

# THE X<sup>TH</sup> INTERNATIONAL MEDICAL CONFERENCE IN SPECIALITIES

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## POST-BARIATRIC PLASTIC SURGERY



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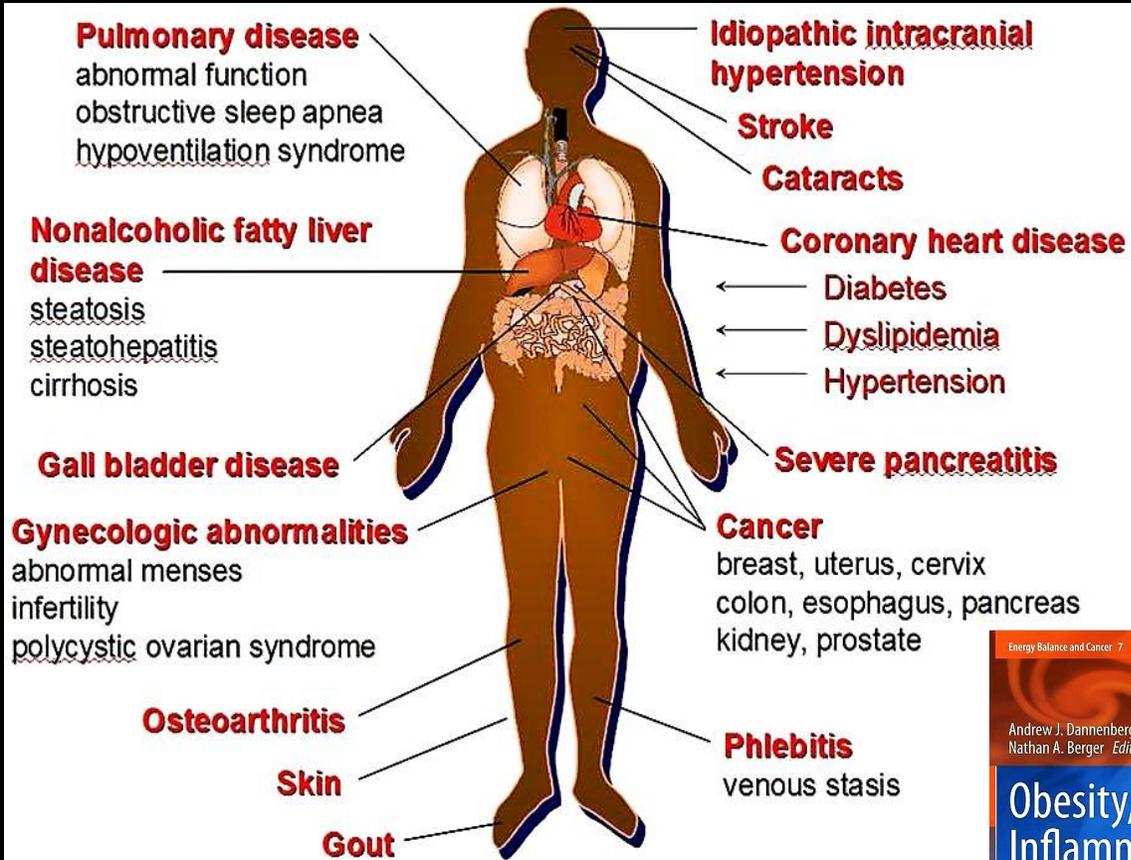
**Obesity is a complex, multifactorial chronic disease influenced by the interaction of several factors, such as genetic, endocrine, metabolic, environmental (social and cultural), behavioral, and psychological components.**



