Pouch Size and Length of BP-Limb

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Metabolic and Bariatric Surgery

Swiss Society for the Study of morbid Obesity and metabolic disorders

Fortbildungstag
Journée de formation post-graduée

Disclosures

Educational grant

Travel grants

Gastric Bypass – Variants

Short Limb Gastric Bypass

Standard Gastric Bypass

Long Limb Y-Roux Gastric Bypass

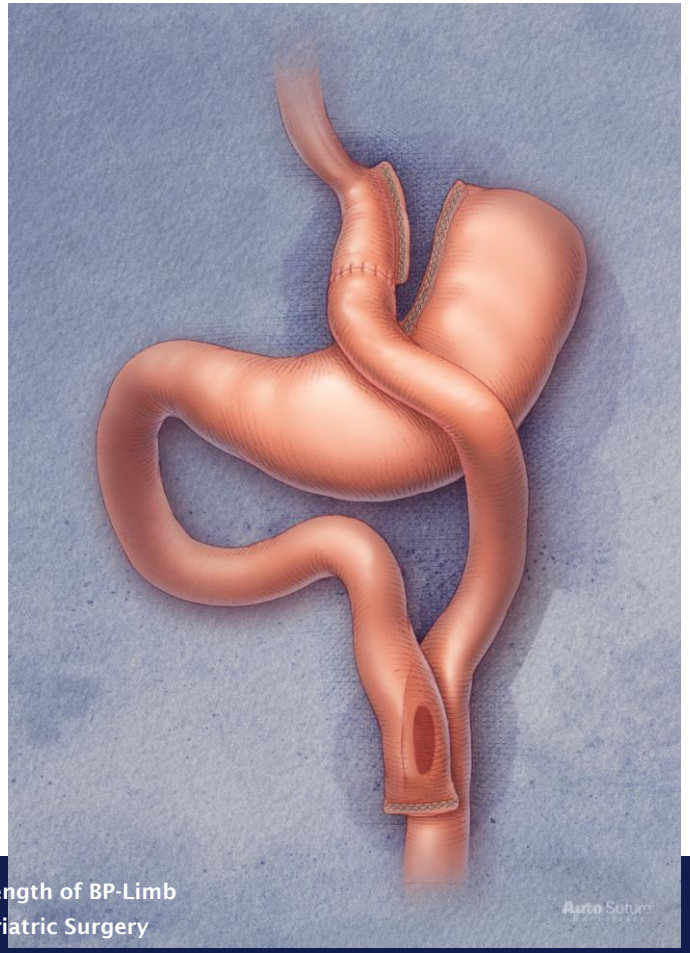
Very Long Limb Gastric Bypass

Distal Very Long Roux Limb Gastric Bypass

Distal Gastric Bypass

Banded Gastric Bypass

Omega Loop Gastric Bypass



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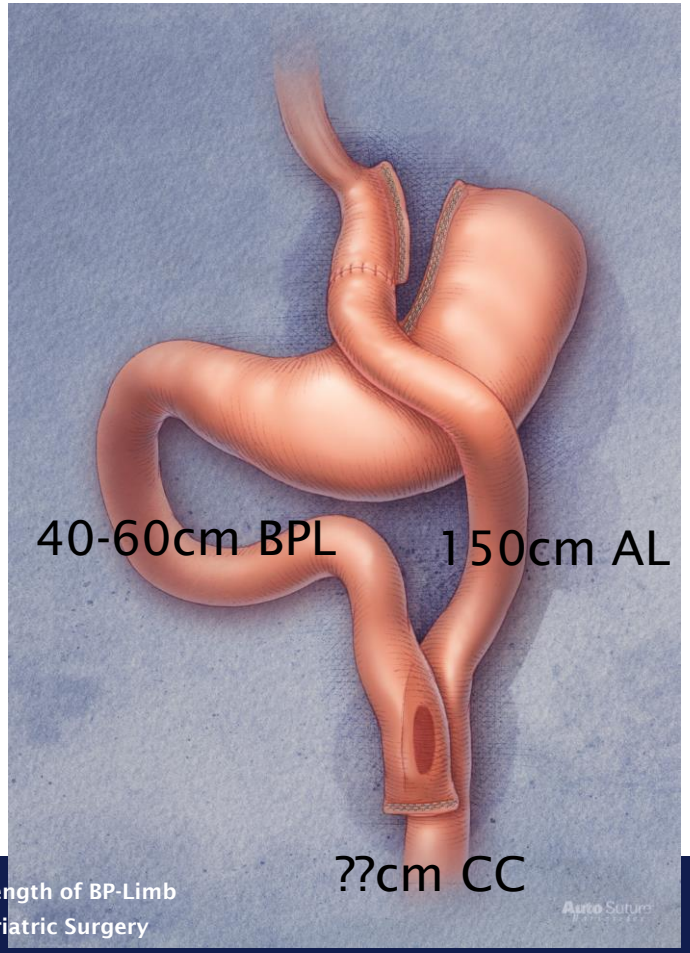


Gastric Bypass – Pouch Size

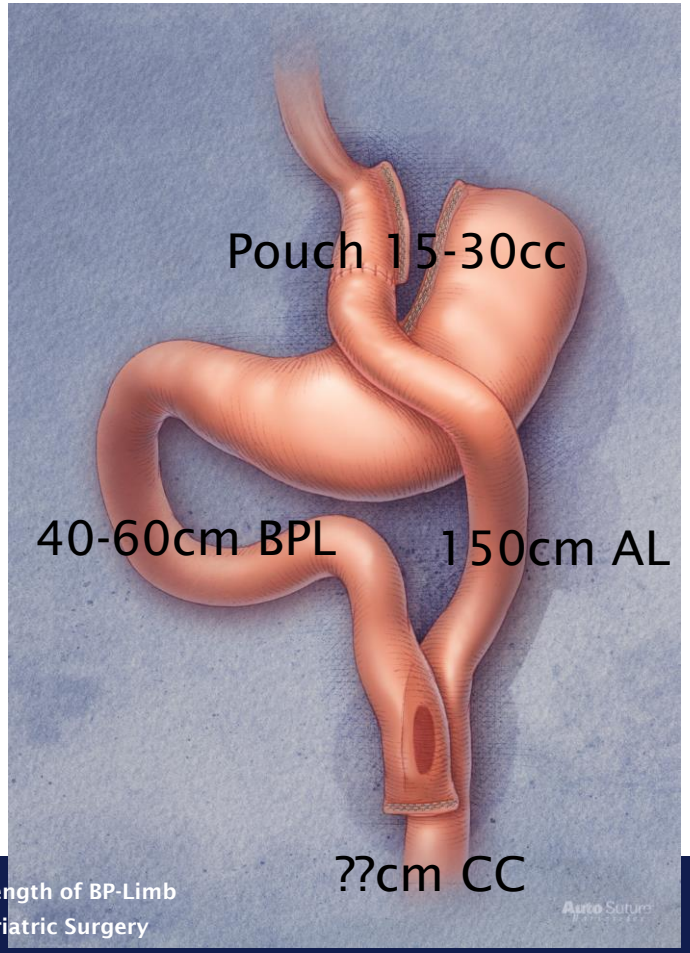
15-30cc

Everything in literature...

Impact on weight loss

No Impact on weight loss...

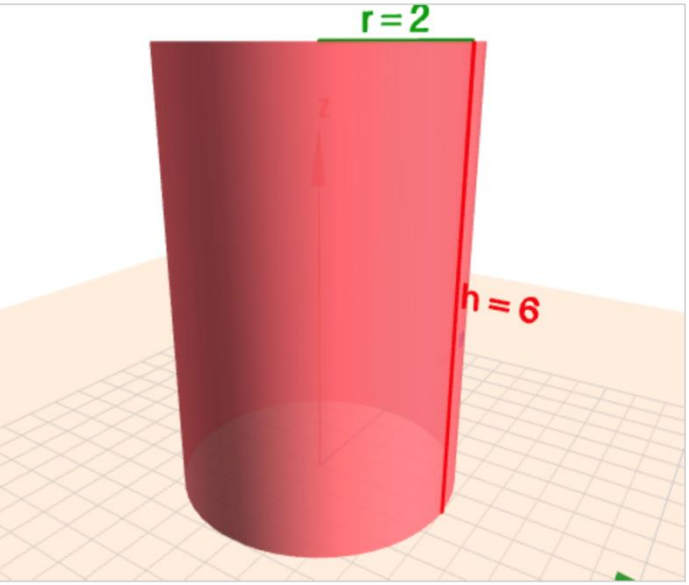
Volume = Basis · Height → $V = \pi \cdot r^2 \cdot h$



Pouch size

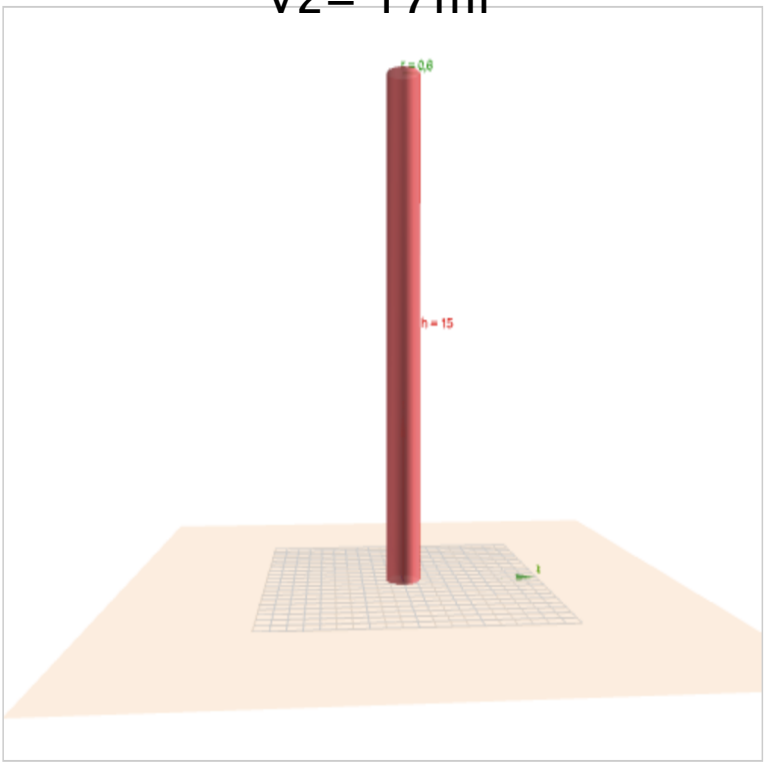
Pouch 1:

40mm width
60mm length
V1= 75,4ml



Pouch 2:

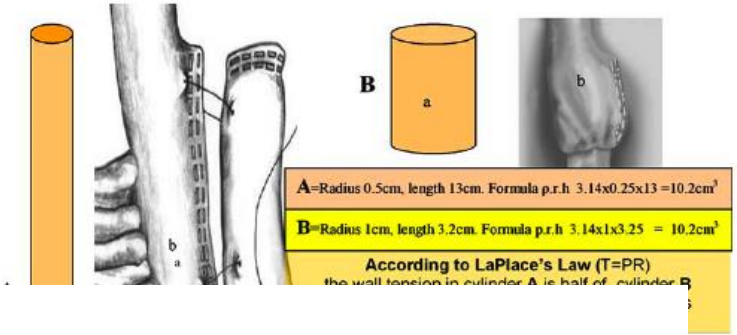
12mm width
150mm length
V2= 17ml



Pouch size

An Analysis of Gastric Pouch Anatomy in Bariatric Surgery

Rafael F. Capella · Vincent A. Iannace
Joseph F. Capella



LaPlace´s Law: **wall tension**

$$K = \frac{P_{\mathrm{tm}} \cdot r}{d}$$

(K = Wandspannung, P_{tm} = transmuraler Druck, r = Innenradius, d = Wanddicke).

