



4TH WORLD CONGRESS ON INTERVENTIONAL THERAPIES FOR TYPE 2 DIABETES

HILTON MIDTOWN, NEW YORK CITY
APRIL 8-10, 2019

www.wcisd.com

FROM GUIDELINES
TO IMPLEMENTATION



IN PARTNERSHIP WITH



APRIL 8-10, 2019, NEW YORK CITY

Endorsing Societies

American Association of
Clinical Endocrinologists



AAACE Gulf Chapter



Association of British
Clinical Diabetologists



Asociación Colombiana
de Obesidad y Cirugía
Bariátrica



Associazione Medici
Endocrinologi



Australian & New
Zealand Metabolic and
Obesity Surgery Society



Australian and New
Zealand Obesity Society



American Society for
Gastrointestinal
Endoscopy



American Society for
Metabolic and Bariatric
Surgery



British Obesity &
Metabolic Surgery
Society



Belgian Society for
Obesity and Metabolic
Surgery



Brazilian Society of
Bariatric and Metabolic
Surgery



Canadian Association of
Bariatric Physicians and
Surgeons



Colegio Mexicano
de Cirugía de la Obesidad



Diabetes UK



Dutch Society for
Metabolic and Bariatric
Surgery



European Association
for the Study of Obesity



European Association
for Endoscopic Surgery
and other Interventional
Techniques



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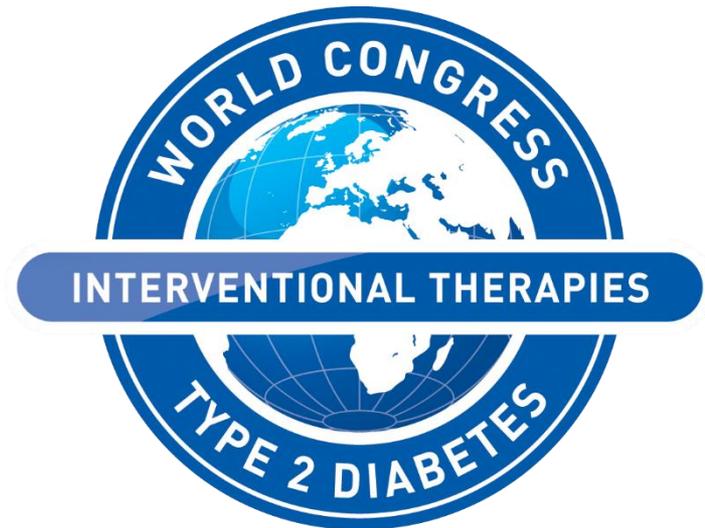
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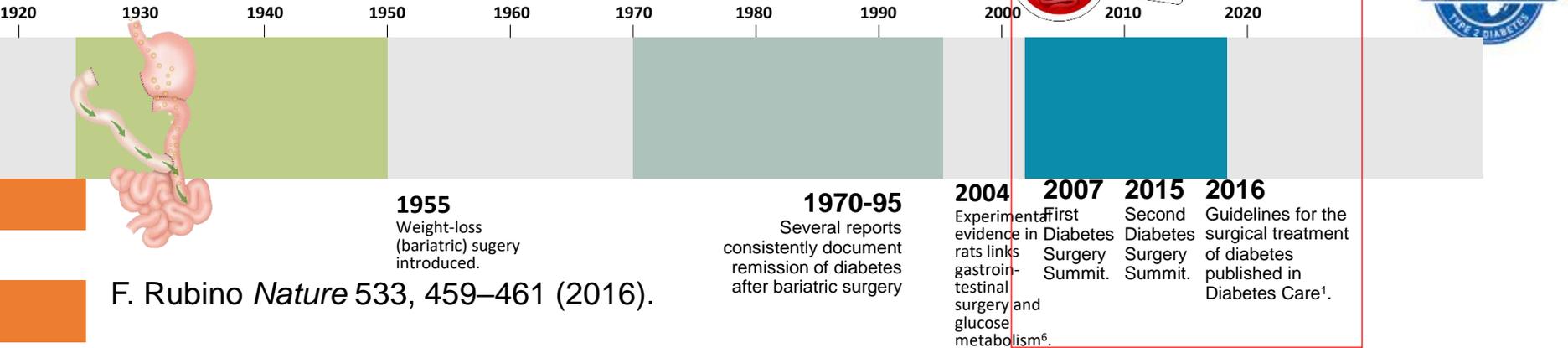


- Rome 2007,
- London 2015



- New York 2008
- New York 2011
- London 2015
- New York 2019

THE (long) ROAD TO METABOLIC SURGERY



F. Rubino *Nature* 533, 459–461 (2016).

GLOBAL DSS GUIDELINES



PARTNER DIABETES ORGANISATIONS OF THE DSS-II

American Diabetes Association (ADA) | International Diabetes Federation (IDF) | Diabetes UK (DUK) | Chinese Diabetes Society (CDS) | Diabetes India (DI)

ENDORSORING SOCIETIES OF THE DSS-II CONSENSUS STATEMENTS & GUIDELINES (as of August 2017)

- INTERNATIONAL ORGANISATIONS**
- IDF: International Diabetes Federation
 - APBMS: Asia-Pacific Bariatric and Metabolic Surgery Society
 - EASO: European Association for the Study of Obesity
 - IFSO: Int. Federation for the Surgery of Obesity & Metabolic Disorders
 - ALAD: Latin American Association of Diabetes
- NATIONAL ORGANISATIONS / SOCIETIES**
- Argentinian Society of Diabetes (SAD)
 - Argentinian Society for Bariatric and Metabolic Surgery (SACCO)
 - Argentinian Society of Nutrition (SAN)
 - Australian Diabetes Society (ADS)
 - Belgian Diabetes Association (ABD)
 - Brazilian Society of Diabetes (SBD)
 - Brazilian Society of Bariatric and Metabolic Surgery (SBCBM)
 - Czech Society for the Study of Obesity (CSSO)
 - Chilean Society of Endocrinology and Diabetes (SCED)
 - Chilean Society for Bariatric and Metabolic Surgery (SICBM)
 - Chinese Diabetes Society (CDS)
 - French Society of Diabetes (SFD)
 - French Society of Bariatric and Metabolic Surgery (SOFBMO)
 - German Diabetes Society (DDG)
 - German Society for Obesity Surgery (CA-ADIP)
 - Hellenic Diabetes Association (HDA)
 - Diabetes India (DI)
 - Irish Endocrine Society (IES)
 - Israel Diabetes Association (IDA)
 - Italian Society of Bariatric & Metabolic Surgery (SICOB)
 - Italian Society of Diabetology (SID)
 - Italian Society of Clinical Endocrinologists (AME)
 - Japan Diabetes Society (JDS)
 - Mexican College of Bariatric and Metabolic Surgery (CMCCEM)
 - Mexican Society of Nutrition and Endocrinology (SMNE)
 - Portuguese Society of Diabetology (SPD)
 - Qatar Diabetes Association (QDA)
 - Saudi Diabetes and Endocrine Association (SDEA)
 - Slovakian Diabetes Society (SDS)
 - Obesity Section Slovakian Diabetes Society (OS SDS)
 - South African Society for Surgery Obesity and Metabolism (SASSO)
 - Spanish Society for Bariatric and Metabolic Surgery (SECO)
 - Spanish Society of Diabetes (SED)
 - Diabetes UK (DUK)
 - Association of British Clinical Diabetologists (ABCD)
 - British Obesity and Metabolic Surgery Society (BOMSS)
 - Society for Endocrinology (SfE)
 - American Diabetes Association (ADA)
 - American Association of Clinical Endocrinologists (AAACE)
 - American College of Surgeons (ACS)
 - American Gastroenterological Association (AGA)
 - American Society for Metabolic and Bariatric Surgery (ASMBS)
 - Endocrine Society
 - Society of American Gastrointestinal and Endoscopic Surgeons (SAGES)
 - Society for Surgery of the Alimentary Tract (SSAT)
 - The Obesity Society (TOS)