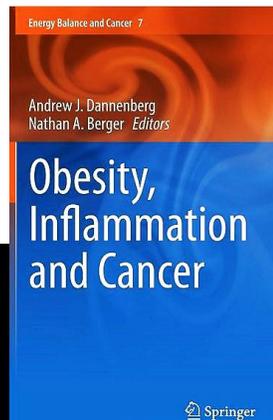
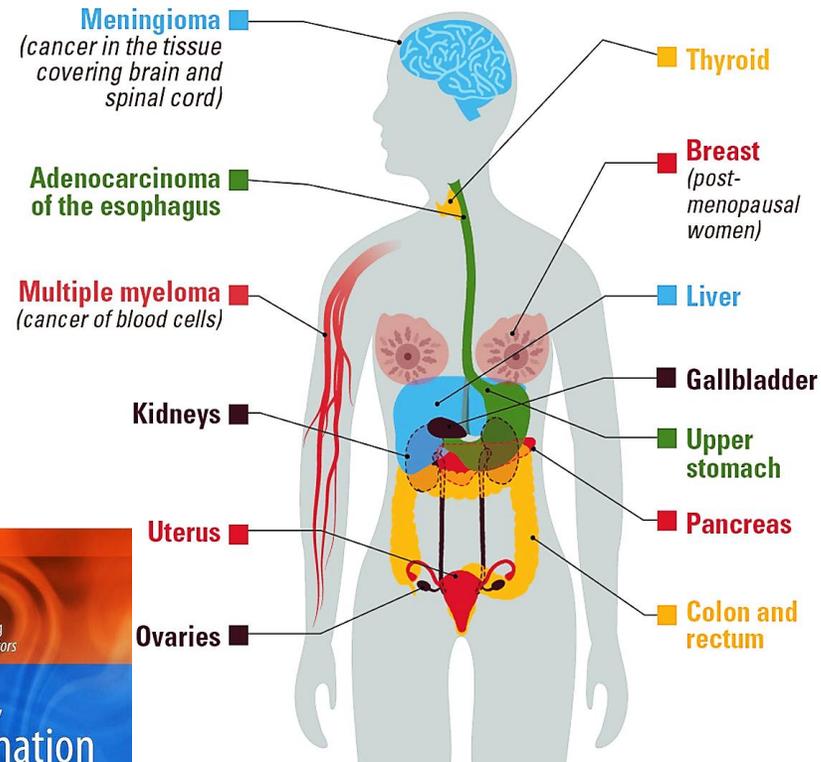
- The number of overweight individuals in the world is estimated at 1.7 billion.
- In Italy 32% of adults are overweight, while 11% are obese.
- Eneli and Dele Davies reported that in 77% of the countries analyzed, the prevalence rate for children who were overweight was at least 10%. The highest rates for children at risk for obesity were found in Malta (25.4%) and the United States (25.1%).



# Obesity complications are numerous and can shorten the life span



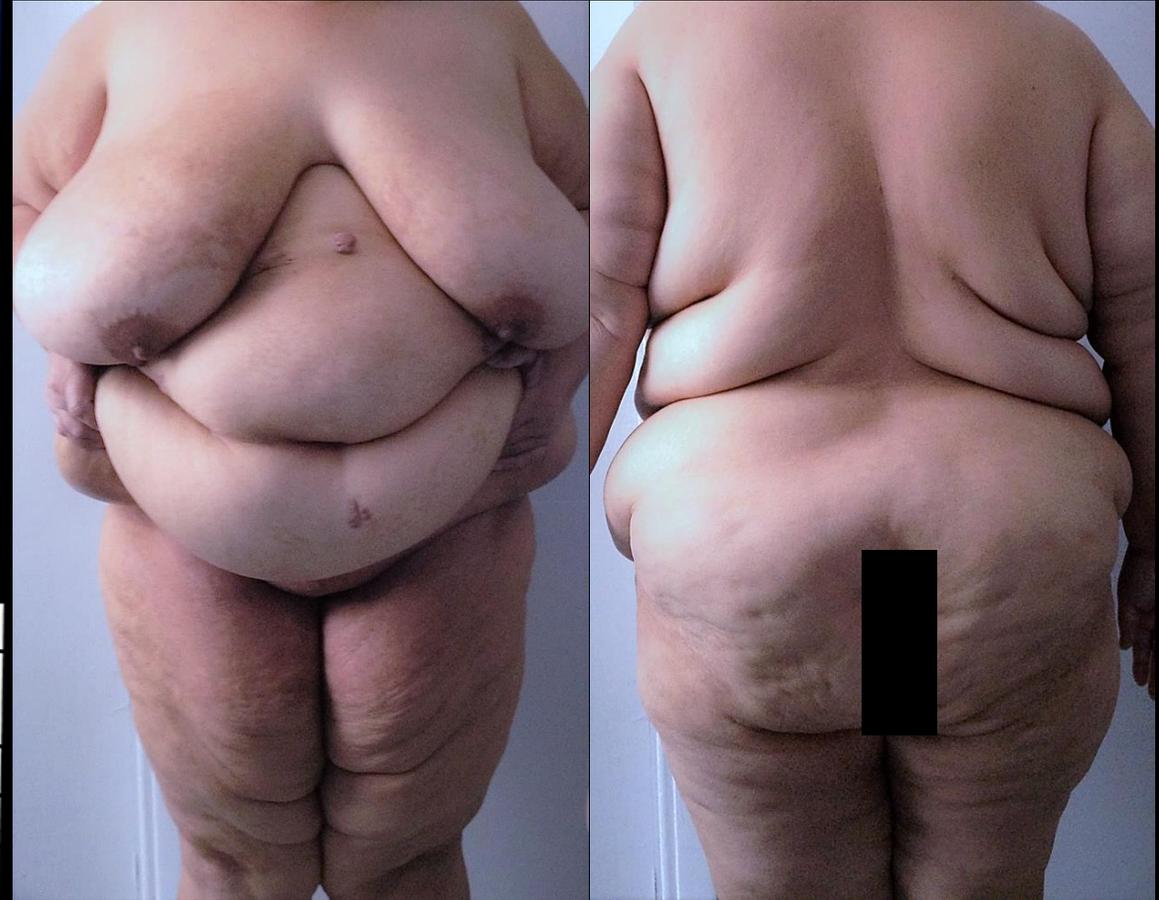
## 13 cancers are associated with overweight and obesity



