Obesity and Weight Management

Dr Bart A. van Wagensveld
Consultant laparoscopic and Bariatric surgeon
CMO Quro Middle East

Karla El Barmaki
Clinical Dietitian at Quro

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What is Obesity?

Obesity

Disease OR result of a chosen lifestyle?

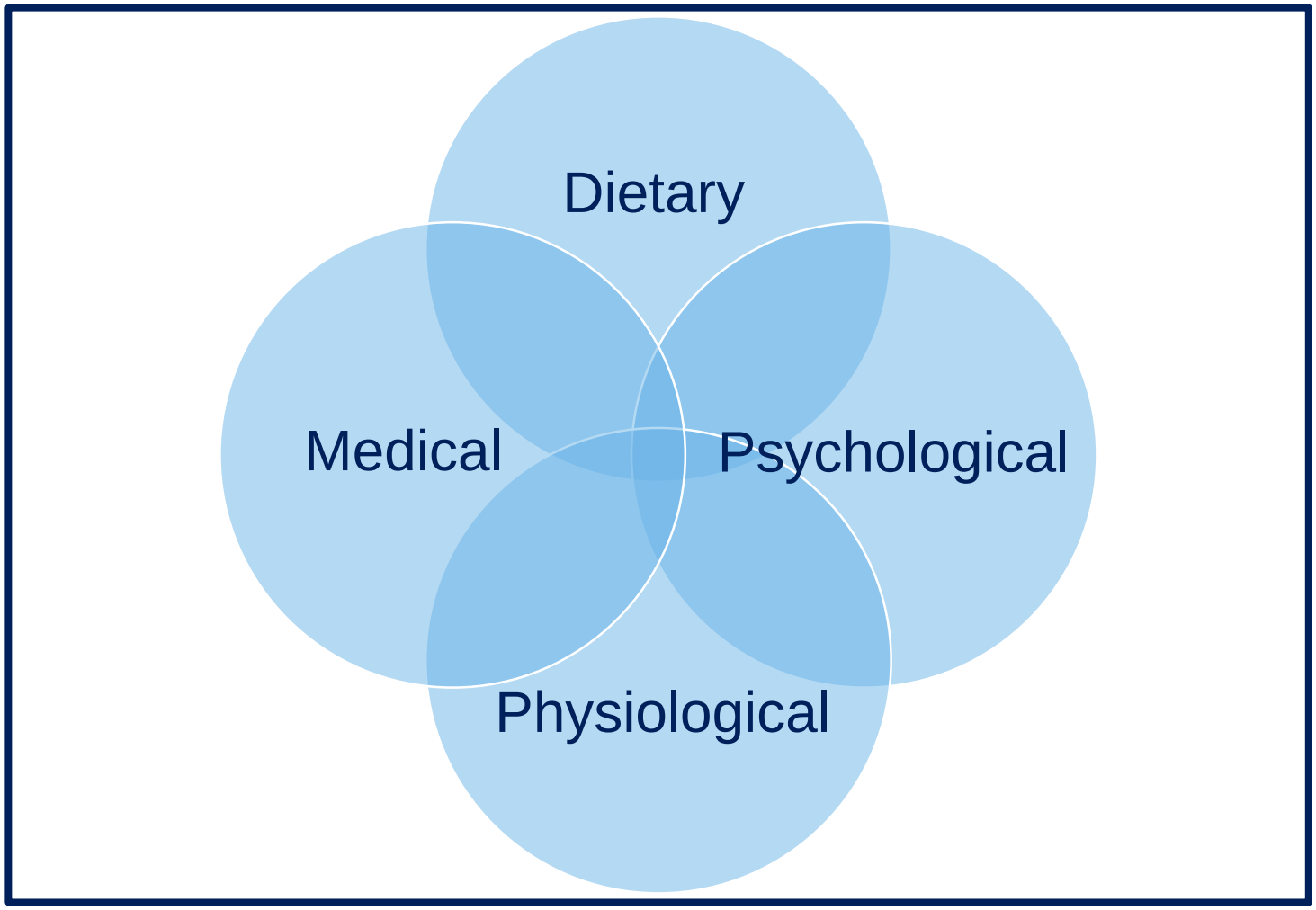
BMI Classification

According to WHO, Obesity is defined as an abnormal or excessive fat accumulation that presents a risk to health.
It is measured based on the BMI:

$$\text{BMI (kg/m}^2) = \text{Weight (kg)} \div \text{Height}^2\,(\text{m}^2)$$

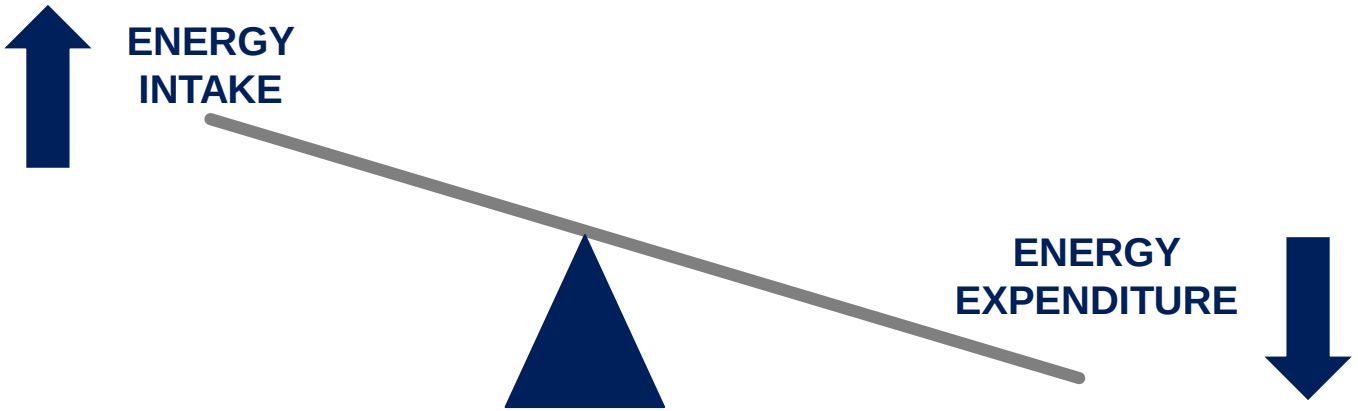
BMI	Classification	Risk of comorbidities
< 18.5	Underweight	Low risk
18.5-24.9	Normal	Low risk
25-26.9 **27-29.9**	Overweight	Low risk Moderate risk
30-39.9	Obesity	Moderate to High risk
40+	Morbid Obesity	Severe risk

What are the causes of obesity?



What are the causes of obesity?

Genetics **Environment**



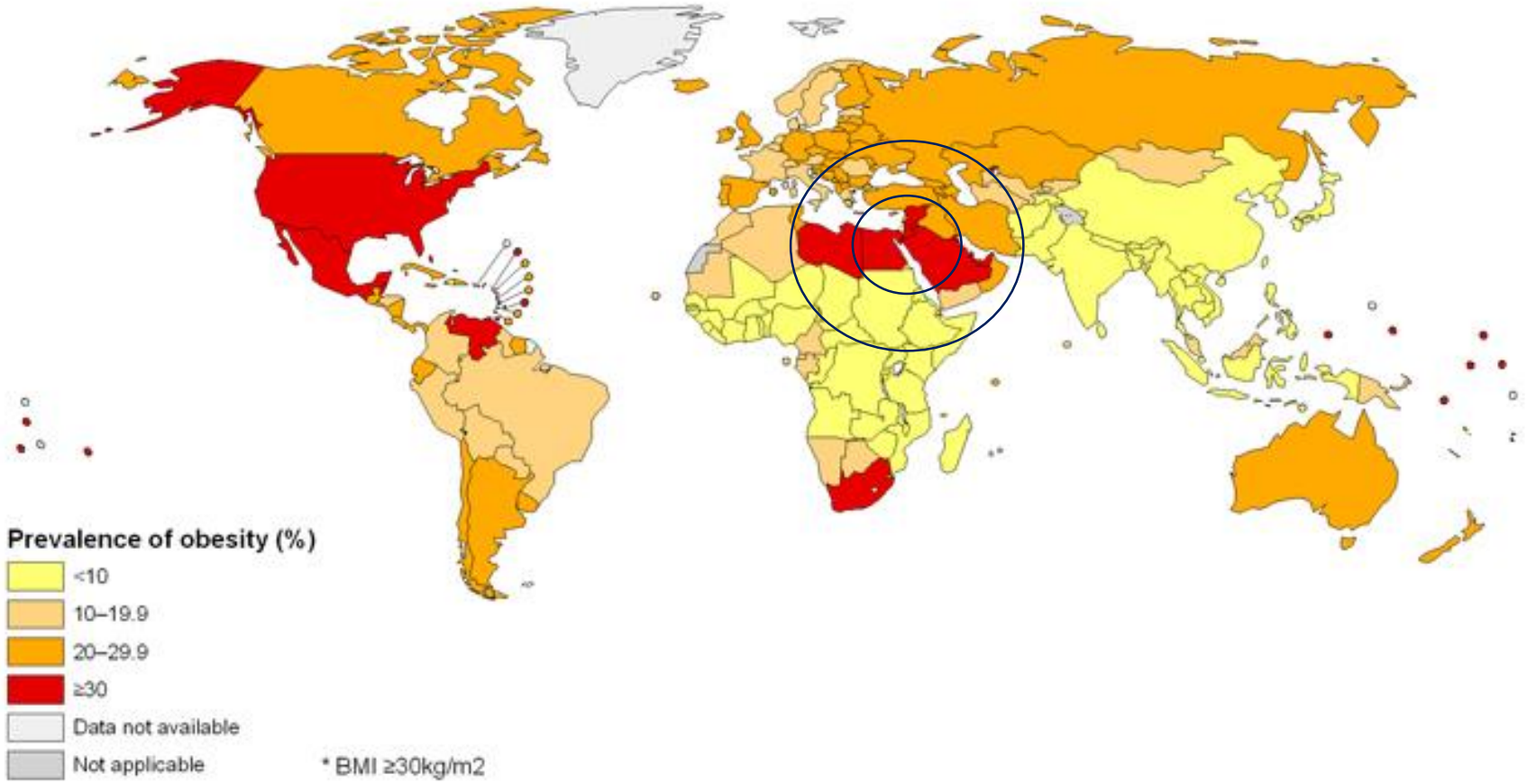
= **Increasing Obesity Levels**

“Recognizing obesity as a disease will help change the way the medical community tackles this complex issue”

