

Adding Drugs After Suboptimal Glycemic Control With Sleeve Gastrectomy – STAMPEDE

Philip R. Schauer, MD

Mary Kay and Terrell Brown/Harris J. Chustz Chair

Professor of Metabolic Surgery

Pennington Biomedical Research Center at Louisiana State University

Pbrcbmi.org @PSchauerMD



**Pennington Biomedical
Research Center**
Louisiana State University

Presenter Disclosure

Philip R. Schauer MD

Board Member/Advisory Panel: GI Dynamics, Persona, Mediflix, Lilly, Heron,

Consultant: Ethicon, Medtronic, Keyron

Research Support: Ethicon, NIH, Medtronic, Pacira,

Stock/Shareholder: SEHQC LLC, Mediflix, Metabolic Health Institute, LTD

Surgery for T2D Remission

Who Would Have Thought It? An Operation Proves to Be the Most Effective Therapy for Adult-Onset Diabetes Mellitus

1995



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*

Objective

This report documents that the gastric bypass operation provides long-term control for obesity and diabetes.

Summary Background Data

Obesity and diabetes, both notoriously resistant to medical therapy, continue to be two of our most common and serious diseases.

Methods

Over the last 14 years, 608 morbidly obese patients underwent gastric bypass, an operation that

81% Remission

Evidence for durable remission of T2DM after bariatric surgery

ORIGINAL PAPERS AND DISCUSSIONS

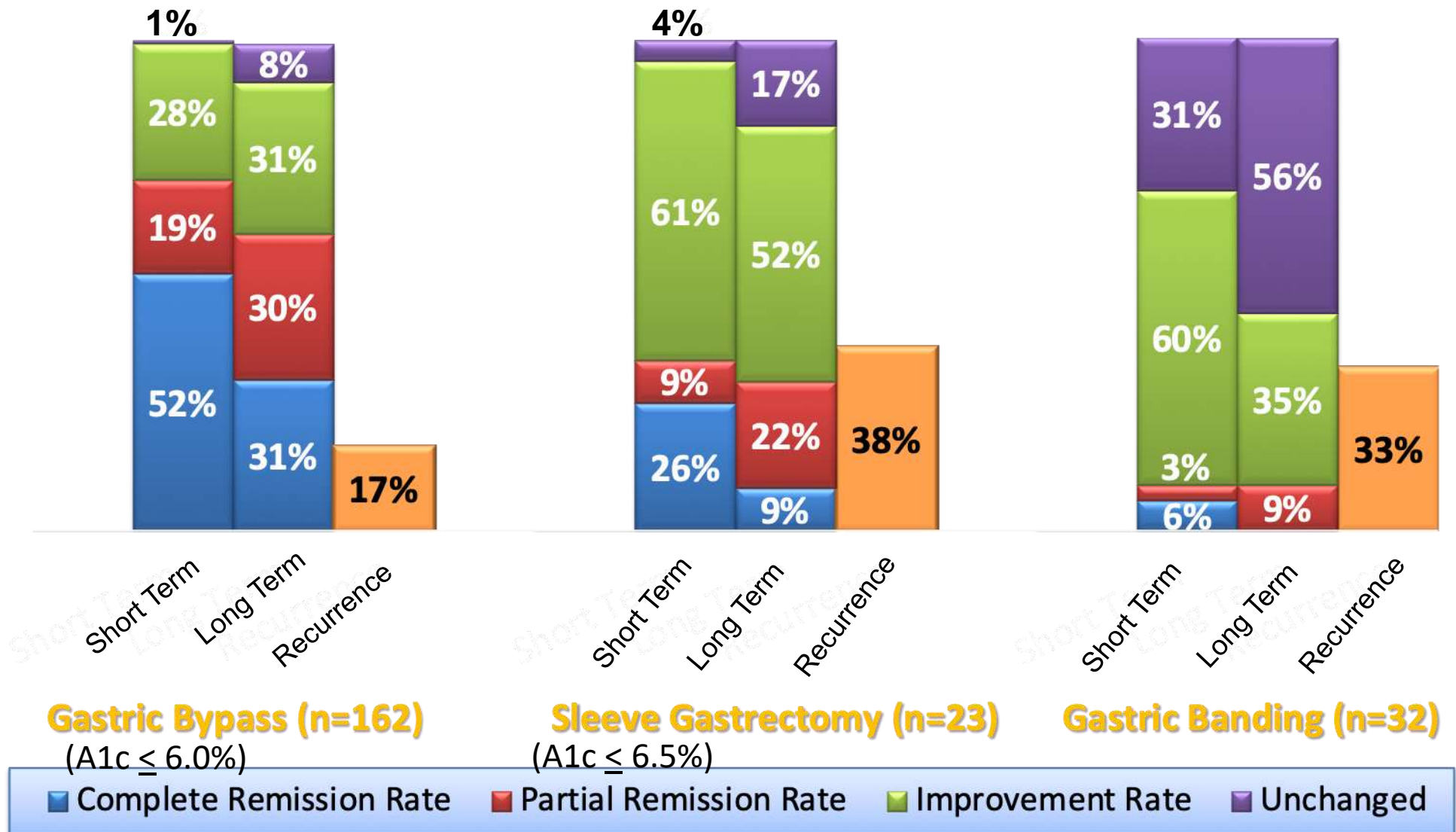
Effect of Laparoscopic Roux-En Y Gastric Bypass on Type 2 Diabetes Mellitus