$$\text{Body Mass Index (BMI)} = \frac{\text{weight (in kilograms)}}{\text{square of height (in meters)}}$$

- Normal range → 18.50 - 24.99 kg/m<sup>2</sup>
- Overweight → 25.00–29.99 kg/m<sup>2</sup>
- Obese class I → 30.00–34.99 kg/m<sup>2</sup>
- Obese class II → 35.00-39.99 kg/m<sup>2</sup>
- Obese class III → ≥40.00 kg/m<sup>2</sup>

Classification	BMI (kg/m <sup>2</sup> )	Risk of co-morbidities
Underweight	< 18.5	Low (but risks of other clinical problems increased)
Normal range	18.5 – 24.9	Average
Overweight	≥ 25	
Pre-obese	25 – 29.9	Increased
Obese class I	30 – 34.9	Moderate
Obese class II	35 – 39.9	Severe
Obese class III	≥ 40	Very severe



# Bariatric Surgery



➤ Bariatric surgery is currently the only modality that provides a significant, sustained weight loss for morbidly obese patients, with resultant improvement in obesity-related comorbidities.

➤ From 1998, the number of the weight loss operations performed in all the world is increased by 761%.

Rank *	Country:	Total Procedures	% of World-Wide Total
1	USA	3,996,631	
2	Brazil	2,141,257	17.0%
3	Mexico	884,353	9.1%
4	Germany	654,115	3.8%
5	Spain	447,177	2.8%
6	Colombia	420,955	1.9%
7	Italy	375,256	1.8%
8	Venezuela	291,388	1.6%
9	Argentina	287,823	1.2%
10	Iran	174,778	1.2%

\* Rankings are based solely on those countries from which a sufficient survey response was received and data were considered to be representative.

