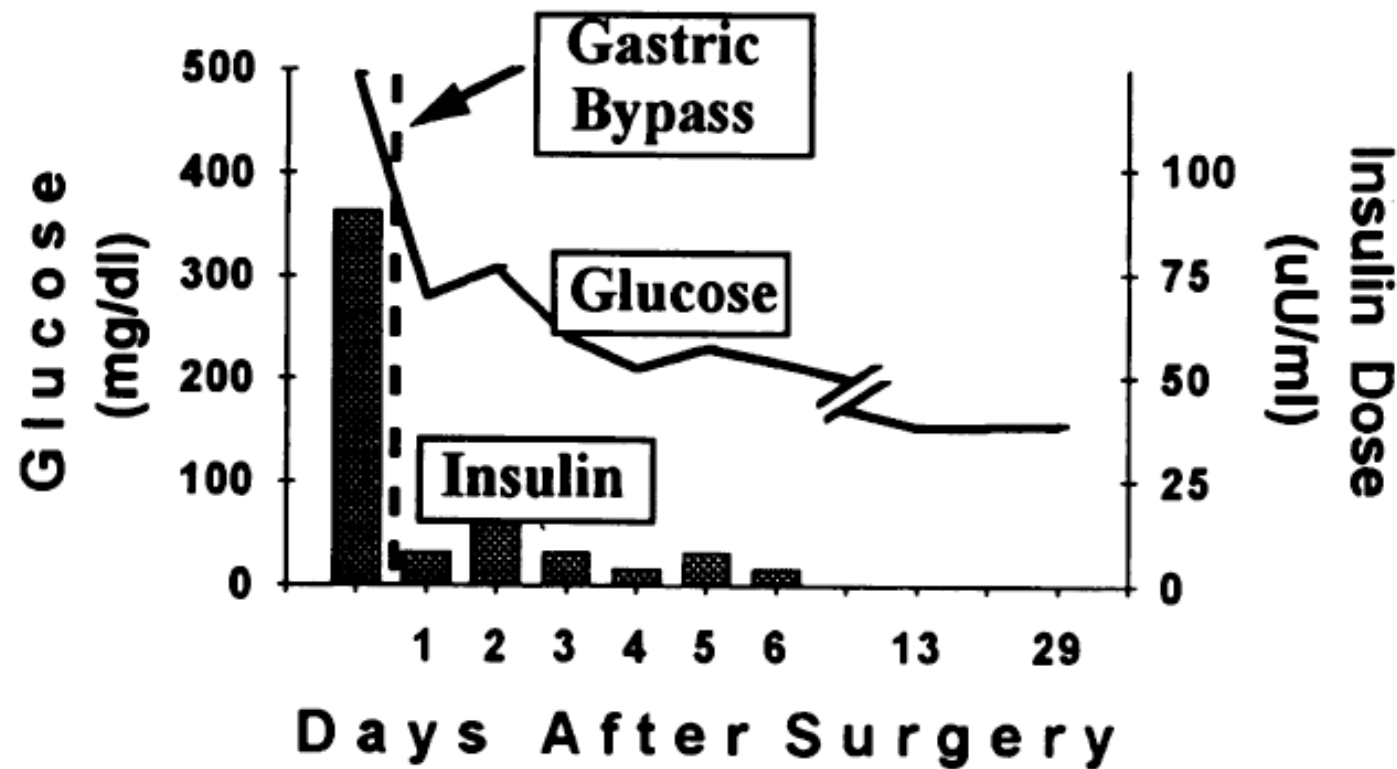


Figure 4. The correction of the hyperglycemia occurs rapidly. Patient 1 had an fasting blood glucose level of 495 mg/dL on the day before surgery despite the administration of 90 U of insulin. By the end of the 1st postoperative day, her fasting blood glucose level fell to 281 mg/dL and her insulin requirement dropped to 8 U. By the 6th postoperative day, she no longer required insulin.