Philip R. Schauer, MD, Bartolome Burguera, MD,† Sayeed Ikramuddin, MD,‡ Dan Cottam, MD,*
William Gourash, CRNP,* Giselle Hamad, MD,* George M. Eid, MD,* Samer Mattar, MD,*
Ramesh Ramanathan, MD,* Emma Barinas-Mitchel, PhD,§
R. Harsha Rao, MD,† Lewis Kuller, MD DrPH,§ and David Kelley, MD†*

- N=191 pts with T2DM or IFG mean preop BMI 50.4(\pm 8.5) kg/m²
- Follow-up 19.7 (6-54) months
- Postoperatively;
 - Mean EWL 60%
 - FBG & HbA1C returned to normal (83%) or markedly improved (17%) in all
 - Reduction in Diabetic meds: Insulin req. ↓ in 79% and OHA ↓ in 80%
- Complete resolution most likely in those with greatest weight loss, shortest duration (< 5yr) and mildest form (diet-controlled) of T2DM

83% Remission

Remission and Recurrence By Metabolic Surgery at 5 years



**RCTs Comparing Bariatric Surgery
with Medical Therapy for T2DM**



Bariatric Surgery + Meds Vs. Medical Therapy Alone

STAMPEDE Treatment Arms

Intensive Medical Therapy

- ADA guidelines
- Lifestyle intervention
- Drug RX Goal: **A1c \leq 6.0%**
 - Oral agents
 - GLP1 agonists
 - Insulin
- Scheduled visits with
 - Endocrinology
 - Psychology
 - Nutrition
- Follow-up visits
 - Q 3 months years 1-2
 - Q 6 months thereafter

