# Obesity academy: THE NEED for MULTIDISPLINARITY illustrated through a clinical case

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1

## ICEBREAKER - Where do you work?


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2

# What's eating Gilbert Grape
# A Family History

3

# What's eating Gilbert Grape
# A Family History

Women (Helena) of 45 years is admitted to the ER because of dyspnea, chest pain and complete inability to take care of herself. The ambulance refused to take her as she had a weight of 280 kg (wheiging by moving company), making transport in a normal ambulance impossible. She was transferred by a moving company with the help of her two sons. When she arrived to the emergency room, there was a lot of commotion as her sons were shocked at how she was treated by the staff and that no adequate infrastructure was available (no bed).

4

## What's eating Gilbert Grape
## A Family History

Clinical History:

- Mother of four of which one child cerebral palsy
- Always on the heavy side, but increased after her husband left her right after the birth of the 4th child (cerebral palsy)
- Hasn't left the house in two years, the eldest son is responsible for work around the house and groceries
- Now acutely deteriorated after the eldest son had anounced he wanted to go live with his girlfriend

5

## What's eating Gilbert Grape
## A Family History

Clinical Examination:

- No proper clinical exam was performed as this was deemed impossible by the ER physicians, however very important erysipelas !
- The patient was refered to the obesity clinical ward within the service of endocrinology
- Only there was a blood draw which showed:

CRP 1000 mg/L (nl 0-5)
Hb 6 g/dL (nl 12-16)
MCV 55 fL (nl 76-96)
Ferritine 10 µg/L (nl 13-150)
Folic acid RBC 100 µg/L (nl 523-1257)
WBC 17,53 10**9/L (nl 4-10)
Glycemia 400 mg/dl
HbA1c 14 % (4-6%)
Vitamin D undetectable

6

## What's eating Gilbert Grape
## A Family History

Paraclinical examination

- Not deemed possible because of weight…
- RX Thorax: huge heart, white lungs
- ECG: Atrial Fibrillation
- Length based on span: 180 cm - 280 kg - BMI 86 kg/$m^2$

Conclusion

Patient was not considered eligible for surgery
at this time because of the overall state

➔ but what can we do ?

7

## Helena
## What can the endocrinologist do?

<u>What diagnoses can we make for Helena ?</u>

Super morbid obesity
Severe cutaneous infection
Uncontrolled (type 2 ?) diabetes
Sideropenic anemia
Several micronutrient deficiencies (Fe + folic acid, vit.D)
Atrial fibrillation (heart failure ?)

8

# Helena
# What can the endocrinologist do?

Which strategy to propose to Helena ?

At once
Treat infection w/AB
Insulin first IV then SC
Iron (folic acid, vit.D) supplementation


Then
Exclude endocrinopathy (Cushing syndrom)
Prepare the patient to bariatric surgery

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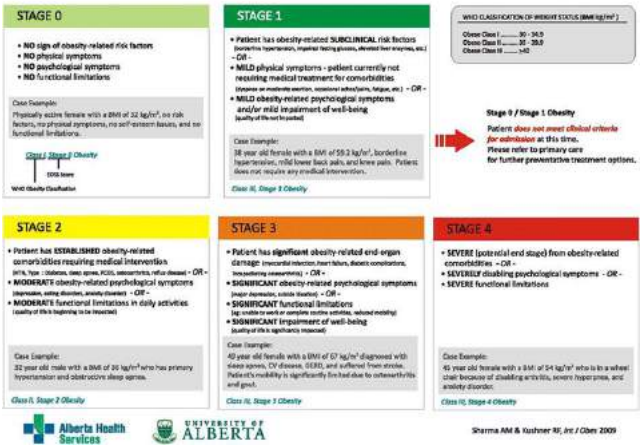
9

# Helena
# What can the endocrinologist do?

How to assess severity of Helena' obesity ?

EOSS: EDMONTON OBESITY STAGING SYSTEM - *Staging Tool*

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10

## Helena
## What can the endocrinologist do?

Which test to exclude Cushing syndrom ?

24h cortisoluria
Plasma cortisol after 1mg dexamethasone
Midnight salivary cortisol

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11

## Helena
## What can the endocrinologist do?

Does Helena meet the criteria to be operated ?

YES !
BMI > 40 kg/m$^2$
Comorbidities (diabetes, but others to be looked …)
Very low probability of success through lifestyle changes…

But to minimize the surgical risk…

- cardio-pulmonary status
- preop weight loss
- comorbidities control (diabetes, NASH, …)
- optimal nutritional status (obesity does not exclude malnutrition..)

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12

## Helena
## What can the endocrinologist do?

<u>What cardio-pulmonary evaluation to propose to Helena ?</u>

Exclude congestive heart failure

Heart rate control

Exclude sleep apnea syndrom

Blood pressure control

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## Helena
## What can the endocrinologist do?

<u>How to help Helena to lose weight before surgery ?</u>

Lifestyle changes (in particular PSMF only prescribed by MD)
Medications

<u>Expected benefits of obesity medications</u>

- Weight loss
- Increased adherence to dietary changes
- Improved control of comorbidities
- Improved quality of life
- Cardiovascular safety

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## Helena
## What can the endocrinologist do?

Which medication before surgery ?

Liraglutide (Saxenda®)

Obesity drug available on the belgian market with such benefits

Pratical use of Saxenda®

Start with 0,6 mg/day SC, then increase to 1,2 mg/day after 8-10 days
Adjust the dosage according to the response and digestive tolerance
Maximal dose 3 mg/day

15

## Helena
## What can the endocrinologist do?

How to assess the effectiveness of Liraglutide for Helena ?

Weight loss should reach at least 5% at 12 weeks
For Helena: - 10 to 15 kg !

