Gewichtsreductie bij DM

Effecten medicatie en bariatrische chirurgie

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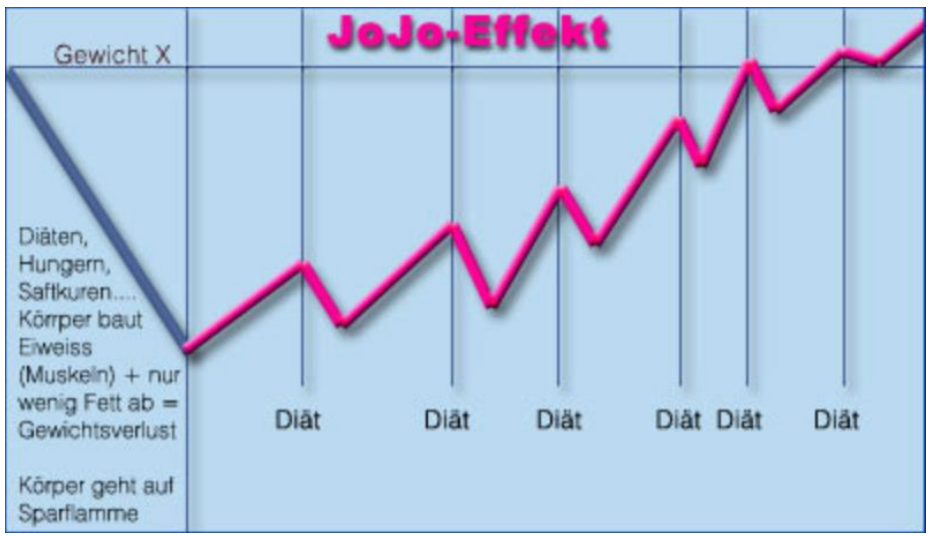
Disclosure belangen

Voor bijeenkomst mogelijk relevante relaties	Bedrijfsnamen
• Sponsoring of onderzoeksgeld	AstraZeneca (investigator initiated study)
• Honorarium of andere (financiële) vergoeding	Sprekervergoedingen: Sanofi, Bayer, Lilly
• Aandeelhouder	nvt
• Andere relatie, namelijk	Team bariatrische chirurgie Spaarne Gasthuis

Welke interventies zijn effectief?

- Leefstijlverandering
- Medicatie
- Operatie


SHORT TERM
LONG TERM


JoJo-Effekt
Gewicht X
Diäten,
Hungern,
Saftkuren....
Körper baut
Eiweiss
(Muskeln) + nur
wenig Fett ab =
Gewichtsverlust
Körper geht auf
Sparflamme
Diät
Diät
Diät
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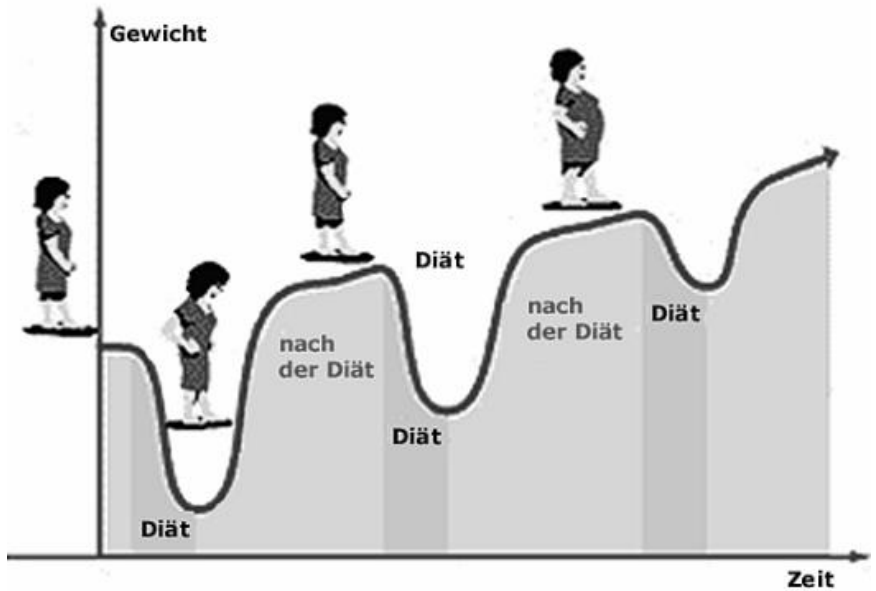
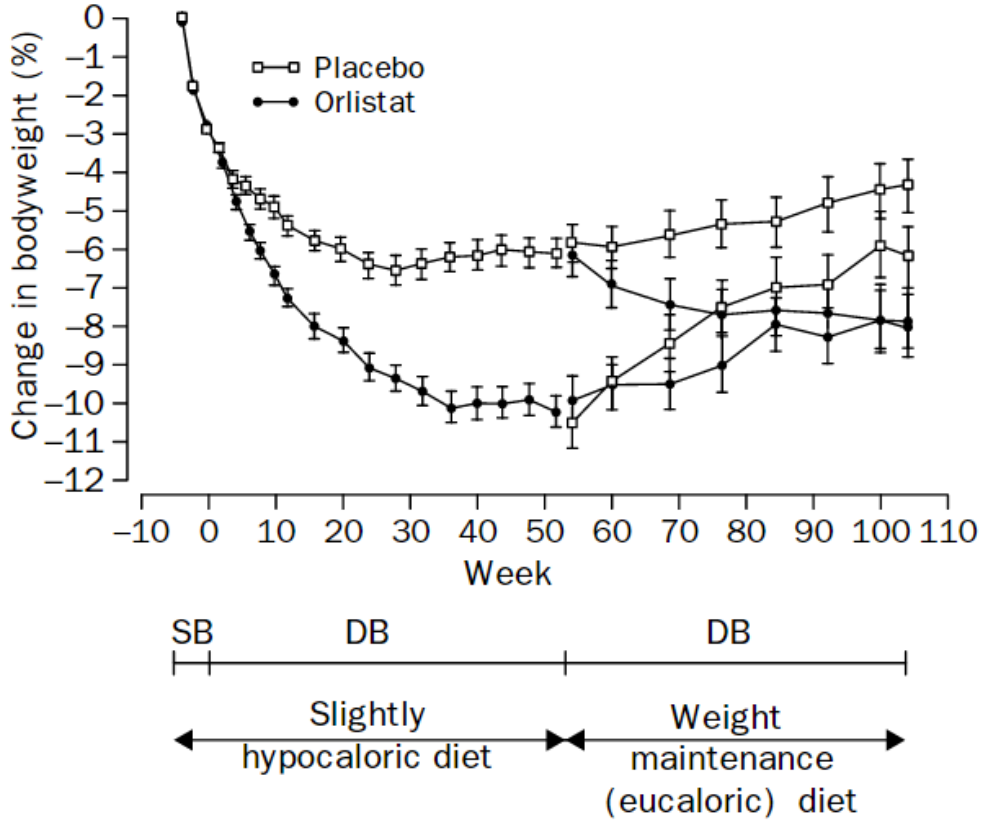
Diät