Poiseulle´s Law: laminar **flow rate**

$V/t = (r^4 \times \pi \times \Delta P) / (8 \times \eta \times l)$

mit
r = Innenradius des Rohres
ΔP = Druckdifferenz zwischen den beiden Enden des betrachteten Rohrabschnittes
η = dynamische Viskosität ("*eta*") des Fluids
l = Länge des betrachteten Rohrabschnittes

× 1 cm) represents our

Pouch size

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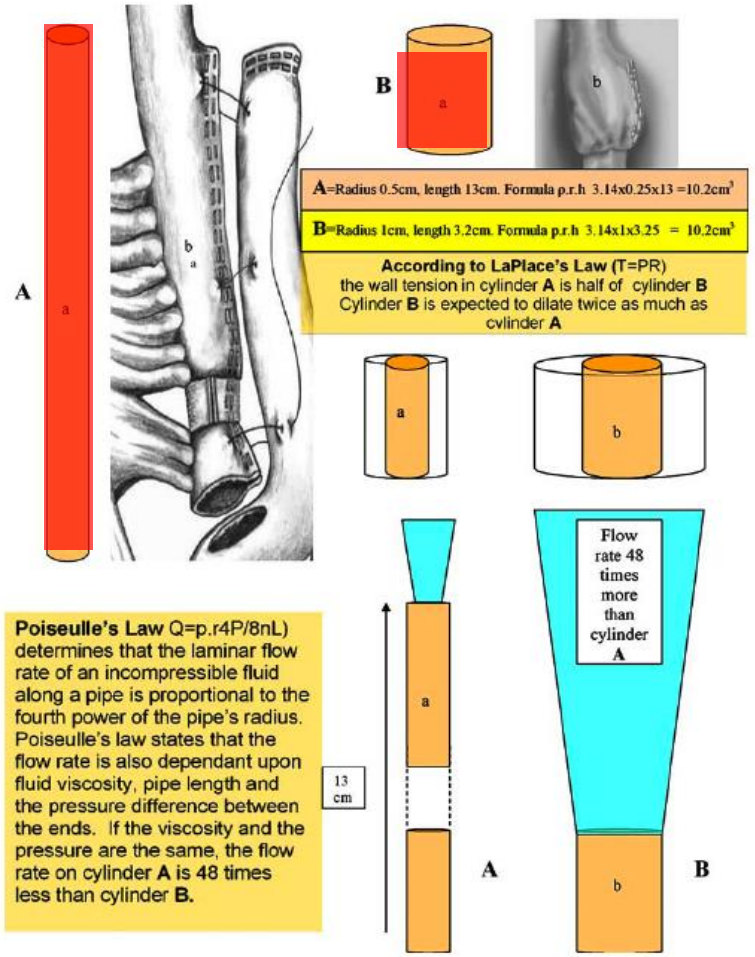

Capella RF et al. : Obes Surg (2008) 18: 782-790

Fig. 1 Application of LaPlace and Poiseulle's Laws to pouch construction using a model. A long narrow cylinder (13cm × 1 cm) represents our pouch and is compared to a 3.2cm × 2cm cylinder, representing the most common pouch used in laparoscopic surgery

Pouch size

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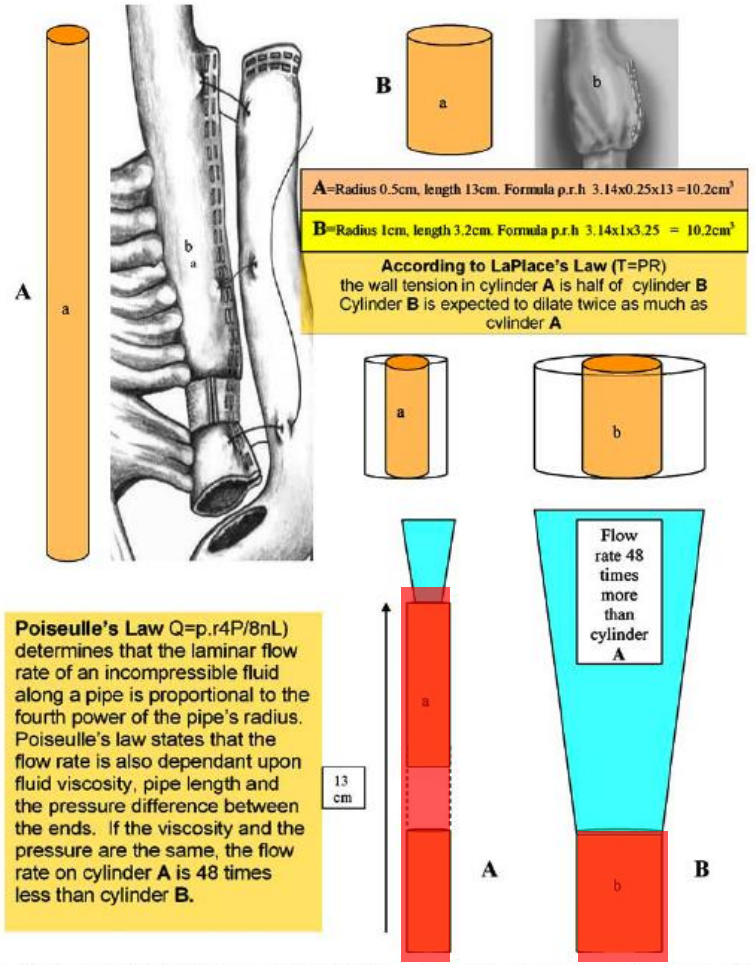

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LaPlace´s Law: **wall tension**

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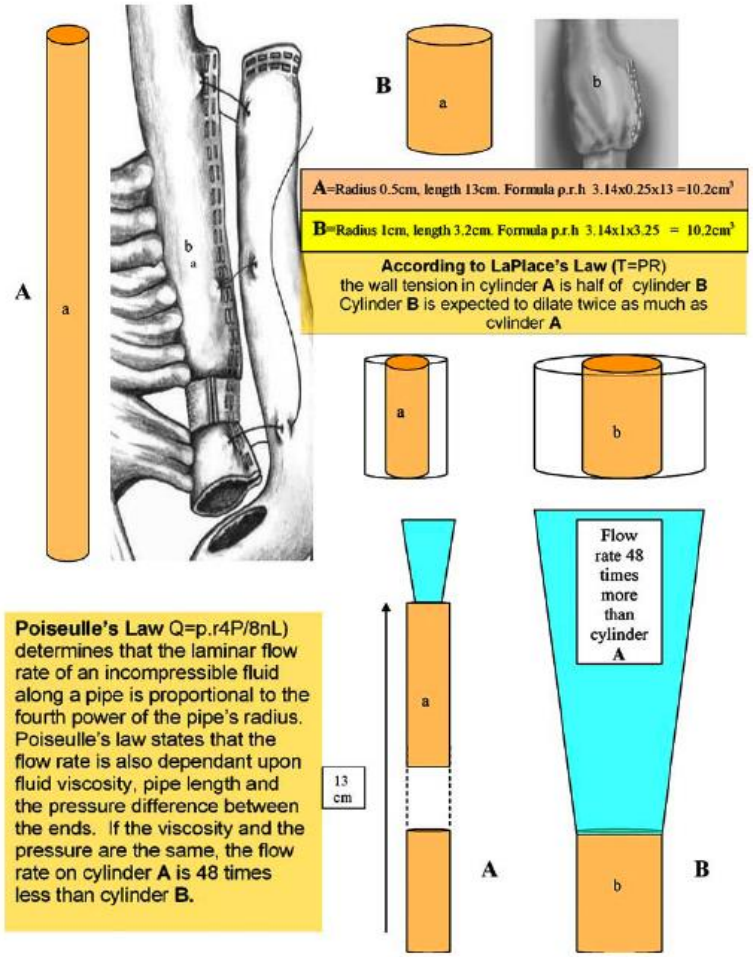
„**Long narrow** cylinders will have less wall tension and slower flow rate of material than a wider cylinder“



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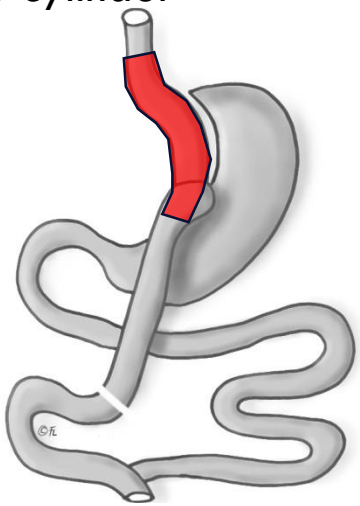

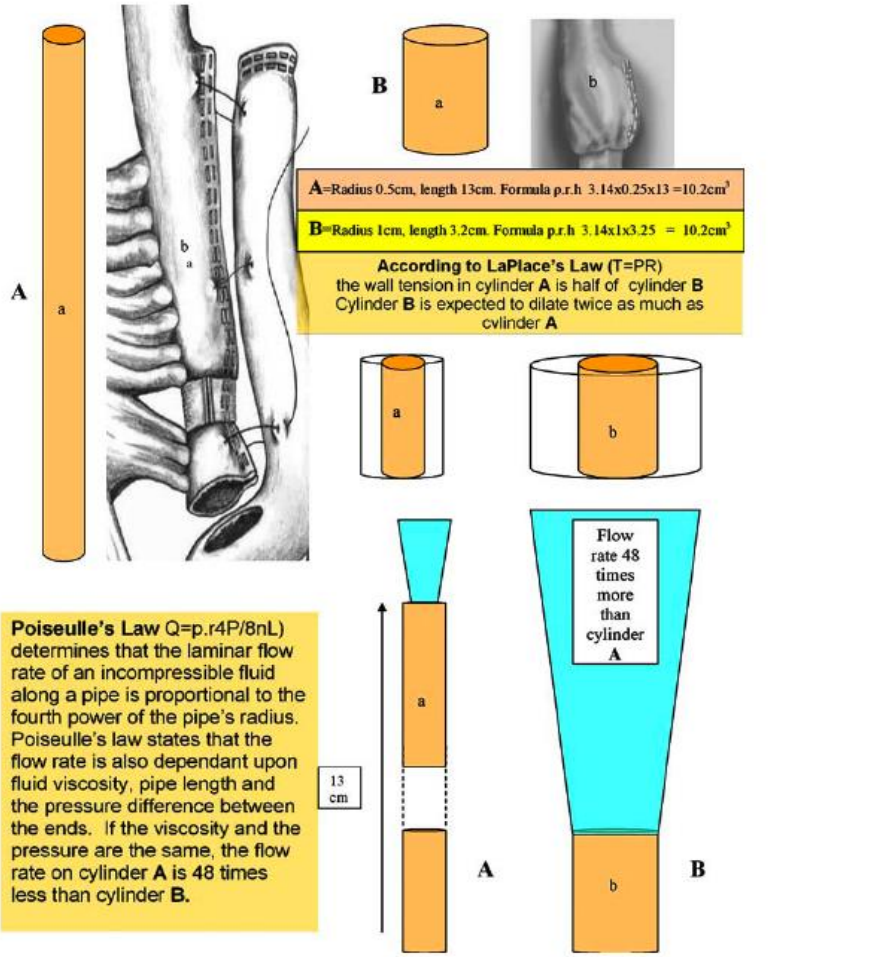

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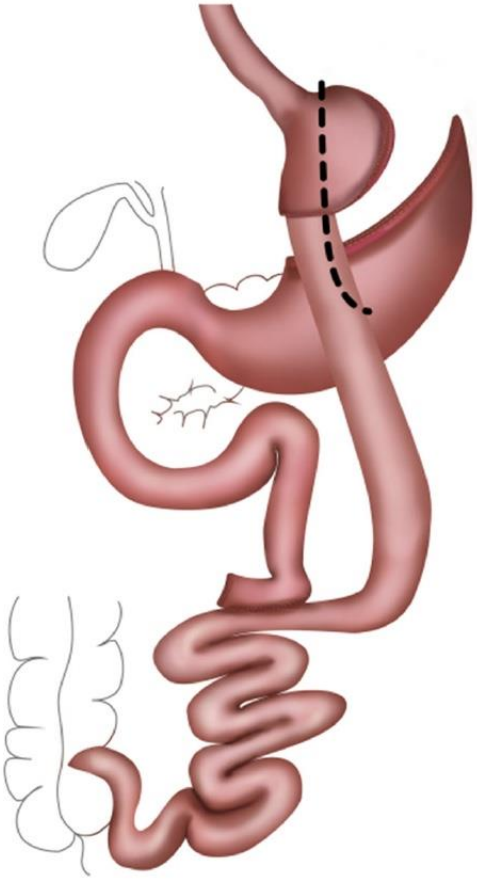
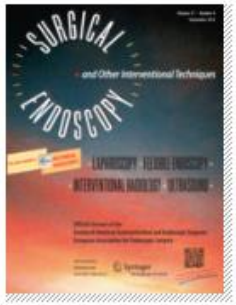
Pouch size

Long and narrow pouch

- no tension – less leaks
- more options for redo surgery
- to prevent dilation – less weight regain
- to prevent hypoglycemia

- more marginal ulcers?





