



СПОРНЫЕ ВОПРОСЫ БАРИАТРИЧЕСКОЙ ХИРУРГИИ (eECE-2020)

Доцент кафедры эндокринологии БелМАПО
Валуевич Виктор Владимирович

30.09.2020

What are the age and BMI limits?



2020

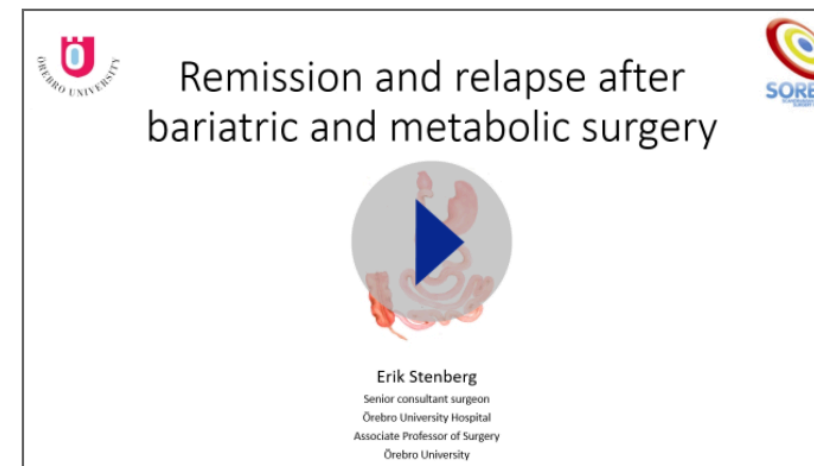
Webcast

Jose Balibrea

07.09.2020
10:00 - 10:00

632 Views

Relapse and prediction of relapse



2020

Webcast

Eric Stenberg

07.09.2020
10:00 - 10:00

320 Views

Pharmacotherapy before and after surgery



2020

Webcast

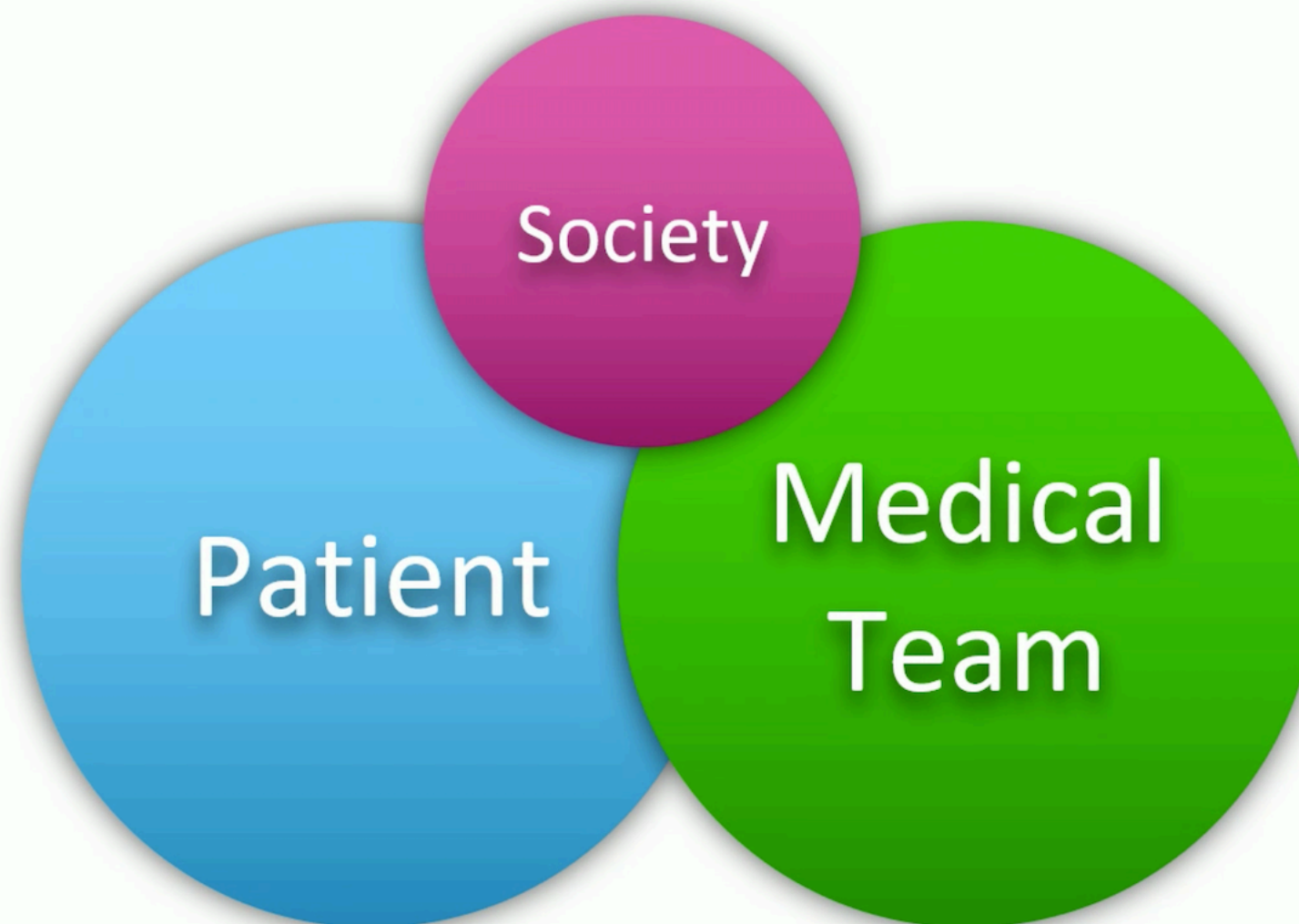
Carel Le Roux

07.09.2020
10:00 - 10:00

471 Views

Многофакторная оценка рисков БХ

**“Custom-made
surgery”**



“Maximize impact by seeking to minimize sequelae”