Gewicht
Diät
nach
der Diät
Diät
nach
der Diät
Diät
Zeit

Randomised placebo-controlled trial of orlistat for weight loss and prevention of weight regain in obese patients



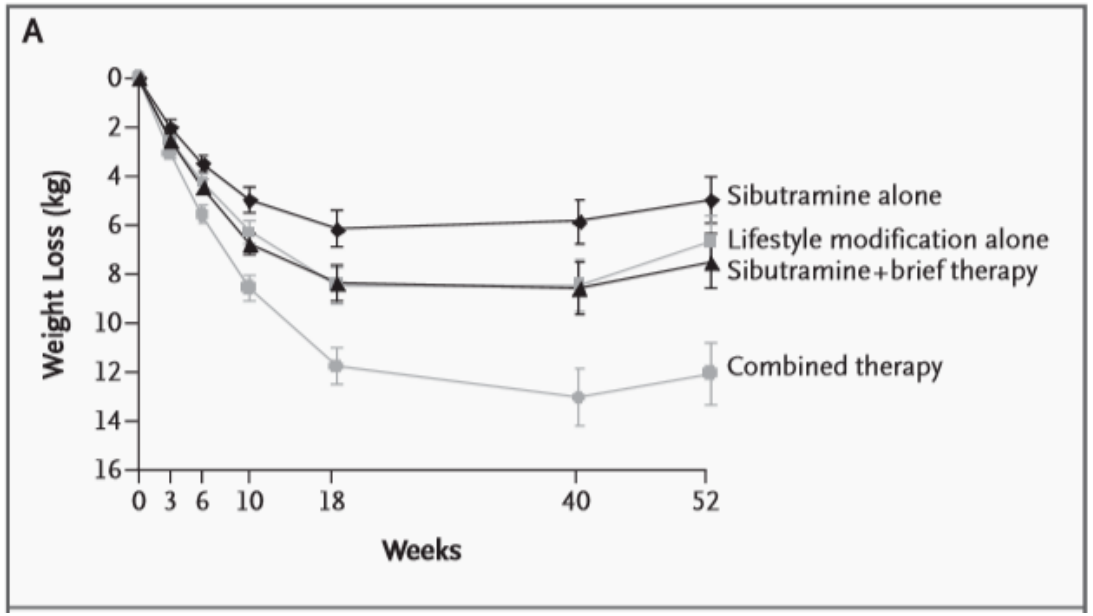
- N=743
- Orlistat 120 mg 3dd
- Hypocaloric (-600)

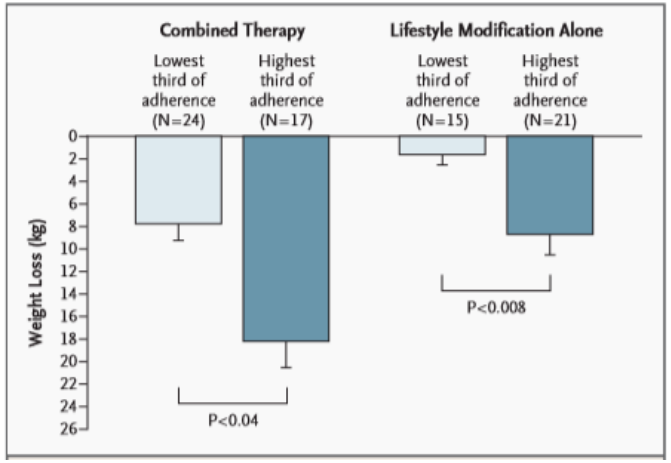
- Weight loss 10.2% vs 6.1% at 1 yr

Mean percentage change in bodyweight from start of single-blind lead-in until 2-year examination in orlistat and placebo groups