Importance of pouch size in laparoscopic Roux-en-Y gastric bypass: a cohort study of 14,168 patients

David Edholm[1] · Johan Ottosson[2] · Magnus Sundbom[1]

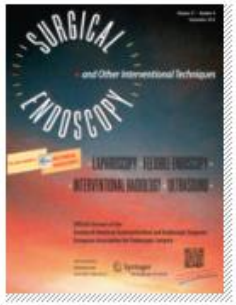
14,168 LRYGB patients with linear stapled gastrojeunostomies

Mean length of stapler used for the pouch was 145 mm.
symptomatic marginal ulcers 0.9 % at 1 year

Table 2 Presence of marginal ulcer at 6 weeks or 1 year, correlated with gender, age, preoperative BMI, diabetes and stapler length by multivariate logistic regression

	After 6 weeks		After 1 year	
	p	Odds ratio with (95 % confidence interval)	*p*	Odds ratio with (95 % confidence interval)
Male gender	.18	.67 (.37–1.20)	.96	.98 (.95–1.02)
Age at surgery (years)	.34	.99 (.96–1.01)	.53	1.01 (.99–1.02)
Preoperative BMI (kg/m^2)	.65	.99 (.95–1.03)	.31	.98 (.95–1.02)
Diabetes	.29	1.39 (.74–2.59)	.27	1.30 (.82–2.05)
Length of staplers used for pouch (cm)	<.001	1.10 (1.03–1.18)	<.001	1.14 (1.09–1.20)

Edholm D J et al. : Surg Endosc 2016



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symptomatic marginal ulcers 0.9 % at 1 year

The relative risk of marginal ulcer increased by 14 %
for each centimeter of stapler used for the pouch

Edholm D J et al. : Surg Endosc 2016

(BP) limbs

ELSEVIER

Surgery for Obesity and Related Diseases ▮ (2014) 00–00

SURGERY FOR OBESITY AND RELATED DISEASES

Original article

Bowel length: measurement, predictors, and impact on bariatric and metabolic surgery

Roberto M. Tacchino, M.D.*

Department of Surgery, Catholic University of the Sacred Heart, Rome, Italy

Received May 9, 2014; accepted September 11, 2014

N=443

3 different measurement methods (Laparotomy, Laparoscopy)

SBL was 690 +-93.7 cm (range 350–1049 cm)

Men > Women (729 +- 85cm versus 678 +- 92cm , P<0.0001)

SBL **correlation with height**

Small bowel length and its correlations in historical series

Author	Number of cases	C/L	Sex	SBL			Correlation with		
				Minimum	Average	Maximum	Age	Height	Weight
Treves (1885) (4)	100	C	M	472	686	970	NO	NO	NO
			F	574	711	894	NO	NO	NO
Dreike (1894) (5)	27	C	M	421	633	1013			
	23		F	340	526	856			
Bryant (1924) (6)	160	C	Both	305	625	864	Negative correlation		
	27		M	457	663	813			
	17		F	406	587	762			
Underhill (1955) (7)	65	C	M	488	638	785	NO	YES	
	35		F	335	592	716			
Backman (1974) (8)		C	Obese M	455	824	1193			
			Obese F	497	734	971			
			Non-obese M	365	698	1031			
			Non-obese F	361	616	871			
Guzman (1977) (9)	56	L	Obese	253	562	871			
	22		Non-obese	201	530	813			
Nordgreen (1997)(10)	40	L	M	380	591	1090	NO	YES	YES
	37		F	360	534	740	NO	YES	YES
Hounnou (2002) (11)	100	C	M	365	644	1000	Negative correlation	NO	YES
	100		F	280	573	840	Negative correlation	NO	YES
Hosseinpour (2008) (12)	54	L	M	285	459	619	NO	NO	N
	46		F	308	468	620			
Teitelbaum (2013) (13)	240	L	(113 M + 127 F)	285	506	845	NO	YES	NO

SBL = small bowel length (cm); C = cadaver data; M = males; F = females; L = live patient data

Long-limb Gastric Bypass in the Superobese

A Prospective Randomized Study

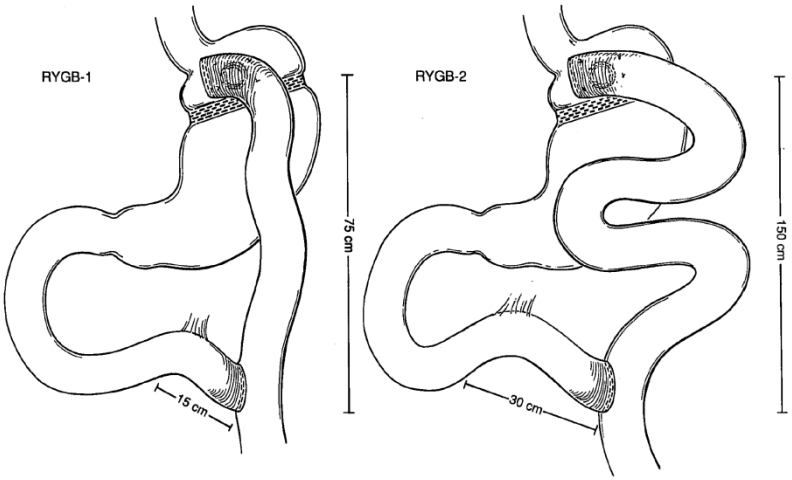

FIG. 1. (Left) In the conventional modification of gastric bypass (RYGB-1), the jejunum was transected 15 cm beyond the ligament of Treitz and the jejunojejunostomy was performed at a measured distance of 75 cm distal to the gastrojejunostomy. (Right) In the experimental group (RYGB-2), the jejunum was transected 30 cm distal to the ligament of Treitz and the jejunojejunostomy was created at a measured distance of 150 cm from the gastrojejunostomy.

45 patients

22p with 75cm AL
23p with 150cm AL

75cm AL 50% EWL after 24months
150cm AL 64% EWL after 24months

Brolin et al: Ann Surg 1992; 4(215) 387-395

Long-limb Gastric Bypass in the Superobese

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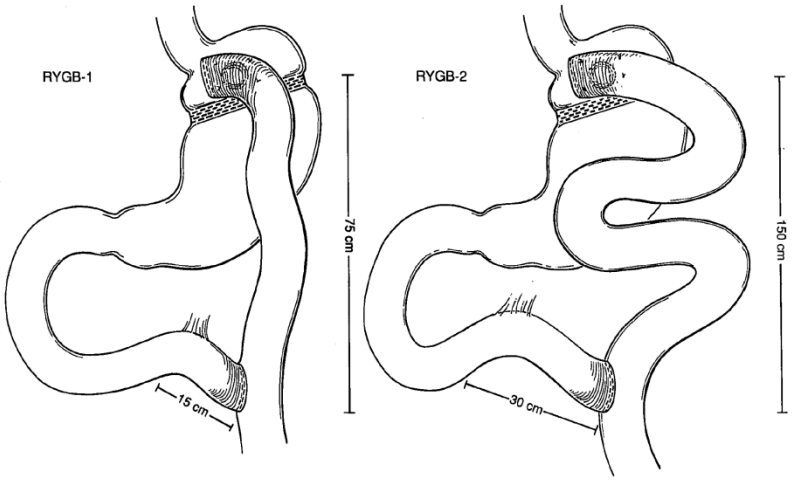

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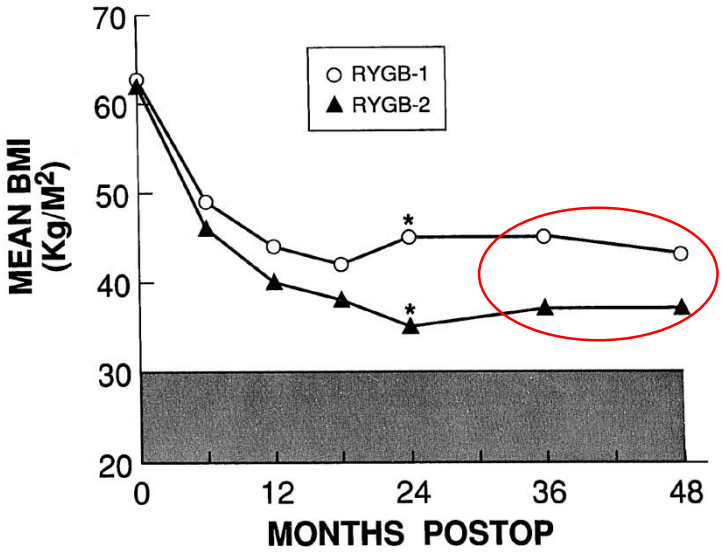


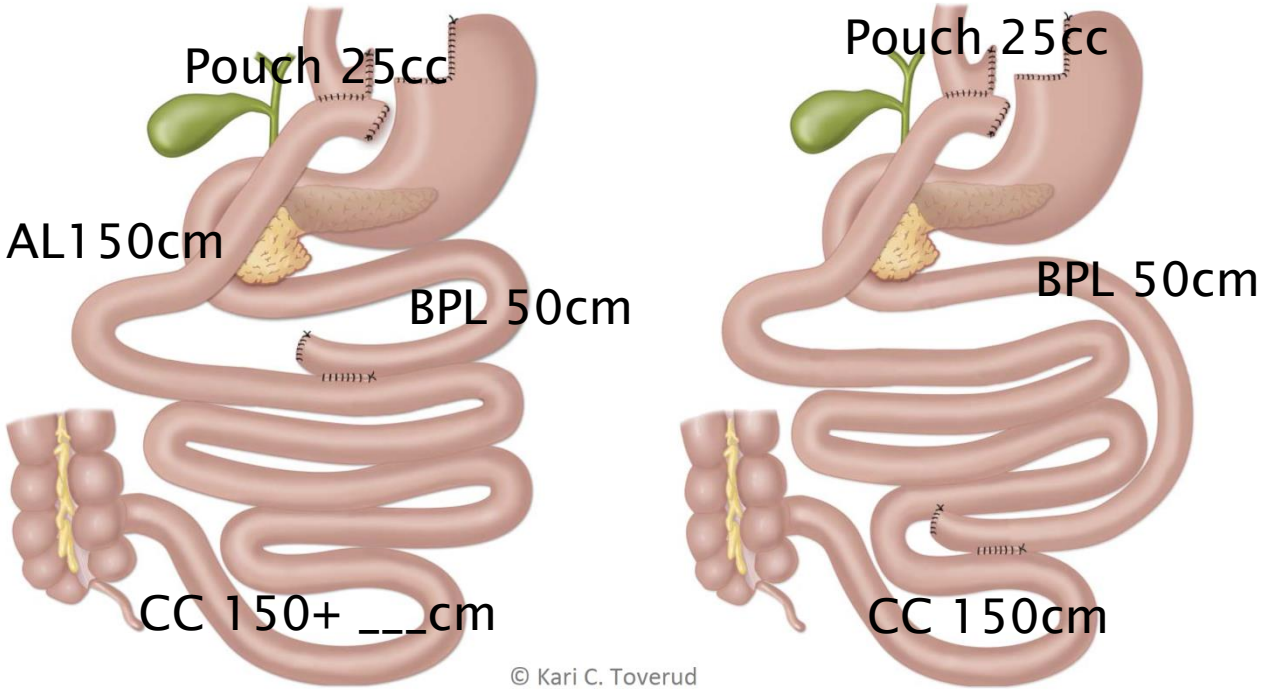
Brolin et al: Ann Surg 1992; 4(215) 387-395

JAMA Surgery | Original Investigation

Standard vs Distal Roux-en-Y Gastric Bypass in Patients With Body Mass Index 50 to 60

A Double-blind, Randomized Clinical Trial

Hilde Risstad, MD; Marius Svanevik, MD; Jon A. Kristinsson, MD, PhD; Jøran Hjelmesæth, MD, PhD; Erlend T. Aasheim, MD, PhD; Dag Hofsø, MD, PhD; Torgeir T. Søvik, MD, PhD; Tor-Ivar Karlsen, PhD; Morten W. Fagerland, MSc, PhD; Rune Sandbu, MD, PhD; Tom Mala, MD, PhD



Standard gastric bypass Distal gastric bypass

JAMA Surgery December 2016 Volume 151, Number 12; 1146-1155

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double-blind, randomized clinical trial
113 patients with a body mass index of 50 to 60kg/m2

BMI loss **17.8** two years after standard gastric bypass

BMI loss **17.2** two years after distal gastric bypass,

a nonsignificant difference.