American Medical Association (2013)

Prevalence of obesity

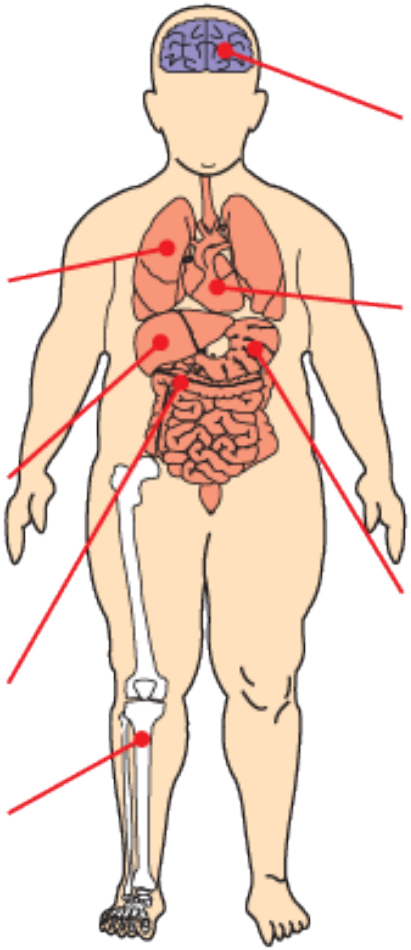
Global map showing the prevalence of obesity in 2008



Obesity Facts

- Worldwide obesity has more than tripled since 1975.
- In 2016, more than 1.9 billion (39%) adults (≥ 18 years) were overweight (39% of men and 40% of women). Of these over 650 million (13%) were obese (11% of men and 15% of women).
- Most of the world's population live in countries where overweight and obesity kills more people than underweight.
- 41 million children under the age of 5 were overweight or obese in 2016.
- Obesity is preventable.

What are the complications of obesity?



Psychosocial
Eating disorders
Poor self-esteem
Body image disorder
Social isolation and stigmatisation
Depression

Pulmonary
Exercise intolerance
Obstructive sleep apnoea
Asthma

Gastrointestinal
Gallstones
Gastro-oesophageal reflux
Non-alcoholic fatty liver disorder

Renal
Glomerulosclerosis

Musculoskeletal
Ankle sprains
Flat feet
Tibia vara
Slipped capital femoral epiphysis
Forearm fracture

Neurological
Pseudotumour cerebri (idiopathic intracranial hypertension)

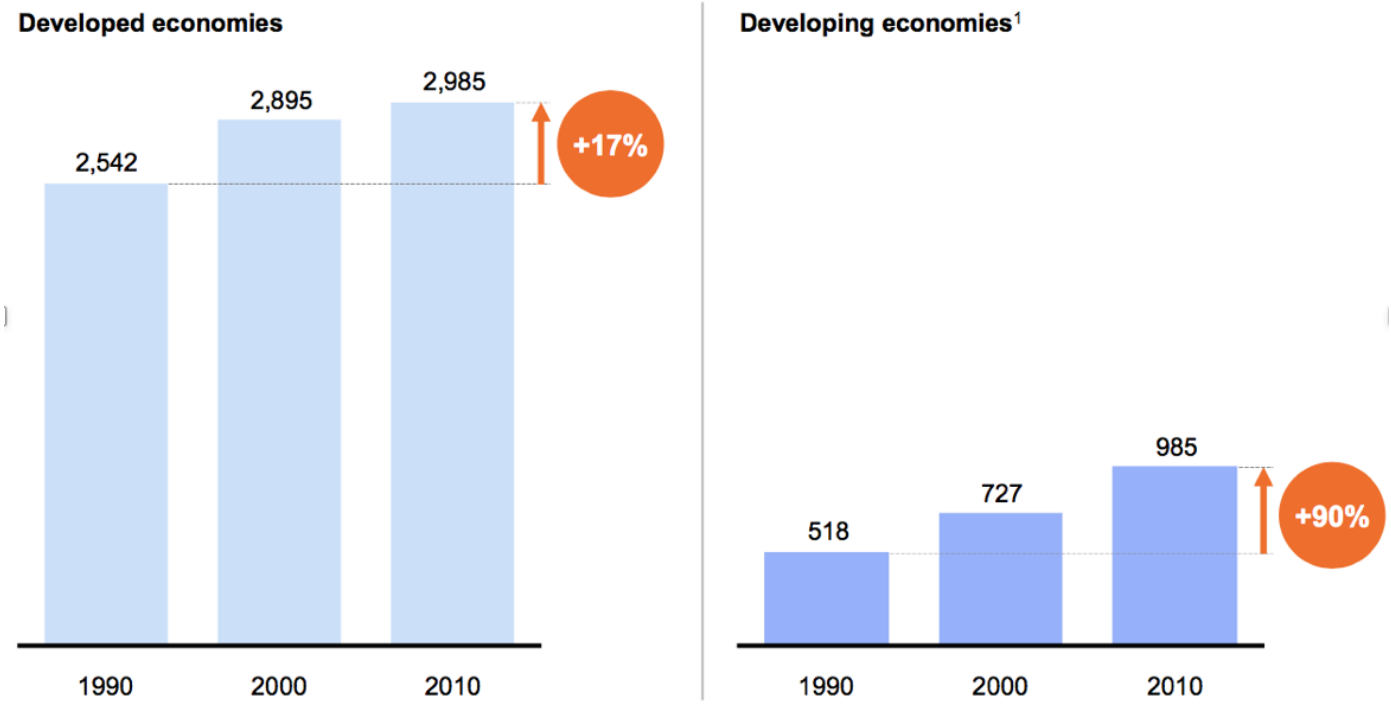
Cardiovascular
Hypertension
Dyslipidaemia
Coagulopathy
Chronic inflammation
Endothelial dysfunction

Endocrine
Insulin resistance
Impaired fasting glucose or glucose intolerance
Type 2 diabetes
Precocious puberty
Menstrual irregularities
Polycystic ovary syndrome (females)

What are the complications of obesity?

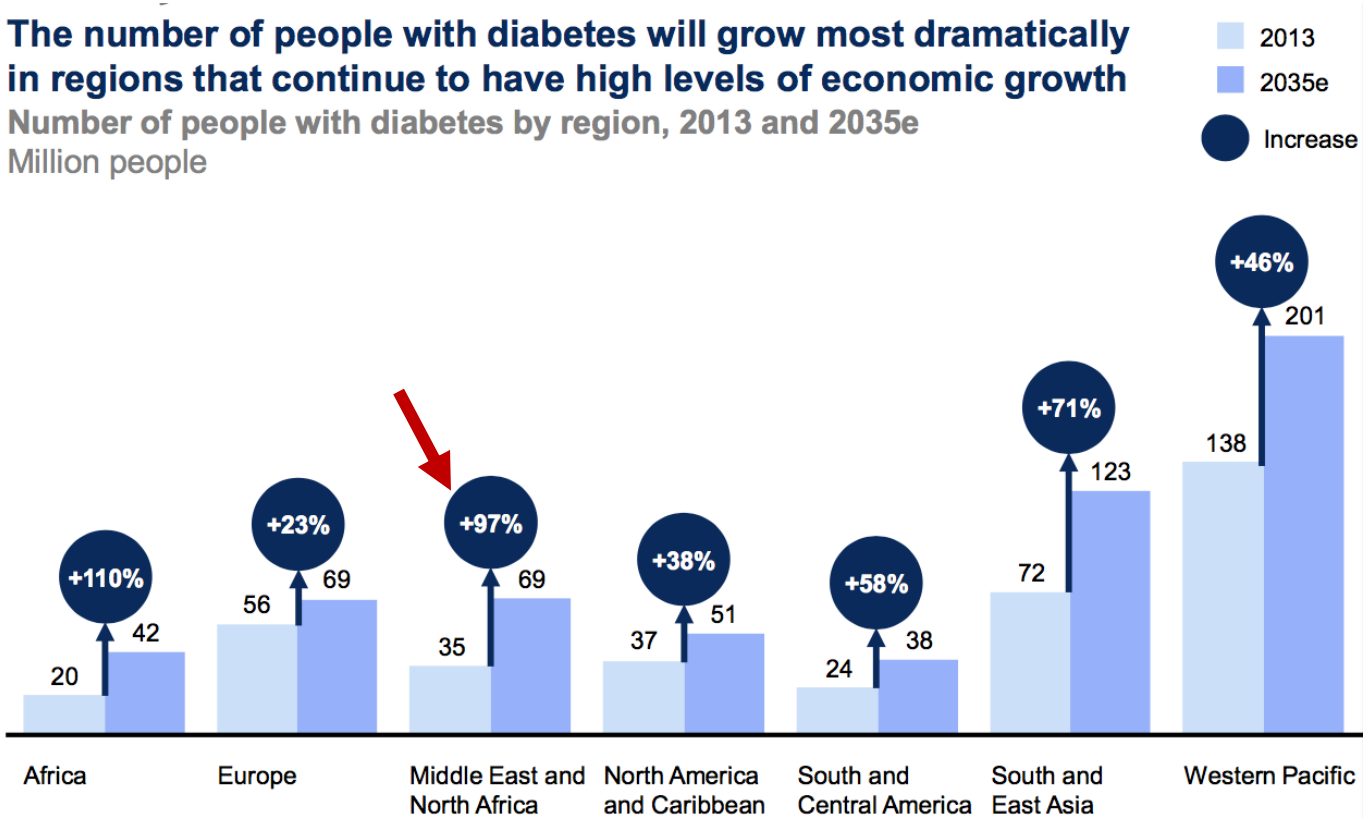
Morbid obesity is a major negative driver of health and healthcare costs

From 1990 to 2010, growth in obesity-related lost DALYs slowed in developed economies but almost doubled in developing economies



What are the complications of obesity?