Diabetes Care

www.diabetesjournals.org



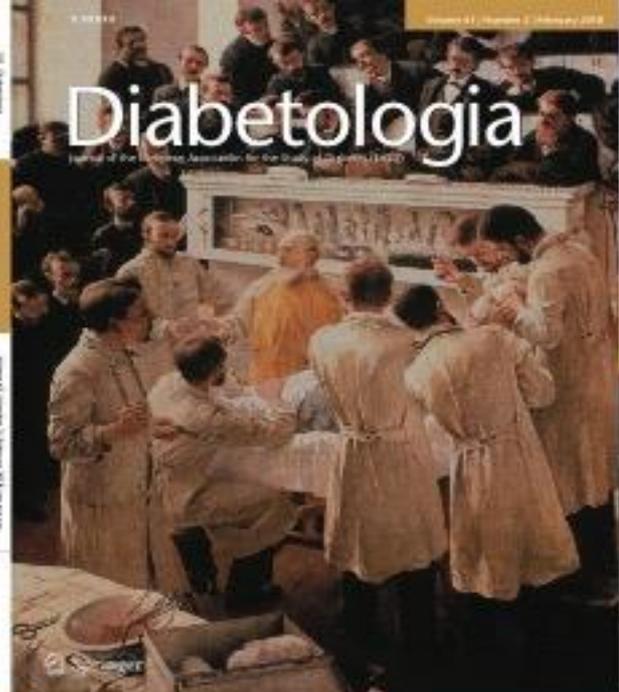
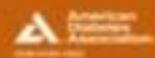
Metabolic Surgery for Type 2 Diabetes: Changing the Paradigm of Diabetes Care

Role of the Gut in Insulin Resistance

Diabetes Mellitus in a 95-Year-Old Woman: A Case Report

Association Between Use of Light-Curing Therapy and Cardiovascular Outcomes in Individuals With Type 2 Diabetes

SPECIAL ARTS&SCIENCE COLLECTION: Metabolic Surgery and the Changing Landscape for Diabetes Care



Diabetologia

Journal of the European Association for the Study of Diabetes (EASD)



nature



COMPARE THE MEERKATS

HEALTH SCIENCE

CUTTING-EDGE MEDICINE

Why surgery is the next big thing in type 2 diabetes

PAGE 459



HOW CITIES CAN SAVE US ALL A vision for a zero-waste, driverless, energy-positive urban future

SCIENTIFIC AMERICAN



PLUS

IS DARK MATTER MADE OF BLACK HOLES? A cosmic mystery

SURGERY STOPS DIABETES...

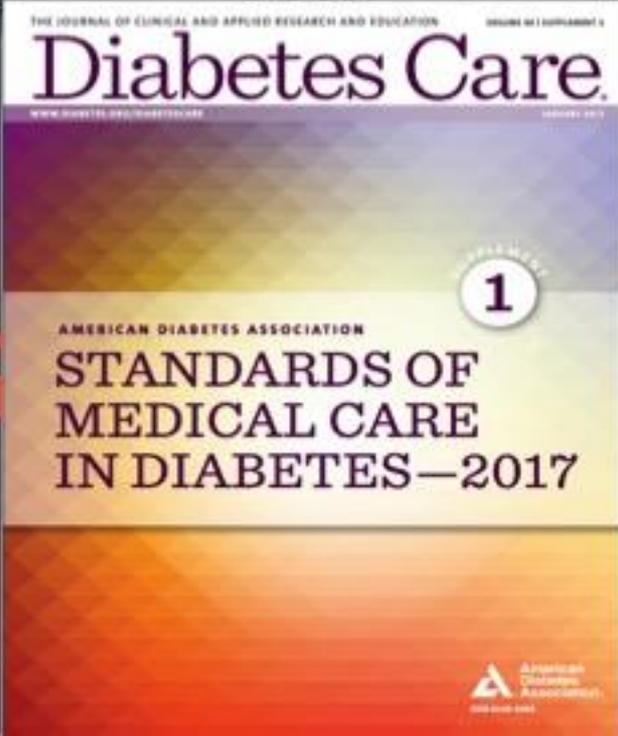
... and leads to a new theory of the disease



OPERATION: DIABETES

Surgery that shortens intestines gets rid of the illness, and new evidence shows the gut—not simply insulin—may be responsible

By Francesco Rubino



THE JOURNAL OF CLINICAL AND APPLIED RESEARCH AND EDUCATION

Diabetes Care

www.diabetesjournals.org

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AMERICAN DIABETES ASSOCIATION

STANDARDS OF MEDICAL CARE IN DIABETES—2017

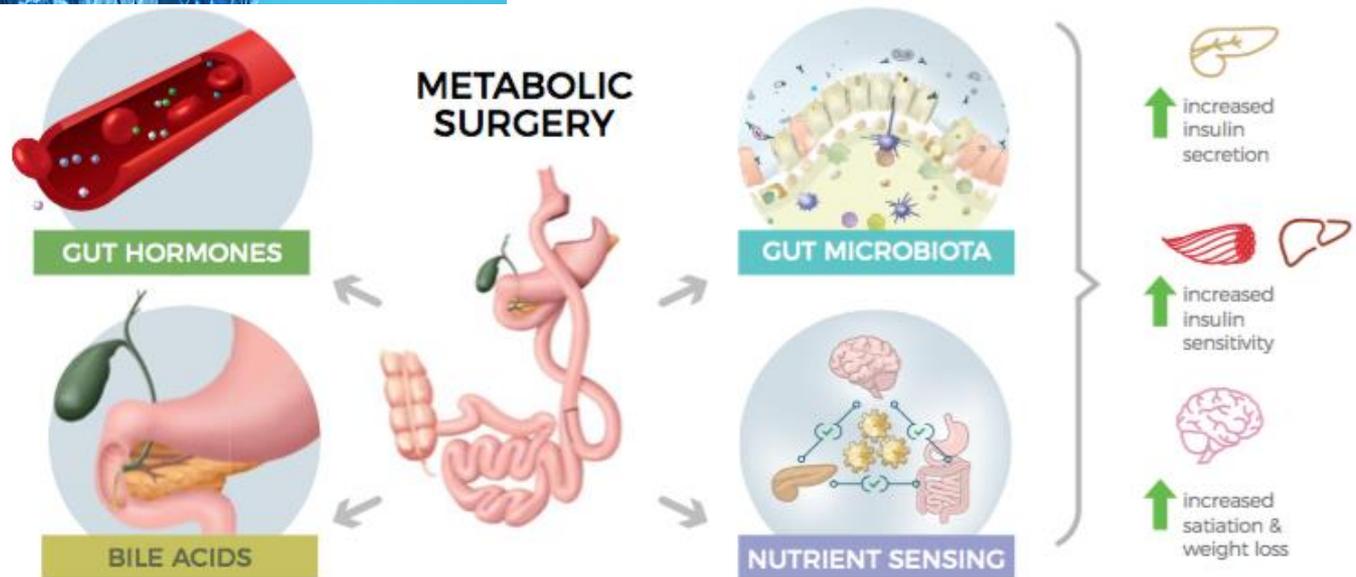




“Given its role in the regulation of glucose levels in homeostasis and in disease, the GI tract constitutes a clinically and biologically meaningful target for anti-diabetes interventions”