JAMA Surgery December 2016 Volume 151, Number 12; 1146-1155

Gastric Bypass with Long Alimentary Limb or Long Pancreato-Biliary Limb—Long-Term Results on Weight Loss, Resolution of Co-morbidities and Metabolic Parameters

Bent Johnny Nergaard · Björn Geir Leifsson · Jan Hedenbro · Hjörtur Gislason

prospective randomized study

187 patients

5 years 85% FU

Nergaard et al. Obes Surg 2014: 1595

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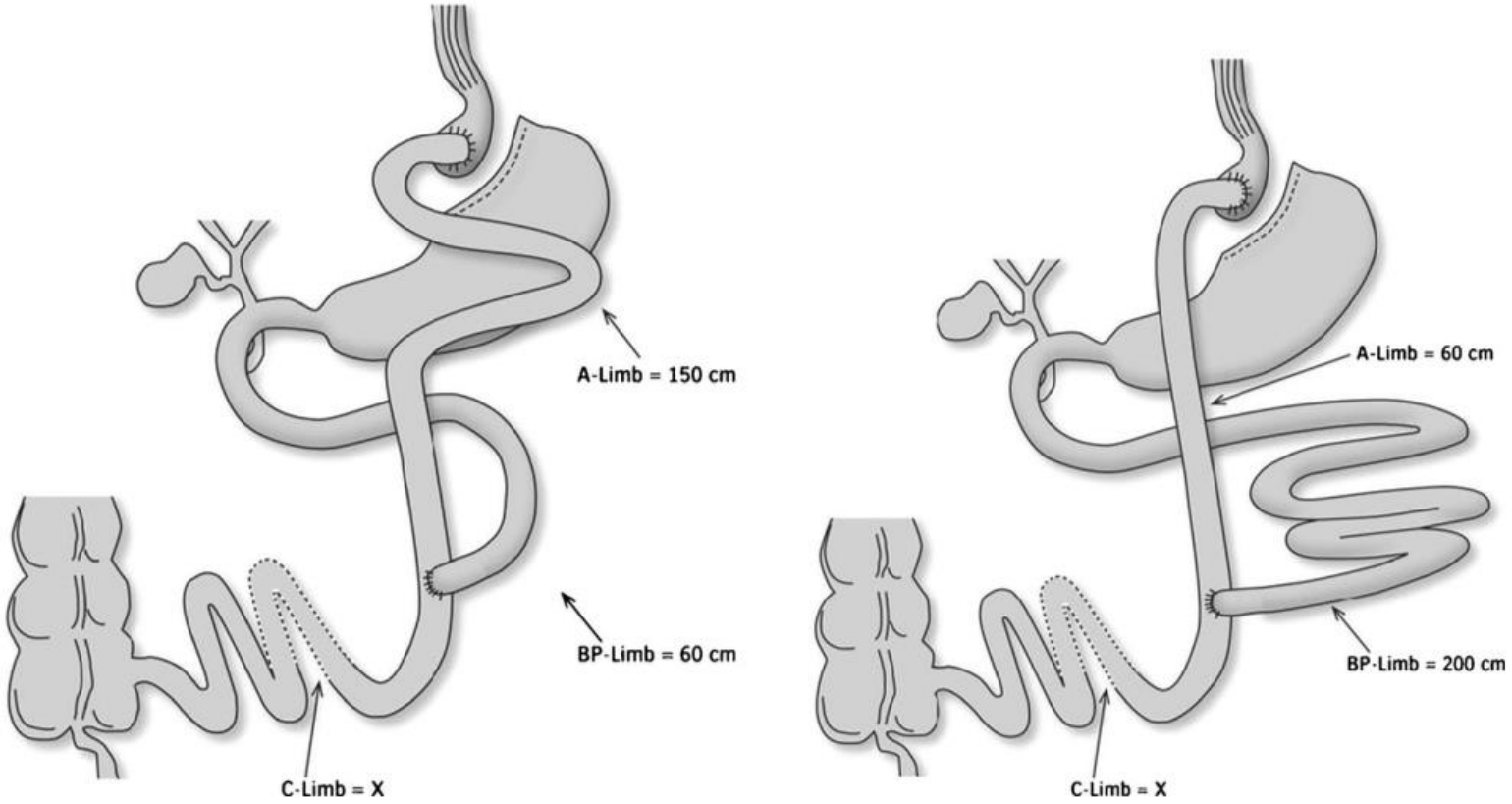

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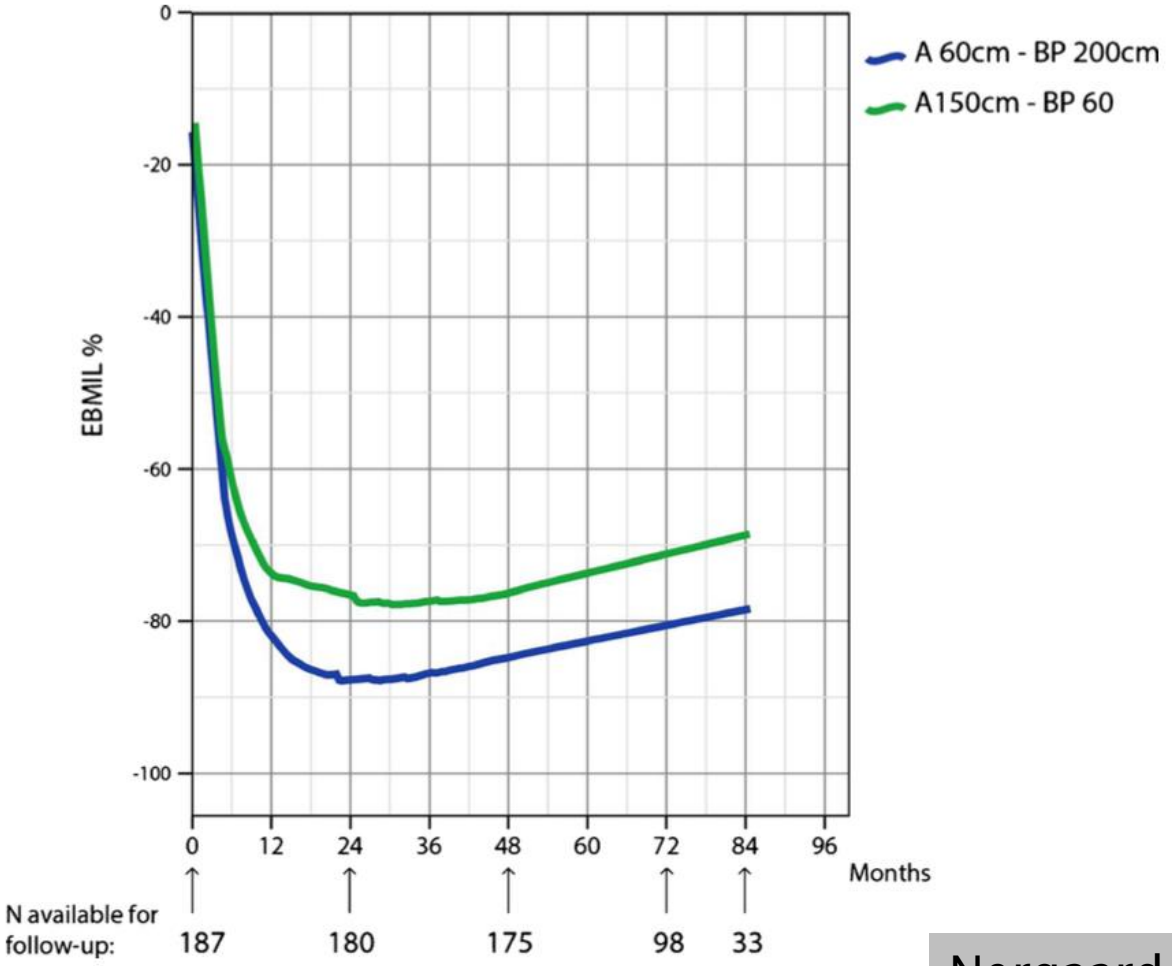
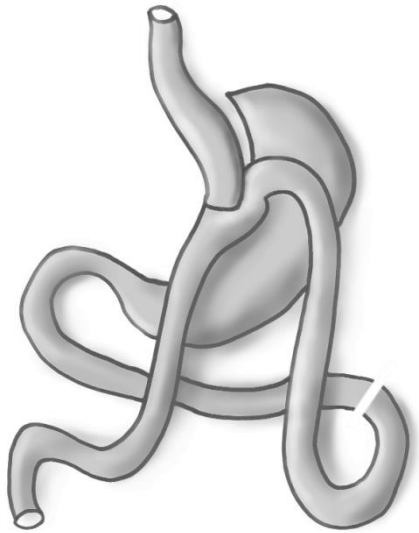


Nergaard et al. Obes Surg 2014: 1595

Laparoscopic Mini-gastric Bypass: Experience with Tailored Bypass Limb According to Body Weight

Wei-Jei Lee · Weu Wang · Yi-Chih Lee ·
Ming-Te Huang · Kong-Han Ser · Jung-Chien Chen



Limb lenght 150cm – 250cm – 350cm

OBES SURG (2008) 18:294–299

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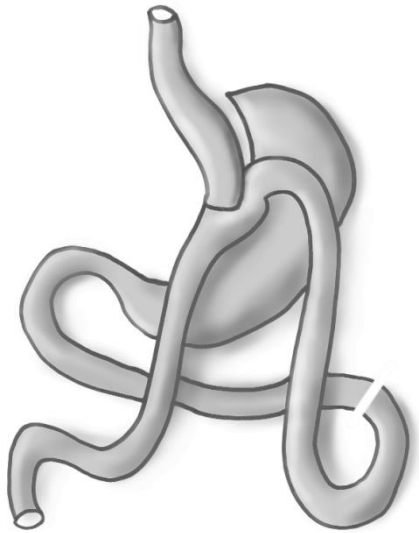

Tailored limb approach

644 pat.

3 BMI Groups (pat.)	limb	mean BMI↓
– <40 (286)	**150cm**	10,7
– 40-50 (286)	**250cm**	15,5
– >50 (72)	**350cm**	23,3

Lower BMI group experienced a lower Hb
despite the shorter bypass.