+ Meds

Gastric Bypass



+ Meds

Sleeve Gastrectomy



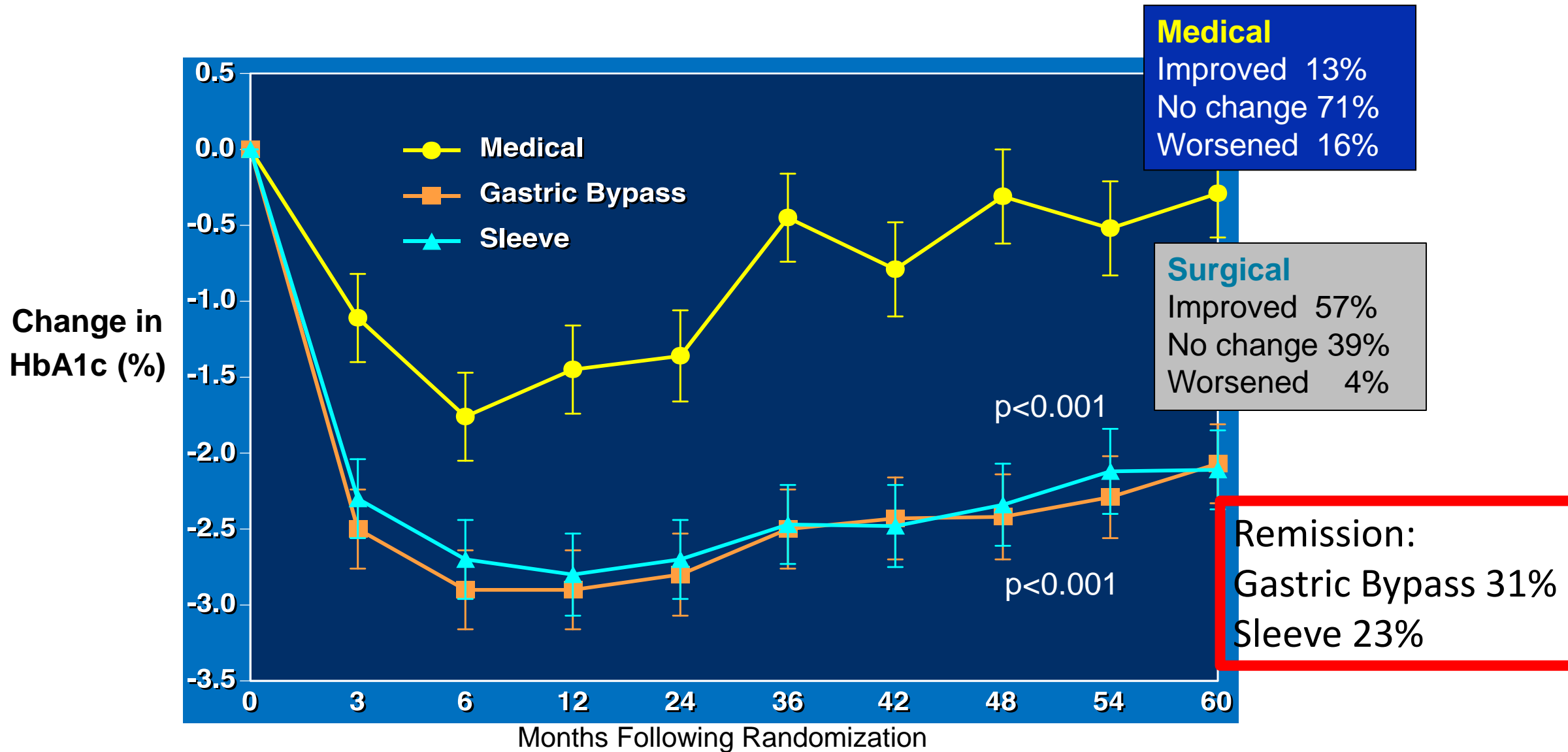
Baseline Characteristics

Parameter	Medical Therapy (n=38)	Bypass (n=49)	Sleeve (n=47)
Age (yrs)	50.2	48.2	48.1
Females	66%	57%	77%
Duration of diabetes (yrs)	8.8	8.2	8.3
HbA1c (%)	8.8	9.3	9.5
Body Mass Index (kg/m ²)	36.4	37.0	36.0
≥ 3 diabetes medications	61%	53%	47%
Insulin use	53%	47%	45%