Contra-indications

Almost none,
Except maybe uncontrolled proliferative retinopathy (maculopathy)

Side effects

Mainly digestive and transient

16

## Helena
## What can the endocrinologist do?

Issues non resolved with obesity medications in general …

Non-reimbursement

Normalization of body weight almost never reached

Plateau effect on body weight despite continued treatment

Weight regain for most if treatment stopped

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17

## Helena
## What can the endocrinologist do?

Despite these issues… Liraglutide is very useful for Helena !

encouraging the implementation of lifestyle changes

improving global health and quality of life

reduction of liver size

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18

## Helena
## What can the endocrinologist do?

Which medication before surgery ?

Naltrexone/bupropion (Mysimba®) (GoodLife)
Available on the belgian market since 02/2020
In particular useful at lower BMI and craving

Pratical use of Mysimba®

Start with 8 mg/90 mg day PO in the morning (one tablet),
then increase to 2 tablets after a week ➔ per week extra tablet
➔ from week 4 onwards: 2 tablets in the morning and 2 in the evening

Not so useful for Helena

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19

## Helena
## What can the endocrinologist do?

How to treat type 2 diabetes for Helena (1) ?

Rapid Insulin analog and basal Insulin analog


Target progressive decrease of HbA1c

Check for microangiopathy !
fundoscopic examination + microalbuminuria

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## Helena
## What can the endocrinologist do?

How to treat type 2 diabetes for Helena (2) ?

What about Metformin ?
Yes,
After excluding untreated OSAS + major kidney failure (GFR < 30 ml/min)

What about sGLT2 inhibitor ?
Yes,
After excluding kidney failure (GFR < 60 ml/min)
Particulary indicated if heart failure (atrial fibrillation ?)
(not reimbursed in combination with GLP-1 agonists !)

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21

## Helena
## What can the endocrinologist do?

What can I do for Helena after bariatric surgery ?

Check for optimal diet (proteins !)
Adjust treatment of comorbidities (insulin !)
Look for nutritional deficiencies (prealbumin, …)
Verify micronutrients supplementation (Iron, Vit.D, Folic acid)
Look for digestive complaints (gallbladder, …)

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22

# Obesity academy:
# THE NEED for MULTIDISPLINARITY through a clinical case
# "The dietitian contribution"

An Verrijken
Marie Barea

OBESITY ACADEMY 7 february 2020 Groot Bijgaarden

23

## CLINICAL CASE : "Helena"

## What can the dietician do?

**IN THIS CASE OF EXTREME OBESITY,**
**THE ENDOCRINOLOGIST/INTERNIST PRESCRIBES A "PSMF DIET"**
**until patient becomes eligible for bariatric surgery ….**

24

## PSMF (Protein Sparing Modified Fast)

- **On indication, under the supervision of a medical doctor**
- maximum intake : 600-800 kcal/d
- diet replacements/kitchen prepared

| Nutrient | Minimal requirements diet replacements (EFSA 2015-2017) |
|---|---|
| Energy (kcal) | 600 |
| Protein (g) | Min 75 – max 105 |
| Fat (g) | 20 |
| Carbohydrates (g) | 30 |
| Fluid intake (mL) | Male: 2500, Female: 2000 |

25

## Principles of the PSMF diet

- Limit carbohydrates: bread, potatoes, pasta, rice, cereals, fruit, dairy products, sugar
- consists of 3 fixed daily meals
- limit fat as much as possible
- eat sufficient amount of protein: lean meat, fish, low fat cheese, egg, vegetarian products
- Sufficient amount of vegetables, incorporated in 2 meals/day
- drinks: water, tea and coffee
- Fiber: supplementation in case of constipation

26

## PSMF: Indications and contraindications

**Indicated** as a dietary treatment for (severe) obesity :

- If failure of a dietetic treatment by moderate energy restriction.
- In case of metabolic and cardiovascular complications of obesity.
- Particularly indicated when rapid weight loss needed eg. before surgery.

**Contraindications :**

- Children, adolescents, pregnancy
- End stage kidney failure
- Recent acute myocardial infarction or stroke (12 months)
- Type 1 diabetes
- Active or recent cancer treatment (12 months)
- History or active psychiatric disorder
- Active alcohol or drug addiction

27

## PSMF: advantages and disadvantages

**Advantages**:

- Rapid weight loss
- Strict schedule
- Ketosis (suppresses hunger)

**Disadvantages :**

- Should not be combined with sudden increase in heavy physical activity
- Supplementation of vitamins and minerals is mandatory
- Meal replacement: no education on healthy food choices
- Long term commitment necessary given stepwise re-introduction of carbohydrates

28

## According to the BELGIAN law, what is the composition of the bariatric team?

a surgeon, an endocrinologist, a psychologist, a dietitian

a surgeon, an internist, and a medical specialist in psychiatry, or a clinical psychologist



29

## BARIATRIC SURGERY = mandatory multidisciplinarity

MULTIDISPLINARY TEAM has to (but doesn't always) include experienced bariatric dietitian or nutritionist

- French speaking part:
  association of Allied Health specialized in the management of operated patients
- Dutch speaking part: no official society
  - Eetexpert « scenario » bariatric surgery
  - Dieticians working in centra performing bariatric surgery
  - Vlaamse beroepsvereniging van diëtisten


30

# BARIATRIC SURGERY = mandatory multidisciplinarity

**Dietitian's intervention pre-surgery**:

Patients require assessment and dietary information

- diet **rebalancing** / improving dietary habits
- Emphasize need for adopting **new eating behavior** :

  Small but frequent meals, eating slowly, chewing thoroughly and avoiding drinking during meals
- PREOP WEIGHT LOSS to facilitate surgery

**We suggest working in workshops with patient candidates for surgery, creating a group support dynamic**

**→ Importance of information (informed consent)**

31

# After surgery : dietary advice

- healthy nutrient-dense diet based on
- High quality proteins,
- Food pyramids have been proposed for post-bariatric patients in the long term.
- during the first months, the minimal protein intake 60 g/day and up to 1.5 g/kg of ideal body weight/day.
- Liquid protein supplements (20-25g/day) can help achieve this target.
- Micronutrient deficiencies should be screened and addressed

32

## *DIET evolution after bariatric surgery /Texture*

week 1
**Liquids**

Weeks 2 and 3
**Puree foods**

week 4 or 5

**Tender/Solid**

!!! According to personal tolerance !!!!