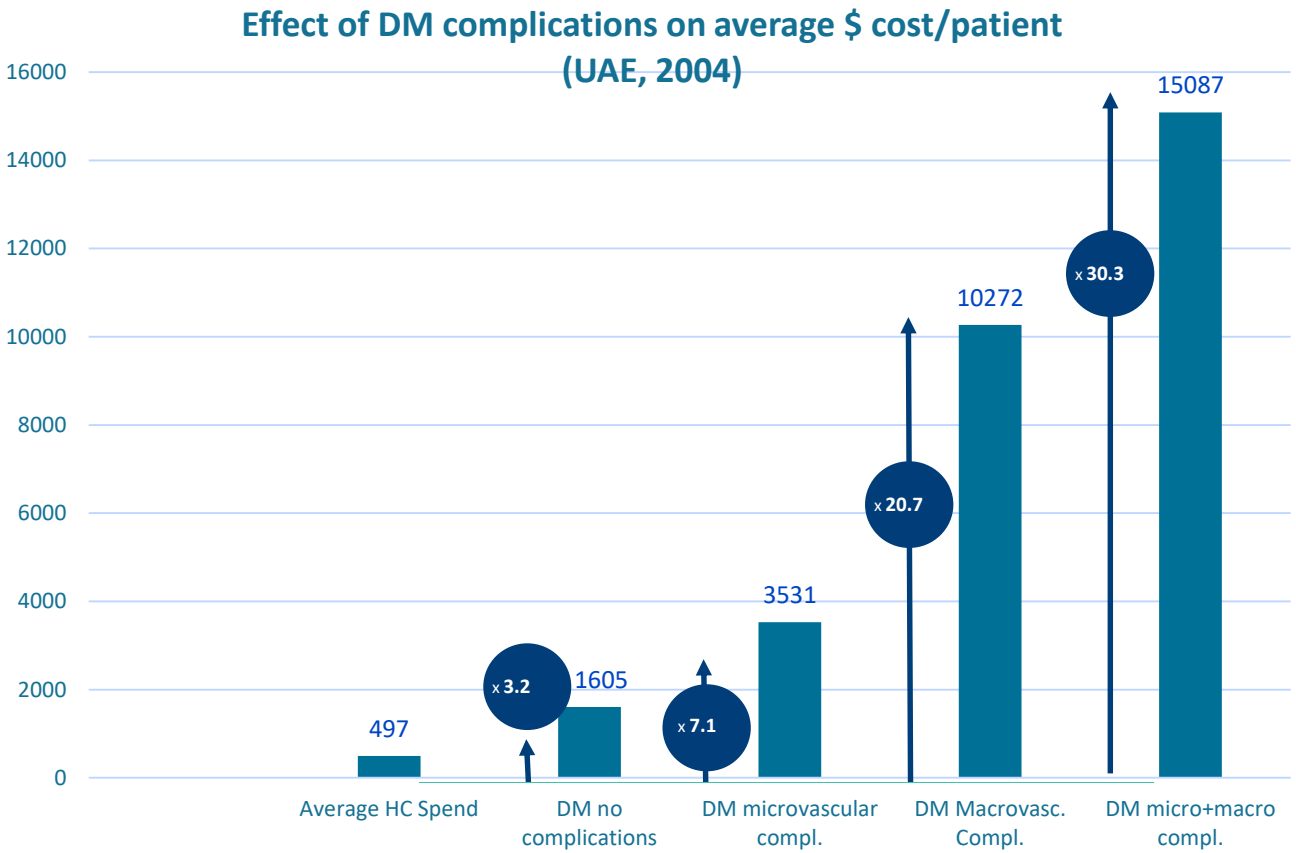
The number of people with Diabetes in the Middle East is expected to double to 69 million, due to the unparalleled incidence growth in Morbid Obesity



Source(s): McKinsey MGI Institute: Overcoming Obesity; an initial economic analysis, 2014, International Diabetes Federation

What are the complications of obesity?

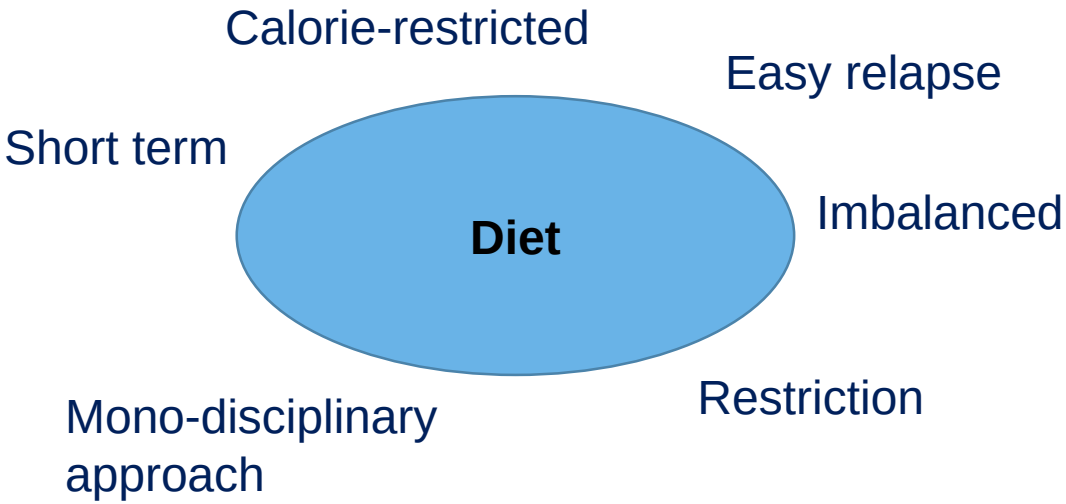
Compared to average healthcare spend in the UAE, Diabetes has up to 30 times higher cost for the healthcare system…

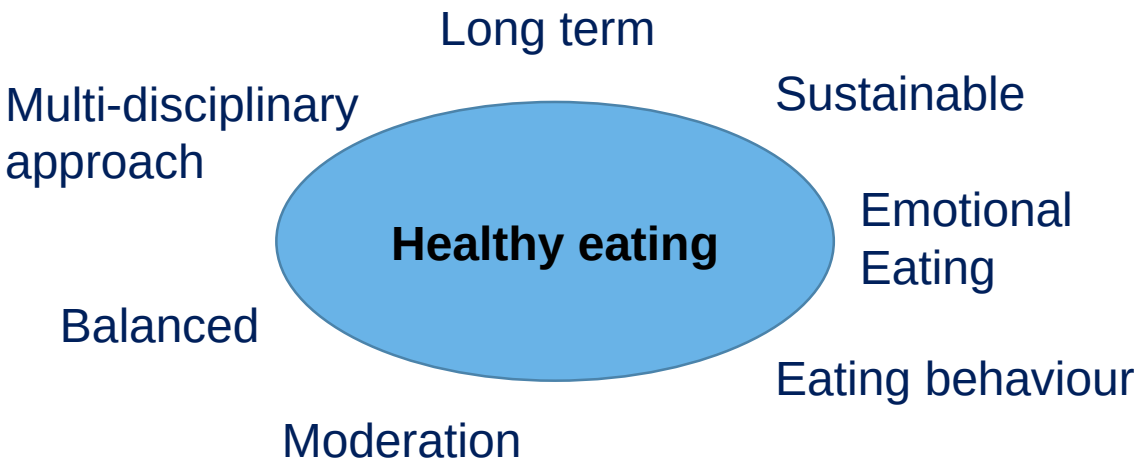


Recommended interventions

Recommended interventions based on BMI and comorbidities						
BMI and Obesity Class →	**Normal BMI 18.5-24.9**	**Overweight BMI 25-29.9**		**Obese BMI 30-39.9**		**Morbidly Obese BMI 40+**
		25-26.9	**27-29.9**	**30-34.9**	**35-39.9**	
↓Recommended	**Low Risk**		**Moderate to High Risk**			**Severe Risk**
Healthy lifestyle recommendations	●	●	●	●	●	●
Behavioural interventions			●	●	●	●
Weight loss medications			Consider with comorbidities	Consider	Consider	Consider
Intragastric balloon			Consider	Consider	Consider	Consider
Bariatric surgery				Consider with uncontrolled type 2 diabetes	Consider with comorbidities	Consider

What is the conventional diet?





The Dutch Obesity Clinic & Quro

What is our model?

QURO proposes to offer a multi-disciplinary expert approach inclusive of Bariatric Surgery for the Morbid Obese patients of the UAE.

Founded 1993	8 Clinics
5,000 Bariatric procedures (2017)	24 Well trained surgeons
7,000 New patients/year	45% Dutch market share
45,000 Patients in database	82% Compliance
>100,000 Patients with indication	23 teams

- Medtronic and NOK have a global partnership which is marketed as Quro in the Middle East
- Largest healthcare provider for Morbid Obesity in Europe (>5,000 surgeries/year)
- Health product consists of screening, pre-surgical care, surgery, post-surgical care and long term follow up
- Proven effective long term, complete and integrated behavioral change program.
- Highly experienced / proven track record: Database of >45,000 patients with 82% compliance makes for a replicable, scalable concept
- Highly specialized and experienced multidisciplinary care teams have a strong focus on personalized care for morbidly obese patients.
- Low complication rates and high compliance rates
- First Clinic in the Middle East in 2018
- Dutch multidisciplinary team and Bariatric surgeon on the ground combined with locally hired teams.

What is our model?