# Criteria for Bariatric Surgery

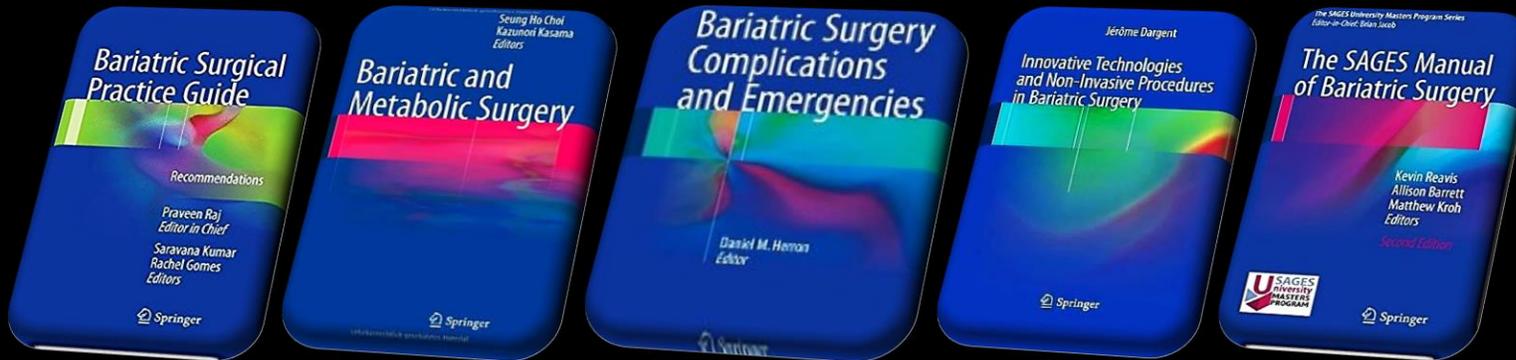
1. Body mass index (BMI) greater than 40 or a BMI of at least 35 with obesity-related medical problems (**diabetes, heart disease, hypertension, sleep apnea, high blood lipids**).
2. Previously attempted nonsurgical weight-loss treatments and failed to achieve long-term weight loss.



➤ Patients should have a clear understanding and realistic expectation of benefits, risks, and long-term consequences of surgical treatment.

# Classification for Bariatric Surgery

- **Restrictive procedures** that limit the amount of food intake by reducing the size of the stomach.
- **Malabsorptive procedures** that interfere with absorption of food from the digestive tract.
- **Combined procedures** (restrictive and malabsorptive).



## CURRENT BARIATRIC SURGICAL PROCEDURES

<u>Classification</u>	<u>Procedure</u>
Gastric Restriction	Adjustable Gastric Banding Sleeve Gastrectomy
Primarily restrictive and Partially malabsorptive	Roux-en-y-Gastric Bypass
Primarily malabsorptive and Partially restrictive	Bilio Pancreatic diversion with duodenal switch Bilopancreatic diversion Mini Gastric Bypass