33

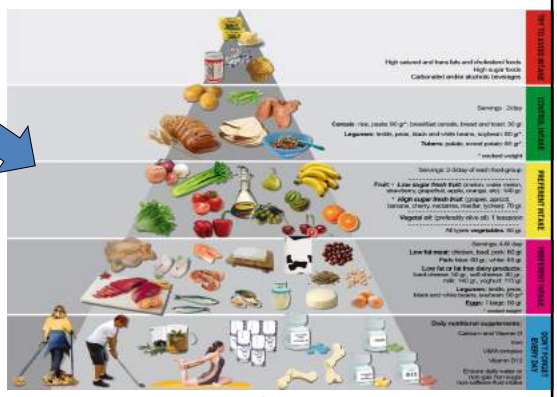
## *Adapted nutritional pyramid postoperatively*

*ASMBS Guidelines OBES*

BBAHS

*1141*

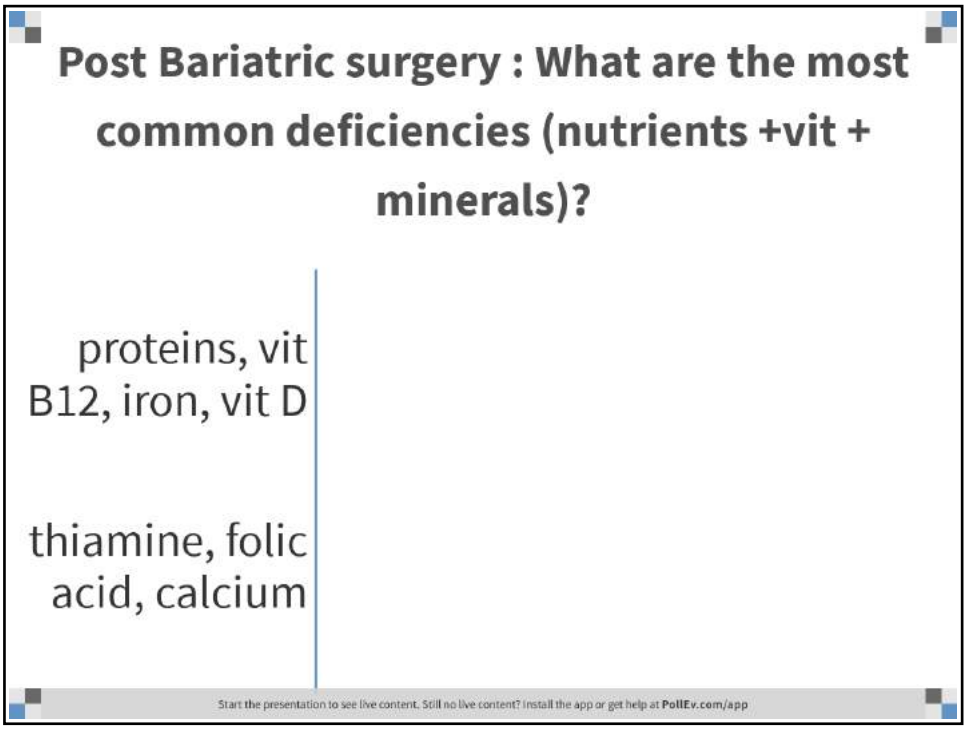

Before surgery



After surgery



34




35

## PRE and POSTOP DEFICIENCIES

*Farmaka*

| NUTRIENT | PREOP DEFICIENCY | POSTOP DEFICIENCY |
|---|---|---|
| PROTEINS | 5% | 3 - 18% |
| IRON | 8 - 18% | SLEEVE 17% BYPASS (RYGP) 30 to 45% after 2 years |
| ZINC | Up to 30% | SLEEVE 12% BYPASS (RYGP) 21 to 33% |
| CALCIUM | 8,5 - 10,5% | +/- 10% |
| VITAMIN B1 (Thiamin) | 15 - 29% (asymptomatic) | Up to 49 % (symptomatic) |
| VITAMIN B12 | 18% | RYGB 4 – 62 % après 2 ans<br>19 – 35 % après 5 ans |
| FOLIC AC. (B9) | 2 - 10% | 9 – 38 % |
| VITAMIN A | Up to 17% | 8 – 11% BYPASS (RYGP) |
| VITAMIN D | 25 - 68% | 25 – 80% BYPASS (RYGP) |

36

## Dietitian's follow-up :

## What are the most frequent problems in the short term after bariatric procedure?

- Insufficient protein intake
- Skipping meals (hunger is less perceived)
- Adequate hydration, recommended drinks
- Eating too fast and difficulty regaining the feeling of satiety
- Long term lifestyle changes
- Difficulty adapting portion size

37

## How to manage overweight and obese patients in the outpatient clinic: The dietitian's approach

*HAS recommandations 2011 / Eetexpert 2015/BASO consensus 2020*

- in many cases the general practitioner does the follow-up (diet / exercise / psychological approach) of the overweight or obese patient
- Multidisciplinary consultation (GP, dietician, physiotherapist, psychologist) is "harder" to organize than in a hospital setting ... but is needed !!!