Bariatric Surgery

A Systematic Review and Meta-analysis

Henry Buchwald, MD, PhD

Yoav Avidor, MD

Eugene Braunwald, MD

Michael D. Jensen, MD

Walter Pories, MD

Kyle Fahrbach, PhD

Karen Schoelles, MD

Conclusions Effective weight loss was achieved in morbidly obese patients after undergoing bariatric surgery. A substantial majority of patients with diabetes, hyperlipidemia, hypertension, and obstructive sleep apnea experienced complete resolution or improvement.

JAMA. 2004;292:1724-1737

www.jama.com



AUCKLAND | WEIGHT LOSS | SURGERY

The NEW ENGLAND JOURNAL *of* MEDICINE

ESTABLISHED IN 1812

DECEMBER 23, 2004

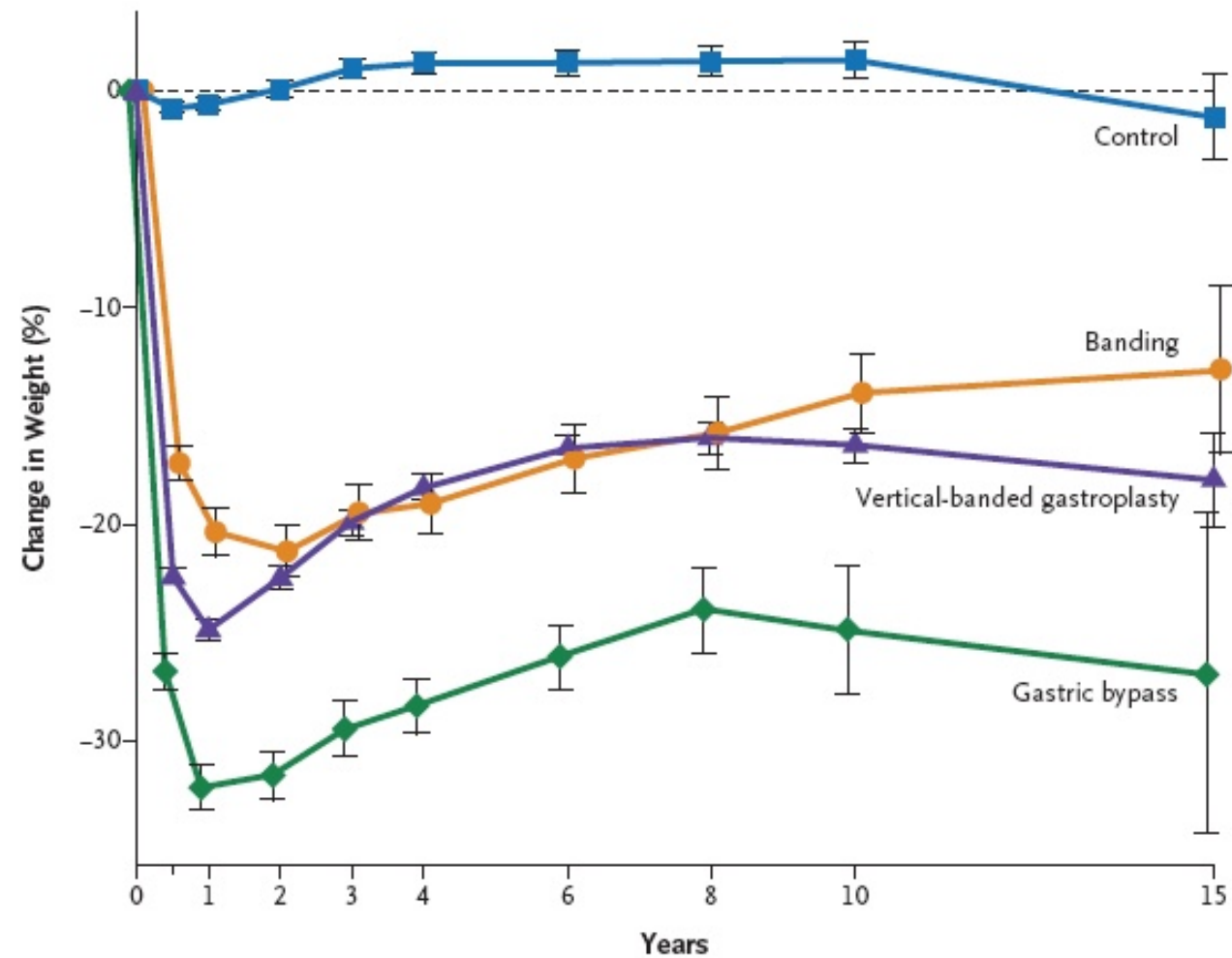
VOL. 351 NO. 26

Lifestyle, Diabetes, and Cardiovascular Risk Factors 10 Years after Bariatric Surgery

Lars Sjöström, M.D., Ph.D., Anna-Karin Lindroos, Ph.D., Markku Peltonen, Ph.D., Jarl Torgerson, M.D., Ph.D., Claude Bouchard, Ph.D., Björn Carlsson, M.D., Ph.D., Sven Dahlgren, M.D., Ph.D., Bo Larsson, M.D., Ph.D., Kristina Narbro, Ph.D., Carl David Sjöström, M.D., Ph.D., Marianne Sullivan, Ph.D., and Hans Wedel, Ph.D.,
for the Swedish Obese Subjects Study Scientific Group*