Weight loss

Co-morbidities
resolution

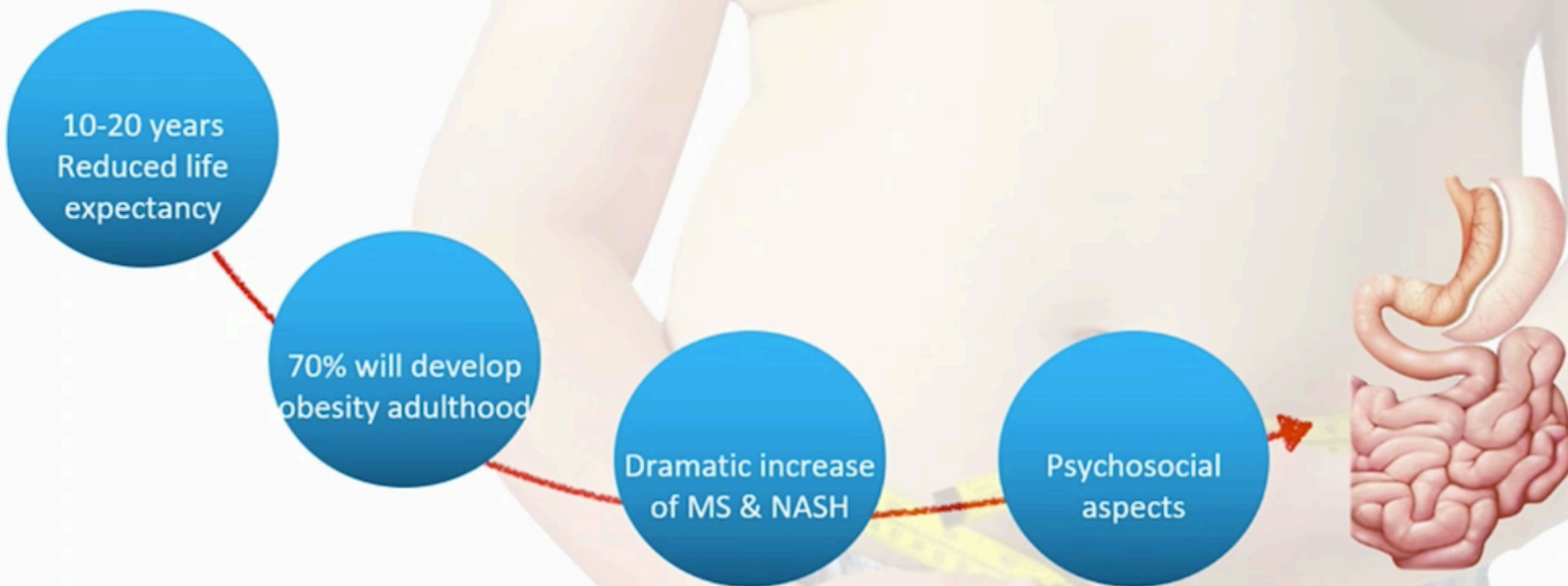
Survival

Quality of Life

Эффективность БХ у подростков

“Surgery for obesity and weight-related diseases is effective in patients with obesity who are under 18 years of age”

LOE 2; GR B



Age
(adolescents)

- ✓ BMI > 40 (99.5th percentile) + 1 comorbidity
- ✓ Tanner score > 4
- ✓ Degree of maturity?

ASMBS
American Society for Metabolic and Bariatric Surgery

BMI > 35 + T2DM/ NASH...

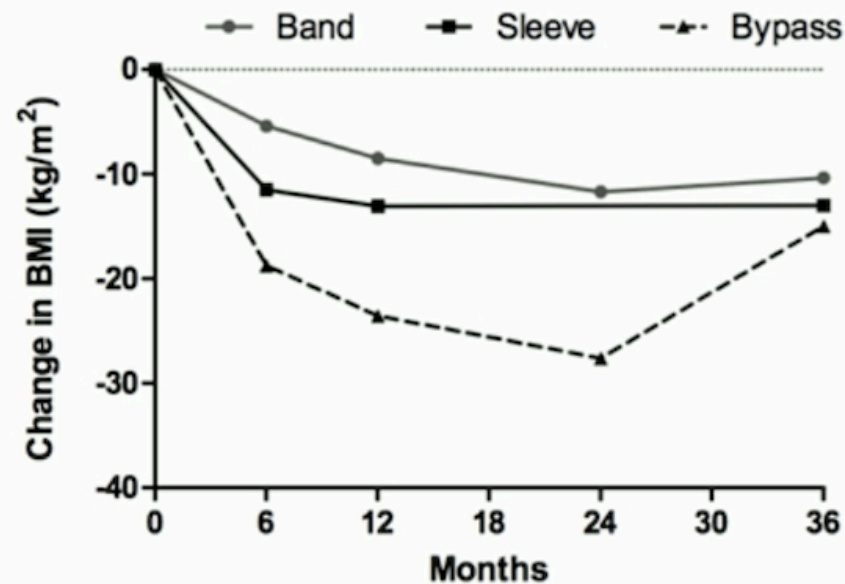
Динамика снижения ИМТ после БХ

Weight loss after bariatric surgery in obese adolescents: a systematic review and meta-analysis

Pedroso FE, Angriman F, Endo A, Dasenbrock H, Storino A, Castillo R, Watkins AA, Castillo-Angeles M, Goodman JE, Zitsman JL.

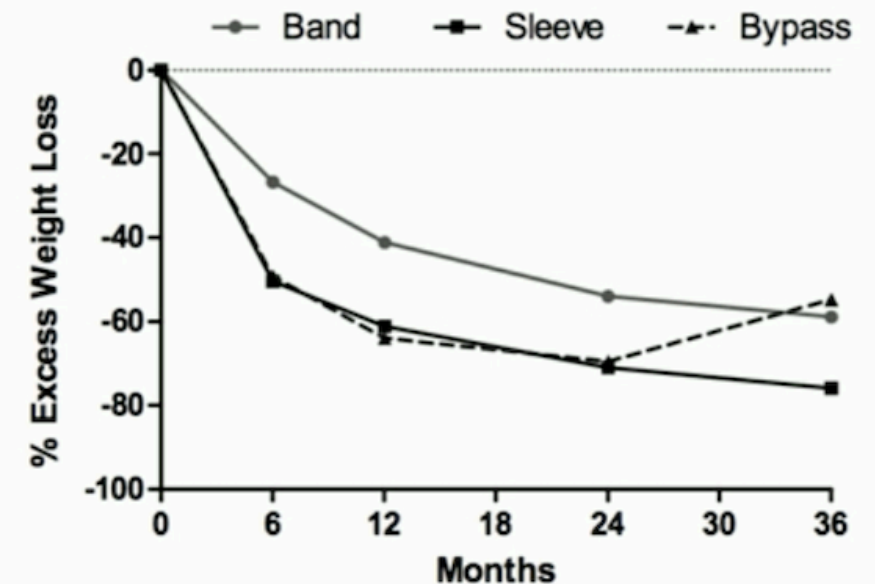
Surg Obes Relat Dis. 2018 Mar;14(3):413-422.

Mean Absolute BMI Change



	6	12	24	36
	#Studies(Pts)	#Studies(Pts)	#Studies(Pts)	#Studies(Pts)
Band	5(492)	12(555)	7(169)	4(106)
Sleeve	2(19)	2(20)	0(0)	1(67)
Bypass	3(279)	4(219)	2(90)	1(161)