38

## Overweight and Obese Patients : follow-up by the GP

*HAS recommandations 2011 / Eetexpert 2015/BASO consensus 2020*

When therapeutic objectives are not achieved :

- Failure / relapse after various diets for 6 months/1 year (yoyo effect)
- Severe obesity with comorbidities (type 2 diabetes, lipid disorders, etc.)
- Bariatric surgery advice (BMI ≥ 40 kg/m² or BMI > 35 kg/m² + comorbidity)

→ help from dietician, clinical psychologist / psychiatrist, physiotherapist

→ **GP as coordinator of the multidisciplinary team**

39

## The dietitian's task = Holistic approach of the overweight / obese patient

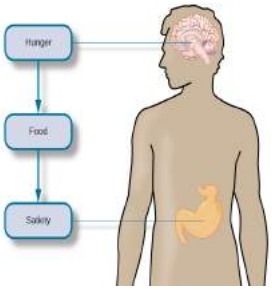
- Not only counting calories or giving "one more diet plan"
- following a diet alone = failure for 80% to 90% of patients !
- Dietary history is not "just about food"

- →**Understanding**: the moments when the patient eats (circumstances, work situation, family situation)
- → his **eating habits** and his **nutritional knowledge**, which co-determine his eating pattern

40

## Holistic approach of the overweight / obese patient

**Goal of the dietary history = to become aware of one's own behavior:**




Hunger >< craving to eat / pleasure of eating

- Perception of satiety? (listen to the internal signals)
- Meal duration (too short?) / sufficient chewing?
- Finding a diet that suits needs
- A healthy attitude towards food

**With the psychologist :**

- working on the emotions that lead to eating
- Propose to work on self-esteem, on the acceptance of body shapes compatible with one's physiology

41

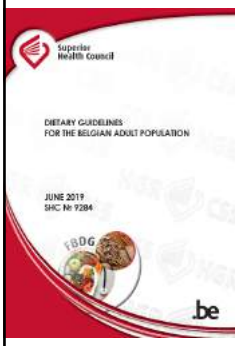
## Anamnesis will determine which nutritional adjustments must be made

- Structured meals (> <only 1 meal / day)
- Improve the quality of the plate: fewer fats / healthier cooking methods; prefer fruit, vegetables, seeds, whole grains, healthy recipes
- Sufficient hydration, recommended drinks
- Reduction of general energy intake
- Portions revised
- Confusion / myths about food and diets
- Realistic objectives: small, non-frustrating, long-term changes, slow weight loss (1 to 3 kg max/month)

→ No concept of diet but "**rebalancing**" of the diet

42

## Superior health council






43

## Improving food quality: a visual tool



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# Toolkit overweight/obesity

- Guides dietitians and other healthcare professionals to validated (national) guidelines and education tools
- Contains key recommendations and refers to relevant guidelines, consensus reports, education tools and patient information
- Accompanying summary
- Currently in expert evaluation
- Integral toolkit available on 04/03 via http://www.ebpnet.be; http://voeding.ucll.be/; http://www.vbvd.be and http://www.updlf.be
- More information: Erika.Vanhauwaert@ucll.be; Laura.Verbeyst@ucll.be and Marte.Wuyts@ucll.be


45

# Visual tools: balanced plate/portion size

PALM Meat/fish/ vegetarian | FINGER BONE Fat (oil/butter) | HAND Slice of bread | FIST Potatoes, rice, pasta

46

# Trendy diets:
# Meal replacement and protein drinks ?

**Defining the Optimal Dietary Approach for Safe, Effective and Sustainable Weight Loss in Overweight and Obese Adults**, Chrysi Koliaki, Healthcare (Basel). 2018 Sep; 6(3): 73.

**Formula diets are the most effective strategy to achieve substantial and rapid weight loss but are indicated for specific subgroups of patients and intended for short-term use**

**NICE guidance on the treatment of adult obesity does not recommend the routine use of very low calorie diets (VLCD 800 or less kcal/day)**

- Few randomized studies of the long-term effects of these substitutes
- Effective in the short term but weight gain is inevitable in the long term.
- More expensive and not more effective than conventional diets = place to be defined.

- For a majority of patients: no food education program
- Not a solution for the dietitian if no medical + dietetic follow-up
- Except for preparing for a short-term surgery (reduces liver volume)
- And for postop monitoring (limiting muscle waste post bariatric surgery)

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# Trendy diets:
# Intermittent fasting for obesity management?

2 options : fasting 2 days /week or fasting 16h/day

→ Advantage : you don't have to calculate calories

- Interesting additional option: one approach may not be suitable for all patients
- Goal : long-term adherence and lasting beneficial effects on metabolic markers of obesity

INTERMITTENT FASTING meets the necessary basic conditions:

- Palatable and satisfying dietetic approach
- Meets the minimum nutritional requirements
- Promotes fat loss by preserving lean mass
- safe long term
- Simple to prescribe and follow-up

Johnstone Int J Obes 2015 BASO

48

# Trendy diets: KETODIET

**DIET HIGH in FAT and LOW CARB : allows a very rapid weight loss**

Weight loss: the ketogenic diet is more effective in the short term (1 year and <)

- than a low-fat or high-protein diet
- than a moderately hypoglucidic diet
- Diabetes: significantly improved blood sugar% hypocal diet
- Cardiovascular: positive impact on blood pressure, HDL-C and triglycerides **but increased LDL-C.**
- Short term: lack of studies on long term effects

| POSITIVE POINTS | NEGATIVE POINTS/RISKS |
|---|---|
| Feeling full<br>No calorie restriction<br>Good intake of quality lipids and proteins<br>Rapid weight loss | Unpleasant side effects in the first weeks (headache, nausea, fatigue)<br>Constipation (need for fiber supplement)<br>Dehydration, increased risk or urolithiasis<br>Little dietary diversity<br>No deviation allowed, risk of yoyo<br>Not very compatible with social life |