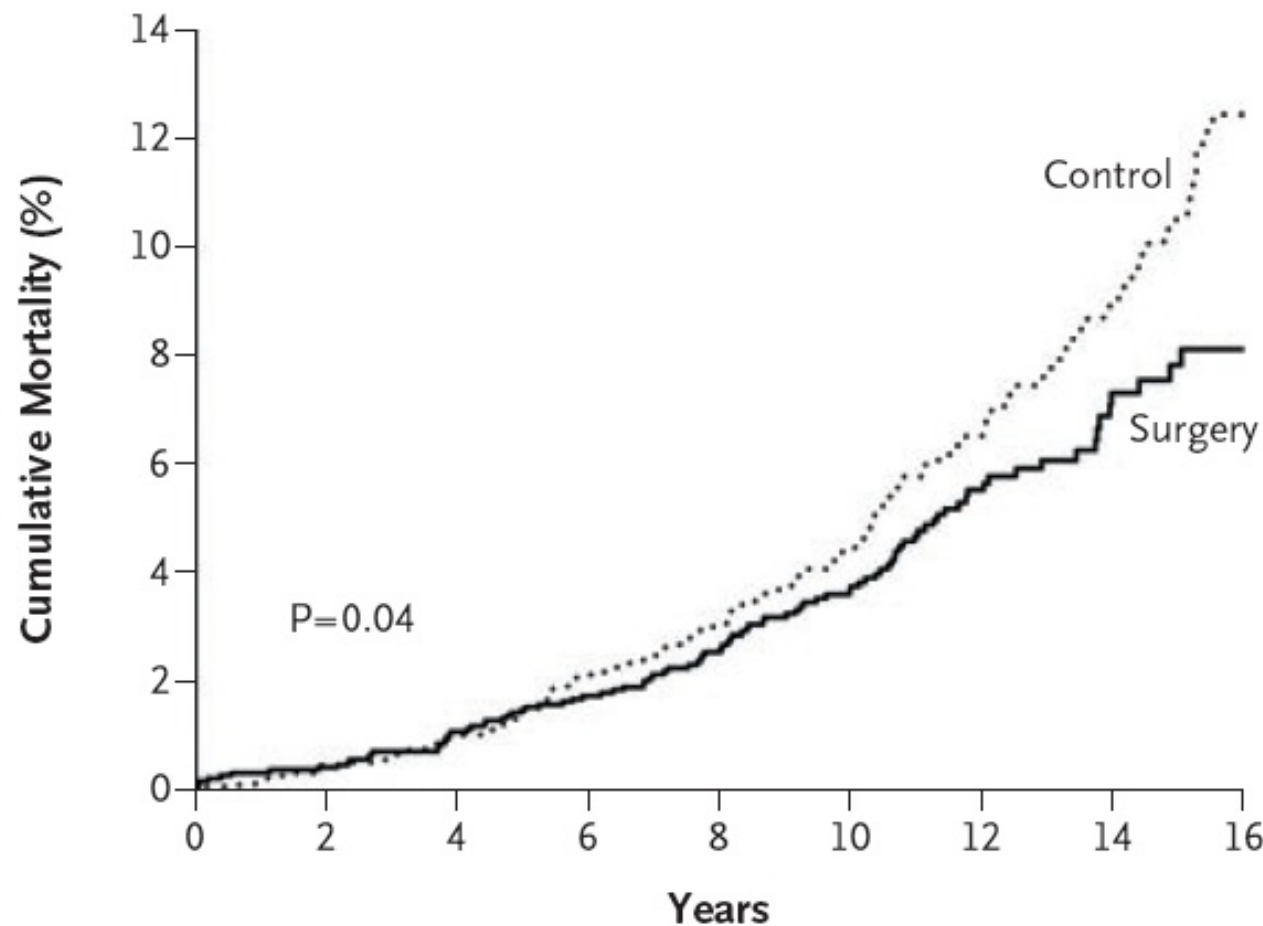
AUCKLAND | WEIGHT LOSS | SURGERY



No. Examined

Control	2037	1768	1660	1553	1490	1281	982	886	190
Banding	376	363	357	328	333	298	267	237	52
Vertical-banded gastroplasty	1369	1298	1244	1121	1086	1004	899	746	108
Gastric bypass	265	245	245	211	209	166	92	58	10

Figure 1. Mean Percent Weight Change during a 15-Year Period in the Control Group and the Surgery Group, According to the Method of Bariatric Surgery.



No. at Risk

Surgery	2010	2001	1987	1821	1590	1260	760	422	169
Control	2037	2027	2016	1842	1455	1174	749	422	156

Figure 2. Unadjusted Cumulative Mortality.

The hazard ratio for subjects who underwent bariatric surgery, as compared with control subjects, was 0.76 (95% confidence interval, 0.59 to 0.99; $P=0.04$), with 129 deaths in the control group and 101 in the surgery group.

ORIGINAL ARTICLES

A Prospective Randomized Trial of Laparoscopic Gastric Bypass Versus Laparoscopic Adjustable Gastric Banding for the Treatment of Morbid Obesity

Outcomes, Quality of Life, and Costs

*Ninh T. Nguyen, MD, Johnathan A. Slone, MD, Xuan-Mai T. Nguyen, PhD, Jaimee S. Hartman, BS,
and David B. Hoyt, MD*