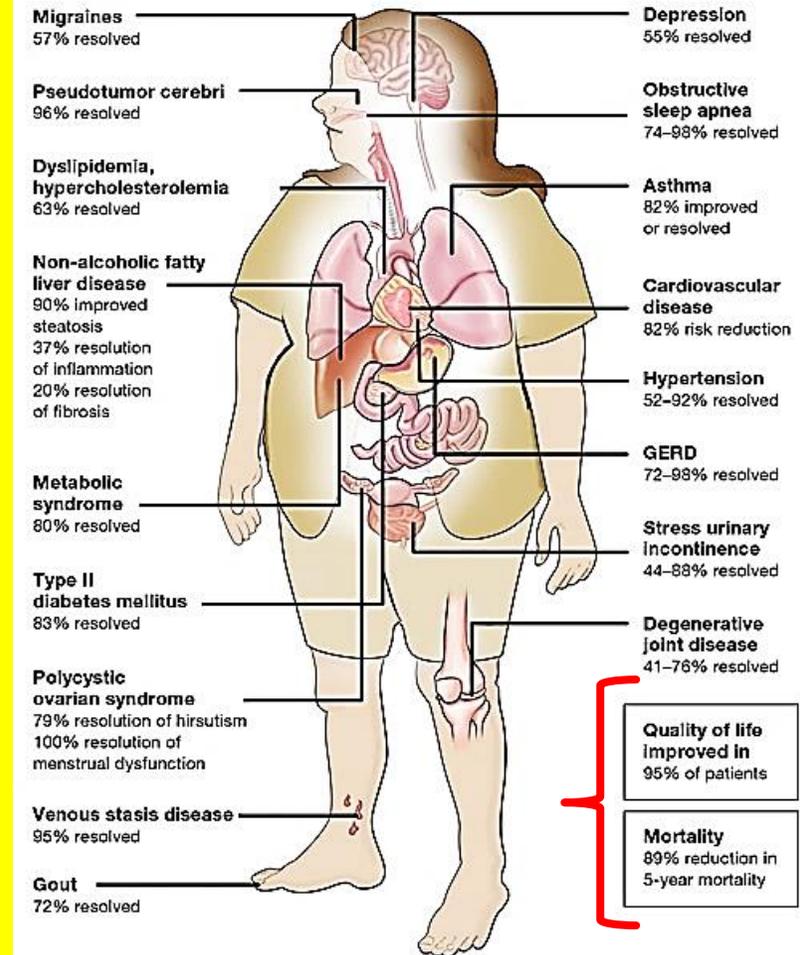
# Benefits of Weight-Loss Surgery

1. Most obesity-related medical conditions improve drastically after surgery, especially diabetes, sleep apnea, and hypertension.

2. Mortality rate is reduced and improvements are seen in many of the health risks associated with obesity.

3. Quality of life, self image, and mobility are reported to be better.

## Comorbidity Reduction After Bariatric Surgery



# Why Get Plastic Surgery After Weight Loss?

- The goal of post-bariatric plastic surgery (Body Contouring) is to alleviate some of the discomfort due to the bariatric surgery with removal of the excess tissue.
- An added benefit of plastic surgery is the relief from discomfort, chaffing, inflammation and infections caused by folds of redundant skin.



# Body Contouring: Surgical Procedures

Abdominoplasty

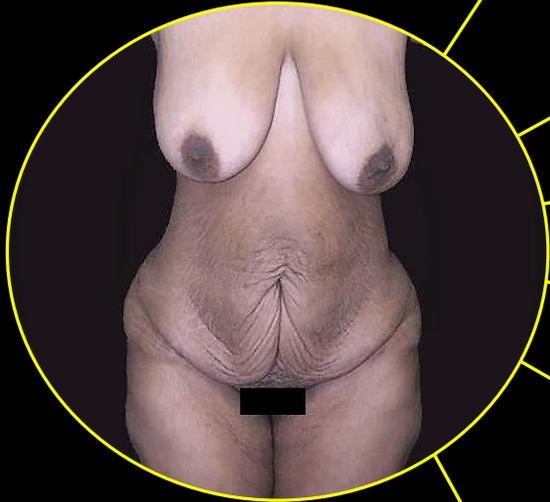
Thigh lift

Breast lift

Arm lift

Buttock Lift

Liposuction



# Body Contouring: Patients Selection

- Weight loss >30 Kg and stable weight for 6 months to 1 year;
- BMI <35 Kg/m<sup>2</sup>;
- Good nutritional conditions;
- Good health;
- Reasonable expectations related with age, health and body structure.



# Body Contouring: Surgical Approaches

## ➤ One staged

All the procedures are performed in a single surgical session;

## ➤ Multi-staged

The procedures are performed in more than one surgical session.