OBES SURG (2008) 18:294–299

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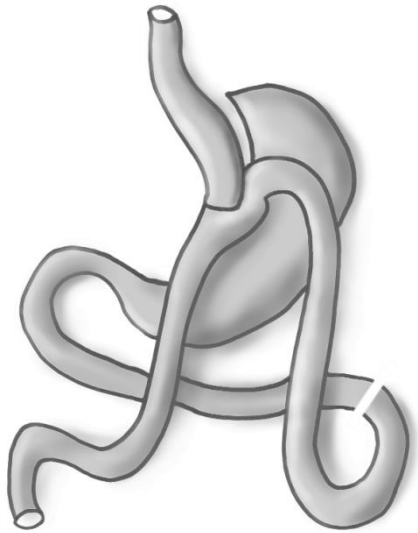

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Conclusion:

Tailored limb is feasible

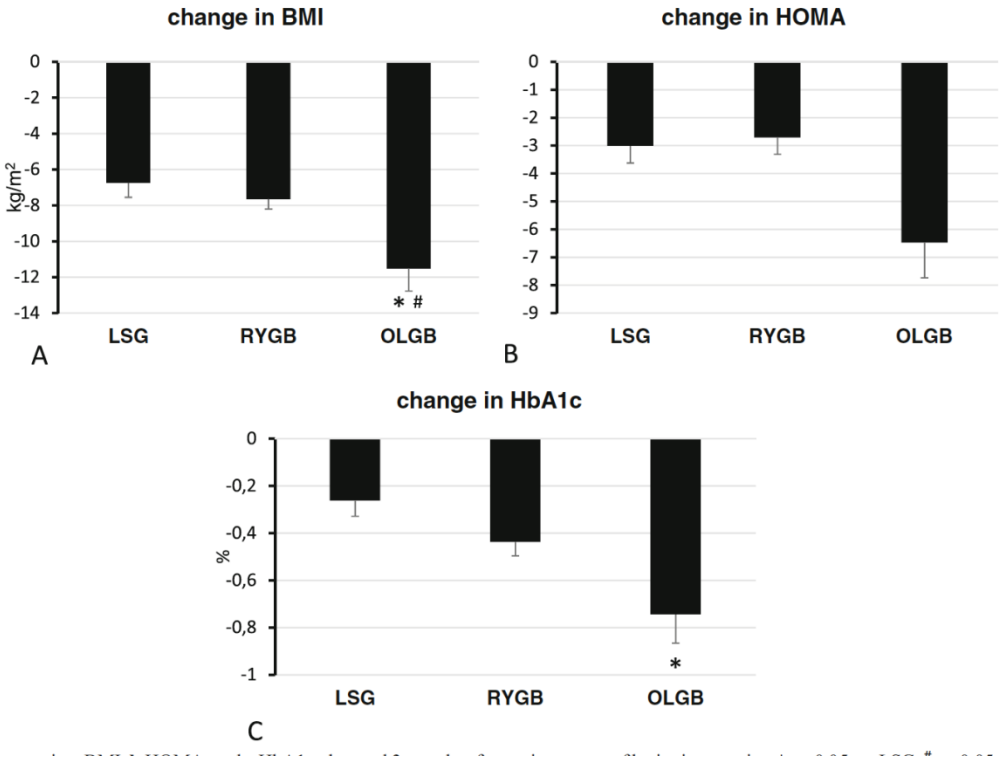
Careful application in lower BMI

Obesity Surgery (2018) 28:3405–3414
https://doi.org/10.1007/s11695-018-3314-9

ORIGINAL CONTRIBUTIONS

Evidence That the Length of Bile Loop Determines Serum Bile Acid Concentration and Glycemic Control After Bariatric Surgery

Adriana Mika[1,2] · Lukasz Kaska[3] · Monika Proczko-Stepaniak[3] · Agnieszka Chomiczewska[1] · Julian Swierczynski[4,5] · Ryszard T Smolenski[4] · Tomasz Sledzinski[1]



Longer BPL:

Better weight Loss
Better Diabetes Control

OBES SURG (2018) 28:3405–3414

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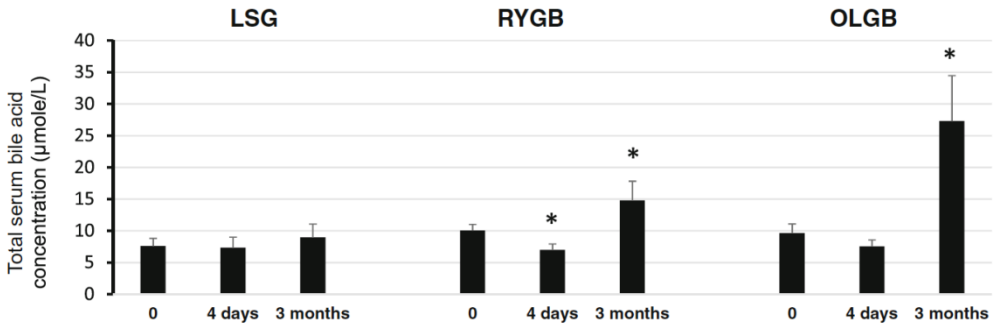
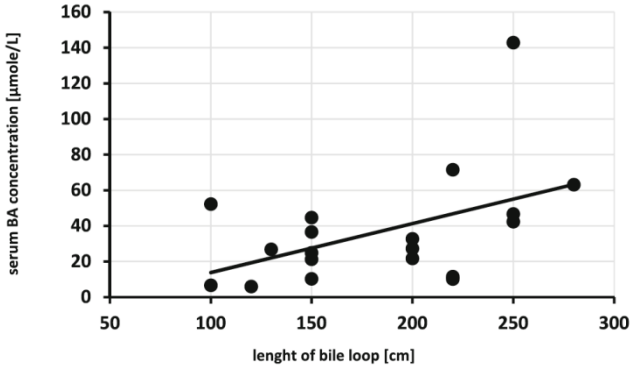


Fig. 4 Correlation between the length of bile loop created during RYGB and OLGB and serum concentration of total bile acids determined 3 months after the bariatric procedure. $R = 0.47$, $p < 0.05$



Longer BPL:

Higher BA concentration

BA conc. correlates with BPL length

OBES SURG (2018) 28:3405–3414

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American Society for Parenteral and Enteral Nutrition

Journal of Parenteral and Enteral Nutrition
Volume 41 Number 2
February 2017 258–262

DOI: 10.1177/0148607116637935
journals.sagepub.com/home/pen
SAGE

Need for Intensive Nutrition Care After Bariatric Surgery: Is Mini Gastric Bypass at Fault?

Cécile Bétry, PhD[1,2]; Emmanuel Disse, MD, PhD[1,2,3]; Cécile Chambrier, MD, PhD[4]; Didier Barnoud, MD[4]; Patrick Gelas, MD[4]; Sandrine Baubet, MD[4]; Martine Laville, MD, PhD[1,2,3]; Elise Pelascini, MD[2,3,5]; and Maud Robert, MD, PhD[2,3,5]

12patients

7 OAGB/MGB
2 RYGB
2 Sleeves
1 LAGB

After surgical complication...

„ This case series suggests that OAGB could overexpose subjects to severe nutrition complications..."

JPEN J Parenter Enteral Nutr. 2017;41:258-262

Impact of biliopancreatic limb length on severe protein–calorie malnutrition requiring revisional surgery after one anastomosis (mini) gastric bypass

Kamal Kumar Mahawar, Chetan Parmar, William R. J. Carr, Neil Jennings, Norbert Schroeder, and Peter K. Small

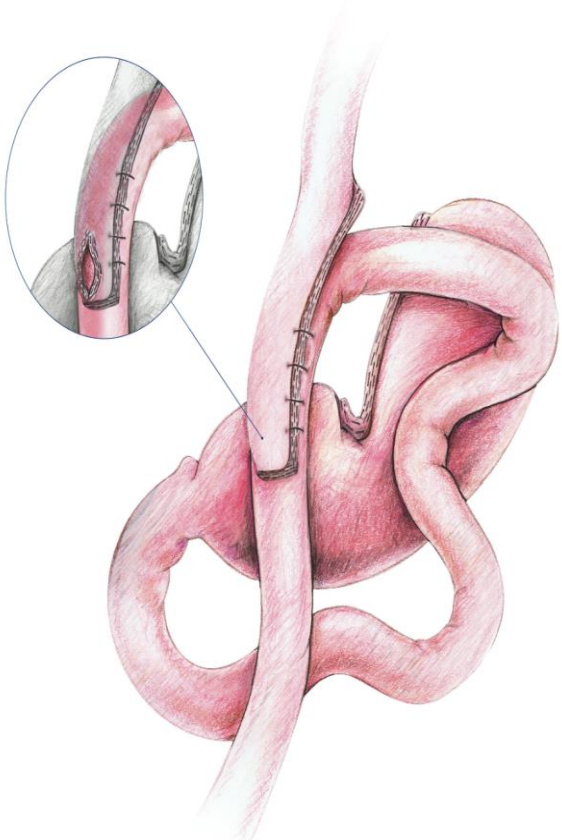
118 surgeons from thirty countries reported experience with 47,364 OAGB procedures

Overall, 0.37% (138/36,952) of patients needed revisional surgery for malnutrition

The highest percentage of 0.51% (120/23,277) was recorded with formulae using >200 cm of BPL

lowest rate of 0% was seen with 150 cm BPL

SELF REPORTED DATA



J Minim Access Surg. 2018 Jan-Mar; 14(1): 37–43

OBES SURG
DOI 10.1007/s11695-016-2050-2

REVIEW ARTICLE

Small Bowel Limb Lengths and Roux-en-Y Gastric Bypass: a Systematic Review

Kamal K. Mahawar[1] · Parveen Kumar[2] · Chetan Parmar[1] · Yitka Graham[1,3] · William R. J. Carr[1] · Neil Jennings[1] · Norbert Schroeder[1] · Shlok Balupuri[1] · Peter K. Small[1]

No consensus on the combined length of small bowel that should be bypassed as BPL or AL for optimum results with RYGB.

This systematic review concludes that a range of **100–200 cm** for combined length of BPL or AL gives optimum results with RYGB in most patients.

Obes Surg 2016

Conversion of Proximal to Distal Gastric Bypass for Failed Gastric Bypass for Superobesity

Harvey J. Sugerman, M.D., John M. Kellum, M.D., Eric J. DeMaria, M.D.

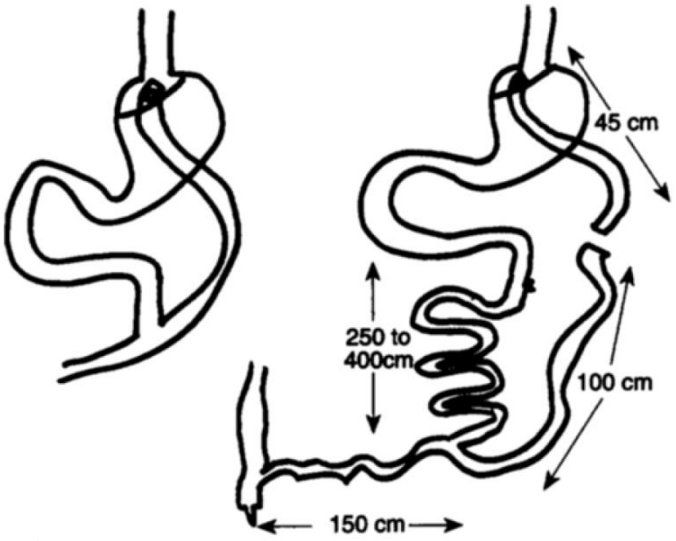


Fig. 1. Schematic of conversion of S-GBP to 150 cm D-GBP. Distal small bowel transected 250 cm from the ileocecal valve and proximal end anastomosed to the disconnected 45 cm Roux limb. Bypassed small bowel, or "biliopancreatic limb," anastomosed to the ileum at 150 cm from the ileocecal valve. This creates a 145 cm "alimentary limb," a 150 cm "common limb," and a 250 to 400 cm "biliopancreatic limb."