Annals of Surgery • Volume 250, Number 4, October 2009



AUCKLAND | WEIGHT LOSS | SURGERY

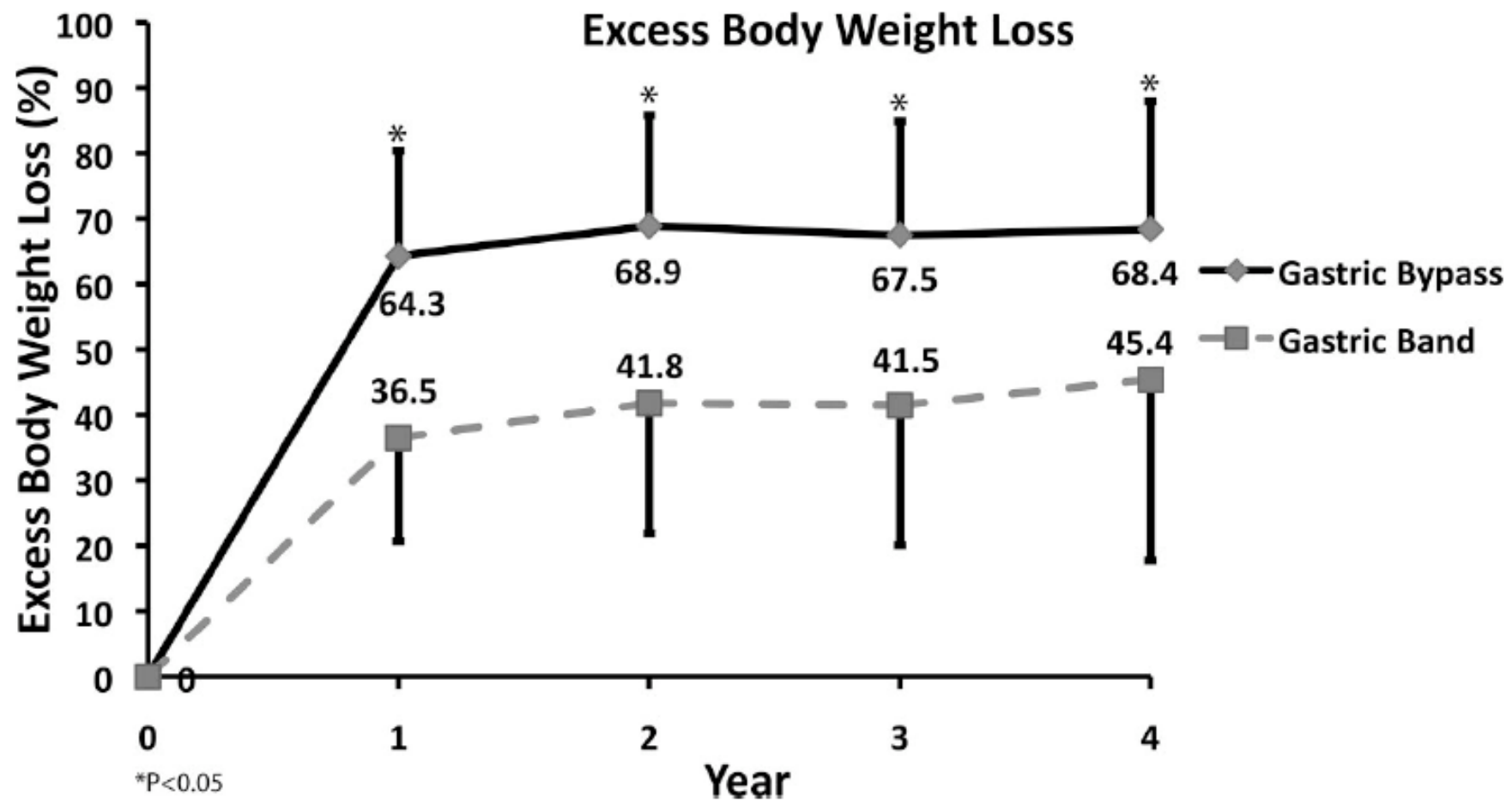


FIGURE 1. Mean percent of excess weight loss, gastric bypass versus gastric banding. $*P < 0.05$ versus gastric banding (2-sample t tests).