THE LANCET • Vol 352 • July 18, 1998

Randomized Trial of Lifestyle Modification and Pharmacotherapy for Obesity

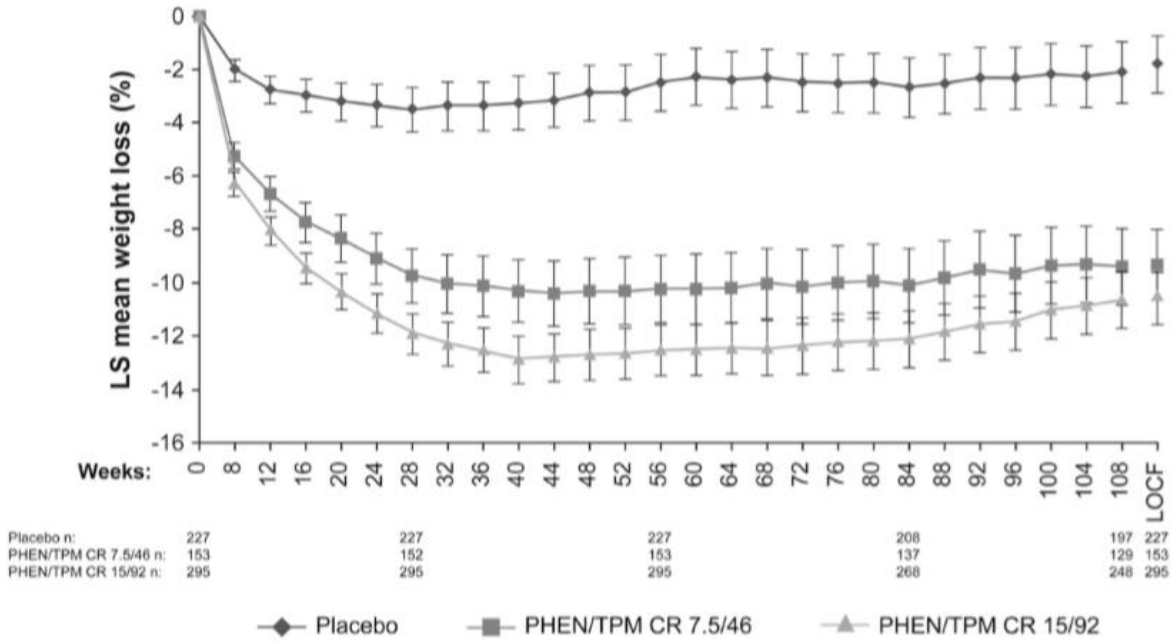


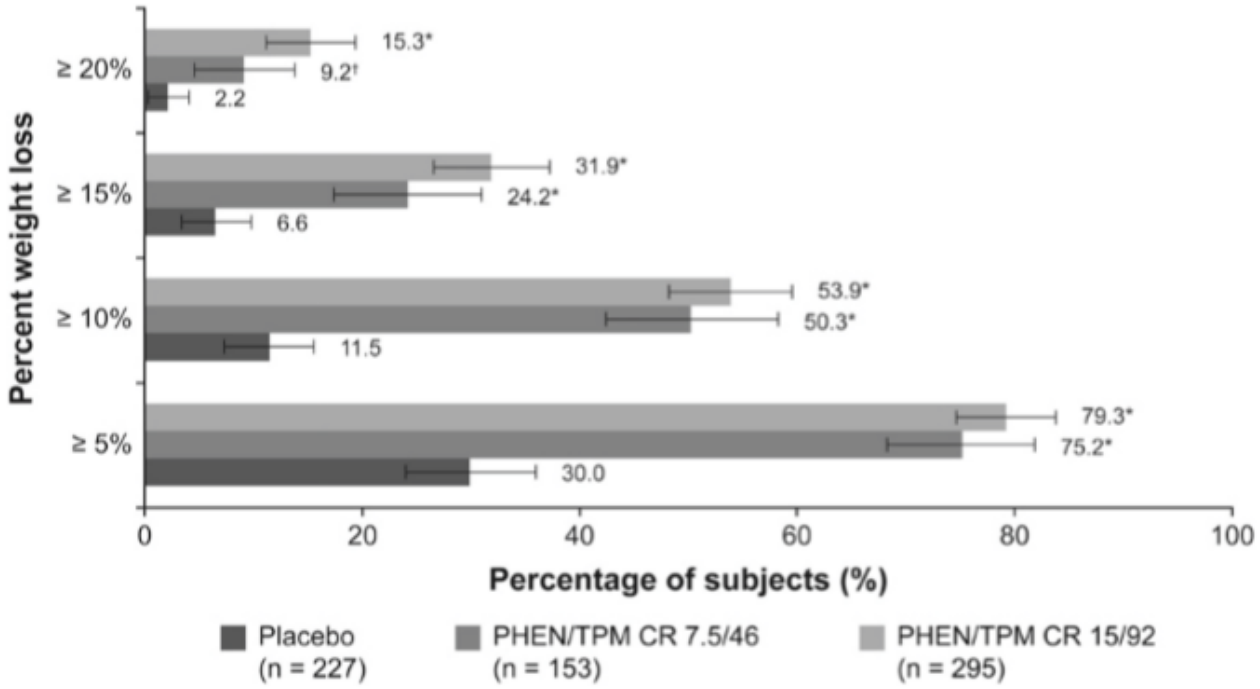


- N=224
- Interventions
  - Sibutramine 15 mg alone
  - 30 group sessions
  - 30 group sessions icm sibutramine
  - Brief therapy icm sibutramine
- 1200-1500 kcal
- 1 year follow-up

N Engl J Med 2005;353:2111-20

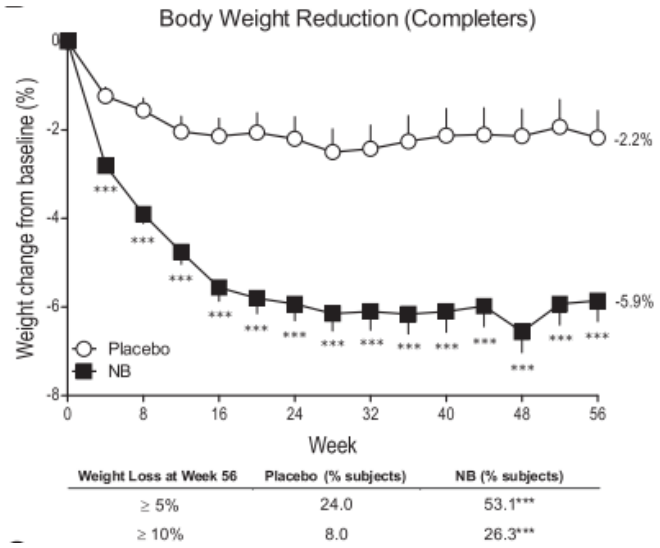