The Obesitas International Program is the largest program in Europe with consistent quality measures and continuous improvement since 1993

Transparency

- Transparent data available for EWL, Compliance and complication rates
- Self assessment and Benchmarking data against other market players in the Netherlands available through national registry (DICA and DATO)
- Transparency of all consumption of health care services by patient for the entire patient journey
- Transparent treatment plan and implementation

Predictability of cost

- Predicable rates for entire program
- Package pricing for each surgery type (SG, RYGB, BPD)
- Prevention of high unpredictable cost for co-morbidities through intervention

Superior results

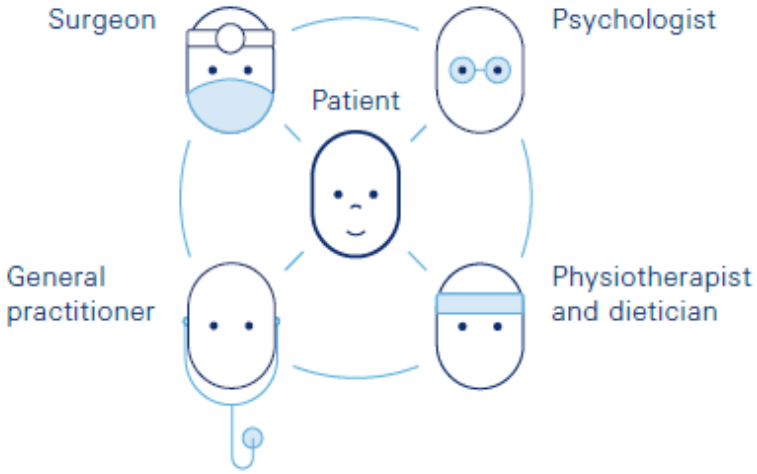
- Consistent high compliance rates as compared to the national average
- Consistent low complication rates as compared to the national average
- Consistent and continued high Excess Weight Loss rates
- Consistent improved Quality-of-Life (Happiness) rates

High volume center (of excellence)

- Surgeons are employed by Obesitas International with focus on Bariatrics
- Minimum number of 100 surgeries per year per surgeon
- Creating a high volume center. According to studies, this is associated with
  - improved patient outcomes
  - lower complication rates

What is our model?

“Our multidisciplinary team is designed to help you achieve much more than just lose weight. We focus on a drastic lifestyle change by means of better nutrition, more physical activity and by dealing effectively with any obstacles to leading a healthy lifestyle”

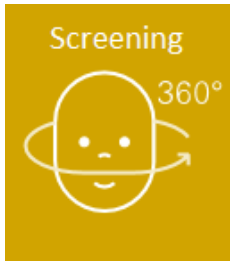


Quro always takes a personalized approach.

Our highly skilled multidisciplinary team will tailor their expertise to your individual needs.

A unique dedicated approach to your personal needs

We provide guidance and education every step of the way from screening to lifestyle change programs and long-term follow up.



- Assessment of inclusion criteria according to the national and international guidelines
- Assessment of the most suitable treatment for you

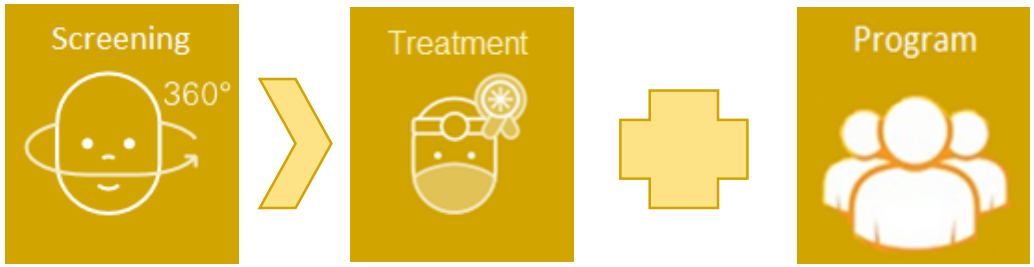


Bariatric surgery

Intragastric Balloon

Conservative treatment with medication







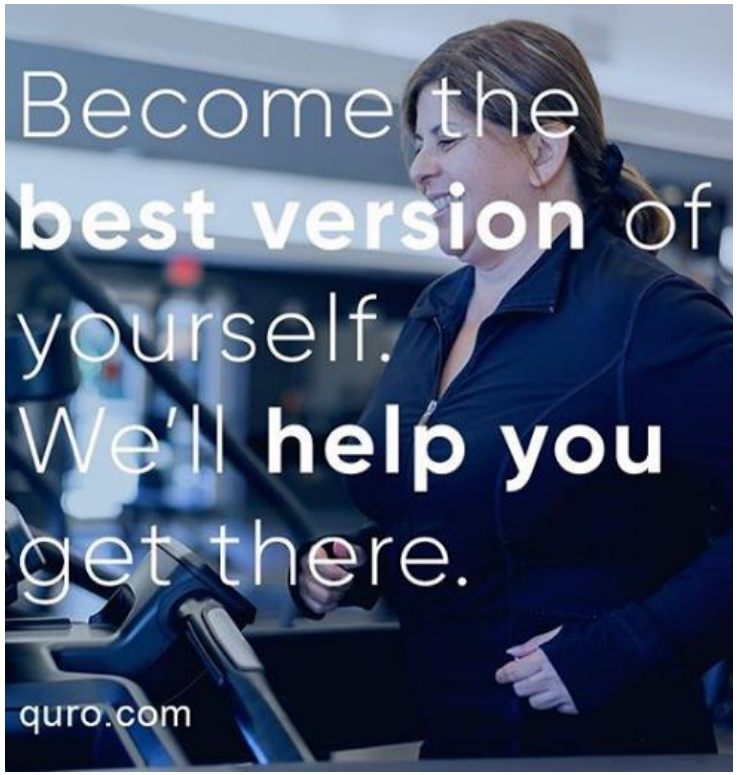
- Sessions with the different members of the multidisciplinary team.
- Lifestyle and behavioural change program to ensure the optimal weight loss and development of sustainable healthy habits.

Psychology sessions

- Discuss **lifestyle changes** plan
- Work on **emotion regulation**
- Identify distraction techniques
- Treat **body dysmorphic disorder**
- Address the underlying medical, emotional or psychological cause of **body signals** such as headaches, unease, high blood pressure, digestive problems
- Differentiate between Hunger and **Emotional eating**
- Identify the **external factors** that influence eating behaviour
- Design a **relapse prevention plan**



Physiotherapy sessions

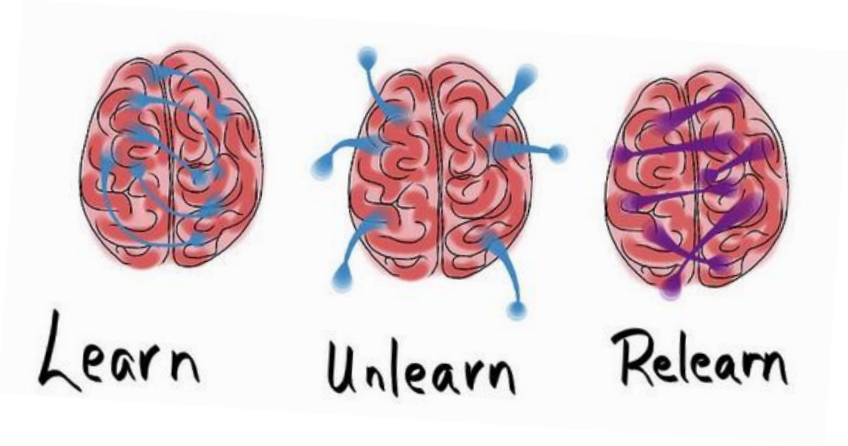


- Identify the **pros and cons of exercise**
- Define an appropriate active **lifestyle goal**
- Discuss exercise **guidelines**
- Develop **healthy exercise patterns**
- Achieve a better **quality of life**
- Learn to **listen to your body**



Dietary sessions

- Identify the **causes of weight gain**
- Develop healthy **eating habits**
- Advise about healthy **cooking methods**
- Help identify the different **food groups**
- Make sure your diet is **balanced**
- Identify the different **eating behaviours**
- Improve your **eating behaviour**
- Learn to listen to your body

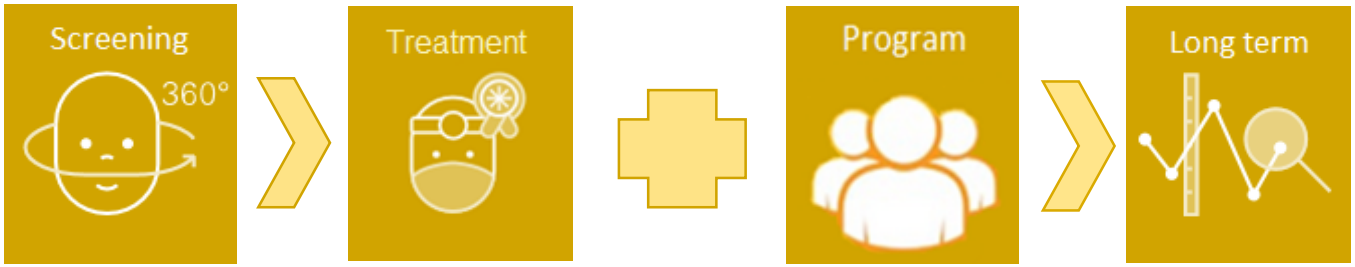




Medical check-ups



- Identify and treat the vitamin and mineral deficiencies
- Develop healthy lifestyle patterns
- Improve comorbidities
- Achieve a better quality of life
- Follow-up with the patients and monitor their health

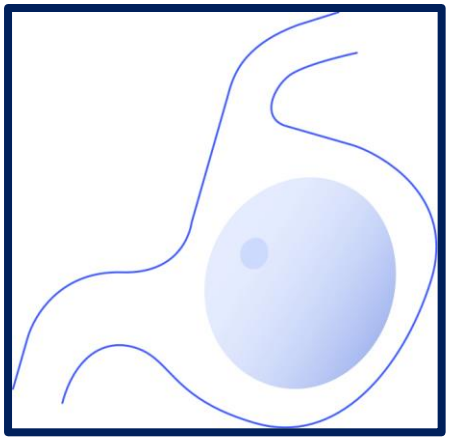


- Annual follow-up with multidisciplinary team
- Higher quality of life both physically and mentally
- Cured or Improved comorbidities
- Proven treatment for morbid obesity with maximum long-term health benefits