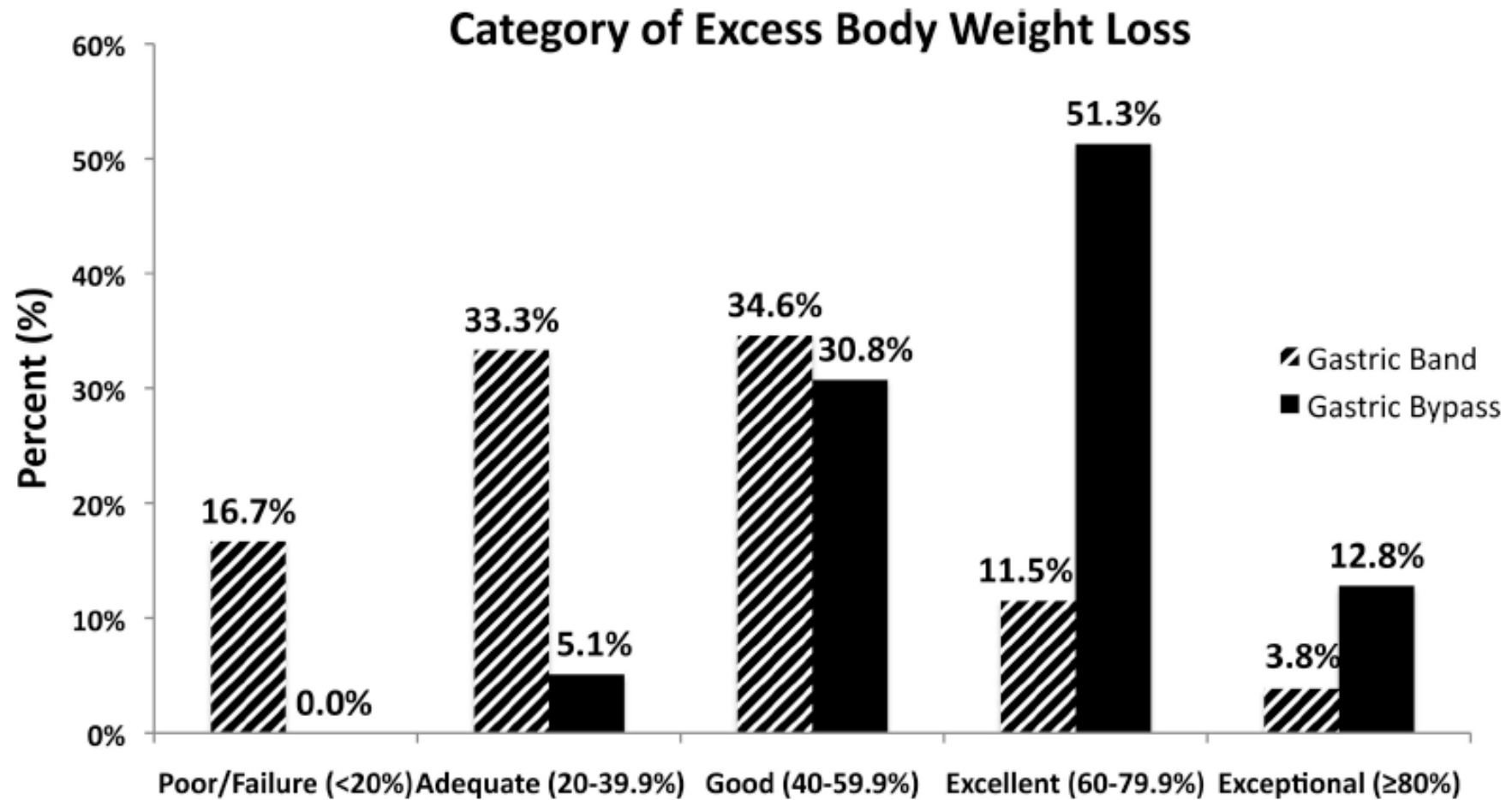


FIGURE 4. Category of weight loss according to percent of excess weight loss, gastric bypass versus gastric banding.

The Diabetes Surgery Summit Consensus Conference

Recommendations for the Evaluation and Use of Gastrointestinal Surgery to Treat Type 2 Diabetes Mellitus

Francesco Rubino, MD,† Lee M. Kaplan, MD, PhD,‡ Philip R. Schauer, MD,§
and David E. Cummings, MD,¶ on behalf of the Diabetes Surgery Summit Delegates*



AUCKLAND | WEIGHT LOSS | SURGERY

Adjustable Gastric Banding and Conventional Therapy for Type 2 Diabetes

A Randomized Controlled Trial

John B. Dixon, MBBS, PhD

Paul E. O'Brien, MD

Julie Playfair, RN

Leon Chapman, MBBS

Linda M. Schachter, MBBS, PhD

Stewart Skinner, MBBS, PhD

Joseph Proietto, MBBS, PhD

Michael Bailey, PhD, MSc(stats)

Margaret Anderson, BHealthMan

Conclusions Participants randomized to surgical therapy were more likely to achieve remission of type 2 diabetes through greater weight loss. These results need to be confirmed in a larger, more diverse population and have long-term efficacy assessed.