Phentermin / topiramate



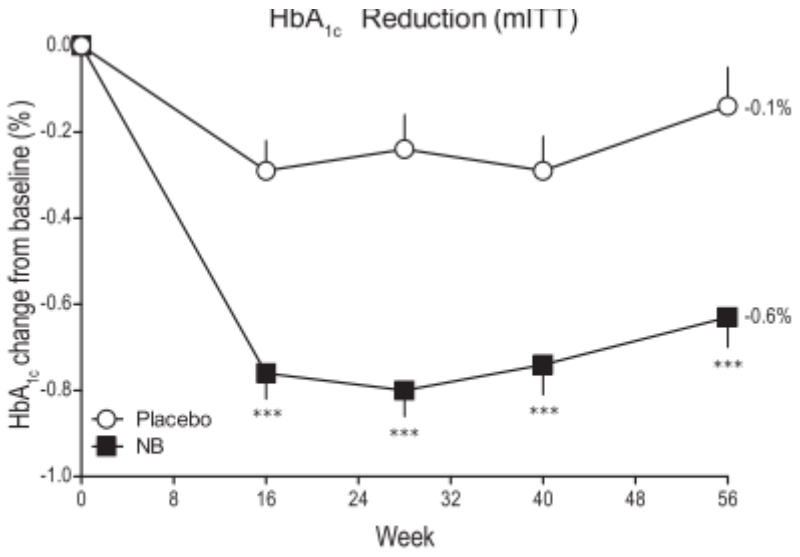


Am J Clin Nutr 2012;95:297–308.

Naltrexone /Bupropion Sustained Release in Overweight and Obese Patients With Type 2 Diabetes



Weight Loss at Week 56	Placebo (% subjects)	NB (% subjects)
≥ 5%	24.0	53.1***
≥ 10%	8.0	26.3***



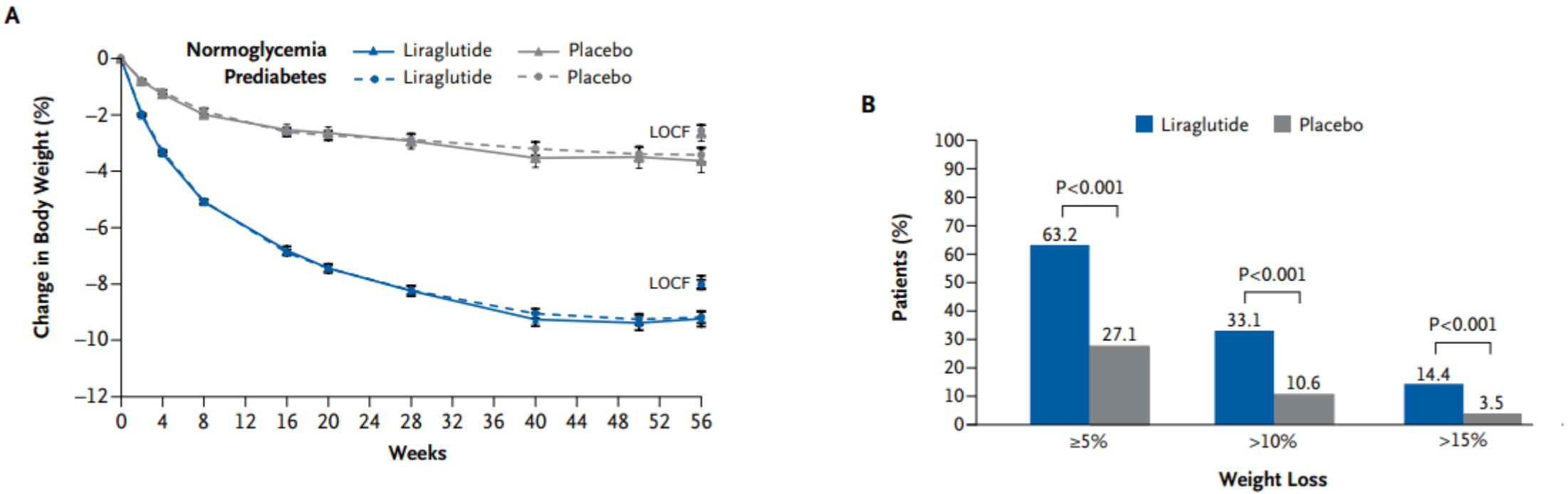
HbA_{1c} Target at Week 56	Placebo (% subjects)	NB (% subjects)
< 7%	26.3	44.1***
< 6.5%	10.2	20.7**