Balloon







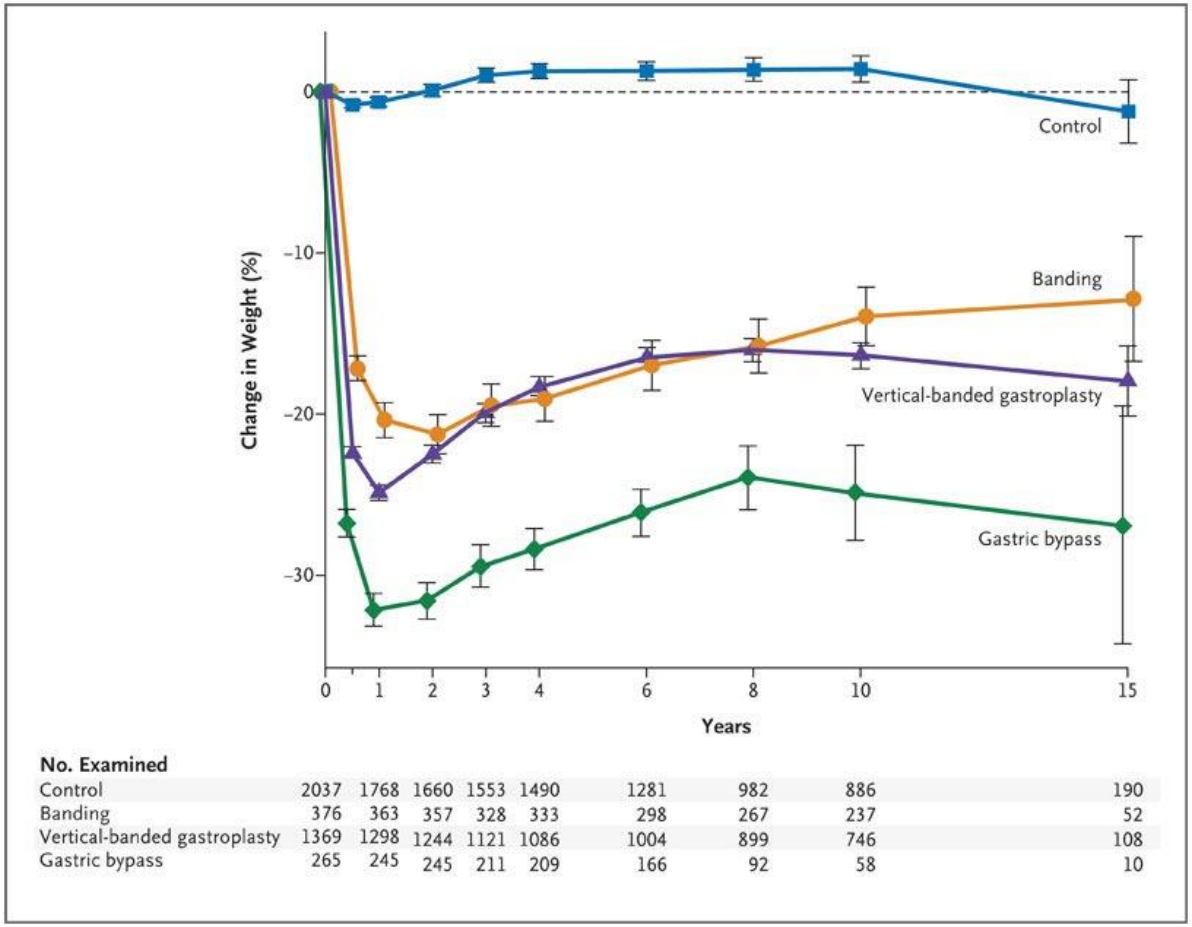


- The patient swallows the capsule.
- An X-ray will be done to confirm that the balloon is present in the stomach.
- The balloon will be excreted spontaneously after a predetermined period of around 16 weeks.

Bariatric Surgery

The only effective treatment with long-lasting results

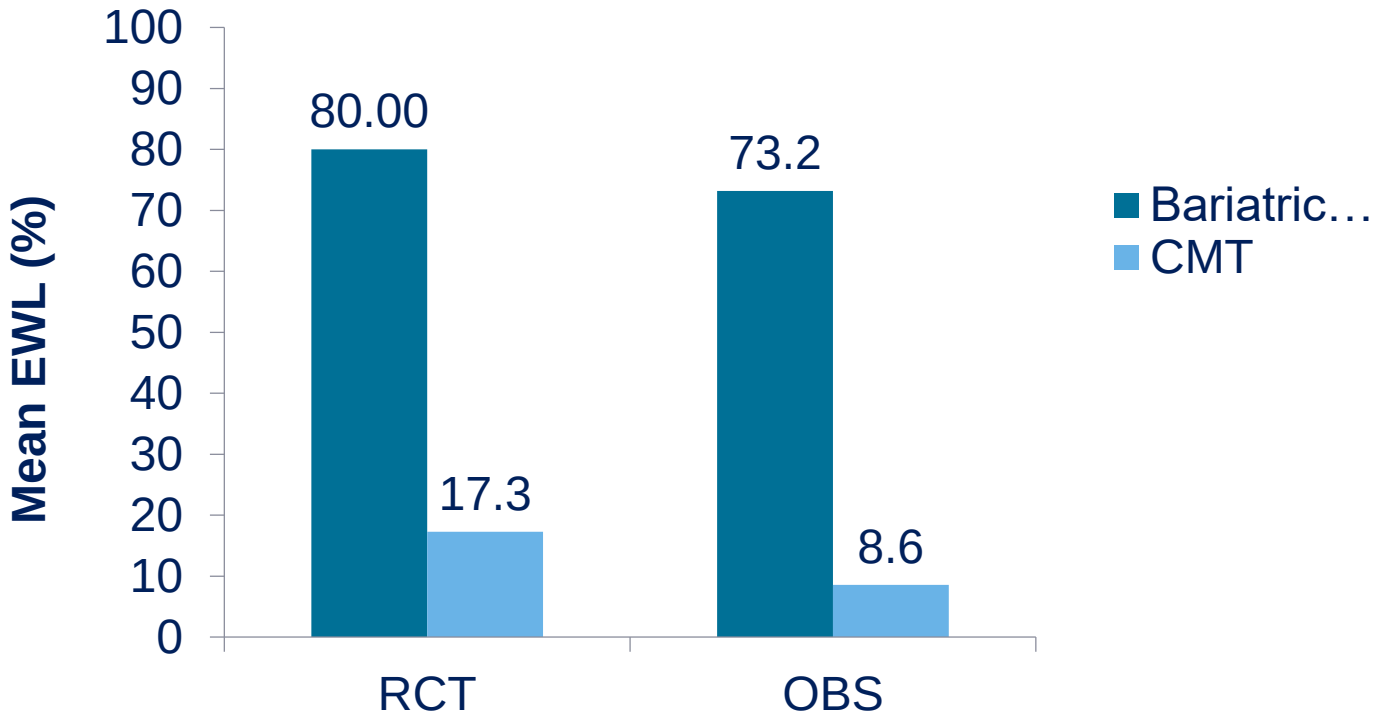
Changes in Weight (%) conservative vs surgical



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

Sjostrom L et al. N Engl J Med 2007;357:741-752

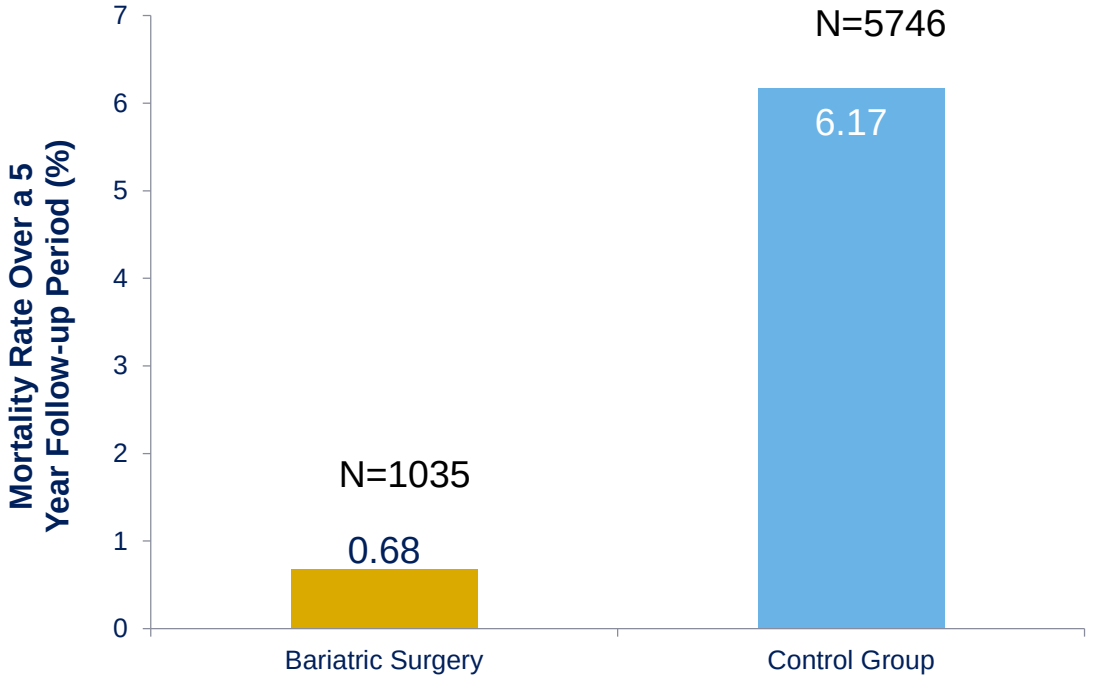
Bariatric Surgery – Greater EWL



Ribaric et al. Diabetes and Weight in Comparative Studies of Bariatric Surgery vs Conventional Medical Therapy: A Systematic Review and Meta-Analysis. Obes Surg. First published ahead of print 28 December 2013.