Percent Excess Weight Loss

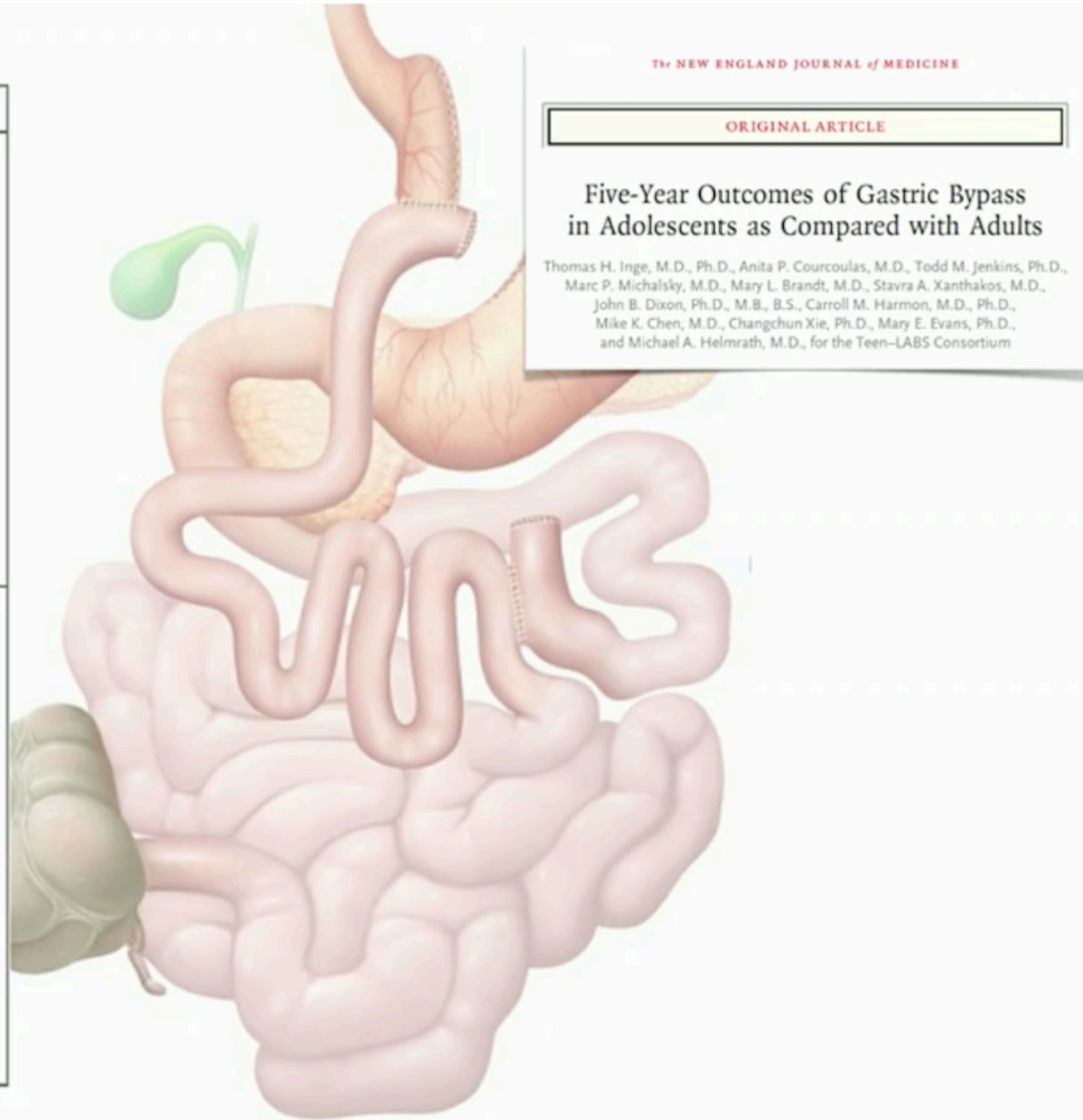
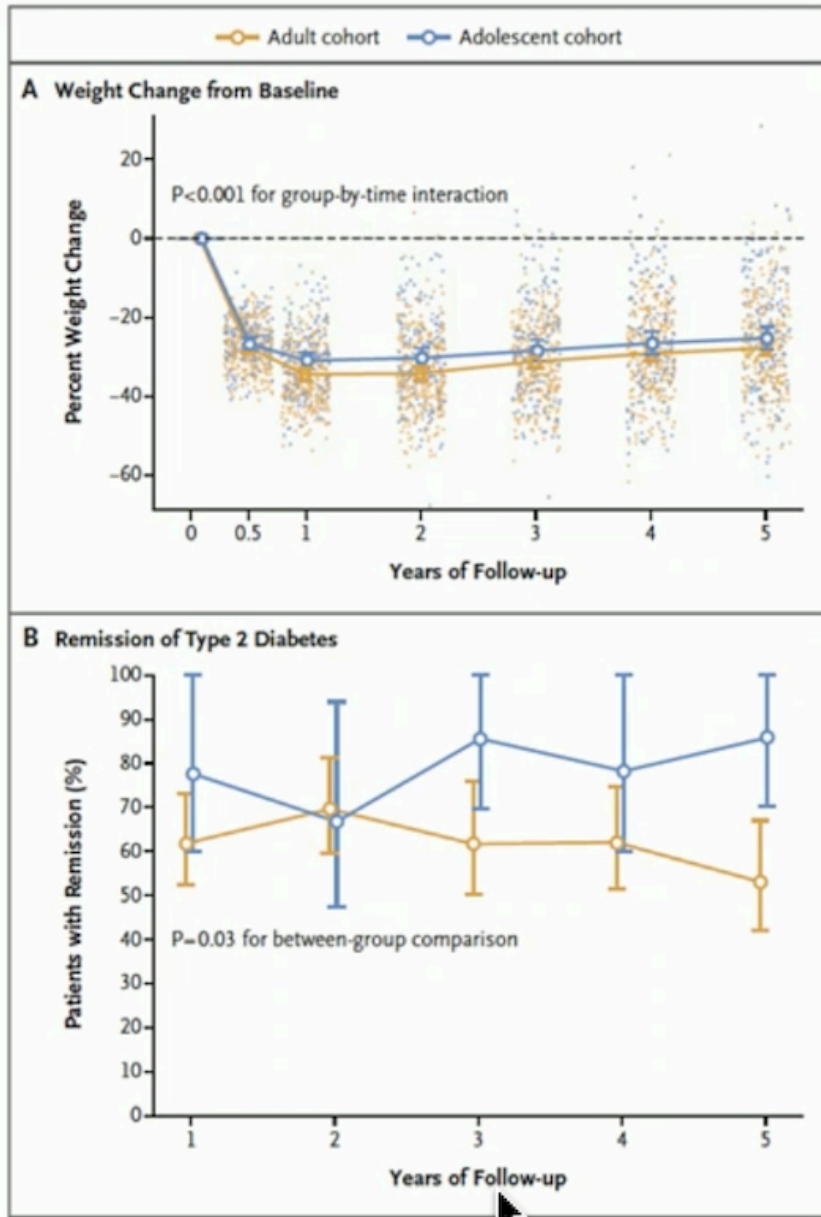


	6	12	24	36
	#Studies(Pts)	#Studies(Pts)	#Studies(Pts)	#Studies(Pts)
Band	5(219)	11(409)	8(176)	4(113)
Sleeve	2(31)	2(24)	1(8)	1(4)
Bypass	3(48)	4(58)	3(28)	1(14)

Age
(adolescents)



Ремиссия СД 2 типа после БХ



Age
(adolescents)

Эффективность БХ у лиц старше 60 лет

COST-BENEFIT RATIO

COMORBIDITIES SEVERITY/ RESOLUTION

SURGICAL RISK

WEIGHT LOSS

QoL PREDICTION

SLEEVE GASTRECTOMY?



Age
(ELDERLY)