Table 3—*Adverse events and adverse events leading to discontinuation*

	Placebo	NB
N	169	333
Patients reporting any adverse event	85.2	90.4
Nausea	7.1	42.3
Constipation	7.1	17.7
Vomiting	3.6	18.3
Diarrhea	9.5	15.6
Headache	8.9	13.8
Dizziness	5.3	11.7
Insomnia	5.3	11.1
Nasopharyngitis	13.6	8.4
Hypertension	4.1	9.9
Upper–respiratory tract infection	9.5	7.8
Hypoglycemia	7.1	7.5
Tremor	2.4	6.6
Dry mouth	3.0	6.3
Anxiety	1.2	5.4
Upper abdominal pain	1.8	5.1
Patients discontinued due to adverse event	15.4	29.4
Gastrointestinal disorders		
Nausea	0	9.6
Vomiting	0	3.0
Nervous system disorders		
Headache	0	1.8

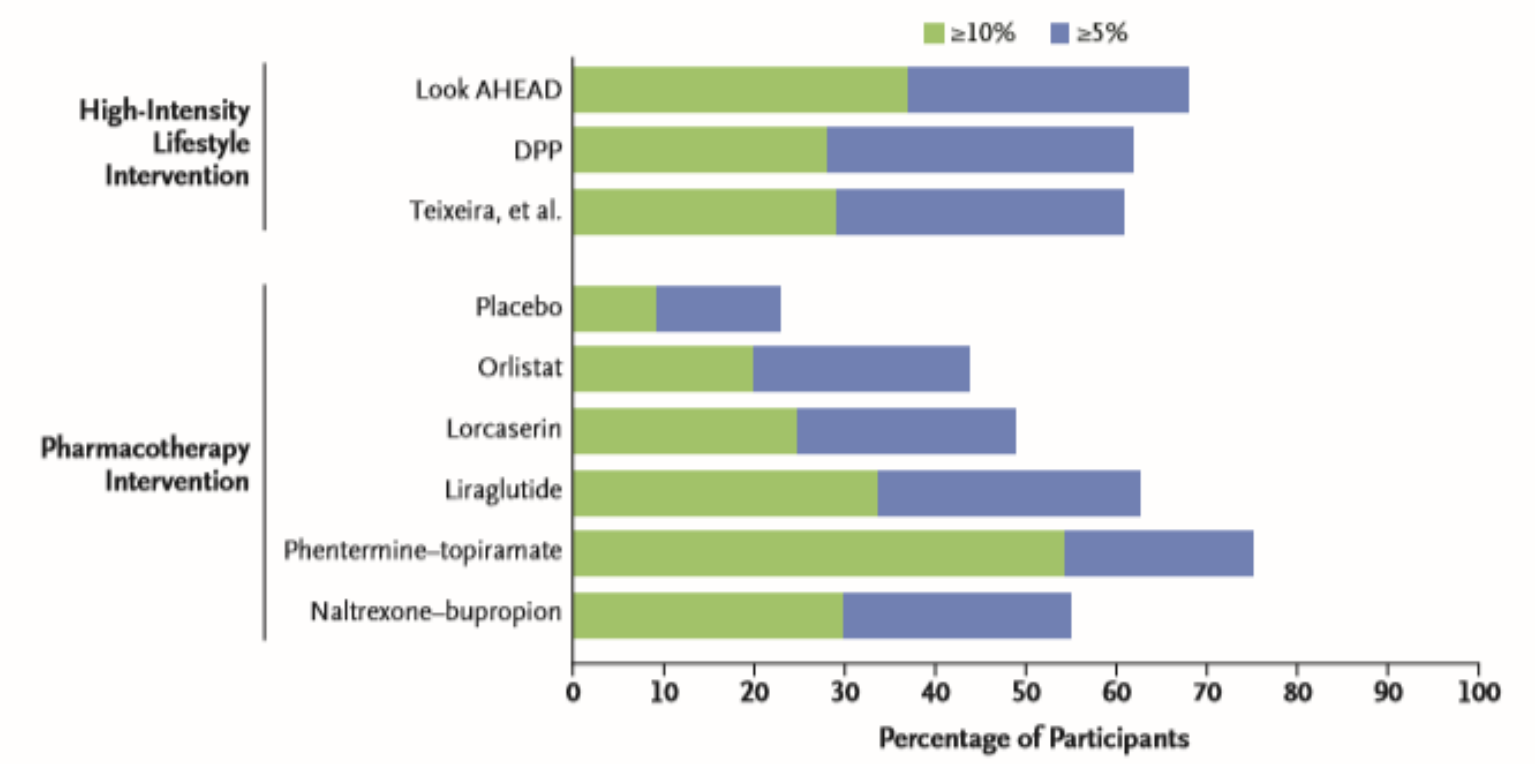
Diabetes Care 36:4022–4029, 2013

A Randomized, Controlled Trial of 3.0 mg of Liraglutide in Weight Management



N Engl J Med 2015;373:11-22

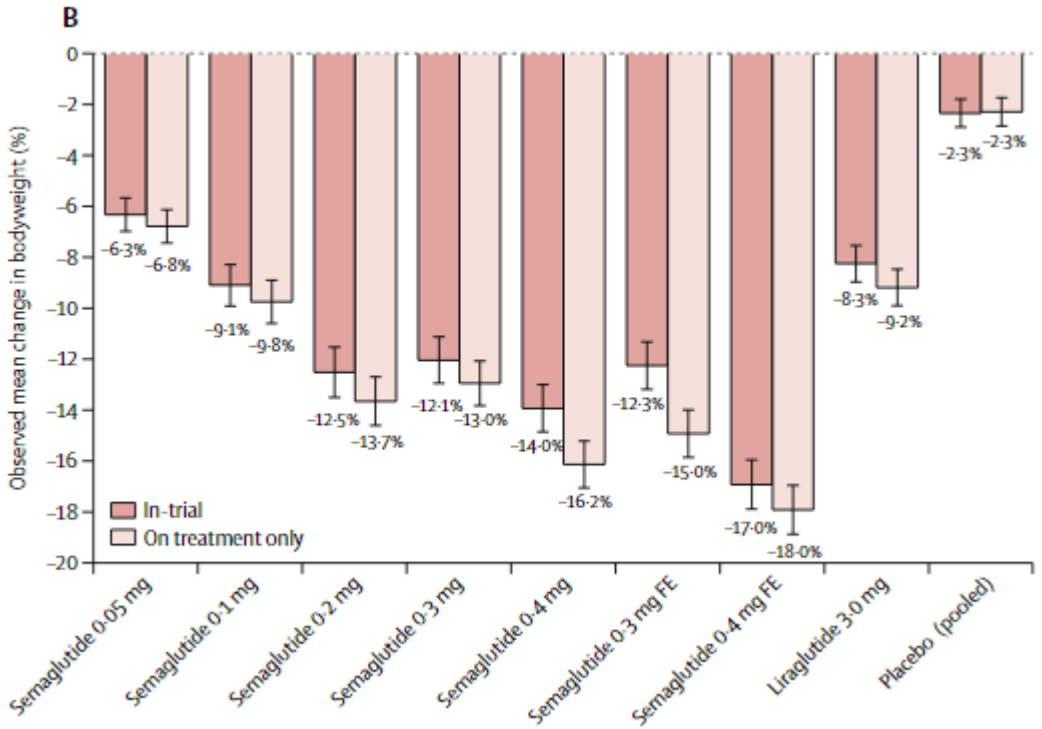
Weight Loss at 1 Year with High-Intensity Lifestyle Interventions or Pharmacotherapy Combined with Low-to-Moderate-Intensity Lifestyle Counseling.

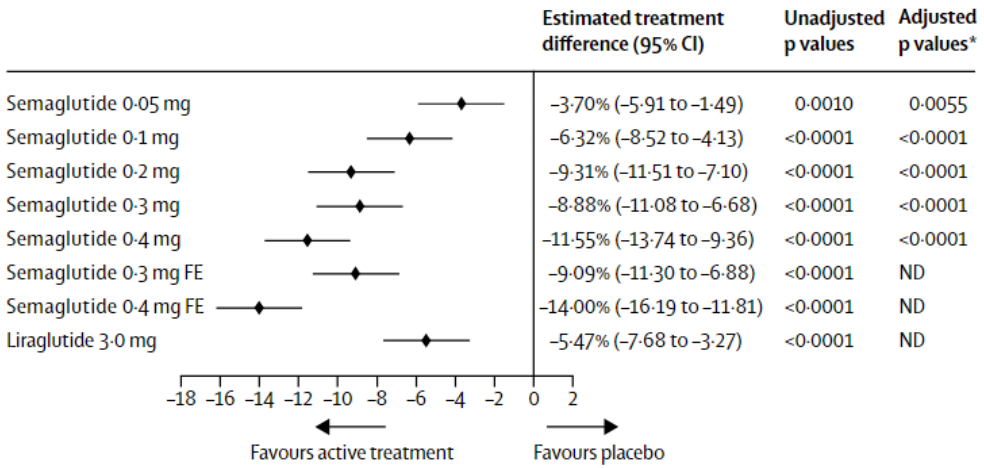


N Engl J Med 2017;376:254-66.

Efficacy and safety of semaglutide compared with liraglutide and placebo for weight loss in patients with obesity: a randomised, double-blind, placebo and active controlled, dose-ranging, phase 2 trial

Patrick M O'Neil, Andreas L Birkenfeld, Barbara McGowan, Ofri Mosenzon, Sue D Pedersen, Sean Wharton, Charlotte Giwercman Carson, Cecilie Heerdegen Jepsen, Maria Kabisch, John P H Wilding