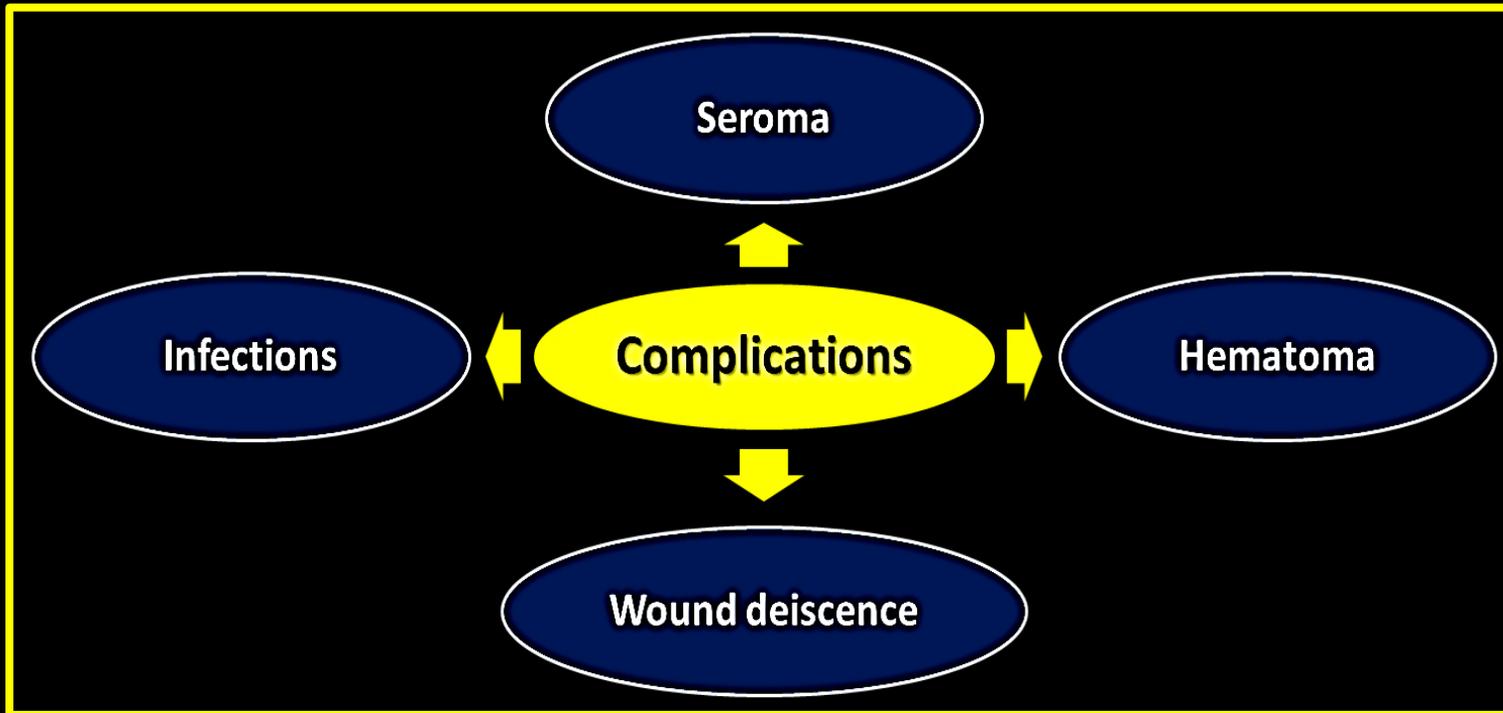
➤ The multi-staged approach is more rational and prudent.

➤ Usually, the time required between two surgical sessions is 3-6 months.

# Body Contouring: Complications

Most complications are local

1. Cigarette smoking
2. Pre-operative BMI
3. Nutrition status



➤ Chetta MD, Aliu O, Tran BAP, Abdulghani M, Kidwell KM, Momoh AO. Complications in body contouring stratified according to weight loss method. *Plast Surg* 2016, Vol 24 No 2, Pages 103-106.

➤ Hasanbegovic E, Sørensen JA. Complications following body contouring surgery after massive weight loss: A meta-analysis. *JPRAS*; 2014, Vol 67, Issue 3, Pages 295-301.

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**(Casa di Cura "Di Lorenzo"– Avezzano, AQ)**

BARIATRIC PROCEDURE	TOTAL AMOUNT PERFORMED	MALES	FEMALES	MEAN AGE	MIN AGE	MAX AGE
Gastric banding	76	15	61	39,74	20	64
Gastric bypass	184	47	137	41,89	19	70
Bilio-intestinal bypass	1	1	0	43	43	43
Biliopancreatic diversion	4	2	2	44,5	35	55
Sleeve gastrectomy	41	9	32	42,98	18	69
Gastric plication	1	0	1	62	62	62
<b>TOTAL</b>	<b>307</b>	<b>74</b>	<b>233</b>			

**Gastric bypass**

FOLLOW UP	NUMBER OF CASES	WEIGHT			BMI		
		MEAN	MIN	MAX	MEAN	MIN	MAX
Before surgery	184	122	80	190	44,3	32,51	69,79
3 months	98	102,8	60	175	37,4	22,04	64,28
6 months	98	94,85	53	160	34,54	20,7	58,77
12 months	87	86,99	55	150	31,76	20,52	55,1
18 months	62	86,56	52	140	31,41	20,2	56,92
2 years	53	86,87	56	135	31,54	19,59	51,44