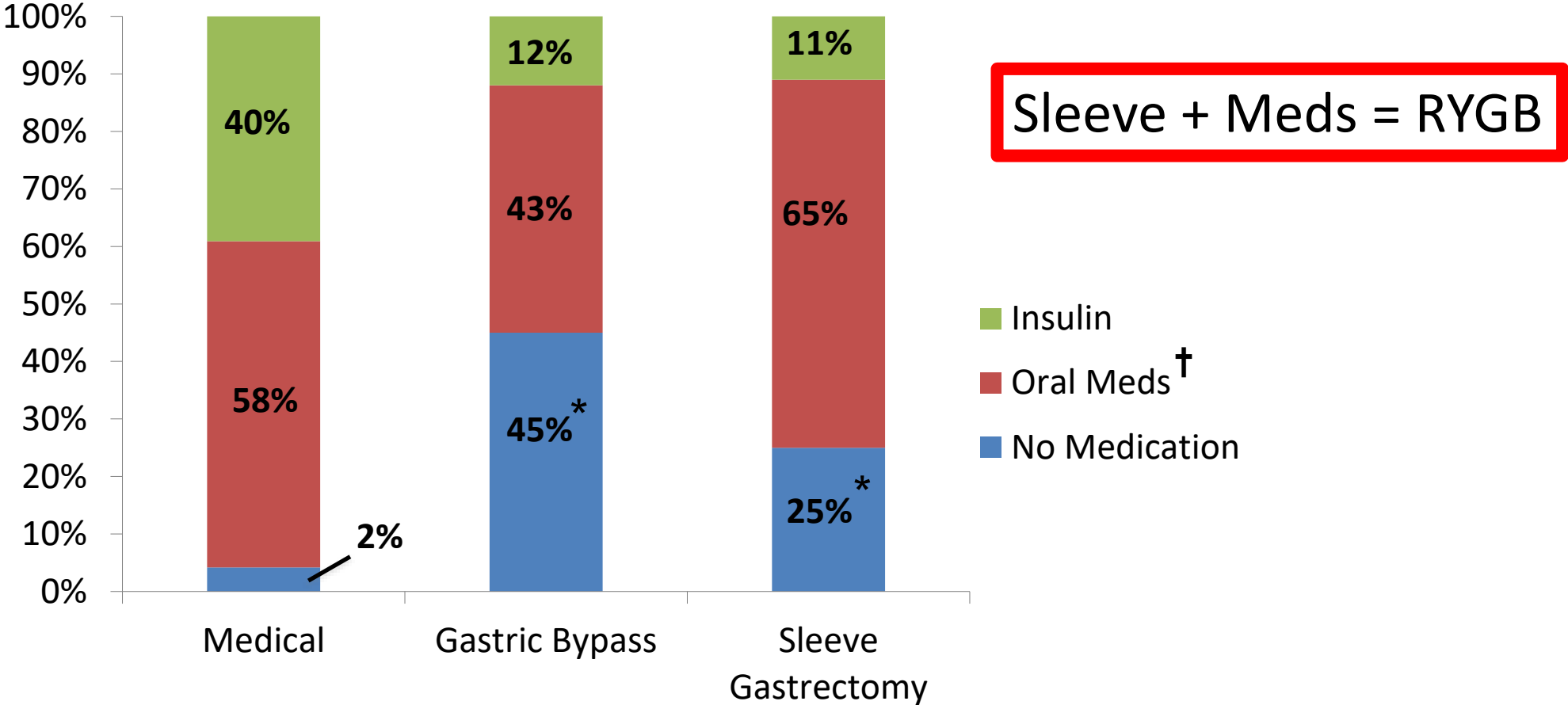


Advanced Type 2 Diabetes

Change in HbA1c Over 5 Years



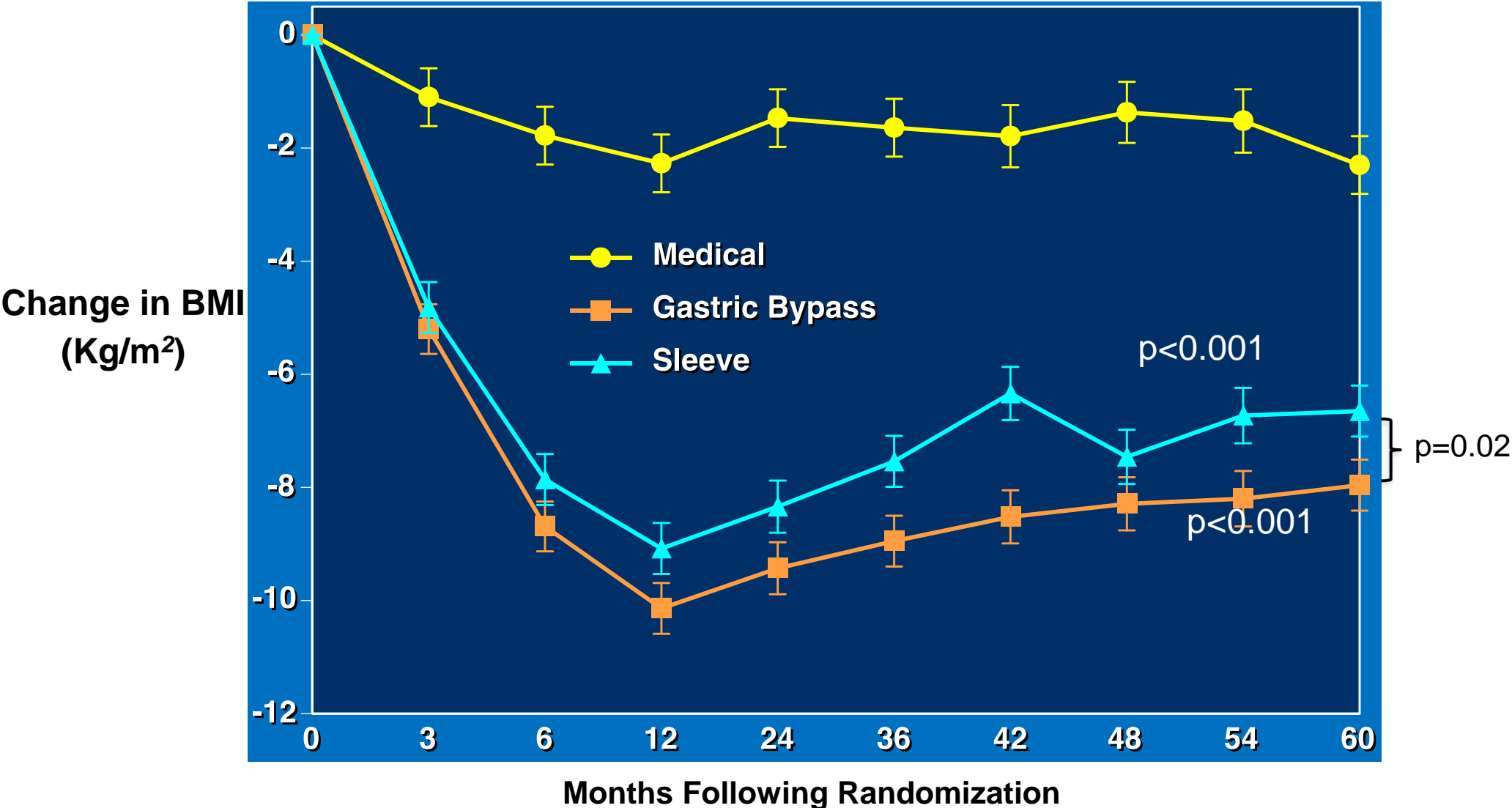
Diabetes Medications at 5 Years



There was similar reduction in CV meds with surgery

P < 0.05 compared to medical therapy; † Includes injectables such as GLP-1 agonists.
Schauer PR, et al. *N Engl J Med.* 2017;376(7):641-651.