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# Comparison PSMF/KETODIET

| Nutrient | Minimal requirements diet replacements (EFSA 2015-2017) | Ketodiet |
|---|---|---|
| Energy | 600 kcal | Not limited/ If 2000 kcal |
| Protein | Min 75 g – max 105 g | 20% / 100 g |
| Fat | 20 g | 75% / 135 g |
| Carbohydrates | 30 g | 50 g |
| Duration | Min 6 weeks – max 6 months | Lifelong? (epilepsy, diabetes)? |

50

## The big debate : a healthy diet is…. Low in fat or low in sugar?

**The DIETFITS Randomized Clinical Trial.** Gardner CD, JAMA 2018

- Between a low fat diet (L =29% ) and a low carb diet (G=30%), **there is no difference in efficiency**. – loss of -5,7kg vs -6kg in 12 months
- Nor the genetic profile or the insulin metabolism contributed to giving better results in 1 of the 2 options

**Comparison of weight loss among diet programs in overweight/obese adults: a meta-analysis.** Johnston JAMA 2014

- A significant weight loss was observed in **every low fat or low carb diet.**
- Differences in weight loss between aforementioned diets were minimal.

→This backs the practice which consists of recommending any **balanced alimentary diet** a patient will stick to in order to lose weight.

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## Low carb and low fat : consensus

- key point = fat type and source of carbs consumed
- consensus on the importance of
  - replacing saturated and trans fats by unsaturated fats
  - Replacing refined carbs by whole grains and non-starch plants.

Ludwig D. et al., Science, 2018

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52

## Find a dietician…

Vlaamse beroepsvereniging van diëtisten
https://vbvd.be/

Union professionnelle des diététiciens de langue française
https://updlf-asbl.be/

Belgian Bariatric Allied Health Society
https://bbahs.net/

53

## What can the psychologist do?

54

## What can the psychologist do?
## **Plan**

- First impressions
- Clinical hypothesis
- Methodology
- Family issues (1st focus)
- Childhood Maltreatment and obesity (2nd focus)
- Link nutrition – trauma (3rd focus)
- Assessment tools (4th focus)

55

Helena

## What can the psychologist do?
## **First impressions**

- Extreme and urgent nature of the situation
- Strong emotional mobilization (patient, family, team)
- Patient's initial predisposition to obesity
- Weight gain during separation
- Patient's sensitivity to separation issues
- Obvious family issues (chronic stress + dynamics) : **Focus 1**
- Sensitivity to maltreatment : how does that fit into the patient's history? : **Focus 2**

56

Helena
What can the psychologist do?
**Hypothesis**

- Patient at risk of overweight since youth
- Cumulation of contextual, family and individual stressors
- Depressive and anxiety disorder
- Food: antidepressant and anxiolytic function which allows the psychic survival of the patient while promoting morbid obesity

57

What can the psychologist do?
**Methodology**

- What is the **request** of the patient ?
- What is she **suffering** from? (obesity or other?)
- What **therapeutic proposal** can I make to meet her request and needs?
- Clinical **interview** (individual and familial)
- Psychological **assessment** (questionnaire)

58

## What can the psychologist do?
## **Focus 1 : Family issues in obesity (1)**

- Obvious in child and youth care: without parental collaboration, care is a failure
- Family stories of suffering and intergenerational traumas
- Family dynamics characterized by hyperprotection, enmeshment, fear of conflict, rigidity of functioning

*(Minuchin, 1978; Onnis, 2009)*

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## In your opinion, what is the most common disorder in family history of obese patients ?

Eating disorders

Addiction

Mood disorders

Anxiety disorders



60

## What can the psychologist do?
## **Focus 1 : Family issues in obesity (2)**

- Study carried out in Nancy as part of a doctorate in medicine
- Population: 767 patients
- 60.5% of men and 62.5% of women have a family psychiatric history
- Family history of addiction and mood disorder are most common in both genders

*Quenot, C. (2012). Antécédents psychotraumatiques et psychopathologie des patients obèses candidats à la chirurgie bariatrique [Doctoral dissertation]. Université de Lorraine, Nancy.*

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## In your opinion, what is the frequency of maltreatment in the families of obese patients ?

27%

46%

69%

81%

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## What can the psychologist do?
## **Focus 2: Obesity and childhood maltreatment (CM)**

- Population : 340 patients (obese candidates for GB surgery)
- Frequency of CM : 69 % reported at least one form of maltreatment. And :
  - 46 % reported emotional abuse
  - 29 % reported physical abuse
  - 32 % reported sexual abuse
  - 49 % reported emotional neglect
  - 32 % reported physical neglect

*Grilo CM, Masheb RM, Brody M, Toth C, Burke-Martindale CH, Rothschild BS. (2005). Childhood maltreatment in extremely obese male and female bariatric surgery candidates. Obes. Res. 13: 123–130*

63

## What can the psychologist do?
## **Focus 2: Obesity and childhood maltreatment (CM)**

- Systematic review and meta-analysis on 41 studies (190.285 participants)
- Compared to those without a history of CM, maltreated individuals are more likely to be obese *(OR=1.36; 95 % confidence interval)*
- CM predicts obesity
- Stressful psychological experiences in childhood might be a potentially modifiable risk factor for obesity

*Danese, A & Tan, M. (2013). Childhood maltreatment and obesity: Systematic review and meta-analysis. Molecular psychiatry. 19, 544-554.*

64

What can the psychologist do?