„Distal Gastric Bypass":

5 patients **CC=50cm** AL=295cm
All had to be revised (**severe malnutrition)**
3 died due to liver failure

22 patients AL=145cm; **CC=150cm**
3 had to be revised (malnutrition)

Journal of Gastrointestinal Surgery 1999;1:517-525

Conversion of standard Roux-en-Y gastric bypass to distal bypass for weight loss failure and metabolic syndrome: 3-year follow-up and evolution of technique to reduce nutritional complications

Saber Ghiassi, M.D., M.P.H.[a], Kelvin Higa, M.D.[b,*], Steven Chang, M.D.[b], Pearl Ma, M.D.[b], Aaron Lloyd, M.P.H.[b], Keith Boone, M.D.[b], Eric J. DeMaria, M.D.[c]

11p total alimentary limb length (TALL) of 250 to 300cm (7 had to be revised (malnutrition))

The subsequent 85 patients were converted to distal RYGB with **TALL 400 to 450cm** in a single-stage operation

Surgery forObesityandRelatedDiseases14(2018)554–561

Conversion of standard Roux-en-Y gastric bypass to distal bypass for weight loss failure and metabolic syndrome: 3-year follow-up and evolution of technique to reduce nutritional complications

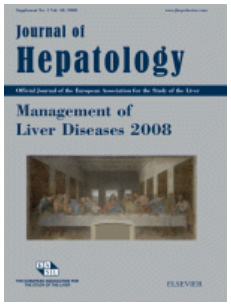
Saber Ghiassi, M.D., M.P.H.[a], Kelvin Higa, M.D.[b,*], Steven Chang, M.D.[b], Pearl Ma, M.D.[b], Aaron Lloyd, M.P.H.[b], Keith Boone, M.D.[b], Eric J. DeMaria, M.D.[c]

Diarrhea and protein calorie malnutrition with TALL of 250 to 300 cm,

whereas TALL 400 to 450 cm demonstrated a lower incidence of nutritional issues,

but the effect on calcium, parathyroid hormone, and the fat soluble vitamins A and D is still a major concern

Surgery forObesityandRelatedDiseases14(2018)554–561



Hepatic histology in obese patients undergoing bariatric surgery

Mariana Machado[1], Pedro Marques-Vidal[1], Helena Cortez-Pinto[1,2,*]

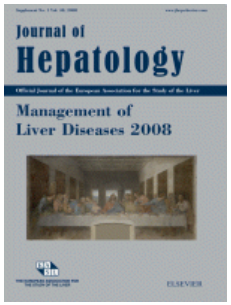
[1]*Departamento de Gastrenterologia, Instituto de Medicina Molecular (IMM), Faculdade de Medicina da Universidade de Lisboa, Portugal*
[2]*Unidade de Nutrição e Metabolismo, Instituto de Medicina Molecular (IMM), Faculdade de Medicina da Universidade de Lisboa, Portugal*

Review

12 studies

1620 patients

Machado et al. **J Hepatol 2006**: 600-606



Hepatic histology in obese patients undergoing bariatric surgery

Mariana Machado[1], Pedro Marques-Vidal[1], Helena Cortez-Pinto[1,2,*]

[1]*Departamento de Gastrenterologia, Instituto de Medicina Molecular (IMM), Faculdade de Medicina da Universidade de Lisboa, Portugal*
[2]*Unidade de Nutrição e Metabolismo, Instituto de Medicina Molecular (IMM), Faculdade de Medicina da Universidade de Lisboa, Portugal*

Histological features	37%	91%	50%	60%	1.7%
Study	NASH (%)	Steatosis (%)	Inflammation (%)	Fibrosis (%)	Cirrhosis (%)
Marceau et al. [11]	–	86	24	74	2
Dixon et al. [12]	25	96	58	26	1
Sepulveda-Flores et al. [13]	91	–	97	97	–
Poniachik et al. [14]	–	91	46	47	1
Beymer et al. [15]	33	85	50	48	0
Spaulding et al. [16]	56	90	75	52	2
Abrams et al. [18]	36	98	98	67	2
Shalhub et al. [19]	37	–	–	13	7
Ong et al. [22]	24	93	–	25	1
Boza et al. [23]	26	–	–	24	2
Lima et al. [24]	57	99	60	21	0
Stratopoulos et al. [25]	98	98	–	94	0
Total	37	91	50	60	1.7

NASH was not related with age or body mass index

Association between male sex and NASH/hepatic fibrosis.

Diabetes mellitus and insulin resistance - NASH

Hypertension - advanced hepatic fibrosis

Machado et al. **J Hepatol 2006**: 600-606

Evolving aspects of liver transplantation for nonalcoholic steatohepatitis

Michael Charlton

Charlton **Curr Opin Organ Tx 2013**

Evolving aspects of liver transplantation for nonalcoholic steatohepatitis

Michael Charlton

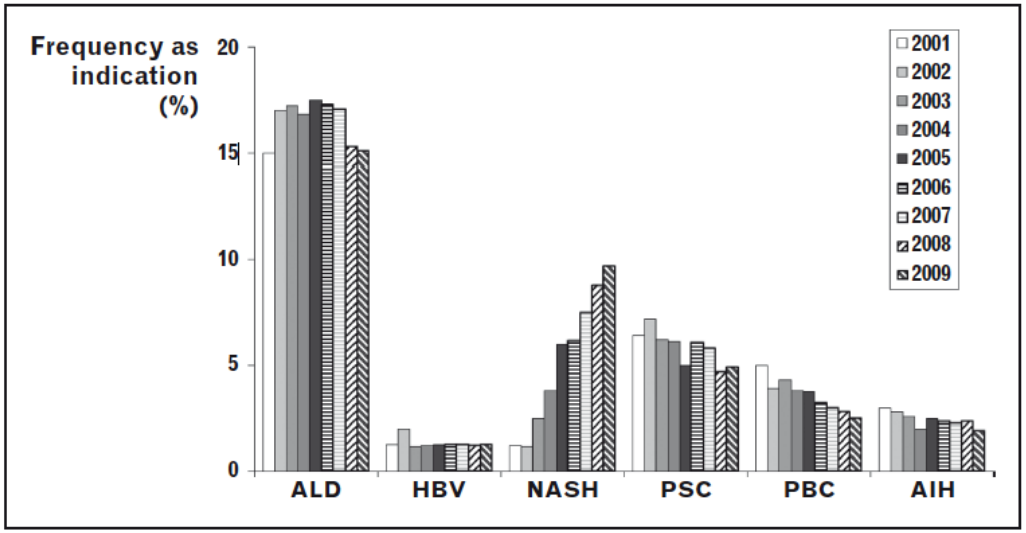


FIGURE 1. The frequencies of specific indications for liver transplantation among adults in the USA are shown. AIH, autoimmune hepatitis; ALD, alcoholic liver disease; CC, cryptogenic cirrhosis; HBV, hepatitis B virus; PBC, primary biliary cirrhosis; PSC, primary sclerosing cholangitis.

Charlton **Curr Opin Organ Tx 2013**

Evolving aspects of liver transplantation for nonalcoholic steatohepatitis

Michael Charlton

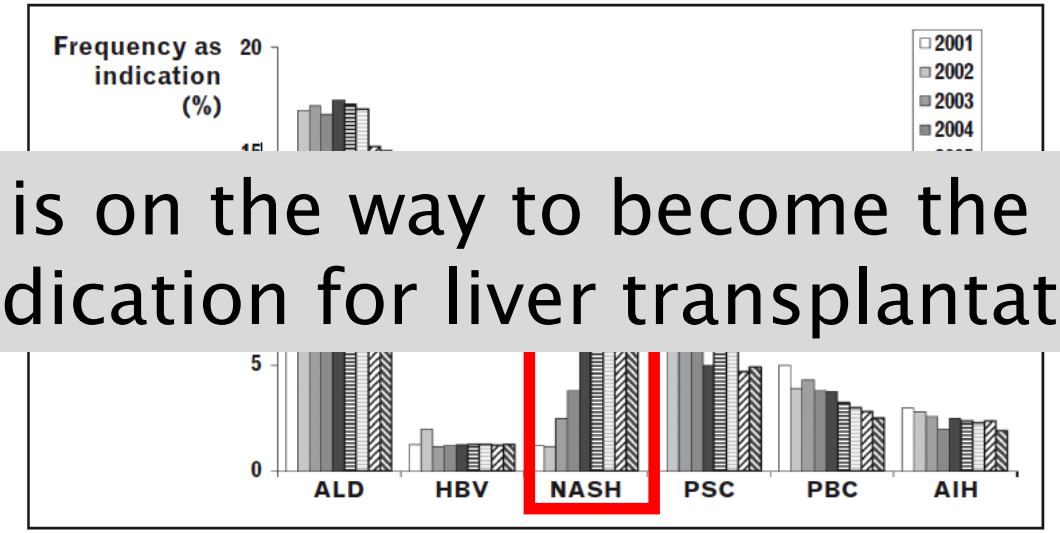


FIGURE 1. The frequencies of specific indications for liver transplantation among adults in the USA are shown. AIH, autoimmune hepatitis; ALD, alcoholic liver disease; CC, cryptogenic cirrhosis; HBV, hepatitis B virus; PBC, primary biliary cirrhosis; PSC, primary sclerosing cholangitis.

NASH is on the way to become the leading indication for liver transplantation

Charlton **Curr Opin Organ Tx 2013**

Challenges and Management of Liver Cirrhosis: Practical Issues in the Therapy of Patients with Cirrhosis due to NAFLD and NASH

Stefan Traussnigg Christian Kienbacher Emina Halilbasic Christian Rechling
Lili Kazemi-Shirazi Harald Hofer Petra Munda Michael Trauner

Division of Gastroenterology and Hepatology, Medical University of Vienna, Vienna, Austria

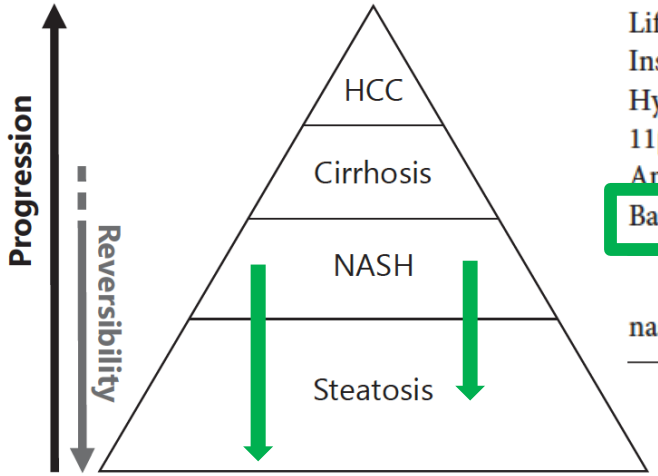


Table 1. Therapeutic approaches in NASH

Metabolically oriented (→ liver)	Liver(-gut) oriented (enterohepatic)
Lifestyle (diet, exercise)	Antioxidative (vitamin E)
Insulin sensitizers, GLP-1	Cytoprotective (UDCA)
Hypolipidemic agents, 3-PUFA	Anti-inflammatory (PFX)
11β-HSD blockers	Antifibrotic (LOXL-2 inhibitors)
Antihypertensive (AT-II)	Anti-/probiotics
Bariatric surgery	Bile acid receptor ligands (FXR agonists)

GLP-1 = Glucagon-like peptide 1; HSD = hydroxysteroid dehydrogenase; PUFA = polyunsaturated fatty acid.

Traussnigg et al. **Dig Dis Sci 2015**: 598-607

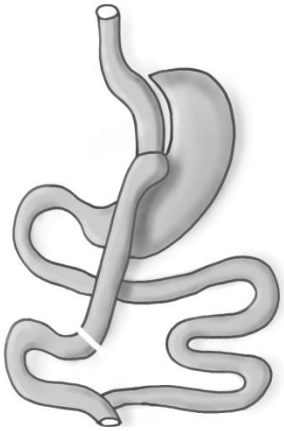
~~Bariatric Surgery~~ → Metabolic Surgery

Review Article

Bariatric Surgery as Potential Treatment for Nonalcoholic Fatty Liver Disease: A Future Treatment by Choice or by Chance?

Table 1: Considerable studies showed that RYGB is associated with marked improvement in NAFLD.