**>75
YEARS?**

 Cleveland Clinic

Short case-series
Safety
Feasibility
Patient selection

Оценка рисков БХ



Anesthetic risk

Technical (surgical) issues

“Mechanical” issues

**IS IT
POSSIBLE TO
DRAW THE
LINE?**

Higher

BMI_s

strategy

Preoperative weight loss

1-STEP PROCEDURE

2-STEP STRATEGY

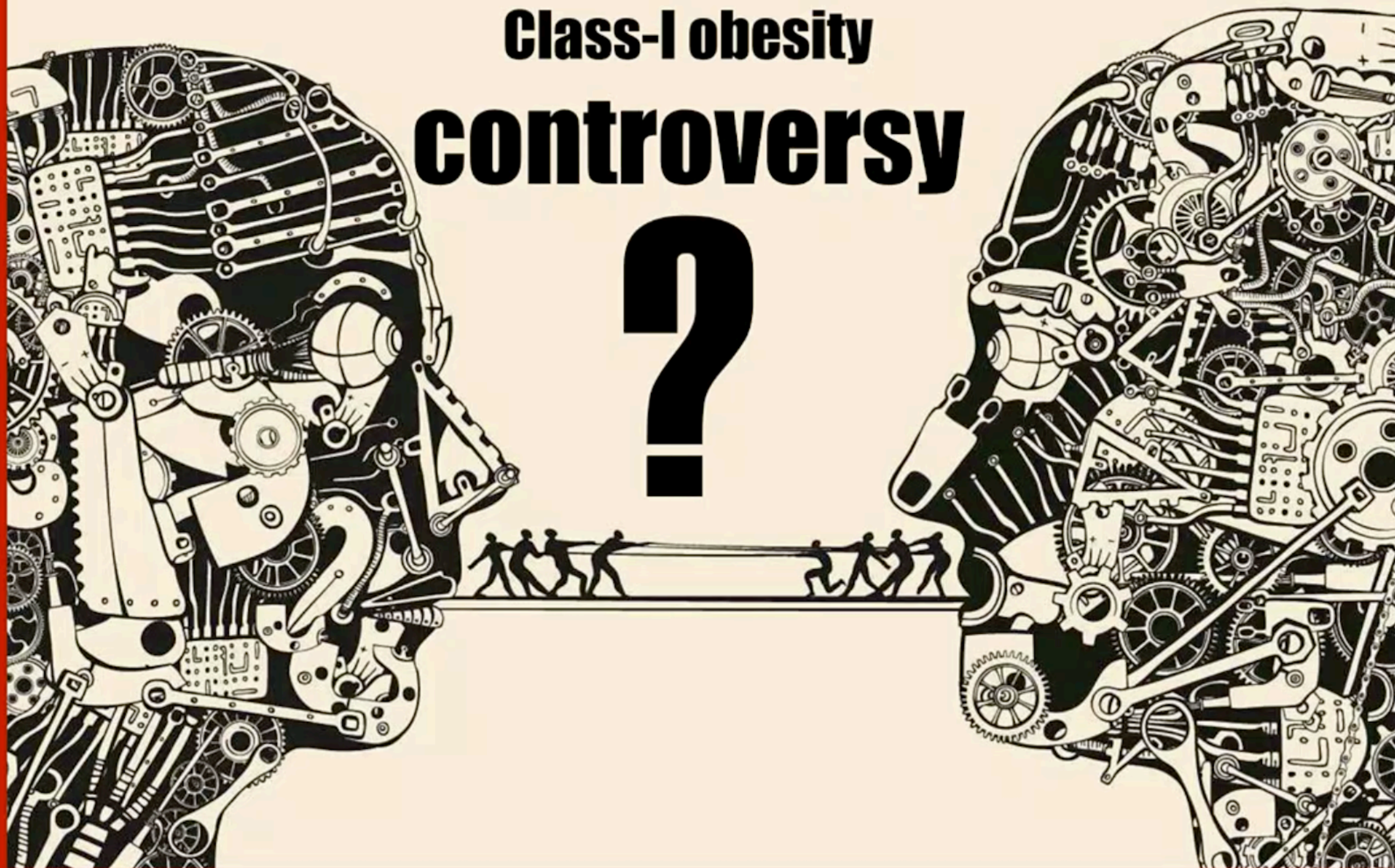


- PATIENT SAFETY
- EASIER...BETTER
- REEDUCATION?
- NUTRITIONAL IMPACT
- 40% ONLY NEED 1st STEP
- TIMING?

Оценка рисков БХ

Lower

BMI_s



Оценка результатов БХ

RESULTS

1. MORE THAN 16 RCTs
2. T2DM IMPROVEMENT
3. LIPID PROFILE IMPROVEMENT
4. CARDIOVASCULAR RISK
4. QoL

SAFETY

1. MAJOR COMPLICATIONS
INCIDENCE <0.5%
2. 30-DAY MORBIDITY < 5%
3. MORTALITY < 0.15%
4. SMOKING AS RISK FACTOR

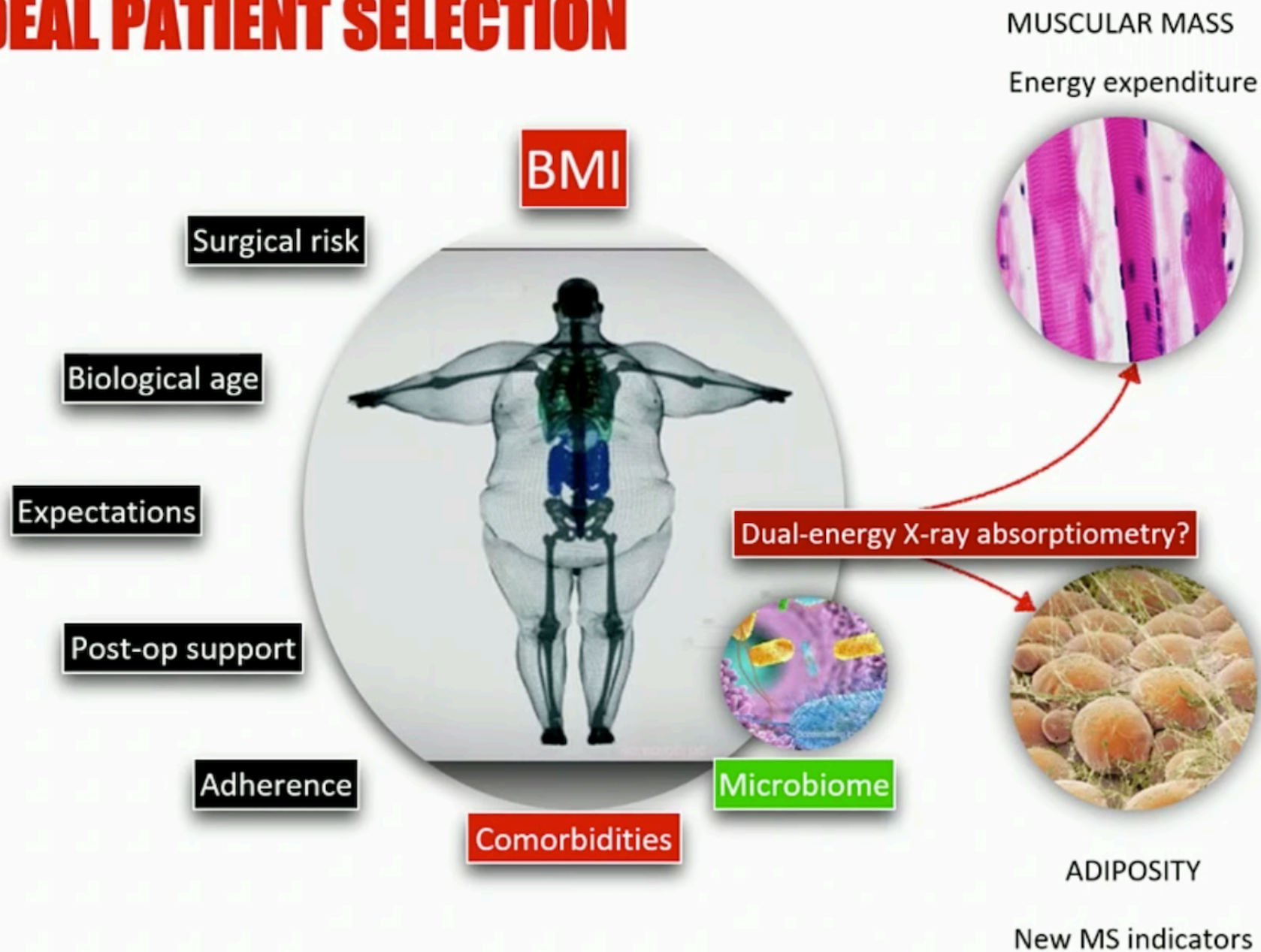
ACS-NSQIP data

COST-EFFECTIVENESS

1. SPECIALLY IF T2DM...
2. 40-60,000 \$ per Q.A.L.Y. GAINED
3. REDUCED I.C.E.R.
4.20-YEAR TIME HORIZON

Как выбрать идеального пациента?

IDEAL PATIENT SELECTION



Will be AI
the
answer?