DSS-II

Metabolic Surgery changes various mechanisms of GI physiology involved in metabolic regulation^(3,4)



“Given its role in metabolic regulation, the GI tract constitutes a clinically and biologically meaningful target for the management of T2D.” DSS-II⁽²⁾

nature



UIG/GETTY



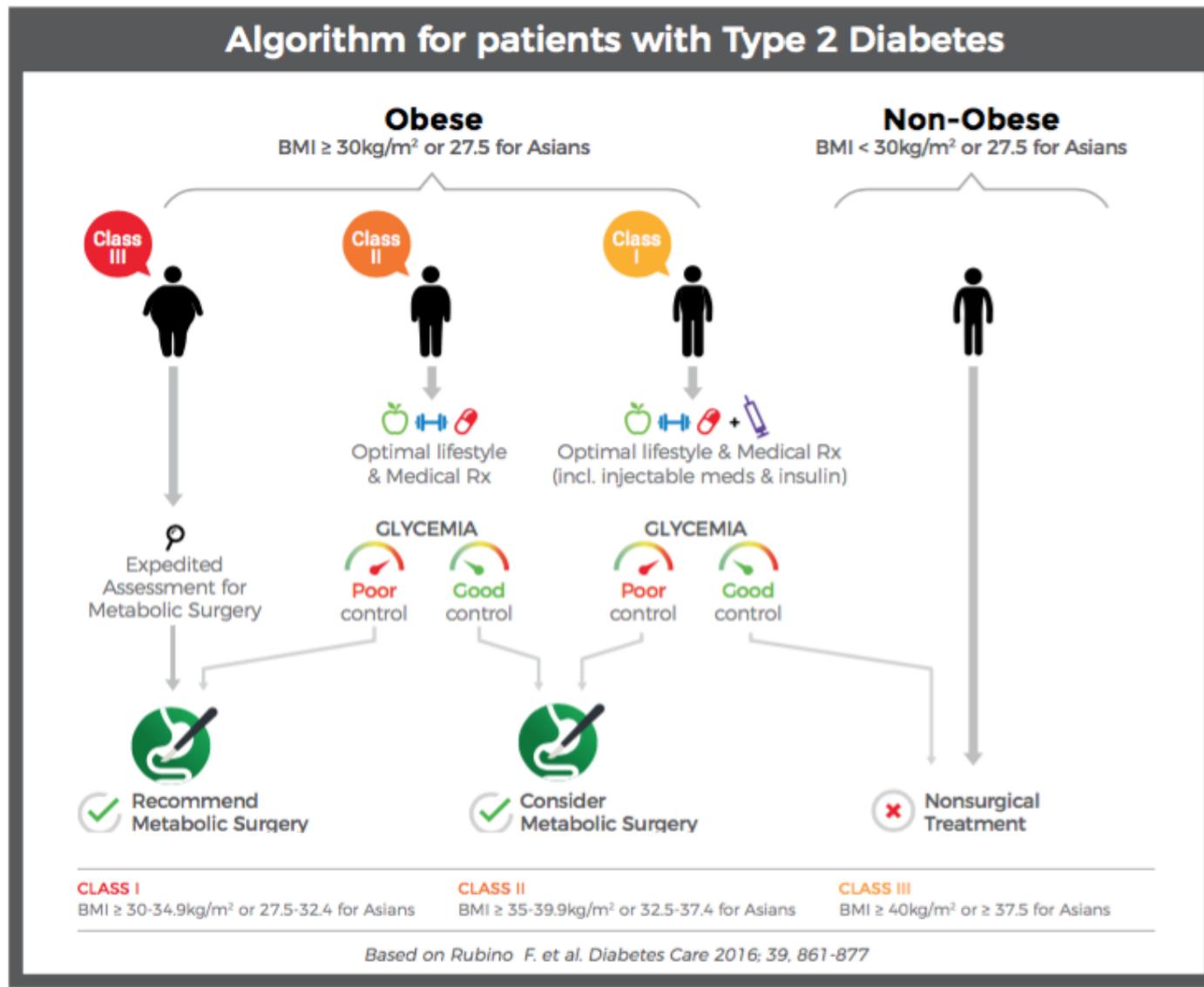
Surgery can be an effective treatment for type 2 diabetes.

Time to think differently about diabetes

New guidelines for the surgical treatment of type 2 diabetes bolster hopes of finding a cure, writes **Francesco Rubino**, but long-standing preconceptions must be put aside.

Indications for Surgical Treatment

"There is now sufficient clinical and mechanistic evidence to support inclusion of metabolic surgery among antidiabetes interventions for people with T2D and obesity." DSS-II⁽²⁾



THE TIMES

Scalpel, Please

Gastric surgery can achieve extraordinary results for diabetes sufferers

Health secretary would lightly spend £600 million on 100,000 operations if he did not think they were essential. That is why the diabetes research community has assembled every possible argument in favour of gastric surgery as a treatment for the condition. The arguments are compelling and Jeremy Hunt and NHS regulators should pay attention to them.

Gastric surgery is traditionally seen as a last resort for the morbidly obese. The latest science suggests that it may in fact be the closest thing yet to a cure for diabetes, which afflicts 4 million people in Britain and consumes 12 per cent of global healthcare spending.

Diabetes is the pandemic of the modern age. There is a direct correlation between rising GDP and the incidence of obesity-linked type 2 diabetes. There are also serious barriers to the adoption of gastric surgery as a way of containing it, including the high cost per patient and the widely held view that the first line of defence should be a move to healthier lifestyles by people seen to have caused the illness on themselves. Economics as a science suggest otherwise. Gastric bands

and bypasses on a mass scale may be the best investment on offer to a cash-strapped NHS.

Research released yesterday based on 11 clinical trials finds that surgery can attack the causes of diabetes, not just its symptoms — and can do so more effectively than drugs, diet or exercise. In one study by Newcastle University the blood-sugar levels of 18 patients returned to normal after gastric bypass surgery. In another published last year half the subjects were, effectively, free of diabetes five years after a similar procedure. Meanwhile, fewer than half of sufferers who rely on conventional treatments significantly lower their risk of complications, which include stroke, kidney failure, blindness and heart disease.