**Focus 2: Obesity and childhood maltreatment (CM)**

- Assuming causality, results suggest that prevention OR effective treatment of 7 cases of CM could avoid 1 case of obesity in adulthood
- Concerning research implications, results suggest that, like nutritional stressors in early life, CM may be associated with a « thrifty phenotype » (increased energy intake and storage, reduces energy expenditure)
- Because they act on developping plastic systems, childhood stressors like CM may exert enduring effects through epigenetic mechanisms

*Danese, A & Tan, M. (2013). Childhood maltreatment and obesity: Systematic review and meta-analysis. Molecular psychiatry. 19, 544-554.*

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**In your opinion, in what way does nutrition link to the issue of trauma?**

It increases negative effects

It decreases negative effects

It brings back the mental pain

It reminds of the traumatic event

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## What can the psychologist do?
## **Focus 3: in what way does nutrition link to the issue of trauma?**

- It decreases negative affects and distracts the patient's attention from the traumatic event
- It takes away the mental pain that accompanies the traumatic memory
- It gives the feeling of being able to control something when everything else is out of control

*Zerbe, KJ.(1993). Whose body is it anyway? Understanding and treating psychosomatic aspects of eating disorders. Bull Menninger Clin 57: 161–177..*

67

## What can the psychologist do?
## **Focus 4: Tools for psychological assessment**

- SCL-90 (Symptom Check List): measures psychological and physical complaints
- HADS (Hospital Anxiety and Depression Scale): measures complaints of anxiety and depression that do not involve physical complaints
- EDE-Q (Eating Disorders Examination – Questionnaire Form): measures the presence and severity of an eating disorder
- CTQ (Child Trauma Questionnaire) : retrospective measure of childhood trauma; assessed in diverse population

68

Helena
What can the psychologist do?
**Conclusion**

- Propose her and the family a place to express emotions in relation to the hospital maltreatment
- Explore the links between this experience and possible family trauma/suffering and treat it
- Explore separation issues to cope with the departure of the eldest son
- Explore other modalities for coping with emotions

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Helena
What can the psychologist do?
**Conclusion**

- Because obesity is a chronic complex disease, encompassing psychological and somatic aspects,
- The role of the psychologist is not only to worry about the symptom
- But also to take care of all the associated psychic, somatic and relational issues

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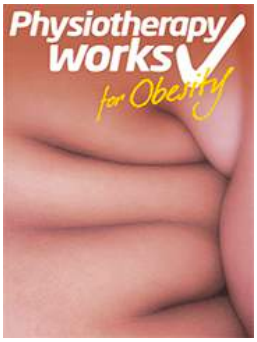
70

## What can the physiotherapist do?




Prof. Dirk Vissers
UAntwerp

71

## Helena
## What can the **physiotherapist** do?

### Intake

- Medical history and medication
- Motivational interview (behavioral change)
- Identify barriers and facilitators for PA participation
- Pre-participation screening (risks and co-morbidities)
  - Hypertension, cardiovascular pathology, respiratory system, diabetes, musculoskeletal problems…
  - Physical activity readiness (questionnaire)

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## Helena
## What can the physiotherapist do?

### Measurements and clinical examination

- Body composition and antrophometry
- Musculoskeletal examination
  - Range of motion
  - Muscle strength and flexibility
- Physical activity level
- Cardiorespiratory fitness level
  (e.g. 6-minute walk test, aerobic power index)


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## Helena
## What can the physiotherapist do?

### Therapy -> tailored lifestyle program

1. **Decrease sedentary lifestyle AND promote active lifestyle**
   - Self-monitoring, Promote active lifestyle, Active transportation, Reduce screen-time, …
2. **Increase cardiorespiratory fitness level**
   - Continious aerobic training, Interval training, High Intensity Interval Training (HIIT), …
3. **Resistance or Strength training**
   - Increase lean body mass, increase maximal strength, strength endurance, …

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## Is it safe to exercise with atrial fibrillation?


A


B

Start the presentation to see live content. Still no live content? Install the app or get help at PollEv.com/app

75

## Should we tell Helena to use a heart rate monitor?



Start the presentation to see live content. Still no live content? Install the app or get help at PollEv.com/app

76

## Helena
## What can the physiotherapist do?

### Goals

- Behavioral change towards a **healthier lifestyle**
  - Weight management
  - Ectopic fat storage (heart, liver, …)
  - Endothelial function
  - Hypertension
  - Glucose control
  - Cholestrol, triglycerides
- Behavioral change towards a more **active lifestyle**
  - Increase fitness level
  - Increase participation
  - Increase P.A**. Enjoyment**

77

## Helena
## What can the physiotherapist do?

### Physiotherapy and bariatric surgery?

**Pre-surgery physiotherapy**

- Will help to make te change towards a healthier lifestyle
- Quality of life ⇧
- Physical fitness ⇧
- Physical activity after surgery ⇧

1. Bond DS, et al. *Int J. Obes.* 2017
2. Coen PM, et al. *Exerc Sport Sci Rev.* 2018

78

Helena
What can the physiotherapist do?

## Physiotherapy and bariatric surgery?

**Post-surgery physiotherapy**

1. Chest physiotherapy (CP)

- respiratory functions ⇧
- arterial blood gases ⇧
- oxygen saturation ⇧
- functional capacity ⇧
- quality of life ⇧
- dyspnea levels ⇩

1. Duymaz T et al. Obes Surg. 2020

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Helena
What can the physiotherapist do?

## Physiotherapy and bariatric surgery?

**Post-surgery physiotherapy**

2. Physical activity

American Society for Metabolic and Bariatric Surgery (ASMBS):
"*Postoperative patients should adhere to a **healthful lifestyle** including **exercising** for at least **30 min/day**.* "

Physiotherapist as a coach towards an active and healthy lifestyle!