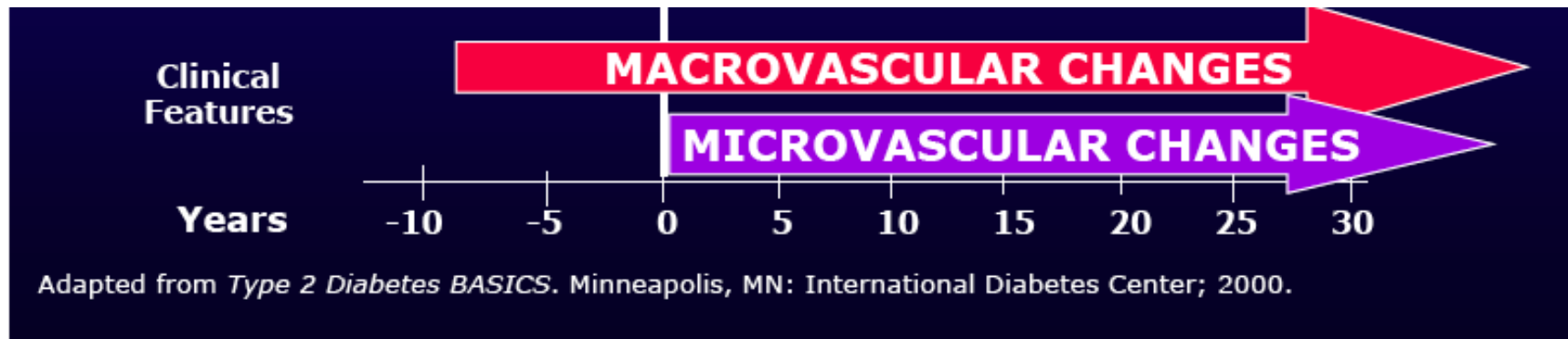
Change in Body Mass Index Over 5 years



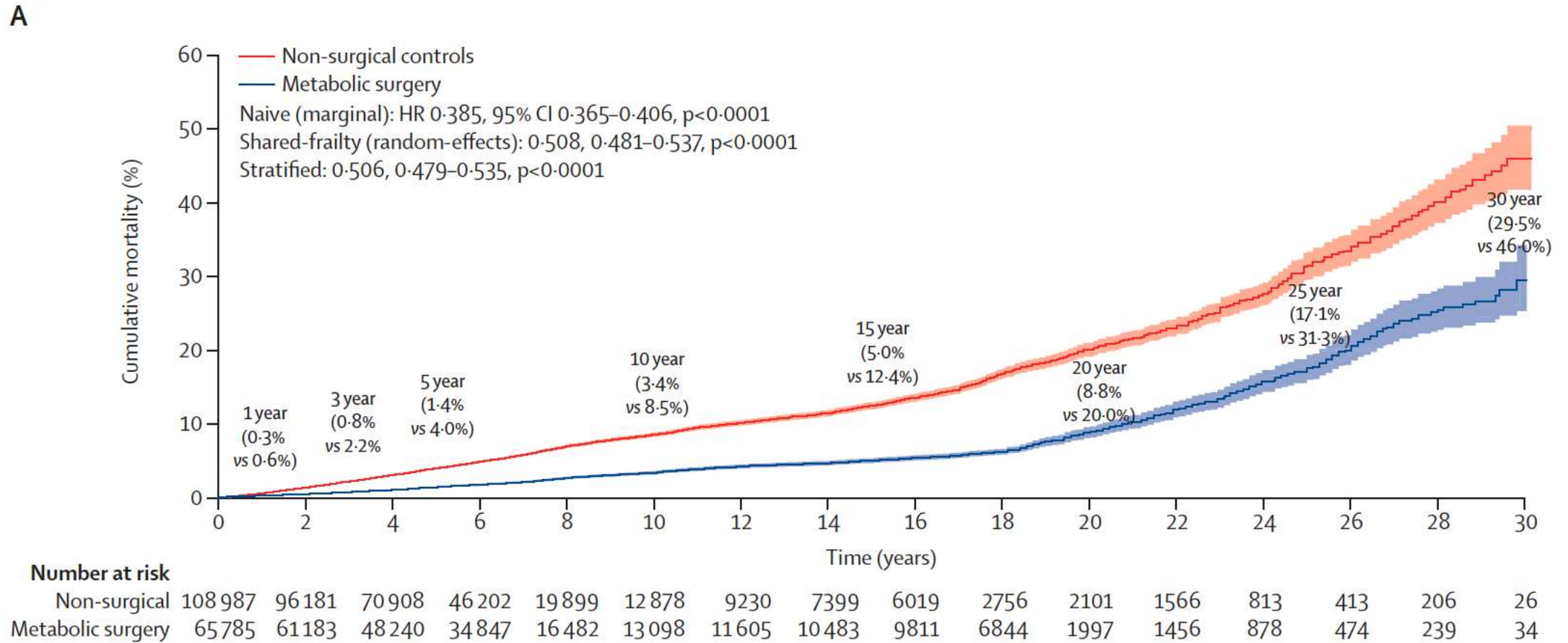
Results of 12 RCT's for Bariatric Surgery to Treat Obesity and Diabetes