How surgery can achieve such dramatic results is not yet clear. Some experiments suggest that it boosts natural insulin production by altering the secretion of hormones in the gut. Others point to fat loss in the pancreas itself, allowing formerly obese patients to resume virtually normal blood-sugar management. However, the potential for surgery to reverse the effects of diabetes rather than merely treat them is clear. The conclusion

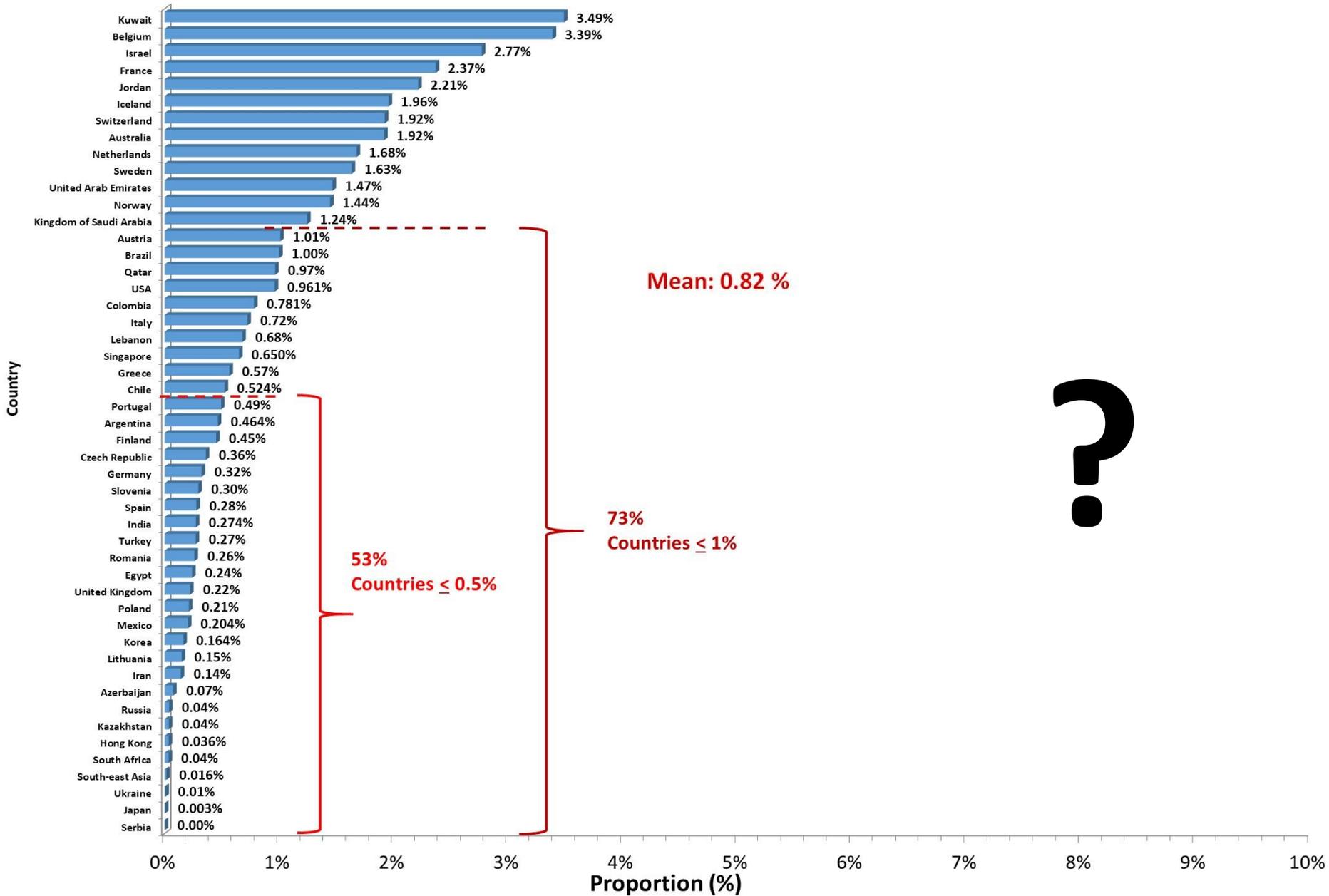
that surgery should be considered a mainstream response is unavoidable.

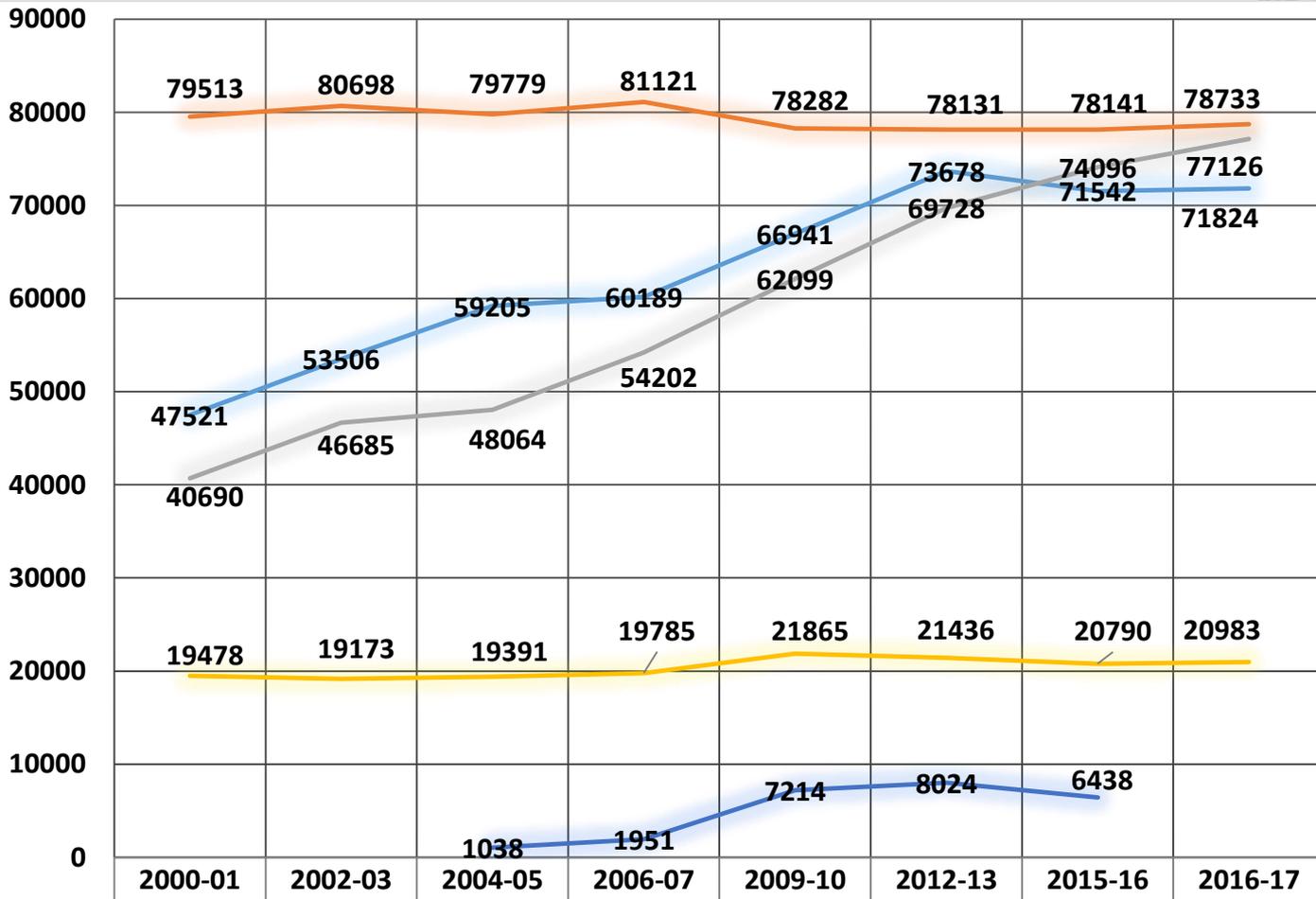
In Britain the first step towards this would be for the National Institute for Health and Care Excellence (Nice) to approve surgery not just for extreme obesity but specifically for advanced type 2 diabetes. About a million patients would be eligible. Of these 100,000 would be highly likely to benefit. At present, their treatment costs the NHS about £3,000 per patient a year. At an average cost per operation of £6,000 the health service could expect to earn that back in subsequent savings within two years.