1. Coen PM et al. Exerc Sport Sci Rev. 2018
2. King WC et al. Exerc Sport Sci Rev. 2013

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What can the surgeon do?

81

Helena
What can the surgeon do?

Sleeve gastrectomy

- Maximal resucitation medical condition and 3 months stable condition.
- Preop PSMF to reduce liver volume 2-6w
- " First step" procedure
  - Shorter procedure
  - No anastomosis- traction
  - In case of fistula sepsis is limited
- Rehabilitation
  - Increase muscle mass again
  - Resplenish micro- and macronutrients
- "Second step procedure"?

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## Early complications of bariatric surgery

- Return to home on p.o. day 2-4
- WARNING symptoms :
  - Pain : intra-abdo >< abdo wall (trocars) ?
  - Fever : intra-abdo sepsis >< lung, urine, wound infection ?
  - Vomiting : abdo complic. >< no respect of dietary counseling ?
  - Dyspnea : abdo complic. >< cardio-respiratory problem ?
  - Ileus : mechanical obstruction >< paralytic ileus ?
  - Anemia, hematemesis, rectorrhagia

83

## Early complications of bariatric surgery

### Nausea and vomiting

- Too much food ingestion
- Swallowing too fast
- Insufficient chewing
- Drinking during meals
- Too spicy/fatty dishes

BUT

- Stenosis of sleeve / G-J anastomosis/ J-Janastomosis
- Wernicke
- Thyroid

84

## Gastrointestinal Fistula

### Early clinical signs

- TACHYCARDIA (> 110/')
- DYSPNEA/ TACHYPNEA

constant

- Others :
  - Pain/abdominal discomfort
  - ileus
  - Fever
  - Hiccup
  - Guarding, peritonism : difficult to highlight

85

## Gastrointestinal Fistula

Tachycardia : > 110/'  Dyspnea

Exclude :
- Hémorrhage
- Dehydration
- Pneumonia (cave secondary)
- Pulmonary Embolism

BLOOD TESTS + CT Scan (injection & ingestion)

CRP ↑↑
WBC ↑

Abdo Collection
Peritonitis

SUSPECTED FISTULA

86

## Gastrointestinal Fistula
Management

Late D/
Good tolerance
Extra-digestive Collection +

Early D/
Bad tolerance
Extra-digestive Collection ++ to +++

NPO
Antibiotics
Parenteral nutrition

Rx Drainage

Laparoscopy
+/- laparotomy
- Péritoneal washing
- Suture of fistula ??
- Drainage
- Jéjunostomy

ENDO treatment
- Pigtail
- Endoprosthesis
- Ovesco …

ASAP enteral/oral feeding

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## Early/late complications after Sleeve

- Operative Mortality : 0.2 %
- Early Complications : 6 %
  - Hemorrhage/hematoma : 2 %
  - Fistula from staple line : 2.3 %
  - Stenosis : 0.1 – 3.9 %
  - Portal Thrombosis : 0.3 %
  - General Complic : 1-2 %

- Late Complications :
  - Gastro-esophageal Reflux (Barett = CI SL) : 8-20 %

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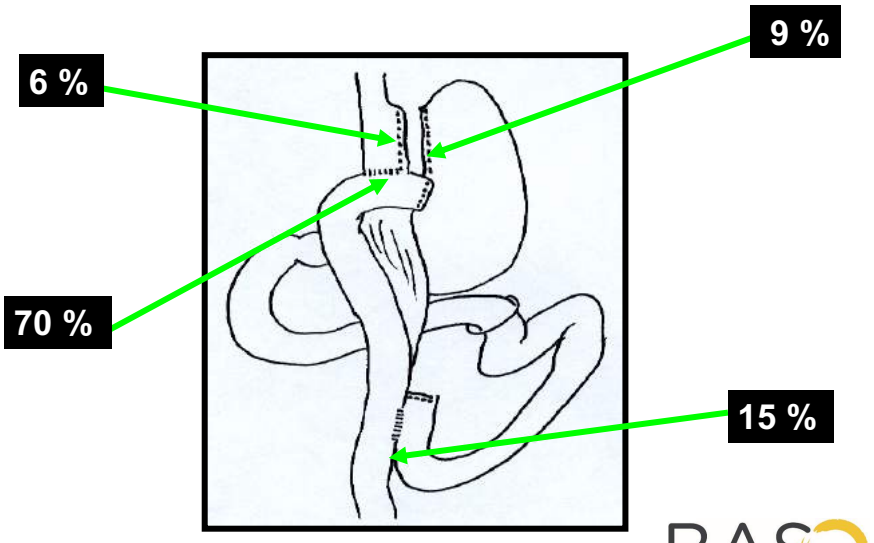
## Early/late complications after RYGB

| EARLY : 9 % | | LATE : 10 % | |
|---|---|---|---|
| Anastomotic leakage | 1.9 % | Obstruction | 1 – 10 % |
| Hemorrhage | 3 % | Reoperation | 4.4 % |
| Stenosis/anast. ulcer | 3.4 % | Late Dumping | (hypoglycemia) |
| Wound infection | 0.2 % | Nutritional deficiencies | |
| DVT/Pulm embolism | < 1 % | | |

**MORTALITY : 0.4 %**

89

## Gastric fistula




90

# G-J STENOSIS of anastomosis

- Epigastric pain, vomiting
- Early (days) : often linked to anastomotic oedema , could be reversible
- Later (weeks) : ischemic, ulcer, fibrosis

**DIAGNOSIS**

**Upper GI series**

**Gastroscopy**

**Therapy**

**Endoscopic dilatation**

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# Internal Hernia

AFTER weight loss +++

- Inter-mesenteric (1)
- Petersen space (2)