Bariatric Surgery – Reduction in Mortality

Bariatric surgery leads to a reduction in mortality rates after 5Y, which translates to a decrease in the *relative risk* of death by **89%**

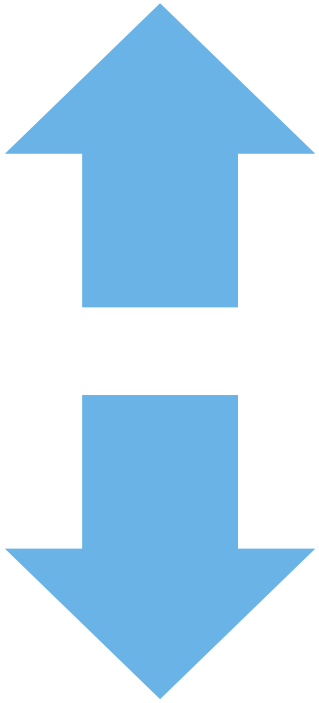


Christou et al. Surgery Decreases Long-term Mortality, Morbidity, and Health Care Use in Morbidly Obese Patients. Ann Surg. 2004; 240(3):416–424.

IFSO criteria for Bariatric Surgery

- Weight > 45kg above the ideal body weight for sex, and height.
- BMI > 40 by itself or >35 if there is an associated obesity illness, such as hypertension or sleep apnoea or >30 with uncontrolled Type 2 Diabetes.
- Reasonable attempts at other weight loss techniques
- Age 18-65
- Obesity related health problems
- No psychiatric or drug dependency problems
- A capacity to understand the risks and commitment associated with the surgery.
- Pregnancy not anticipated in the first two years following surgery

Risks and Benefits of Bariatric Surgery in Comparison to Non-Surgical Treatment



Benefits

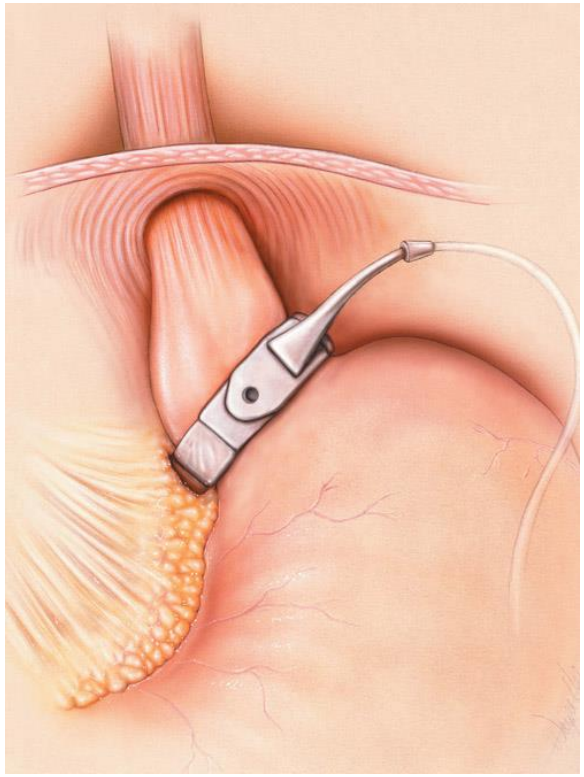
- Weight loss
- Improvement in quality of life
- Reduction in mortality
- Remission of metabolic diseases
- Increase in life expectancy
- Potentially cost-effective

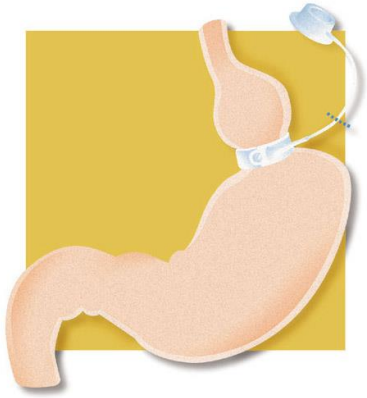
Risks

- Postoperative pain
- Slower return to normal activity compared to non-surgical treatment
- In some cases, surgery-related complications can arise (bleeding, wound infection, anastomotic leak, ulcers and nutritional deficiencies)