Some worry that the easy availability of surgery would signal to diabetes sufferers that better diets and less sedentary lifestyles were no longer paramount. This advice has not stopped the global incidence of diabetes quadrupling since 1980. Moreover, surveys show that the rapid results achieved through surgery often encourage patients where willpower alone has let them down. In straitened times, with an ageing population and spiralling diabetes-related costs, Nice and the NHS need to think outside the box and embrace the band.

“The conclusion that Surgery should be considered a mainstream response is unavoidable”

Proportion of patients undergoing metabolic surgery among eligible patients worldwide





— Hip Replacements	47521	53506	59205	60189	66941	73678	71542	71824
— Inguinal Hernia	79513	80698	79779	81121	78282	78131	78141	78733
— Gallbladder	40690	46685	48064	54202	62099	69728	74096	77126
— Colectomies	19478	19173	19391	19785	21865	21436	20790	20983
— Bariatric Surgery			1038	1951	7214	8024	6438	

Hospital Admitted Patient Care Activity

Barriers to Implementation of Metabolic/Bariatric Surgery



- Safety ?
- Education/Awareness (patients and HCPs) ?
- Costs?
- Insurance Coverage ?

- Or something else?

(Historical) Clinical Rationale for Bariatric Surgery

Bariatric surgery



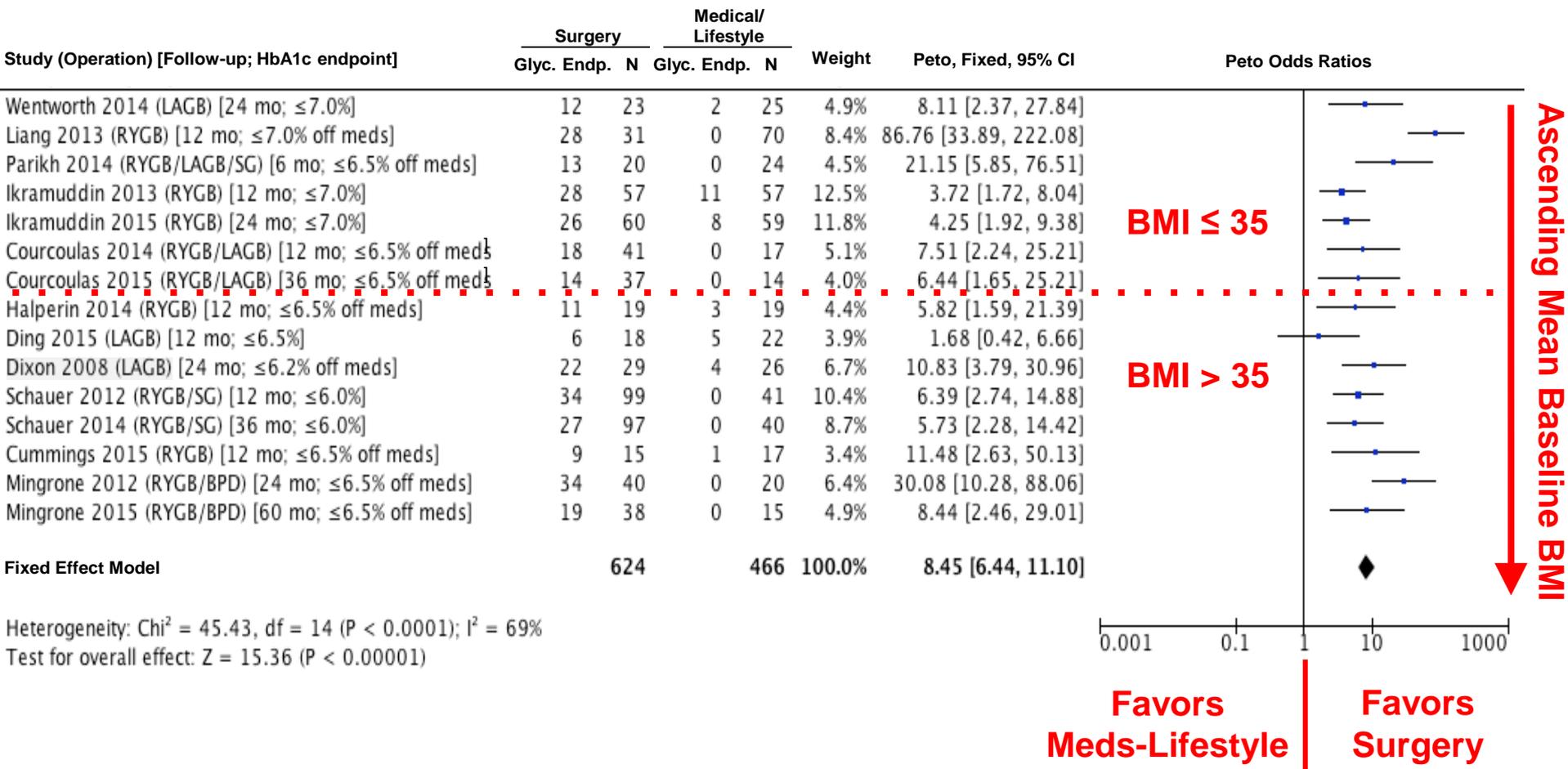
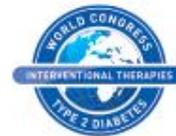
Weight Loss Surgery