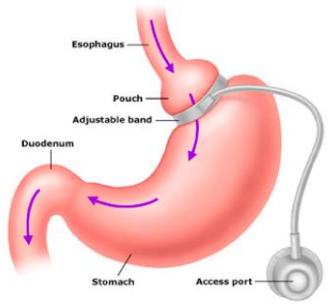


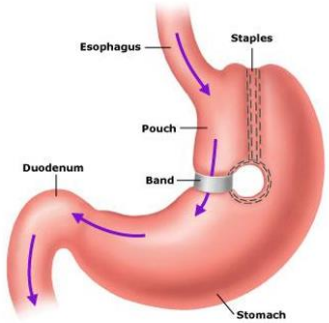
Lancet 2018; 392: 637–49

Bariatrische chirurgie

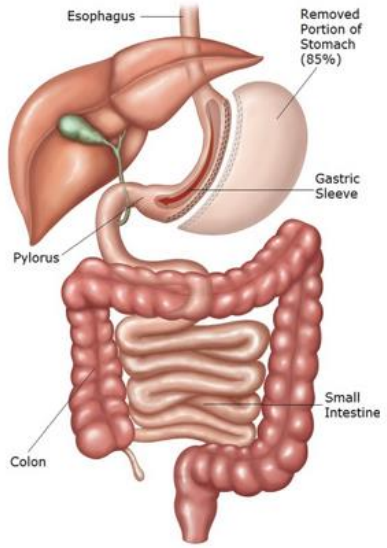
BMI > 35 icm comorbiditeit of

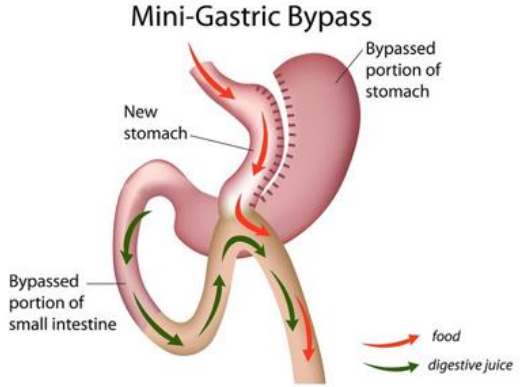
BMI > 40

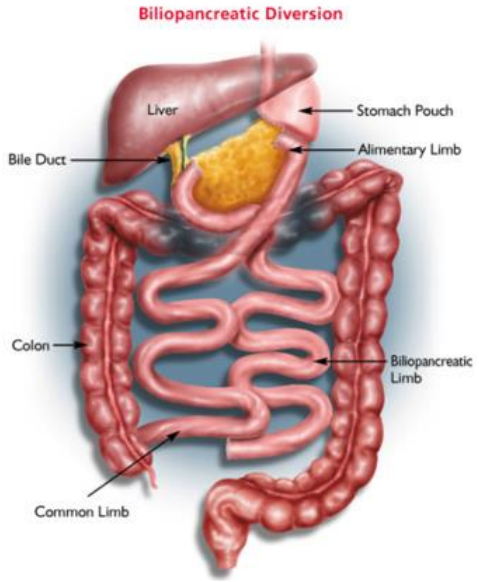




Verschillende ingrepen



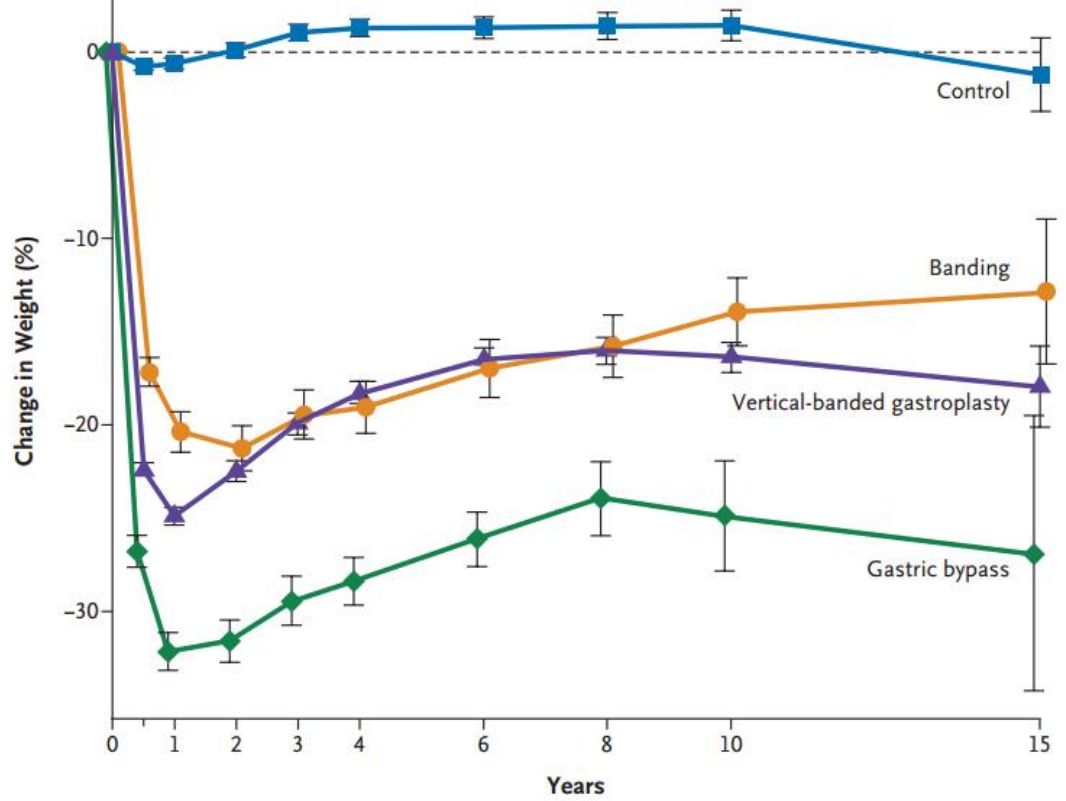




Gewichtsreductie

Gemiddeld gewichtsverlies

- Korte termijn 33% TWL
- Na 12 – 15 jaar 25% TWL
- Grote spreiding



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

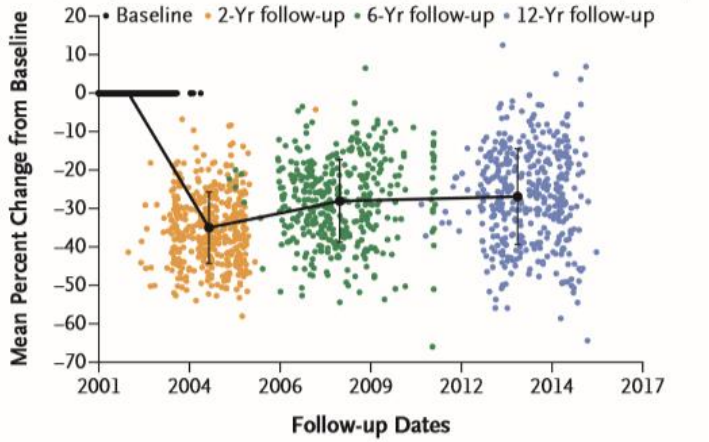
Figure 1. Mean Percent Weight Change during a 15-Year Period in the Control Group and the Surgery Group, According to the Method of Bariatric Surgery.

I bars denote 95% confidence intervals.

N Engl J Med. 2007 Aug 23;357(8):741-52.

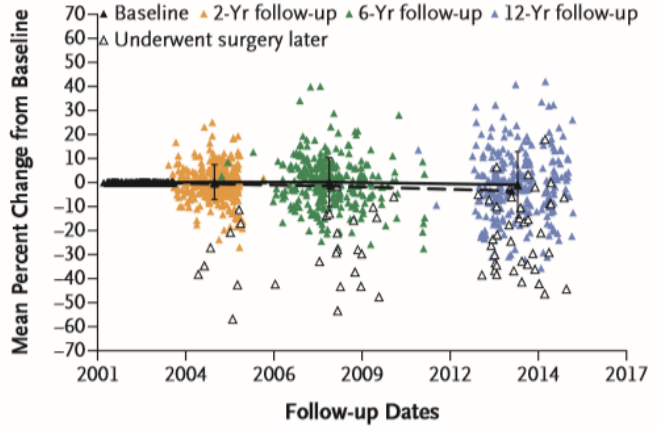
Grote spreiding effect op korte en lange termijn

A Mean Percent Change in Body Weight from Baseline to Years 2, 6, and 12 in the Surgery Group



No. of Patients	Baseline	2 Yr	6 Yr	12 Yr
Surgery group	418	409	379	387
Deaths	—	3	9	14
Total	418	412	388	401

C Mean Percent Change in Body Weight from Baseline to Years 2, 6, and 12 in Nonsurgery Group 2



No. of Patients	Baseline	2 Yr	6 Yr	12 Yr
Nonsurgery group 2	321	312	294	262
Underwent surgery later	—	8	19	39
Deaths	—	—	3	15
Total	321	320	316	316

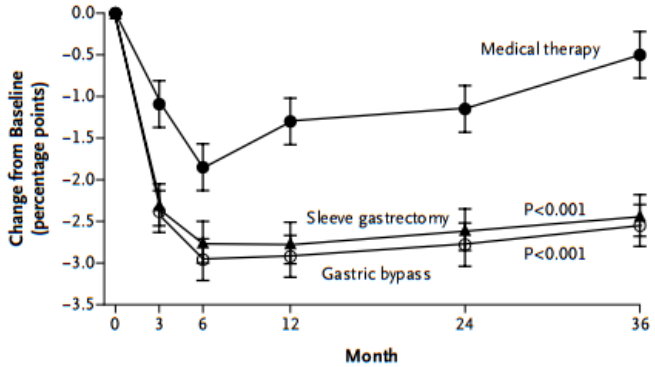
N Engl J Med 2017;377:1143-55.