STUDY	Pts w/BMI <35 kg/m ²	Study design	No. pts	Follow-up (months)	Remission criteria	Remission or change in HbA1c (%) ^a	P value
Dixon	22%	LAGB vs control	60	24	HbA1c < 6.2%	73 vs 13	< 0.001
Schauer	36%	RYGB vs SG vs control	150	60	HbA1c ≤ 6.0%	22 vs 15 vs 0	< 0.05
Mingrone	0%	RYGB vs BPD vs control	60	60	HbA1c ≤ 6.5%	42 vs 68 vs 0	0.003
Ikramuddin	59%	RYGB vs control	120	60	HbA1c < 6.0%	7 vs 0	0.02
Liang	100%	RYGB vs control	101	12	HbA1c < 6.5%	90 vs 0 vs 0	< 0.0001
Halperin	34%	RYGB vs control	38	12	HbA1c < 6.5%	58 vs 16	0.03
Courcoulus	43%	RYGB vs LAGB vs control	69	36	HbA1c < 6.5%	40 vs 29 vs 0	0.004
Wentworth	100%	LAGB vs control	51	24	FBG < 7.0 mmol/L	52 vs 8	0.001
Parikh	100%	(RYGB/LAGB/SG) vs control	57	6	HbA1c < 6.5%	65 vs 0	0.0001
Ding	34%	LAGB vs control	45	12	HbA1c < 6.5%	33 vs 23	0.46
Cummings	25%	RYGB vs control	43	12	HbA1c < 6.0%	60 vs 5.9	0.002
Shah	85%	RYGB vs control	80	24	HbA1c < 6.5%	60 vs 2.5	<0.001

What about the effect of surgery on Long-term Morbidity/ Mortality



49% Mortality Risk Reduction with Bariatric Surgery (n=174,772)



Syn NL et al. Lancet, May 2021

Conclusion

Combining Medications with Surgery Reduces
Variability of Surgical Glycemic Benefits

Bariatric-Metabolic Surgery vs. Best Medical Care for NASH – BRAVES RCT, Lancet April 2023



Keynote Speaker:

Geltrude Mingrone, MD, PhD

Professor, Catholic University, Rome, Italy and
Kings College, London, UK



Panelist:

Sayeed Ikramuddin, MD, MHA

Jay Phillips Professor and Chair, Department of Surgery
University of Minnesota School of Medicine



Panelist:

Bilal Hameed, MBBS

Professor of Medicine and Ambulatory Director of Hepatology
University of California San Francisco

THANK YOU!

Follow me on Twitter @PSchauerMD

Philip R. Schauer, MD
Professor of Metabolic Surgery
Pennington Biomedical Research Center and
Louisiana State University
Philip.Schauer@pbrc.edu
[@PSchauerMD](https://twitter.com/PSchauerMD)