Misperceptions about Evidence

Evidence for Metabolic Surgery in Patients with T2D





Bariatric Surgery



Elective General Surgery

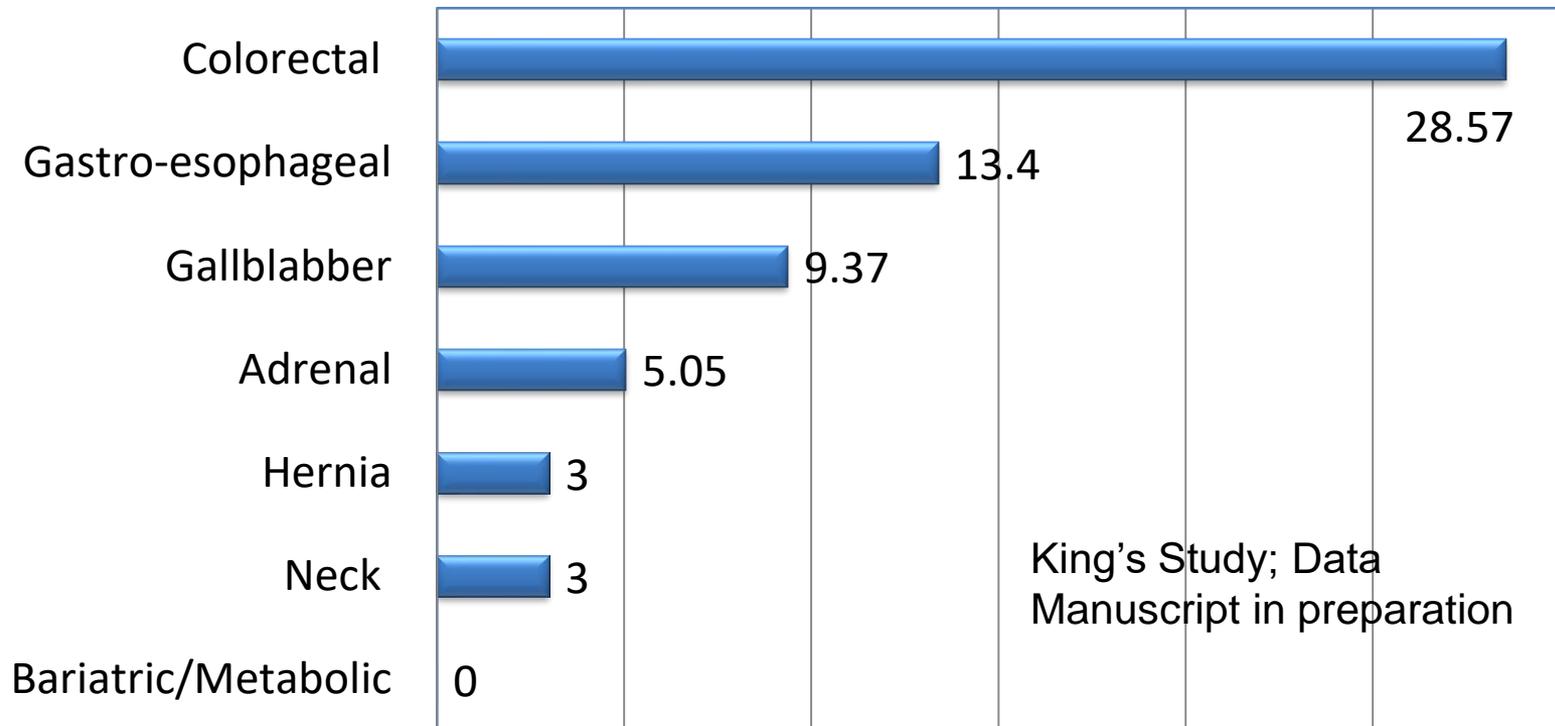
Cholecystectomy, Hernia Surgery,
Reflux Surgery, Colorectal (benign)

Bariatric Surgery Mortality Rate: 0.3% (55,567 patients)

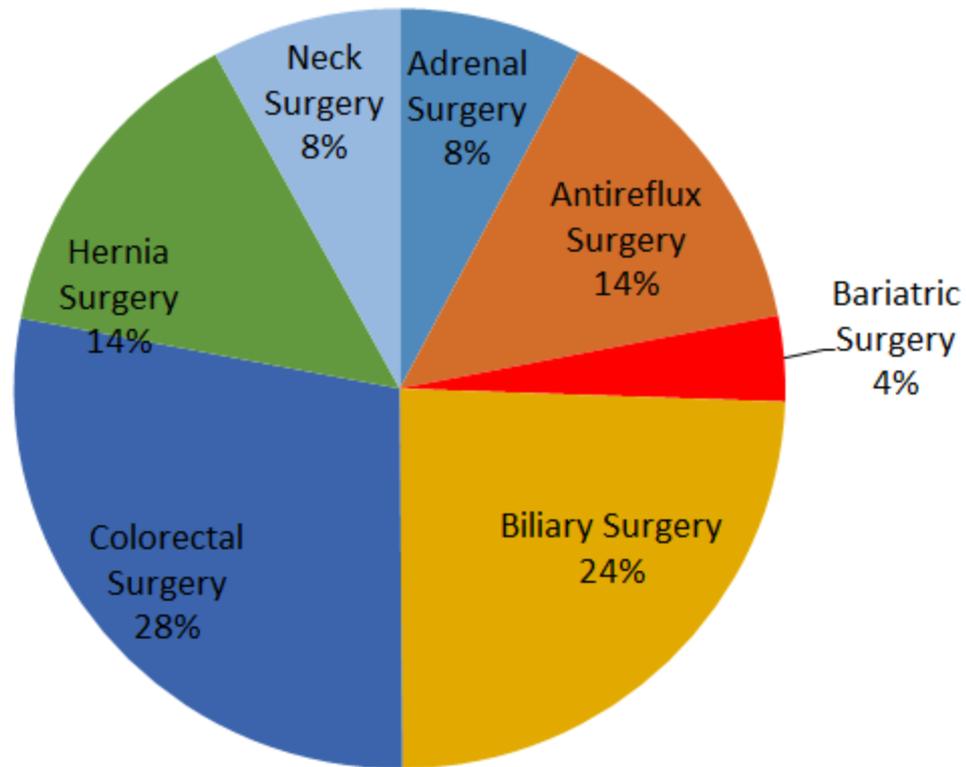
	Aortic Aneurysm	CABG	Craniotomy	Esophageal Resection	Hip Replacement	Pediatric Heart Surgery
Hospitals Performing Operation	2485	1036	1600	1717	3445	458
Mortality Index (%)	3.9	3.5	10.7	9.1	0.3	5.4
Median Volume per Hospital	30	491	12	5	24	4

Source: Dimick JB, Welch HG, Birkmeyer JD. Surgical mortality as an indicator of hospital quality. JAMA 2004,292, 847-851

Safety Composite Endpoint 30 days re-admission, re-operation, major morbidity of elective procedures