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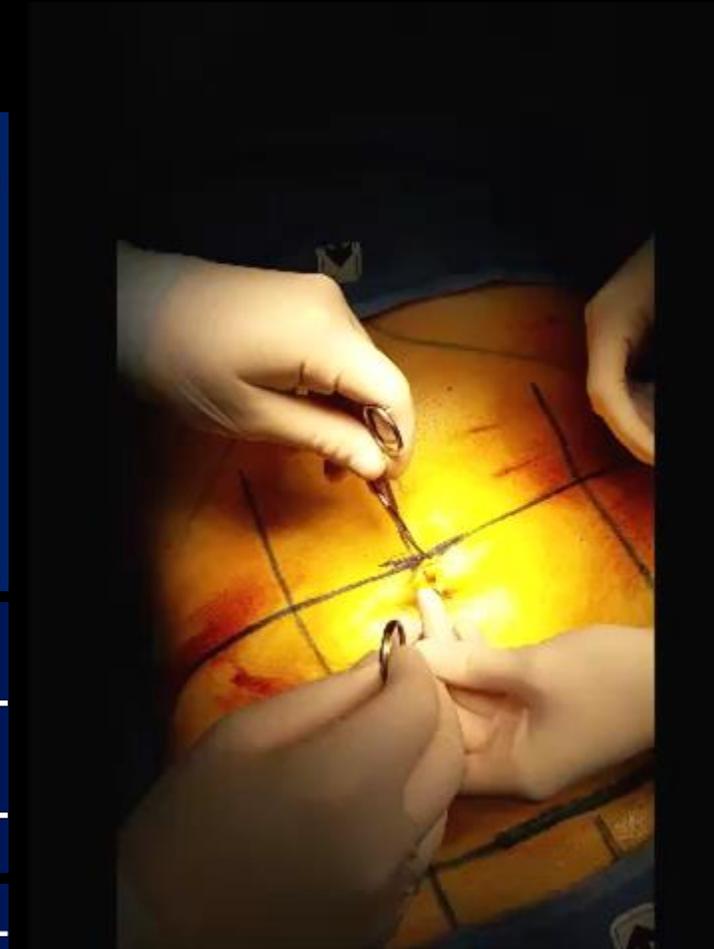
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Patient characteristics	N	%	Mean
Patients	78		
Males	8	10%	
Females	70	90%	
Age			39
Pre-body contouring BMI			37,17
Interval between bariatric and body contouring surgery, months			20
Smokers	14	17,95%	

Body contouring procedures	Total amount
Abdominoplasty	52
Abdominoplasty + thigh lift	7
Abdominoplasty + brachioplasty	4
Abdominoplasty + mastopexy	8
Abdominoplasty + belt lipectomy	3
Complete body contouring	4
<b>Total</b>	<b>78</b>

COMPLICATIONS	N	%
Seroma	5	6,41
Wound dehiscence	4	5,13
<b>Total</b>	<b>9</b>	<b>11,54</b>
OUTCOME	N	%
Excellent	29	37,18
Good	45	57,69
Moderate	4	5,13
Poor	0	0,00
<b>Total</b>	<b>78</b>	

## Medical And Nursing Management

### 1. Pre-operative stage

- Medical history with attention to comorbidities and drugs (steroids, contraceptives, antihypertensives, anticoagulants, hypoglycemic agents, antibiotics, sedatives, stimulants)
- Check of the BMI and of any changes in the last 6-12 months
- Blood chemistry and instrumental screening
- Evaluation of diet and / or nutritional deficiency
- Visit by the anesthetist
- Psychiatric / psychological counseling
- Suspension of drugs containing acetylsalicylic acid 30 days prior to surgery
- Abstention from smoking at least 30 days before and 30 days after surgery
- Topic therapy in skin folds (infections, intertrigo or maceration)
- Discussion and signing of informed consent