Ремиссия и рецидив после БХ



Remission and relapse after bariatric and metabolic surgery



Erik Stenberg

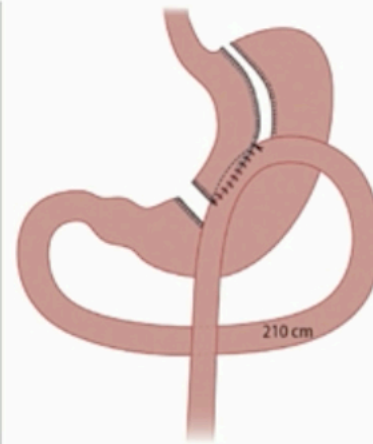
Senior consultant surgeon
Örebro University Hospital
Associate Professor of Surgery
Örebro University

Варианты БХ

Surgical methods



Vertical banded gastroplasty



OAGB/MGB



Sleeve gastrectomy



Gastric banding



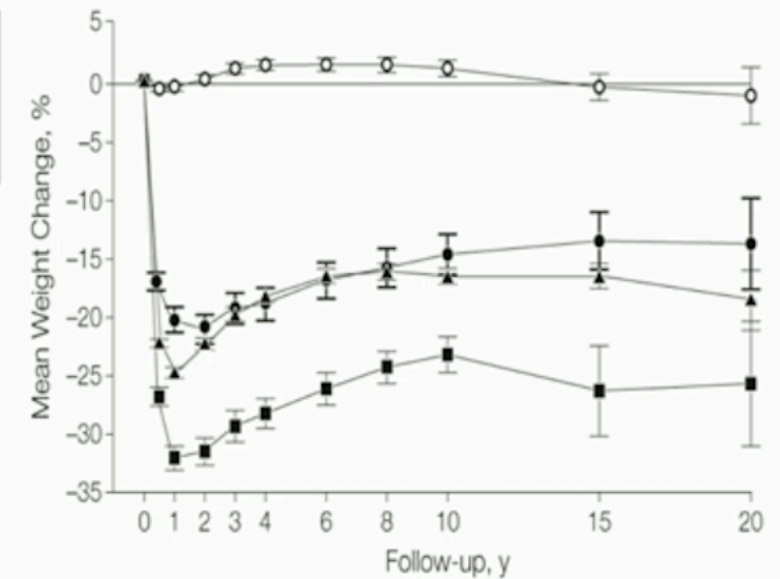
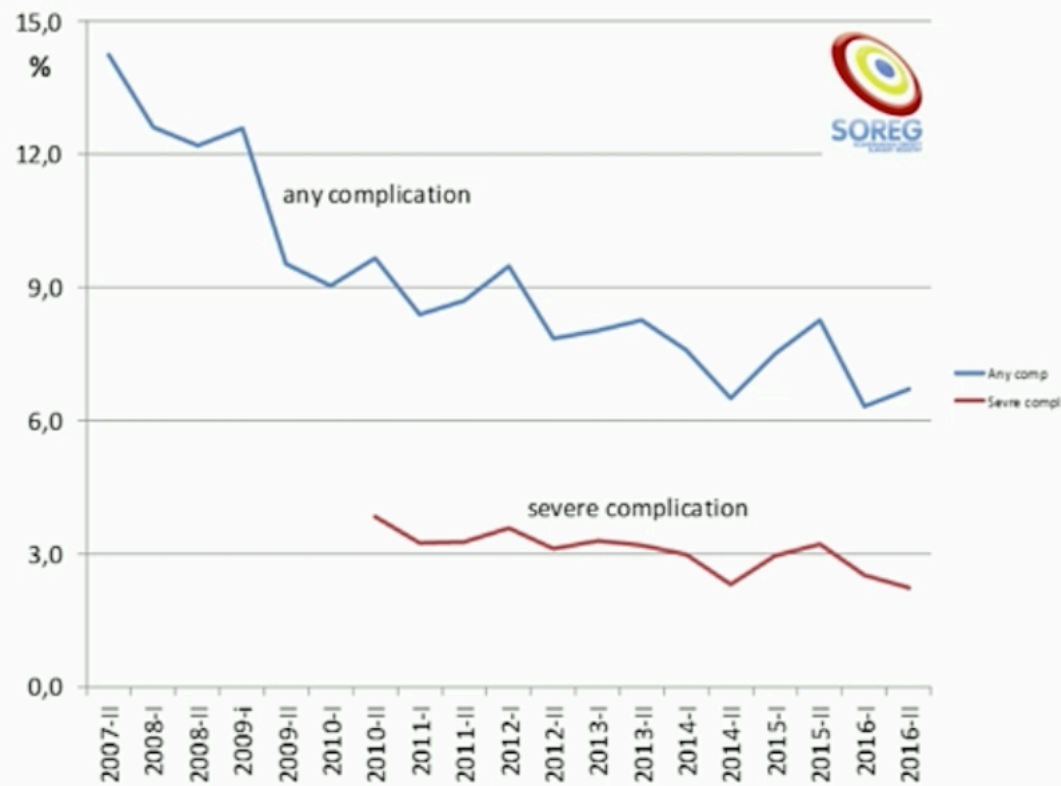
BPD/DS



Roux-en-Y gastric bypass

Частота осложнений БХ

Safety and efficacy of bariatric surgery



No. of patients	2037	1490	1242	1267	556	176
Control	2037	1490	1242	1267	556	176
Banding	376	333	284	284	150	50
Vertical banded gastroplasty	1369	1086	987	1007	489	82
Gastric bypass	265	209	184	180	37	13

Ремиссия СД 2 типа после БХ

Remission - randomised trials

Author	Journal	Year	No of patients	Year from surgery	Numbers (%)
Wallenius	Surg Obes Rel Dis	2020	GBP -25 SG - 24	2 years	GBP – 48% SG – 55%
Schauer	New Engl J Med	2017	GBP – 49 SG – 47 Medical treatment - 38	5 years	GBP – 29% SG – 23% Medical treatment – 5%
Cummings	Diabetologica	2016	GBP – 15 Medical treatment - 17	1 year	GBP – 60% Medical treatment – 6%
Mingrone	Lancet	2015	GBP - 20 BPD/DS – 20 Medical treatment - 20	5 years	GBP – 37% BPD/DS – 63% Medical treatment – 0%
Courcoulas	JAMA Surg	2015	GBP - 18 GB - 20 Medical treatment - 14	3 years	GBP – 15% GB – 5% Medical treatment – 0%
Ding*	J Clin Endocrinol Metab	2015	GB - 18 Medical treatment - 22	1 year	GB – 33% Medical treatment – 22%
Helperin*	JAMA Surg	2014	GBP – 19 Medical treatment - 19	1 year	GBP – 58% Medical treatment – 16%
Wentworth	Lancet Diabetes Endocrinol	2014	GB – 23 Medical treatment - 25	2 years	GB – 52% Medical treatment – 8%
Parikh	Ann Surg	2014	GBP/GB/SG – 20 Medical treatment - 24	6 months	GBP/GB/SG – 65% Medical treatment – 0%
Liang	Diabetes Res Clin Pract	2013	GBP - 31 Usual care +/- Exenatide - 70	1 year	GBP – 90% Usual care +/- Exenatide – 0%
Dixon	JAMA	2008	GB – 29 Medical treatment - 26	2 years	GB – 73% Medical treatment – 13%