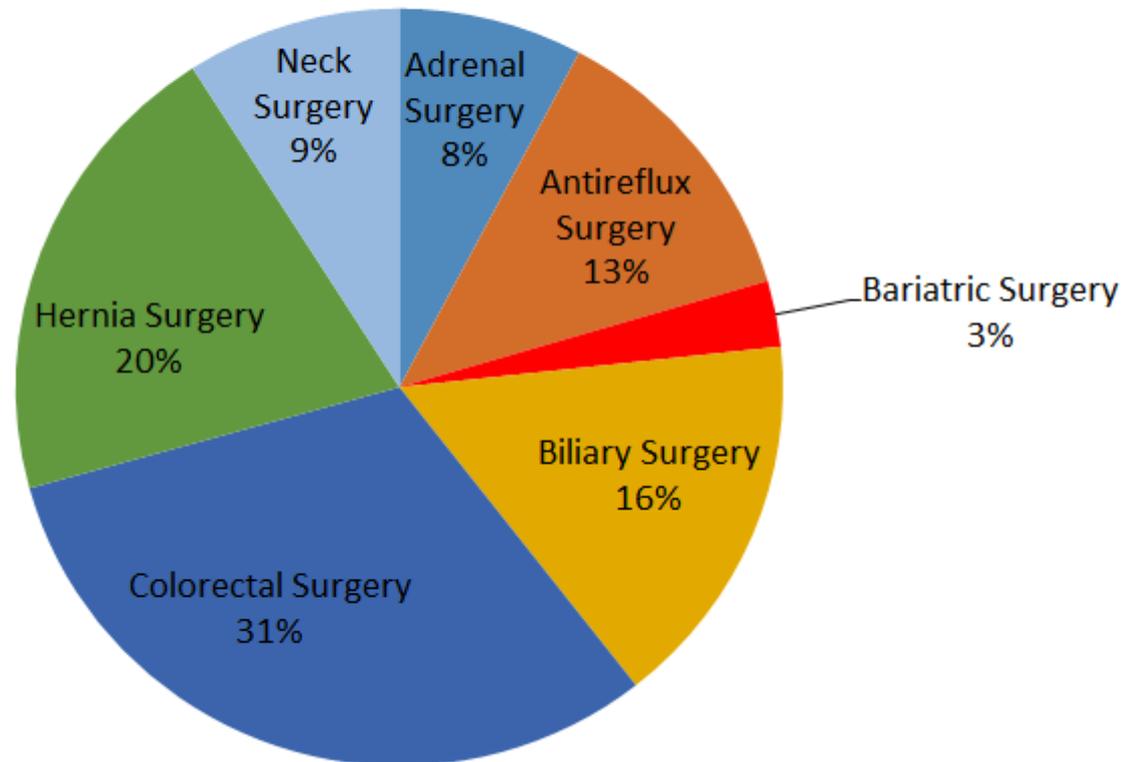


Proportion of Emergency Department Attendances of each specialty over the 5 year follow up period



King's Unpublished Data

Proportion of Inpatient re-admission of each specialty specialty over the 5 year follow up period



King's Unpublished Data



Misperceptions about Costs



EXPRESS

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the Daily and
Sunday Express



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Home > News > UK > NHS squanders millions on fat surgery

NHS squanders millions on fat surgery

A RECORD number of patients have had “quick-fix” obesity surgery on the NHS at a cost of £29million a year, shocking new figures show.

Health Insurance and Bariatric/Metabolic Surgery



- Long-term cost-effectiveness
- Quality of Evidence
- Return of Investment
- Upfront Costs
- “Fear of Opening the Flood Gates”



In Context....



	Surgical Treatment of Osteoarthritis (Knee/Hip)	Metabolic/Bariatric Surgery
Disease Prevalence	+++	+++
Safety		
QoL		
Life-Saving	/	
Average Cost	\$50,000	\$23,000
Potential for Re-operation	++	+

	Knee / Hip Replacement	Metabolic/Bariatric Surgery
USA	1.1 M	200K
UK	160,000 (1.5/yr)	6,000 (25M/yr)

Barriers to Implementation of Metabolic/Bariatric Surgery



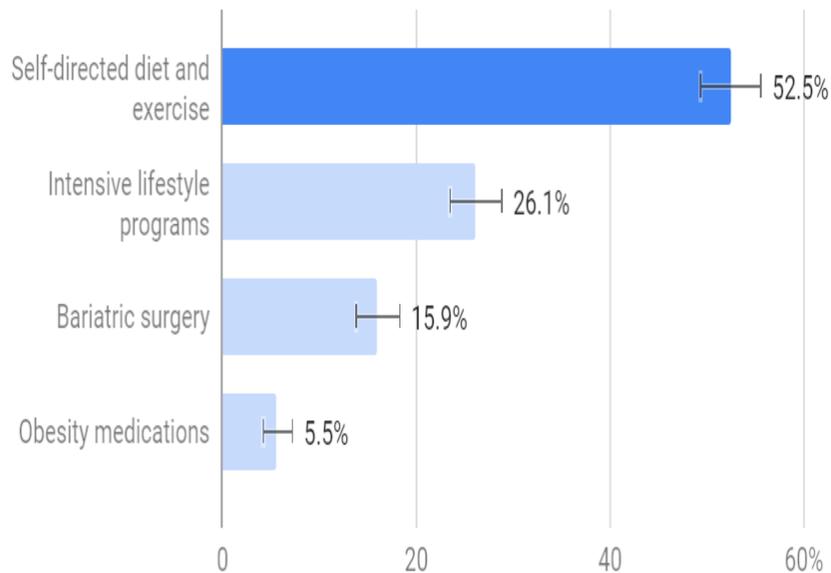
- Safety ?
- Education/Awareness (patients and HCPs) ?
- Costs?
- Insurance Coverage ?

- **Or something else?**

Obesity Surgery - U.S.

1. Which of the following treatments for obesity is most effective?

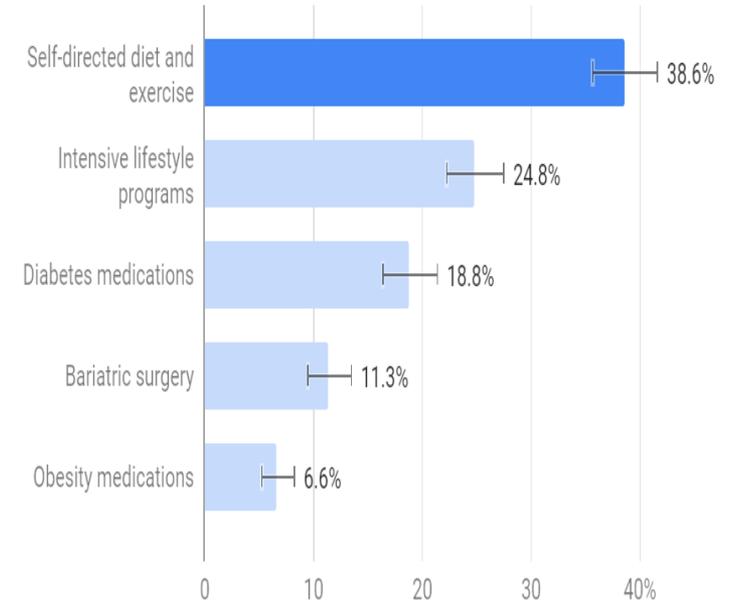
776 respondents



Diabetes Surgery - U.S.

1. Which of the following treatments for type 2 diabetes is most effective in people who also have obesity?

728 respondents





Are Misconceptions and Stigma Holding Back Evidence-Based Metabolic Surgery?