ORIGINAL ARTICLE

Bariatric Surgery versus Intensive Medical Therapy for Diabetes — 3-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., Stacy A. Brethauer, M.D., Sankar D. Navaneethan, M.D., M.P.H., Ali Aminian, M.D., Claire E. Pothier, M.P.H., Esther S.H. Kim, M.D., M.P.H., Steven E. Nissen, M.D., and Sangeeta R. Kashyap, M.D., for the STAMPEDE Investigators*

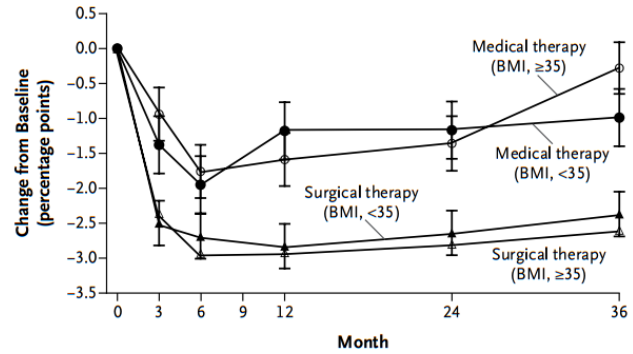
A Glycated Hemoglobin



Value at Visit

Medical therapy	9.0 (8.5)	7.1 (6.8)	7.5 (6.9)	7.7 (7.3)	8.4 (7.6)
Sleeve gastrectomy	9.5 (8.9)	6.7 (6.4)	6.6 (6.4)	6.8 (6.8)	7.0 (6.6)
Gastric bypass	9.3 (9.2)	6.3 (6.2)	6.3 (6.1)	6.5 (6.4)	6.7 (6.6)

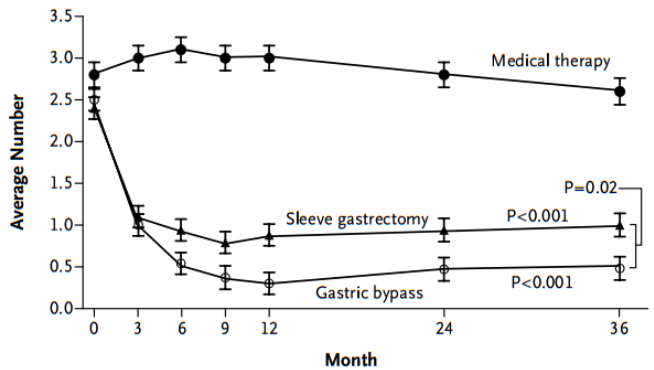
B Glycated Hemoglobin According to Body-Mass Index



Value at Visit

Medical <35 BMI	9.1 (8.9)	7.2 (6.8)	7.9 (6.9)	8.0 (7.4)	8.1 (7.8)
Medical ≥35 BMI	8.8 (8.5)	7.1 (6.8)	7.2 (6.7)	7.4 (6.9)	8.5 (7.3)
Surgical <35 BMI	9.4 (9.1)	6.7 (6.9)	6.6 (6.6)	6.8 (6.8)	7.1 (6.7)
Surgical ≥35 BMI	9.3 (9.2)	6.4 (6.2)	6.4 (6.1)	6.6 (6.4)	6.7 (6.4)

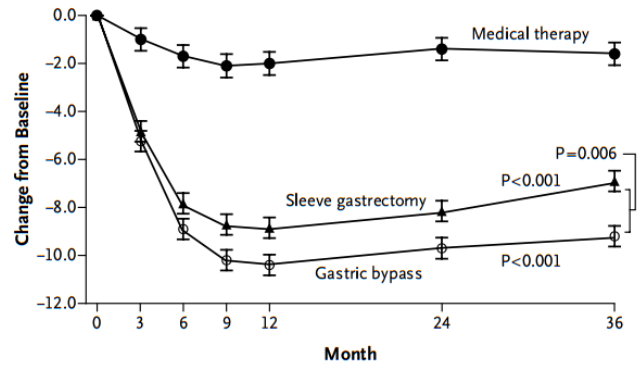
C Diabetes Medications



Value at Visit

Medical therapy	2.8	3.1	3.0	2.8	2.6
Sleeve gastrectomy	2.4	0.94	0.88	0.94	1.0
Gastric bypass	2.5	0.54	0.3	0.47	0.48

D Body-Mass Index



Value at Visit

Medical therapy	36.4	34.6	34.2	35.0	34.8
Sleeve gastrectomy	36.1	28.3	27.1	27.9	29.2
Gastric bypass	37.1	28.2	26.7	27.3	27.9

Bariatrische chirurgie versus geen operatie, veranderingen na 12 jaar

	Chirurgie	Geen chirurgie
BMI	-11 kg/m2	0.1 kg/m2
Systolische bloeddruk	0.1 mmHg	10.1 mmHg
Diastolische bloeddruk	3.1 mmHg	10.0 mmHg
LDL cholesterol	-0.28 mmol/l	0.50 mmol/l
HDL cholesterol	0.33 mmol/l	-0.06 mmol/l
Triglyceriden	-1.62 mmol/l	0.29 mmol/l

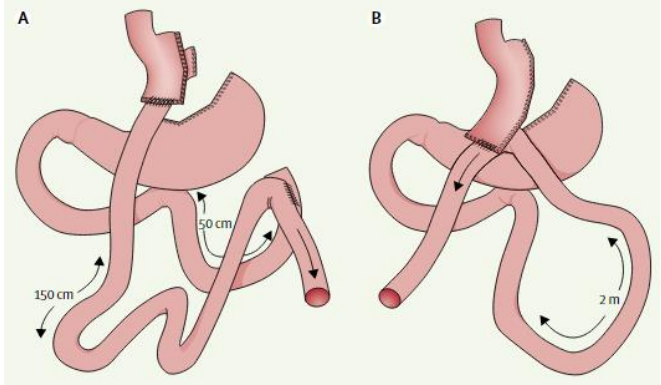
N Engl J Med 2017;377:1143-55.