### 2. In the 24h before surgery

- Complete bathroom / shower with antiseptic soap (possibly early in the morning and in any case within 24h)
- Fasting from midnight

### 3. On the day

- Trichotomy 2 hours before entering the operating room
- Preoperative planning
- Antithrombotic therapy (low molecular weight heparin, first administration 5.000U / 30' before inducing anesthesia)

### 4. Intra-operative surgical strategies

- Ligation of the perforating arteries
- "Quilting sutures"
- Intraoperative microcirculation check with spectrophotometer laser
- Compression dressing

### 5. Post-operative management

- Heating of the patient
- Garments and compression dressing
- Antithrombotic, antibiotic and pain therapy
- Early mobilization of the patient
- Ordinary discharge (if the weight loss is <50 Kg)
- Assisted discharge (if the weight loss is >50 Kg)
- Nutritional protocol
- In the first 10-15 days night's sleep with suggested posture (angle of 30 degrees) and abstention from driving
- Abstention from sport for at least 1 month
- Cleaning shower only after the stitches' removal
- Compression dressing for 4-6 weeks
- It is recommended to avoid direct exposure to sunlight or heat sources for at least 4-6 weeks



# Conclusions

1. Post-bariatric body contouring is an important component to the total care of the obese patient.
2. Removing the excess tissues can greatly improve QoL.
3. Today there are no guidelines on the issue of post-bariatric body contouring.

Pittsburgh Rating Scale		
Area	Scale	Preferred Procedure
Arms	0 Normal	None
	1 Adiposity with good skin tone	UAL and/or SAL
	2 Loose, hanging skin without severe adiposity	Brachioplasty
Breasts	3 Loose, hanging skin with severe adiposity	Brachioplasty ± UAL and/or SAL
	0 Normal	None
	1 Ptosis grade I/II or severe macromastia	Traditional mastopexy, reduction, or augmentation techniques
Back	2 Ptosis grade III or moderate volume loss or constricted breast	Traditional mastopexy ± augmentation
	3 Severe lateral roll and/or severe volume loss with loose skin	Parenchymal reshaping techniques with dermal suspension; consider autoaugmentation
	0 Normal	None
Abdomen	1 Single fat roll or adiposity	UAL and/or SAL
	2 Multiple skin and fat rolls	Excisional lifting procedures
	3 Ptosis of rolls	Excisional lifting procedures
Flank	0 Normal	None
	1 Redundant skin with rhytids or moderate adiposity without overhang	Mini-abdominoplasty, UAL and/or SAL
	2 Overhanging pannus	Full abdominoplasty
Buttocks	3 Multiple rolls or epigastric fullness	Modified abdominoplasty techniques, including fleur de lis and/or upper body lift
	0 Normal	None
	1 Adiposity	UAL and/or SAL
Mons	2 Rolls	UAL and/or SAL
	3 Ptosis of rolls	Excisional lifting procedures
	0 Normal	None
Hips/Lateral thighs	1 Mild to moderate adiposity and/or mild to moderate cellulite	UAL and/or SAL
	2 Severe adiposity and/or severe cellulite	UAL and/or SAL ± excisional lifting procedure
	3 Skin folds	Excisional lifting procedure
Medial Thighs	0 Normal	None
	1 Excessive adiposity	UAL and/or SAL
	2 Ptosis	Monsplasty
Lower Thighs/Knees	3 Significant overhang below symphysis	Monsplasty
	0 Normal	None
	1 Mild to moderate adiposity and/or mild to moderate cellulite	UAL and/or SAL
Arms	2 Severe adiposity and/or severe cellulite	UAL and/or SAL ± excisional lifting procedure
	3 Skin folds	Excisional lifting procedure
	0 Normal	None
Breasts	1 Excessive adiposity	UAL and/or SAL ± excisional lifting procedure
	2 Severe adiposity and/or severe cellulite	UAL and/or SAL ± excisional lifting procedure
	3 Skin folds	Excisional lifting procedure
Back	0 Normal	None
	1 Adiposity	UAL and SAL ± excisional lifting procedure
	2 Severe adiposity	UAL and SAL ± excisional lifting procedure
Abdomen	3 Skin folds	Excisional lifting procedure