Study	Ref	Roux-en-Y Main outcomes	Type of study	Sample size	Followup
Silverman et al., 1995	[20]	Improved steatosis and fibrosis	Retrospective cohort	91	18.4 months
Clark et al., 2005	[21]	Improved steatosis, fibrosis, and inflammation	Prospective cohort	16	305 ± 131 days
Mattar et al., 2005	[22]	Improved metabolic syndrome, steatosis, and fibrosis	Prospective cohort	70	15 ± 9 months
Mottin et al., 2005	[23]	82% improvement in liver steatosis and fibrosis not measured	Retrospective cohort	90	12 months
Klein et al., 2006	[24]	Decreased factors lead to liver fibrosis and inflammation	Prospective cohort	7	12 months
Barker et al., 2006	[25]	Improved histology of NAFLD	Prospective cohort	19	21.4 months
Csendes et al., 2006	[26]	Improved histology in 80%	Prospective cohort	16	22 months
de Almeida et al., 2006	[27]	Improved steatosis, fibrosis, and inflammation	Prospective cohort	16	23.5 ± 8.4 months
Furuya et al., 2007	[28]	Improved steatosis and fibrosis	Prospective cohort	18	24 months
Liu et al., 2007	[29]	Resolved NASH in 60%	Retrospective cohort	39	18 months
Weiner 2010	[30]	Complete regression of NAFLD in 83%	Retrospective cohort	116	18.6 ± 8.3 months
Moretto et al., 2012	[31]	Resolved fibrosis in 50%	Retrospective cohort	78	Unavailable



Roux-en-Y gastric bypass

Hafeez et al. **J Obes 2013**

Bariatric Surgery Improves Histological Features of Nonalcoholic Fatty Liver Disease and Liver Fibrosis

Andrew A. Taitano · Michael Markow · Jon E. Finan · Donald E. Wheeler · John Paul Gonzalvo · Michel M. Murr

steatosis	resolved in 75%
lobular inflammation	resolved in 75 %
chronic portal inflammation	resolved in 49%
steatohepatitis	resolved in 90 %

Taitano et al. J Gastrointest Surg 2015; 429-437

Bariatric Surgery
Diabetes Surgery
NASH Surgery

Taitano et al. J Gastrointest Surg 2015; 429-437

The Multicenter Belgian Survey on Liver Transplantation for Hepatocellular Failure after Bariatric Surgery

A. Geerts, T. Darius, T. Chapelle, G. Roeyen, S. Francque, L. Libbrecht, F. Nevens, J. Pirenne, and R. Troisi

Transplantation Proceedings, 42, 4395–4398 (2010)

The Multicenter Belgian Survey on Liver Transplantation for Hepatocellular Failure after Bariatric Surgery

A. Geerts, T. Darius, T. Chapelle, G. Roeyen, S. Francque, L. Libbrecht, F. Nevens, J. Pirenne, and R. Troisi

Table 1. Characteristics of Patient Population Developing Liver Failure after BPD

Patient	1	2	3	4	5	6	7	8	9
Gender	Female	Male	Female	Female	Female	Female	Female	Female	Female
Age (y)	52	38	29	19	46	53	35	38	40
Year of BPD	2000	2003	1998	2003	1997	2001	1999	1987	1994
Initial BMI	65	48	40	41	55	40	45	40	47
Post-BPD BMI	41	23	20	20	29	24	25	22	25
Maximum weight loss (kg)	88	88	60	47	55	40	45	53	50
Onset of LF after BPD (mo)	13	27	84	62	11	18	20	21	14
Time of OLT after BPD (mo)	22	85	listed	65	11	18	21	Died on list	Died on list
Waiting time on list (mo)	3	9	listed	3	2	2d	1	Died on list	Died on list
Time of BPD reversal	OLT	OLT	—	8 wk after OLT	OLT	OLT	OLT	—	—

Abbreviations: BPD, biliopancreatic diversion; BMI, body-mass index (kg/m^2); LF, liver failure; OLT, orthotopic liver transplantation.

Transplantation Proceedings, 42, 4395–4398 (2010)

The Multicenter Belgian Survey on Liver Transplantation for Hepatocellular Failure after Bariatric Surgery

A. Geerts, T. Darius, T. Chapelle, G. Roeyen, S. Francque, L. Libbrecht, F. Nevens, J. Pirenne, and R. Troisi

Too much of good thing…

…might be bad.

CAVE: Length of BPL!

Table 1. Characteristics of Patient Population Developing Liver Failure after BPD

Patient	1	2	3	4	5	6	7	8	9
Gender	Female	Male	Female	Female	Female	Female	Female	Female	Female
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Year of BPD	2000	2003	1998	2003	1997	2001	1999	1987	1994
Initial BMI	65	48	40	41	55	40	45	40	47
Post-BPD BMI	41	23	20	20	29	24	25	22	25
Maximum weight loss (kg)	80	88	60	47	55	40	45	53	50
Onset of LF after BPD (mo)	3	27	8	2	1	1	1	21	14
Time of OLT after BPD (mo)	12	35	listed	3	1	18	Died on list	Died on list	Died on list
Waiting time on list (mo)	3	9	listed	3	2	2d	1	Died on list	Died on list
Time of BPD reversal	OLT	OLT	—	8 wk after OLT	OLT	OLT	OLT	—	—

Abbreviations: BPD, biliopancreatic diversion; BMI, body-mass index (kg/m^2); LF, liver failure; OLT, orthotopic liver transplantation.

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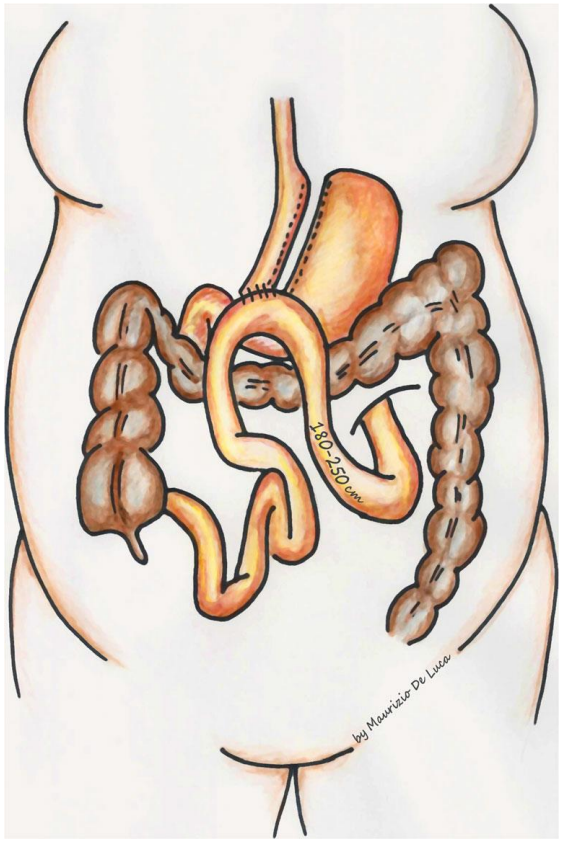
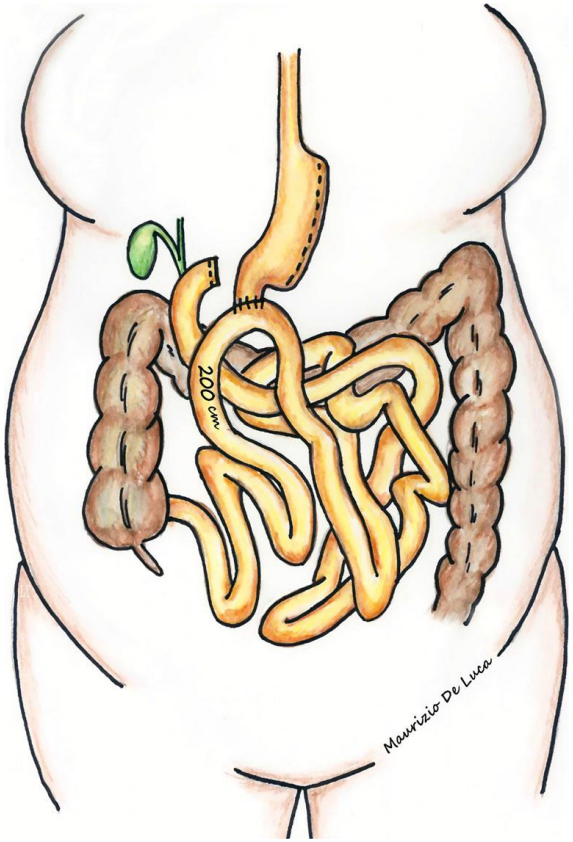
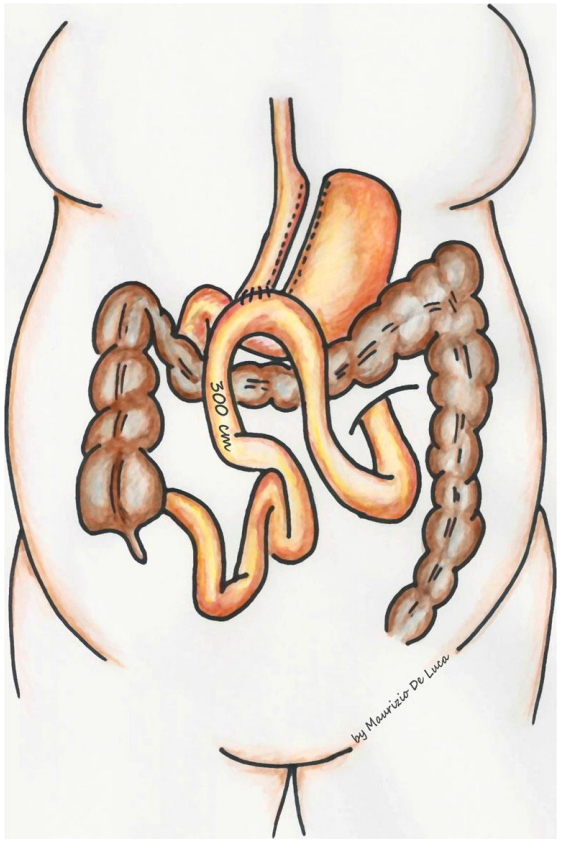