Trial Registration actr.org Identifier: ACTRN012605000159651

JAMA. 2008;299(3):316-323

www.jama.com

mean BMI of those recruited to the study was 37.1.

nosed with clearly documented type 2 diabetes within the previous 2 years,

glycemic control at 2 years :



AUCKLAND | WEIGHT LOSS | SURGERY

RESEARCH ARTICLE

Differential Changes in Dietary Habits after Gastric Bypass Versus Gastric Banding Operations

Barbara Ernst • Martin Thurnheer • Britta Wilms •
Bernd Schultes

gastric bypass patients consumed more frequently fresh fruits, eggs, and diet soft drinks but strikingly less chocolate than gastric banding patients.



A Prospective Randomized Study Between Laparoscopic Gastric Banding and Laparoscopic Isolated Sleeve Gastrectomy: Results after 1 and 3 Years

Jacques Himpens, MD; Giovanni Dapri, MD; Guy Bernard Cadière, MD, PhD

Department of Gastrointestinal and Obesity Surgery, European School of Laparoscopic Surgery, Saint-Pierre University Hospital, Brussels, Belgium



Table 2. Median decrease of BMI and %EWL after 1 and 3 years

	1 year	3 years
BMI		
BAND	15.5 kg/m ² (5-39)	18 kg/m ² (0-39)
SLEEVE	25 kg/m ² (0-45)	27.5 kg/m ² (0-48)
%EWL		
BAND	41.4% (-11.8 - +130.5)	48% (0-124.8)
SLEEVE	57.7% (0-125.5)	66% (-3.1 - +152.4)

%EWL = percent of excess weight lost, using the Metropolitan Tables.

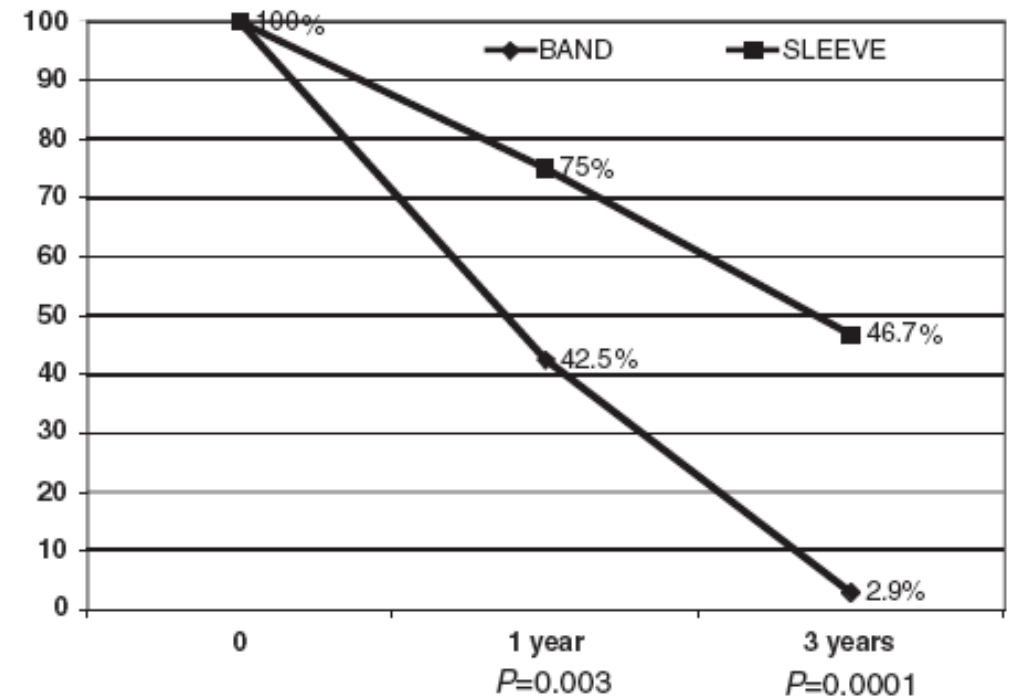


Figure 1. Loss of hunger sensation after 1 and 3 years.