Частота рецидивов после БХ

Relapse of disease

30-35%



Roux-en-Y gastric bypass

41-43 %



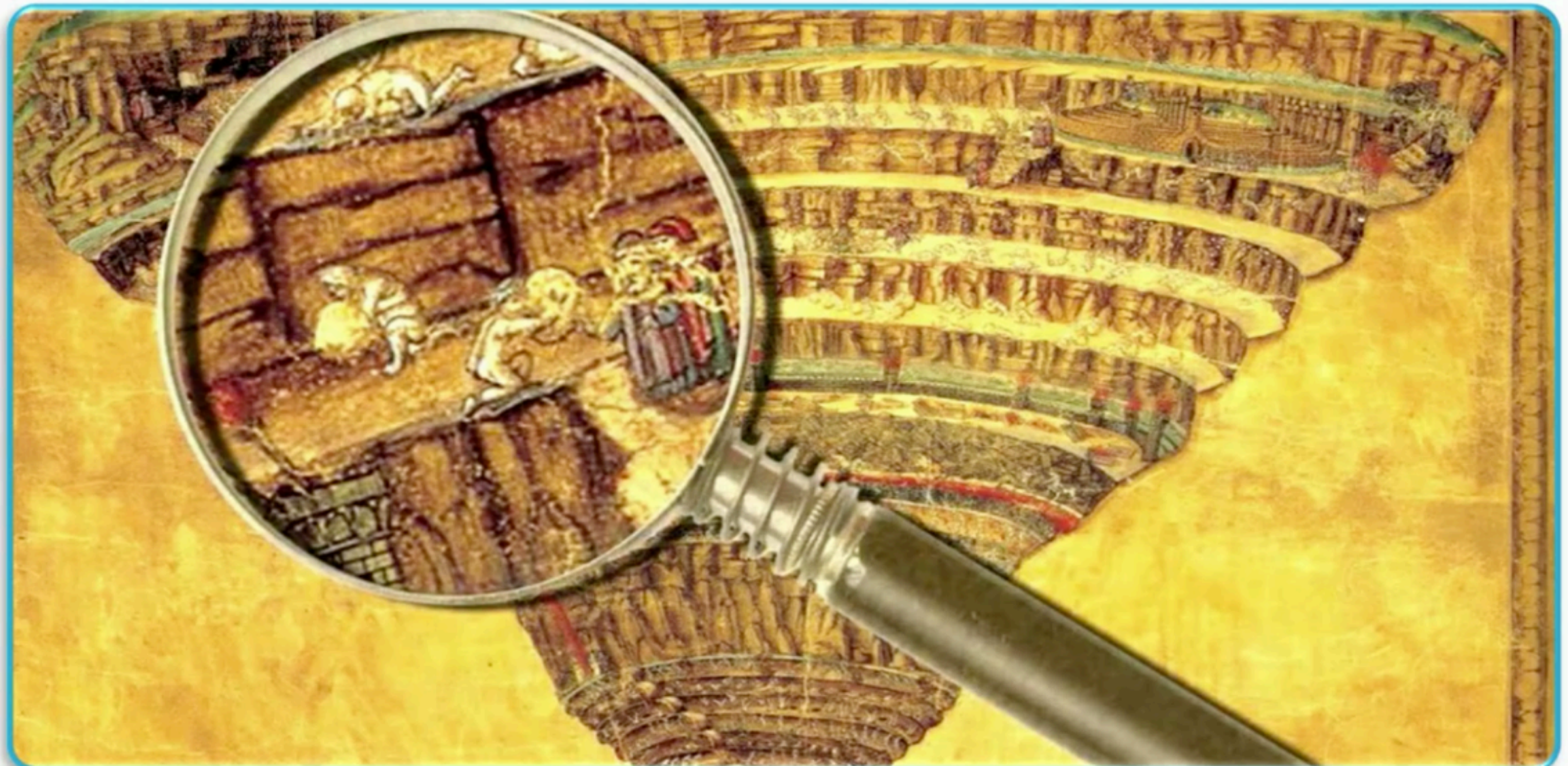
Sleeve gastrectomy

Медикаментозная терапия до и после БХ

Medications before and after surgery

Carel le Roux

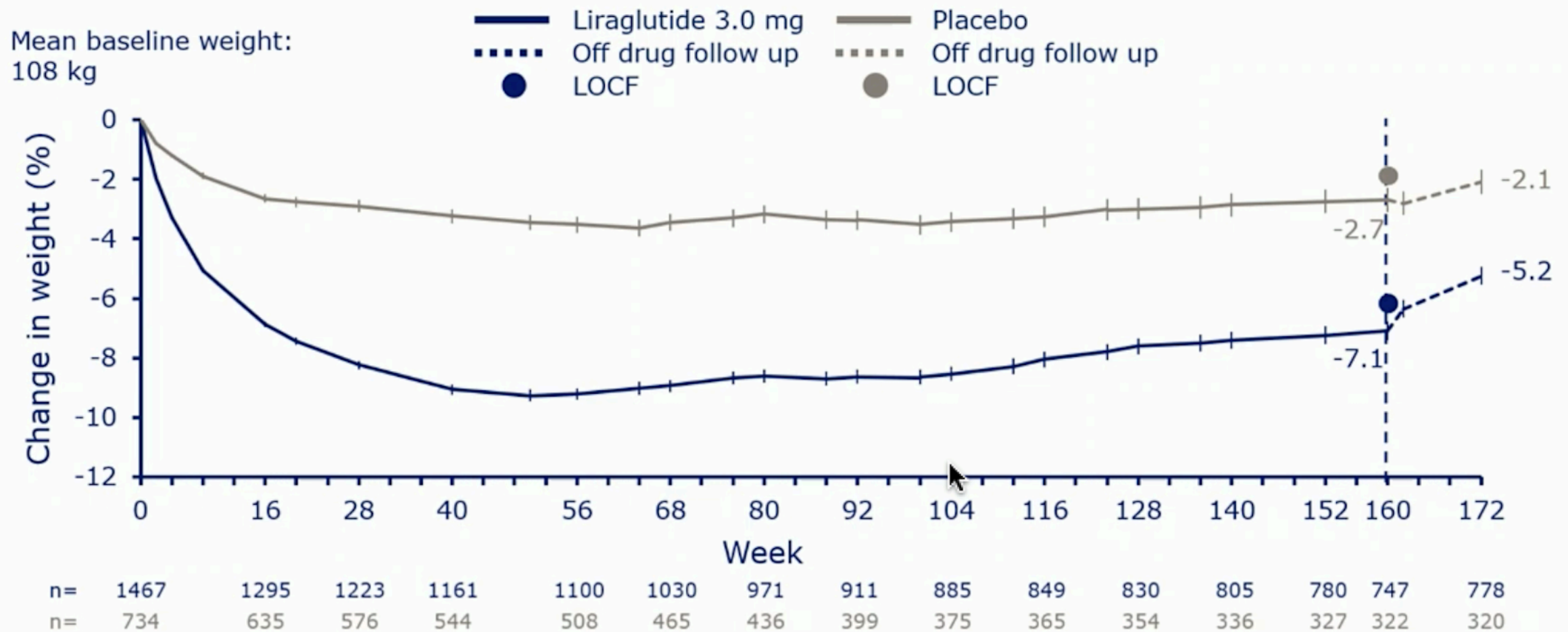
University College Dublin, Imperial College London



Эффективность медикаментозной терапии

Change in body weight (%)