OAGB



SADI-S

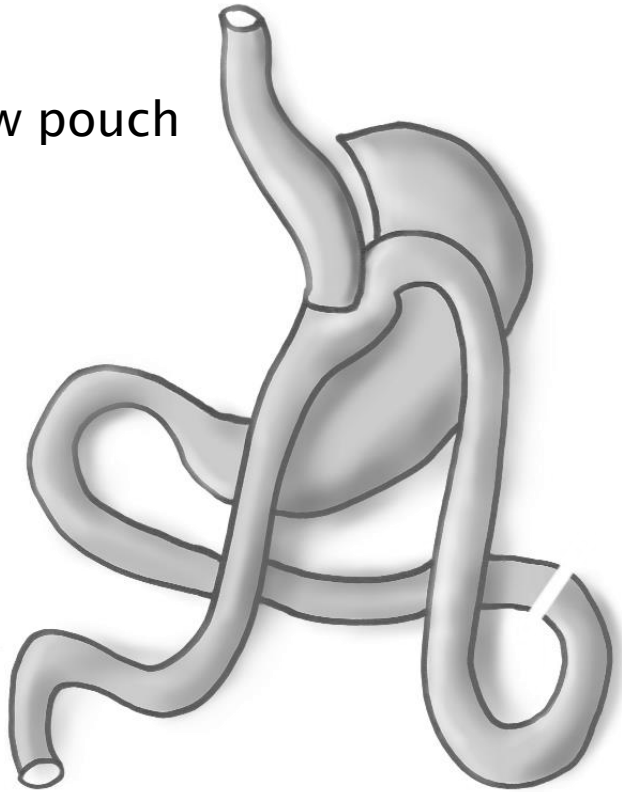


SAGI

De Luca et al., Obes Surg 2016

Diverted one anastomosis gastric bypass

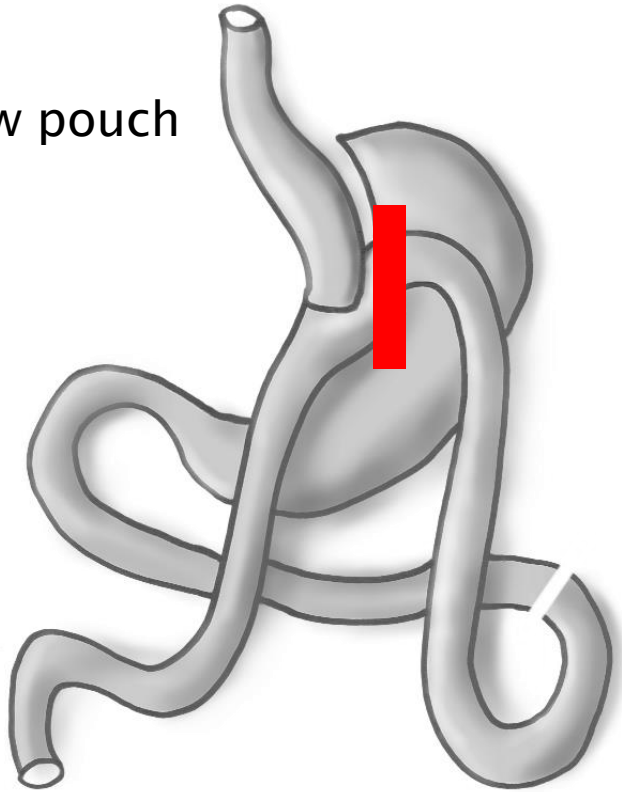
Long & narrow pouch



BP limb
150cm

Diverted one anastomosis gastric bypass

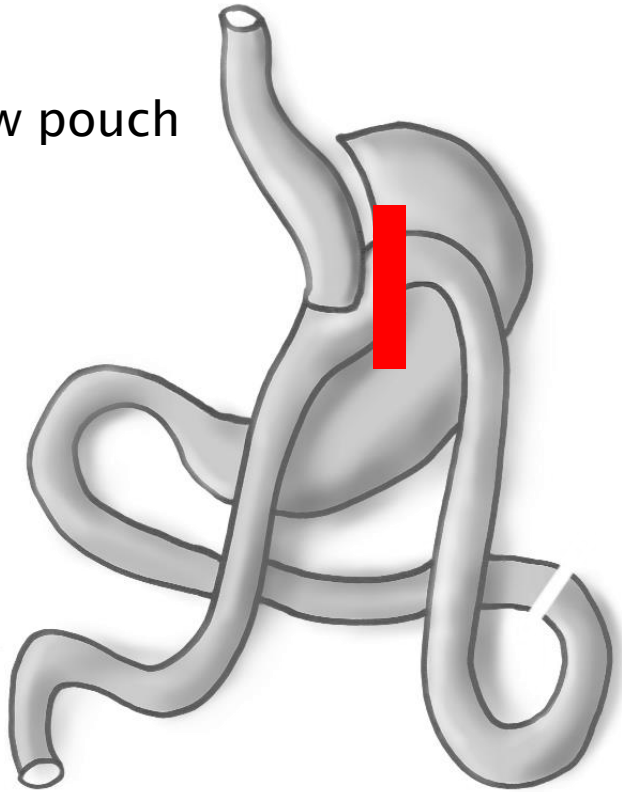
Long & narrow pouch



BP limb
150cm

Diverted one anastomosis gastric bypass

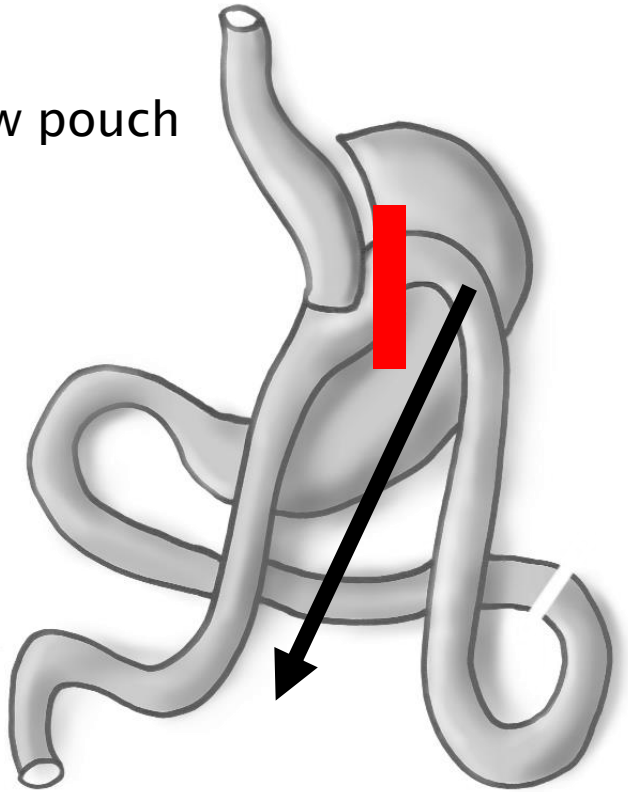
Long & narrow pouch



BP limb
150cm

Diverted one anastomosis gastric bypass

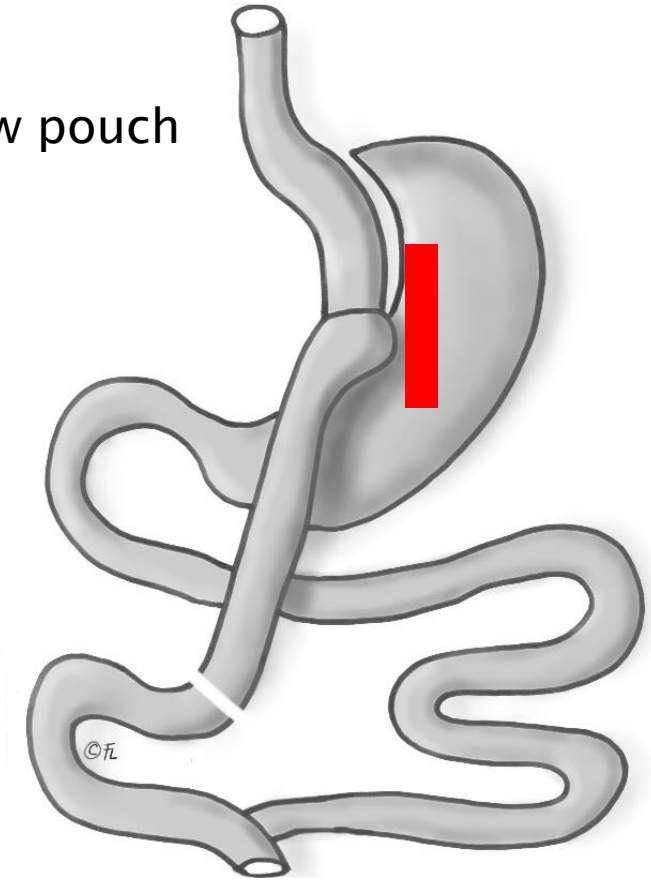
Long & narrow pouch



BP limb
150cm

Diverted one anastomosis gastric bypass

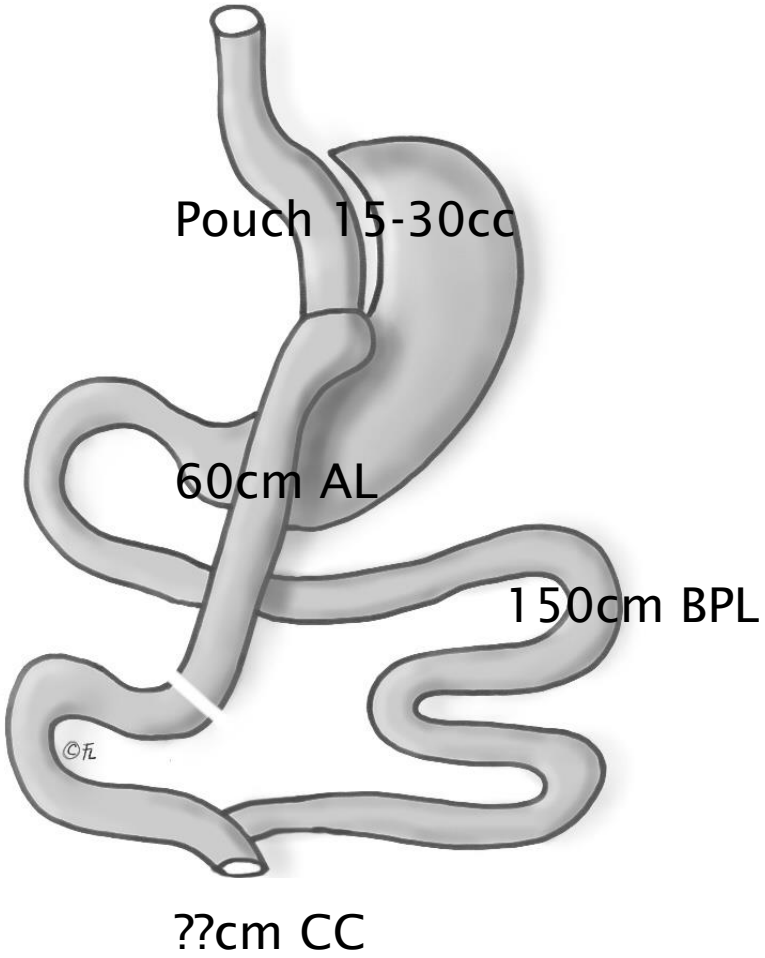
Long & narrow pouch



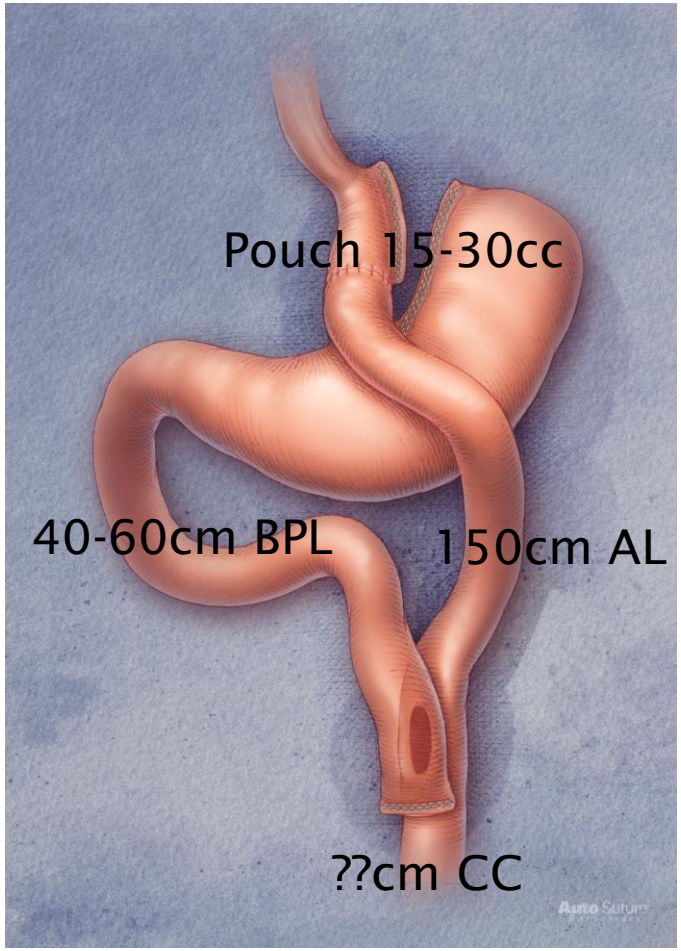
AL limb
60-70 cm

BP limb
150cm

„Diverted one anastomosis gastric bypass“



Roux-en-Y gastric bypass



Arbeitsgruppe
ADIPOSITAS CHIRURGIE
Univ.Klinik.für Chirurgie – AKH Wien

MEDIZINISCHE UNIVERSITÄT WIEN

Reinventing the bariatric wheel: what we know, thought we knew and hope to learn

„Although we have made considerable progress in improving the safety and efficacy of bariatric operations, we still have a lot to learn“.

Keep in mind: Enthusiasm about VBG and LAGB

Evaluation of a procedure: at least sound 5a Fup data!

MEDICAL UNIVERSITY OF VIENNA

Brolin R.E.: SOARD 4 (2008) 563-566

F. Langer
M. Felsenreich
M. Eilenberg
C. Bichler
J. Jedamzik
R. Kefurt

I. Kristo

B. Dreschl
T. Leitner
T. Ranzenberger-Haider

E. Freundorfer
R. Riener-Schwaighofer

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