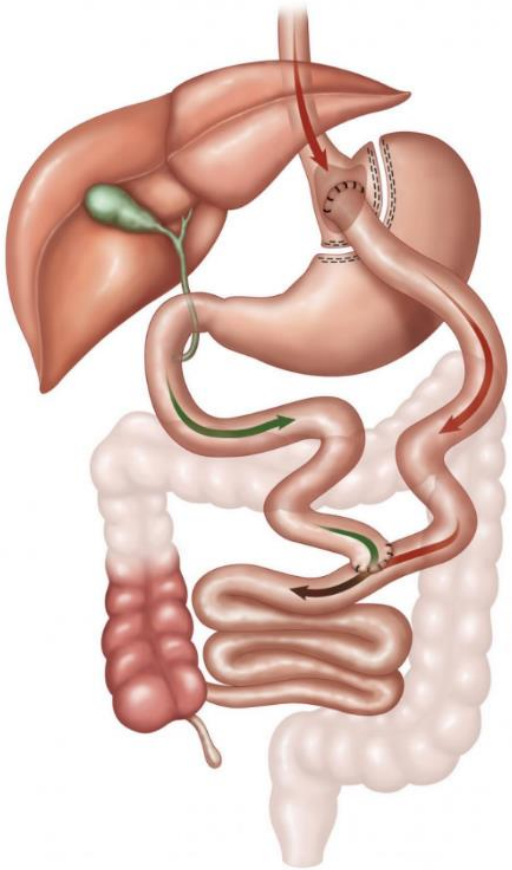
Surgical options

Gastric Band

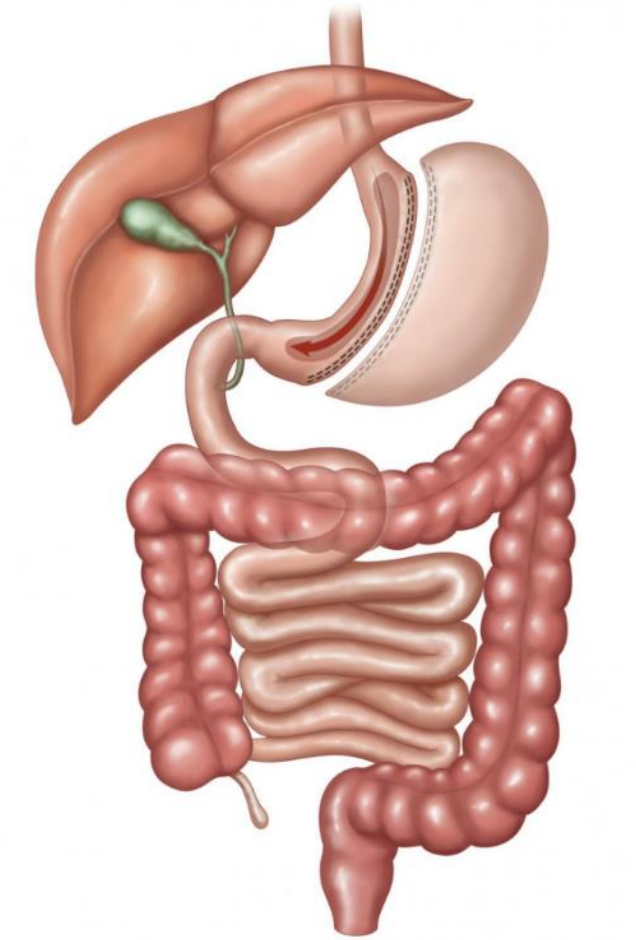




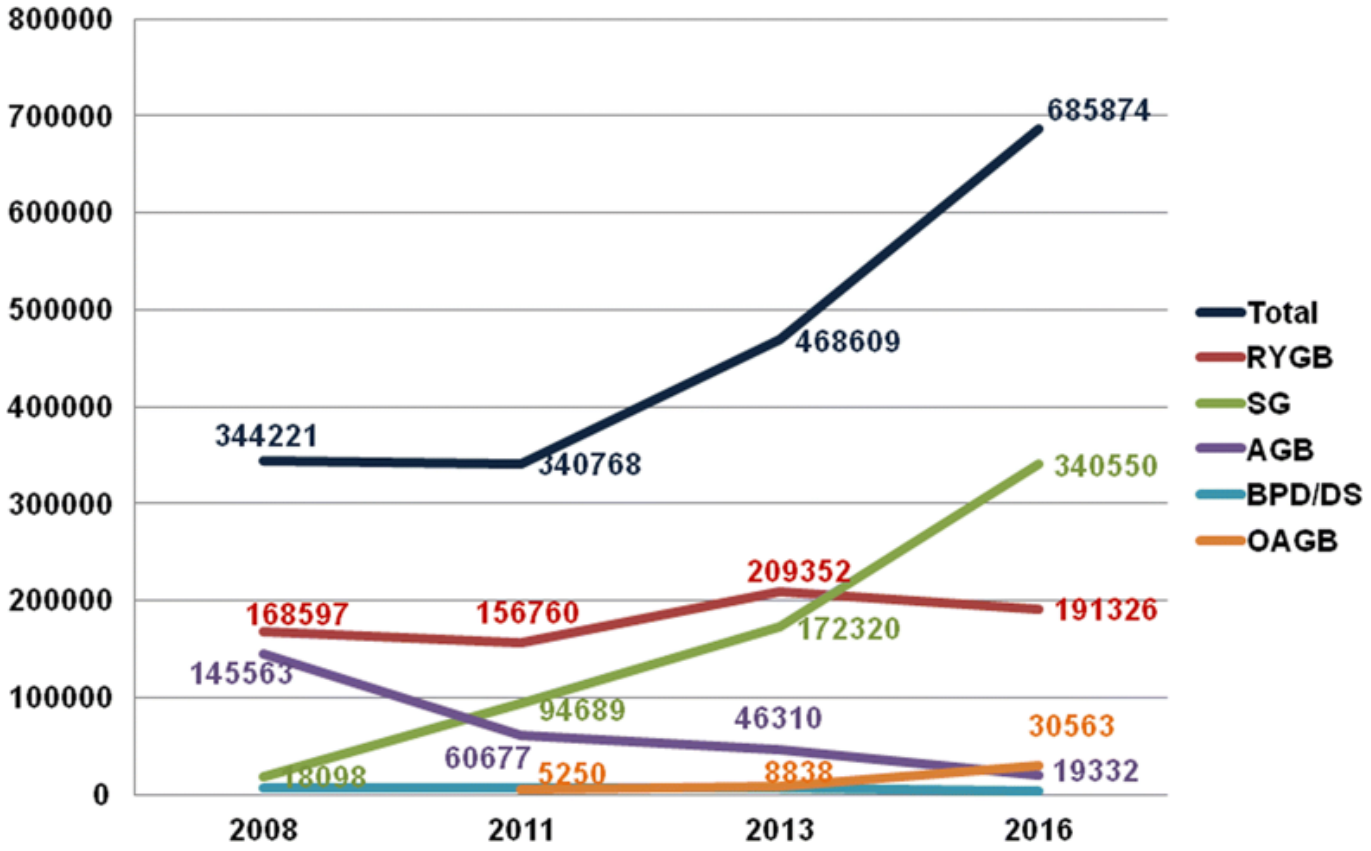
Gastric Bypass



Sleeve gastrectomy

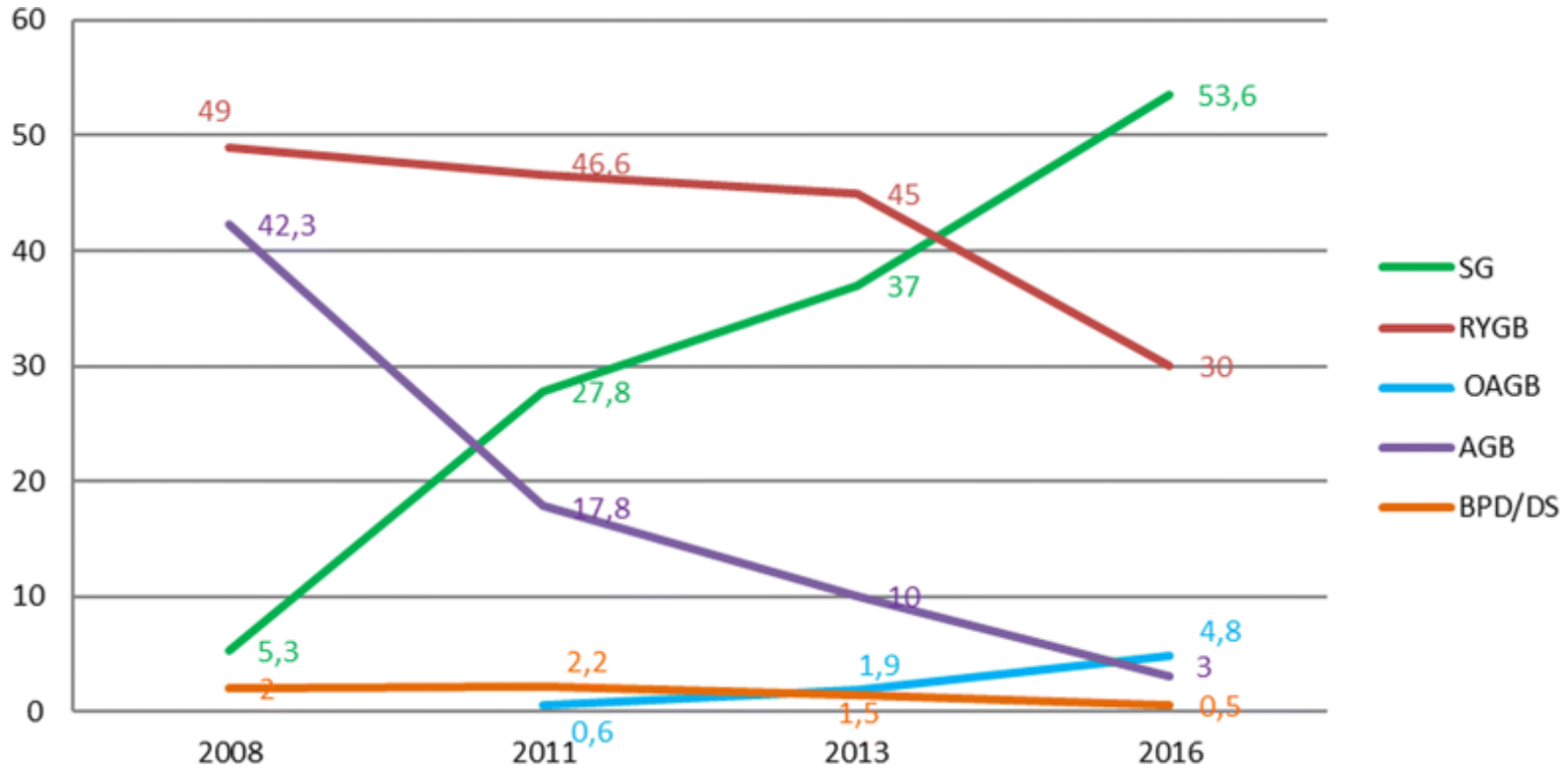


Number of the main primary bariatric/metabolic surgical procedures from 2008 to 2016



AGB adjustable gastric banding, **RYGB** Roux-en-Y gastric bypass, **SG** sleeve gastrectomy, **BPD-DS** biliopancreatic diversion-duodenal switch, **OAGB** one-anastomosis gastric bypass

Number of the main primary bariatric/metabolic surgical procedures from 2008 to 2016



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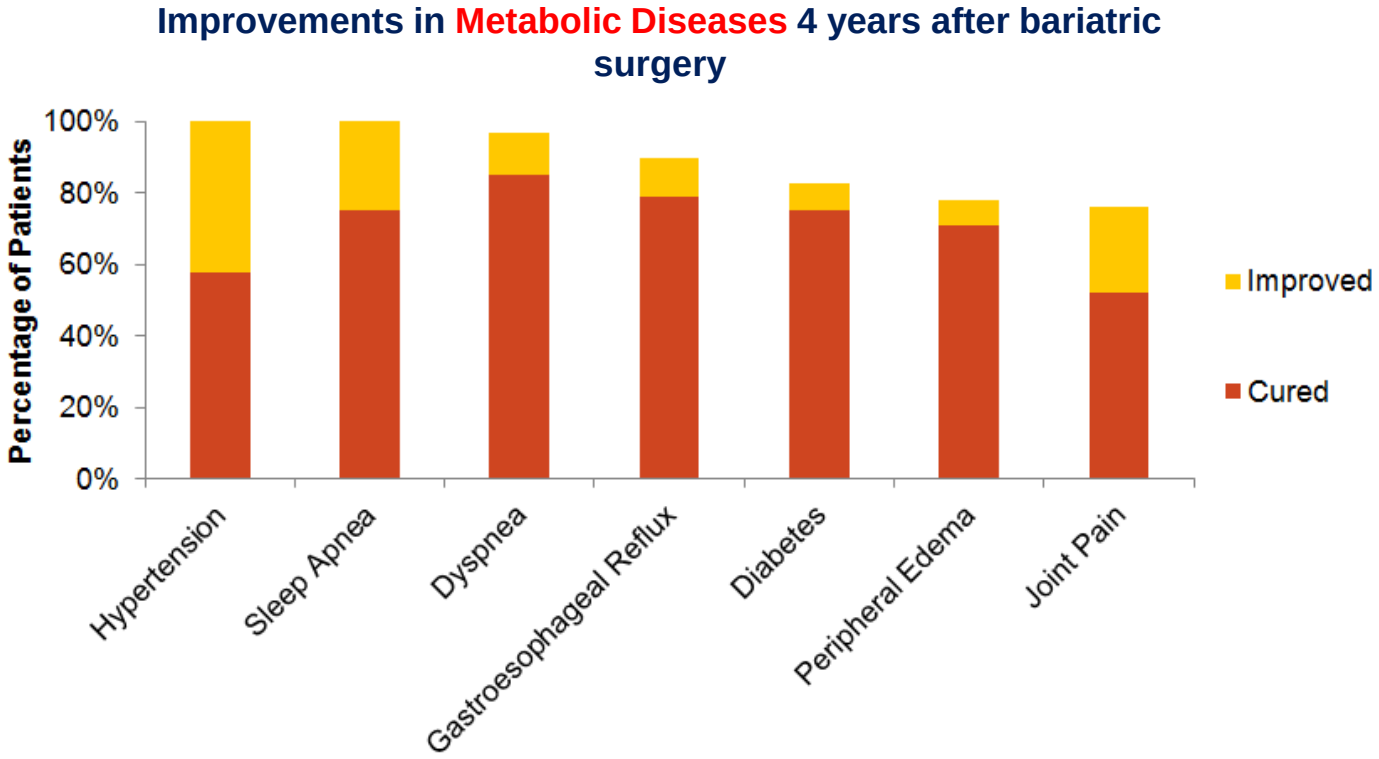
Who Would Have Thought It?