Mini gastric bypass

- N=253
  - DM n=58
- Omega loop vs gastric bypass

- Weight loss same at 2 years
- More adverse events omega GBP group

- Mean Hba1c same at two years, but decrease Hba1c -1,2 vs -0,6 p=0,004



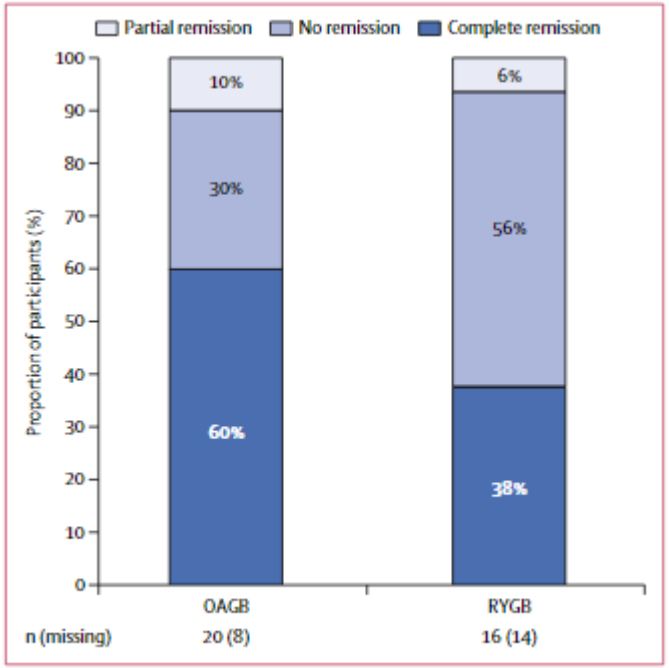


Figure 4: Frequency of type 2 diabetes remission, by treatment group

Lancet. 2019 Mar 30;393(10178):1299-1309.

Endoscopic and minimally invasive technologies

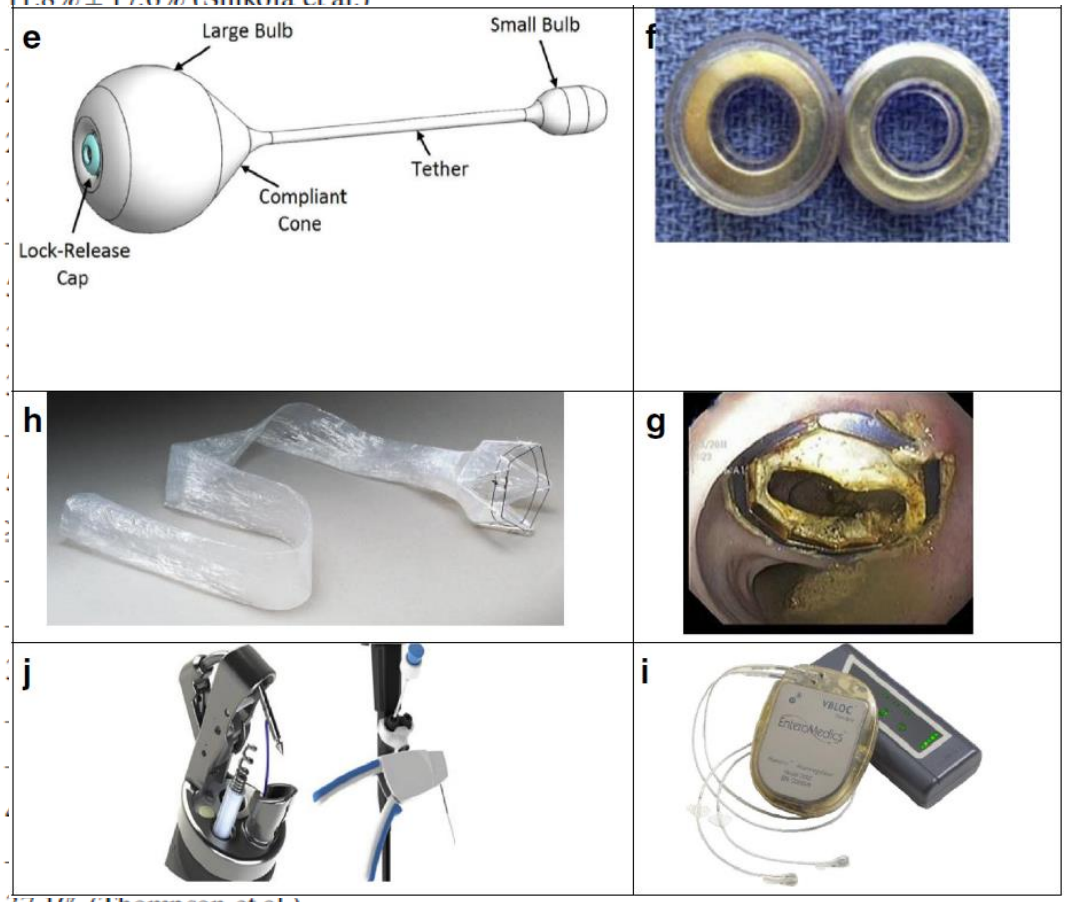
Device	Type	Mean % EWL at 1 year
IGS	Electrical pacing	11.8% ± 17.6% (Shikora et al.)
Diamond	Electrical pacing	–
Abiliti	Electrical pacing	28.7% (Horbach et al.)
VBLOC	Electrical pacing	26.1% (Ikramuddin et al.)
TransPyloric Shuttle	Endoluminal	30.9% (Rothstein et al.)
Hyaluronic acid injections	Endoluminal	–
EndoCinch	Endoluminal restrictive	58.1 ± 19.9 (Fogel et al.)
TOGa	Endoluminal restrictive	38.7 ± 17.1% (Familiari et al.)
RESTORe	Endoluminal restrictive	30.5 ± 16.8% (Brethauer et al.)
TERIS	Endoluminal restrictive	–
Overstitch	Endoluminal restrictive	50% EWL (Sartoretto et al.)
Incisionless Operating Platform	Endoluminal restrictive	≥ 25% EWL (Espinos et al.)
Safestitch	Endoluminal restrictive	–
Satisphere	Endoluminal restrictive	–
Duodeno-jejunal bypass liner	Derivative procedure	35% EWL (Abu Dayyeh et al.)
Gastroduodenojejunal bypass sleeve	Derivative procedure	–
Full Sense	Endoluminal	–
Incisionless Anastomosis System	Magnetic anastomoses	40.2% (Machytka et al.)
Smart Self-Assembling Magnets for Endoscopy	Magnetic anastomoses	–
Endoscopic aspiration	Transluminal	37.1% (Thompson et al.)

Obesity Surgery (2020) 30:736–752

Endoscopic and minimally invasive technologies

- Pacemaker
- Endoluminaal restrictief
- Endoluminale bypass of sleeve
- Magnetische anastomose
- Endoscopische aspiratie

Device	Type	Mean % EWL at 1 year
IGS	Electrical pacing	11.8% ± 17.6% (Shikora et al.)
Satisphere	Endoluminal restrictive	
Duodeno-jejunal bypass liner	Derivative procedure	
Gastroduodenojejunal bypass sleeve	Derivative procedure	
Full Sense	Endoluminal	
Incisionless Anastomosis System	Magnetic anastomoses	
Smart Self-Assembling Magnets for Endoscopy	Magnetic anastomoses	
Endoscopic aspiration	Transluminal	37.1% (Thompson et al.)



Obesity Surgery (2020) 30:736–752

Toekomst

Verbeteren bestaande mogelijkheden

Voorspellen respons

Nieuwe medicatie

Gastroscopisch en / of minimaal invasief