Stigma and Metabolic/Bariatric Surgery

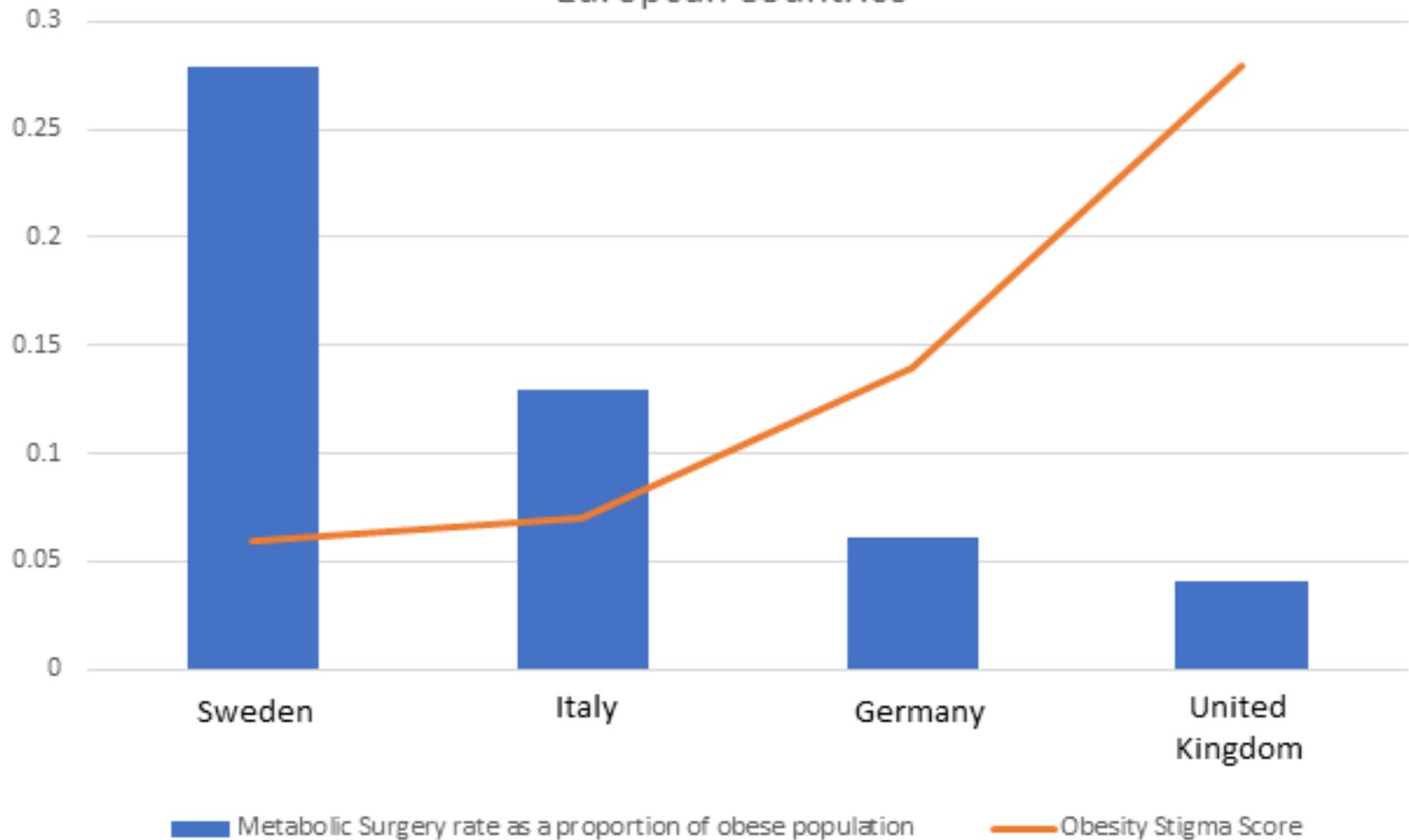


- Internalized stigma exacerbates feelings of self-blame, which may deter patients from seeking bariatric surgery.
- Bariatric surgery is stigmatized as ‘the easy way out’ and a treatment for people too ‘weak’ to lose weight without surgery.
- Healthcare organizations’ policies may reflect stigmatizing beliefs that surgery should be rationed to “deserving” patients.

Britain 'prejudiced against fat people'



Obesity Stigma plotted against rate of Metabolic Surgery across four European Countries



Attitudes, Stigma & Knowledge: The ASK Study



O'Keeffe¹, S.W. Flint², D. Qanaq³, L. Ferraro³, F. Rubino³

¹Department of Nutritional Sciences; ³Department of Diabetes, King's College London, UK

²School of Sport, Leeds Beckett University, UK

To understand *attitudes towards obesity* and *type 2 diabetes* as well as the *role and value of treatments* in an international sample of *healthcare professionals (HCPs)* and the *general population*.

N=3044



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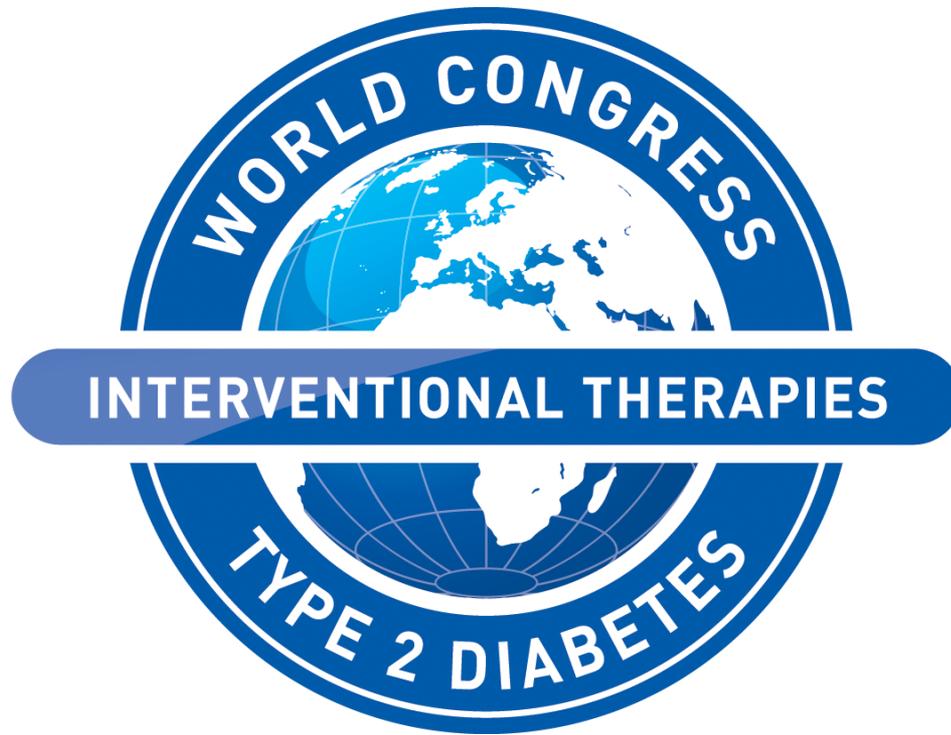
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Faster Alone... Further Together