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

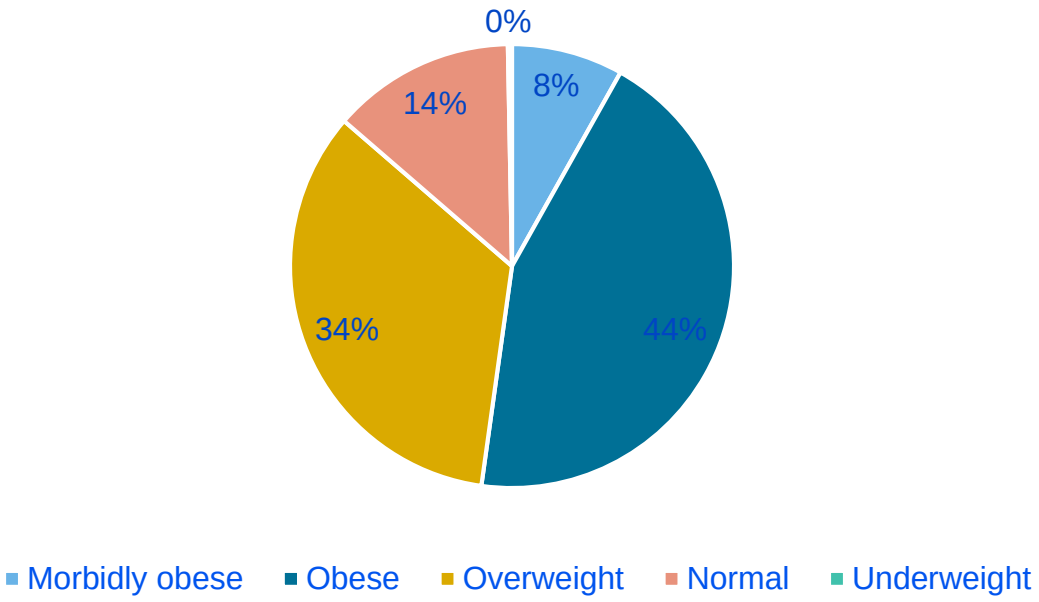
Clinical Benefits of Bariatric Surgery



Frigg et al. Reduction in Co-morbidities 4 Years after Laparoscopic Adjustable Gastric Banding. Obes Surg. 2004; 14(2):216-223

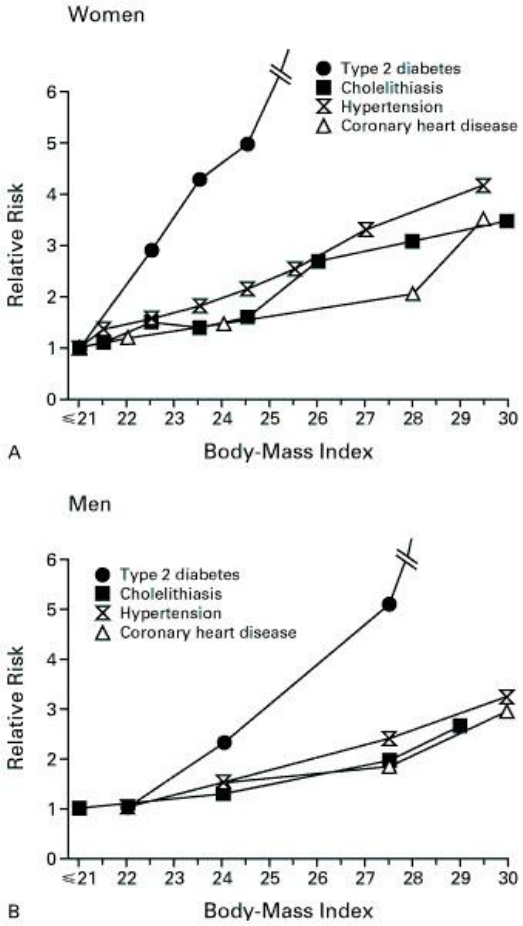
Obesity prevalence within T2DM

Obesity is a major risk factor for developing T2DM, with 86% of T2DM patients being either overweight or obese in the UK.



Daousi et al. Prevalence of Obesity in Type 2 Diabetes in Secondary Care: Association with Cardiovascular Risk Factors. Postgrad Med J. 2006; 82:280-285

Relation between Body-Mass Index up to 30 and the Relative Risk of Type 2 Diabetes, Hypertension, Coronary Heart Disease, and Cholelithiasis.



Willett WC et al. N Engl J Med 1999;341:427-434.

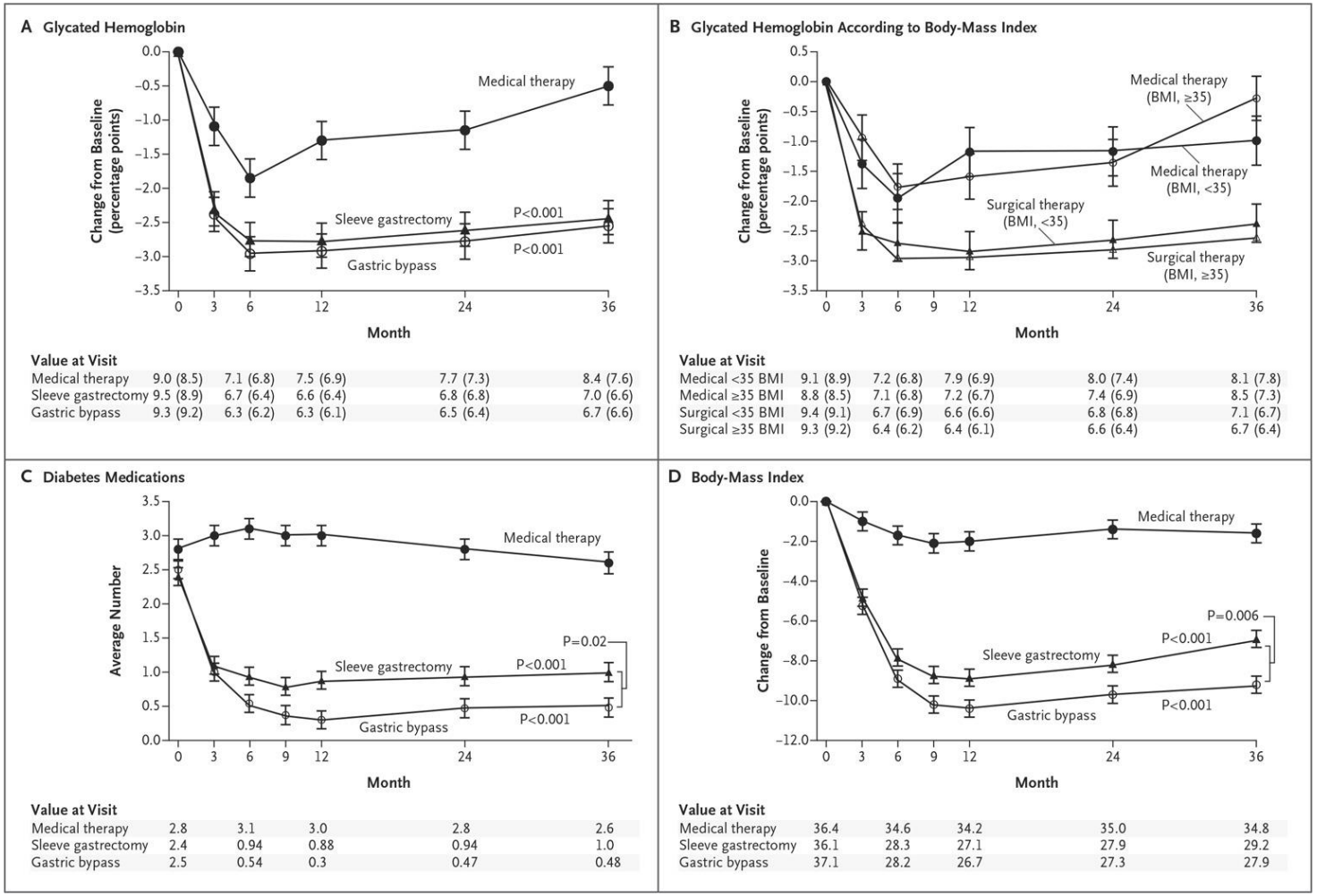
The NEW ENGLAND JOURNAL of MEDICINE

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., Sangeeta R. Kashyap, M.D., for the STAMPEDE Investigators

N Engl J Med
Volume 370(21):2002-2013
May 22, 2014

Mean Changes in Measures of Diabetes Control from Baseline to 3 Years



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)

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)

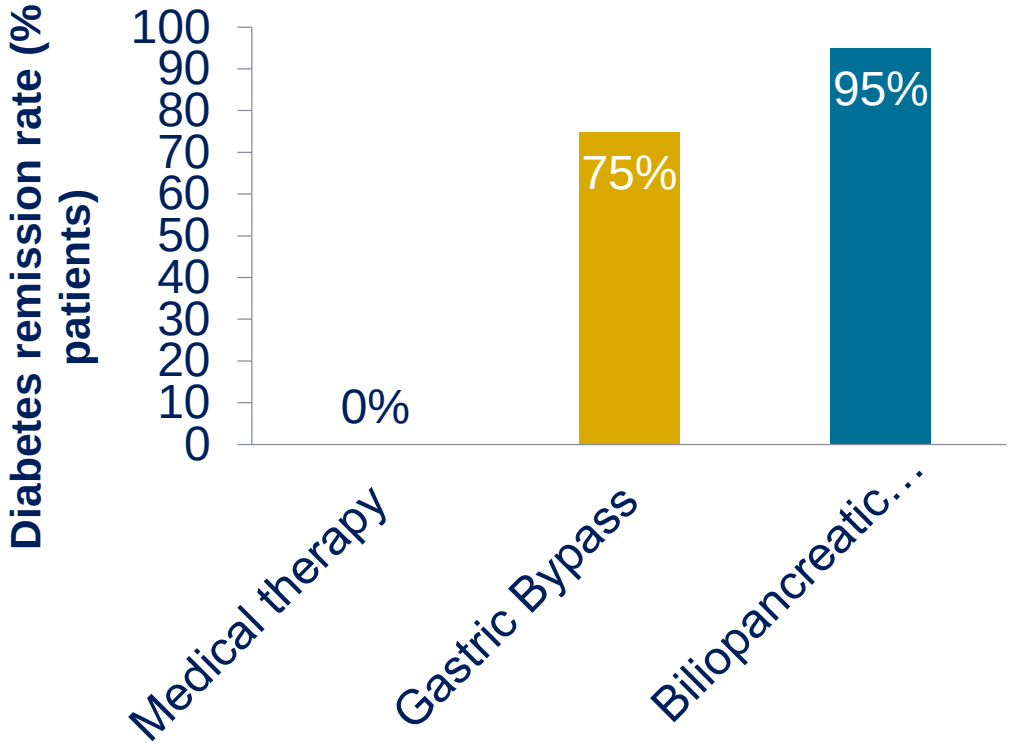
Value at Visit

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

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

At 2 years significantly higher diabetes remission rates were reported for gastric bypass (p<0.001) and biliopancreatic diversion (p<0.001) compared to medical therapy.



Mingrone et al. Bariatric Surgery versus Conventional Medical Therapy for Type 2 Diabetes. N Engl J Med. 2012; 366(17):1577-1585

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Do you have any questions for us? We are here to help.

You can now make an appointment for the free orientation meeting