0–172 weeks

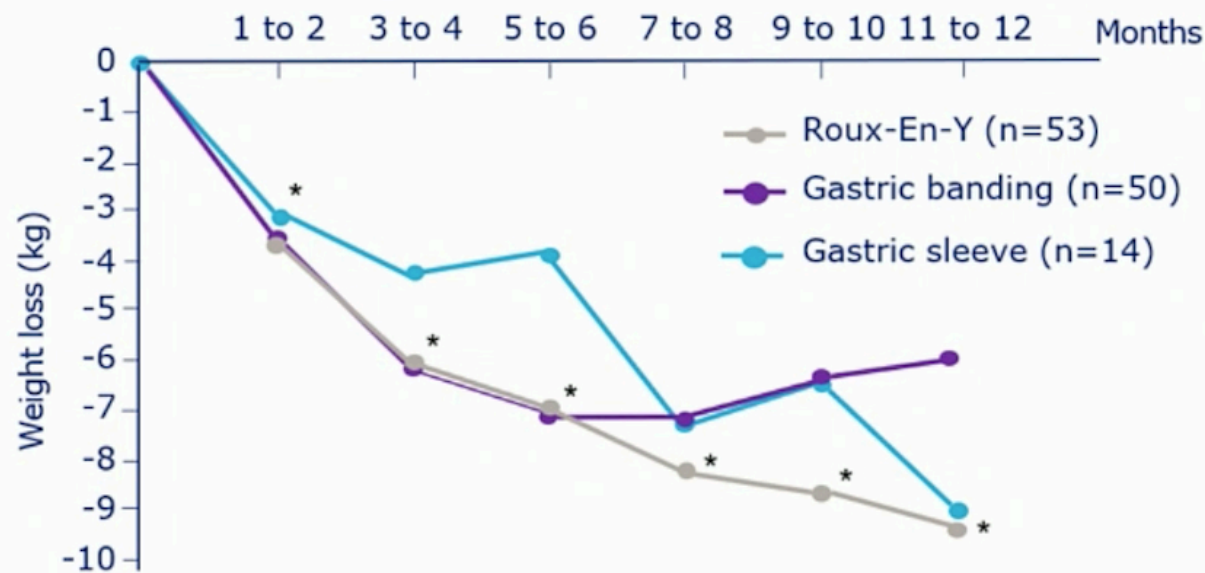


FAS, fasting visit data only. Line graphs are observed means (\pm SE). Circles are observed means LOCF. Statistical analysis is ANCOVA. Subjects did not receive treatment during observational follow-up, between weeks 160–172. FAS, full analysis set; LOCF, last observation carried forward; SE, standard error

Комбинация медикаментозной терапии и БХ

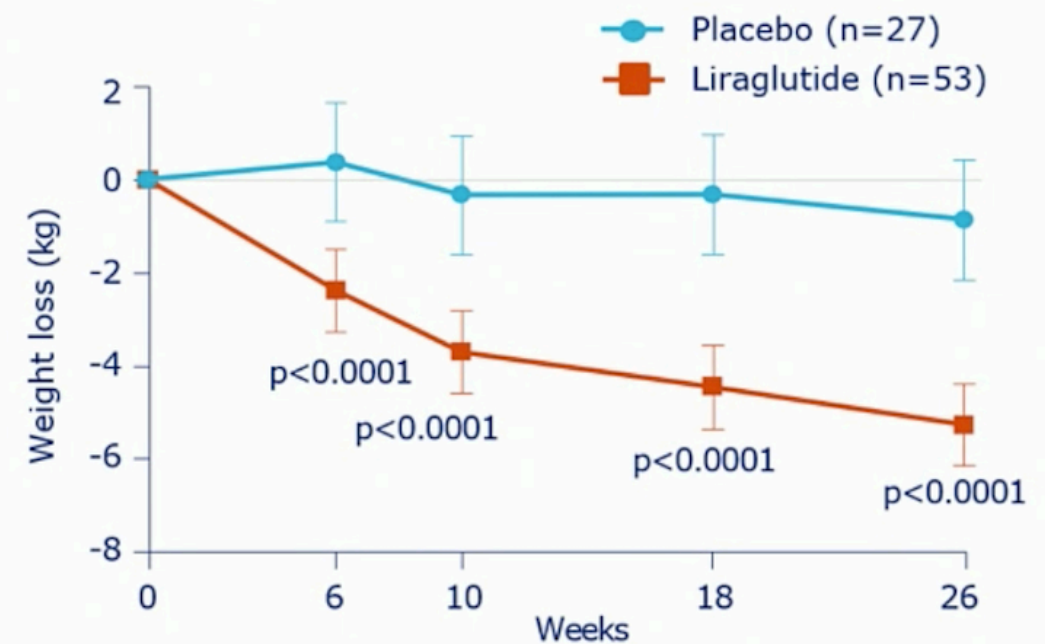
Liraglutide in combination with metabolic surgery

Weight loss post-surgery with liraglutide 3.0 mg by type of metabolic surgery¹
(N=117 people with obesity)



Mean BMI pre-liraglutide	Mean body weight loss after 7.6 ± 7.1 months of liraglutide
42.5 ± 9.6 kg/m ²	5.5 ± 6.2%

Weight loss post-surgery with liraglutide 1.8 mg vs placebo after metabolic surgery²
(N=80 people with obesity and T2D)



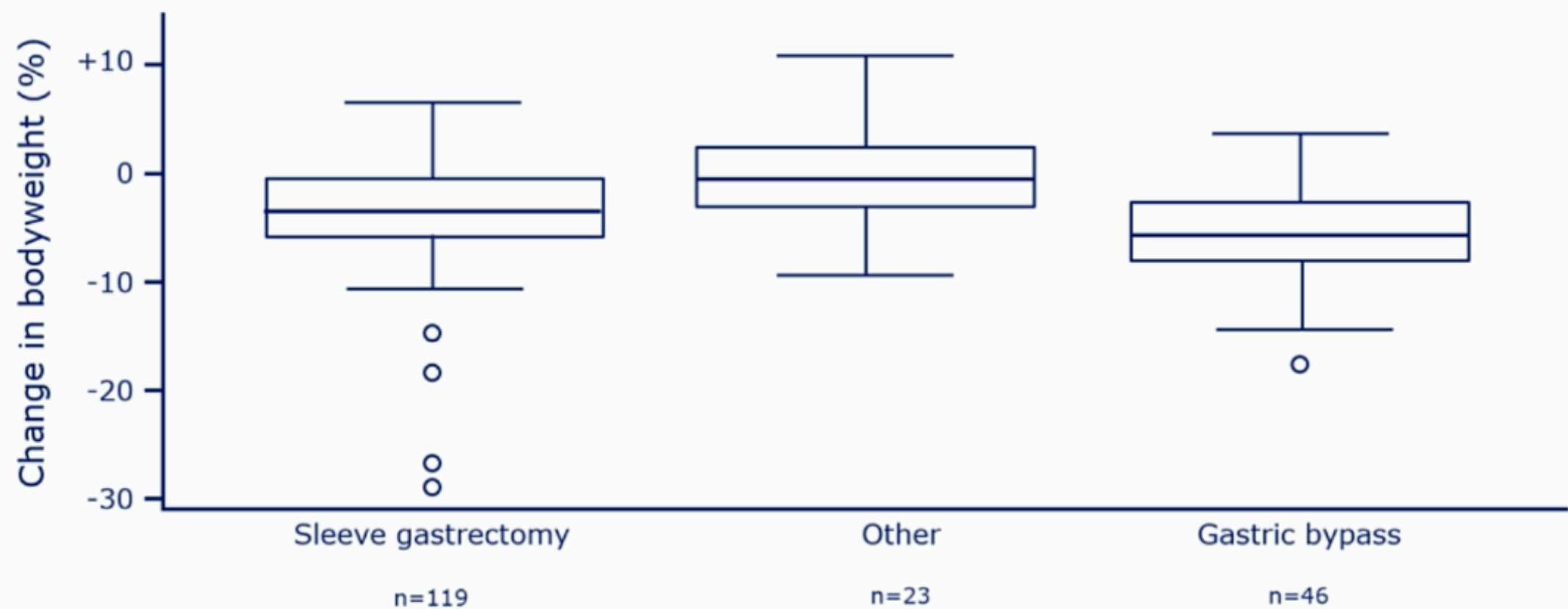
Mean BMI pre-liraglutide	Mean body weight loss after 26 weeks of liraglutide
36.1 kg/m ²	4.2%

*Significantly different from baseline regardless of surgical group (p<0.05). BMI, body mass index
1. Wharton et al. *Clin Obes* 2019;9:e12323; 2. Miras et al. *Lancet Diabetes Endocrinol* 2019;7:549-59

Медикаментозная терапия после БХ

Mean change in weight with liraglutide 3.0 mg

Patients with previous bariatric surgery



○ Outlier

Эффективность сочетанной терапии

Microvascular Outcomes after Metabolic Surgery MOMS trial

Research

JAMA Surgery | Original Investigation

Effect of Gastric Bypass vs Best Medical Treatment on Early-Stage Chronic Kidney Disease in Patients With Type 2 Diabetes and Obesity A Randomized Clinical Trial

Ricardo Vitor Cohen, MD; Tiago Veiga Pereira, PhD; Cristina Mamédio Aboud, RN;
Tarissa Beatrice Zanata Petry, MD; José Luis Lopes Correa, MD; Carlos Aurélio Schiavon, MD;
Carlos Eduardo Pompílio, MD; Fernando Nogueira Quirino Pechy, MD; Ana Carolina Calmon da Costa Silva, MD;
Fernanda Lendimuth Gomes de Melo, MD; Lívia Porto Cunha da Silveira, MD; Pedro Paulo de Paris Caravatto, MD;
Helio Halpern, MD; Frederico de Lima Jacy Monteiro, MD; Bruno da Costa Martins, MD; Rogerio Kuga, MD;
Thais Mantovani Sarian Palumbo, RDN; Neil Gerard Docherty, PhD; Carel Wynand le Roux, MD, PhD

2 years outcomes of a 5 years follow-up trial

June 3, 2020

Эффективность сочетанной терапии

MOMS TRIAL

100 pts



49

T2DM

BMI 30-35 kg/m²



51

+ BMT

uACR > 30 mg/g

CKD G1-G3 and A1 to A3

Эффективность сочетанной терапии

MOMS trial



Best Medical Treatment

- ✓ Metformin
- ✓ GLP1 RA
- ✓ SGLT-2 i
- ✓ Insulin
- ✓ Glitazones
- ✓ DPP4 i
- ✓ ACEi/ARB
- ✓ Statins
- ✓ Diuretics



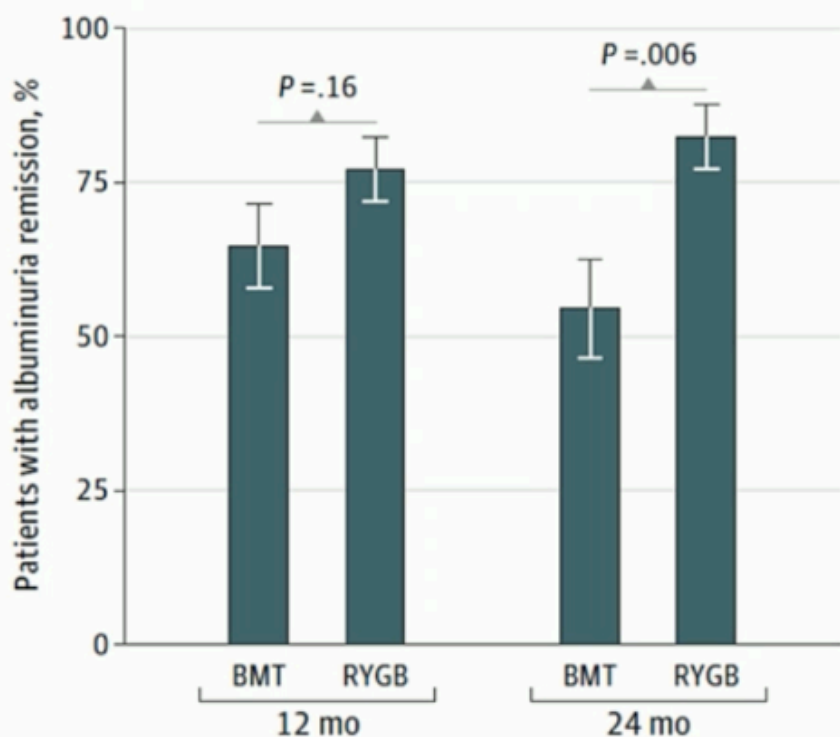
RYGB + BMT

- ✓ ACE/ARB
- ✓ Statins
- ✓ Metformin
- ✓ Multivitamins

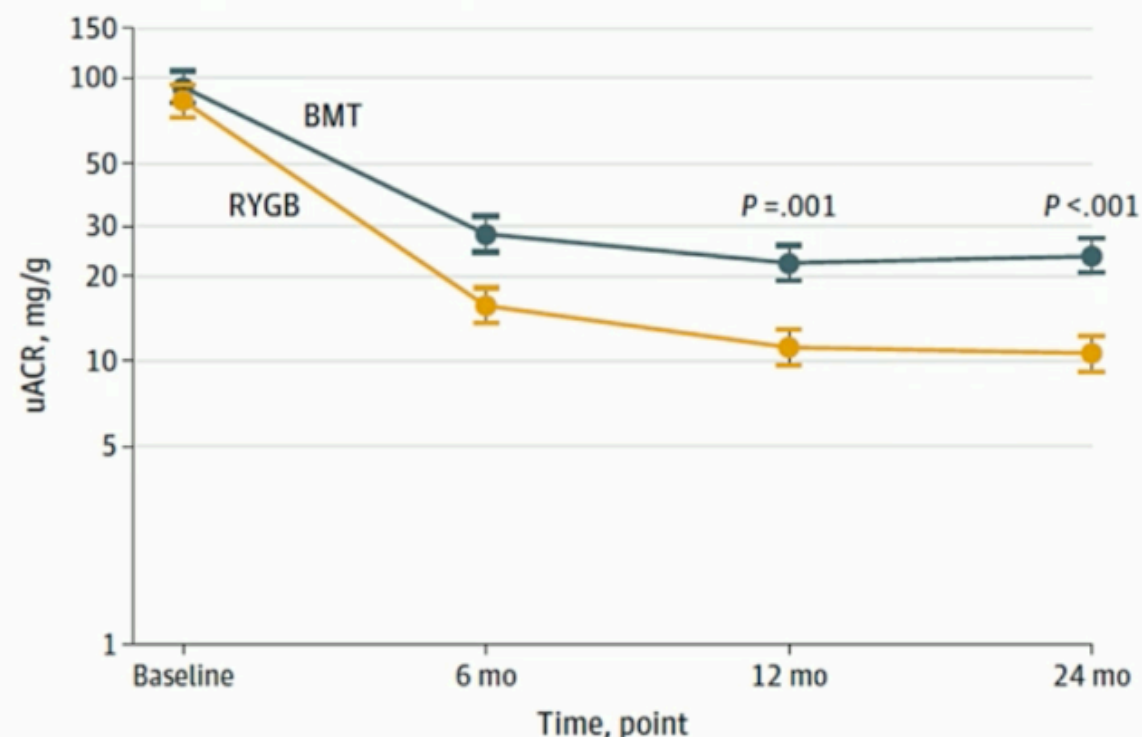
Эффективность сочетанной терапии

MOMS trial: primary endpoint


A Albuminuria remission



B Urinary albumin to creatinine ratio



Early stage CKD remission

 + BMT
82%*

x

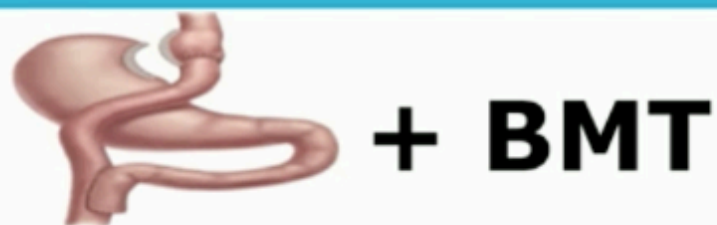


48% *p= 0.006

Эффективность сочетанной терапии

MOMS trial ADA triple endpoint

HbA1c	< 7%
Blood Pressure	< 130/80 mmHg
LDL cholesterol	< 100 mg/dl



31%*



16%

*p<0.04

Типичный алгоритм лечения ожирения