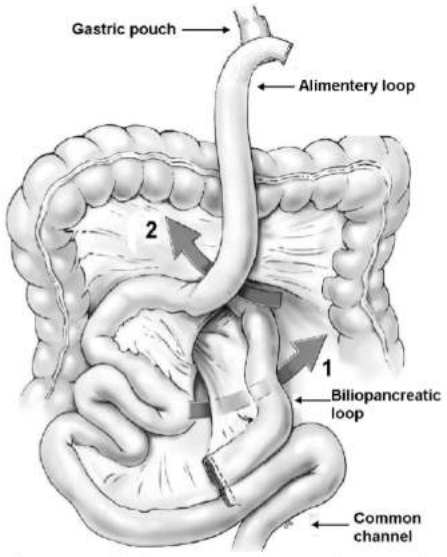


**Figure 1.** Possible herniation sites after antecolic Roux-and-Y gastric bypass.

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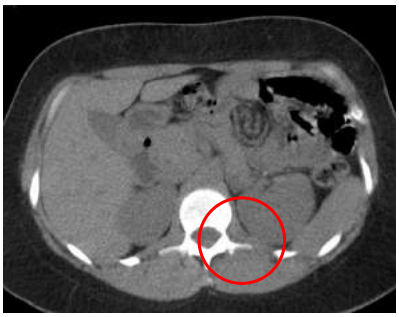
92

# Internal Hernia



**Specific to RYGB**

**Symptoms :**

- Left hypochonder cramps
  calmed by * Anteflexion
  * left lateroflexion
- Obstruction or peritonitis

**Diagnosis :** CT scan false negative+++
CLINICAL

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# Intussusception (rare)


Figure 8 Invagination intestinale aigüe

**Jejuno-jejunal anterograde (30%)**
**or retrograde (70%)**

**Symptoms:**

- Acute abdominal pain
- Vomiting
- Electrolytic disturbances

**Diagnosis:**

CT Scan

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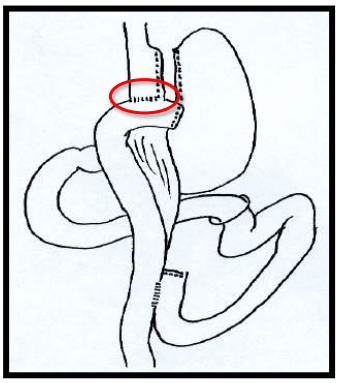
# Marginal Ulcer after BP : 2 – 12 %

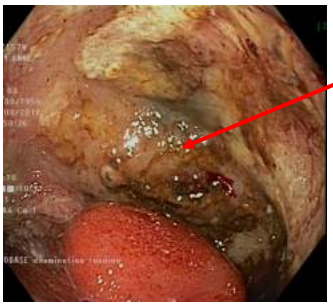
Contributing factors : Tabagism, NSAID, ASA, cortic, HP

Clinics : pain, dysphagia, dyspepsia, vomiting, bleeding

Traitement : PPI (+ Ranitidine), stop causal factors,

sometimes surgery





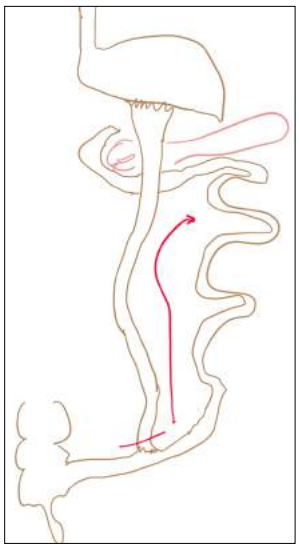
95

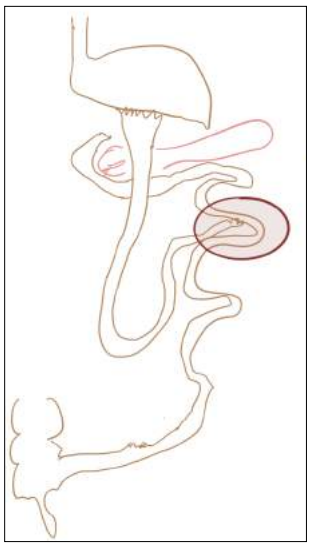
# Q: Second stage malabsorptive procedure?

- Yes
- Yes, conditional
- No

96

Malabsorption: lenghtning common limb after Scopinaro

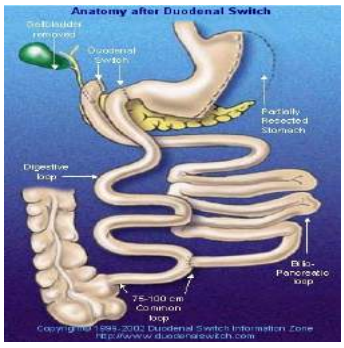




97

IT IS ALL ABOUT PROTEINABSORPTION!

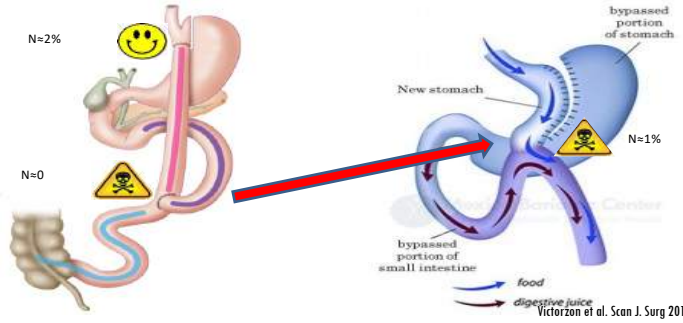
BPD – DS




98

## Mini gastric bypass or single anastomosis RYGB

- **Easier, safer, faster & more effective?????**
- Easier= faster
- Safer?




Victorzon et al. Scan J. Surg 2014 14:48-53

99

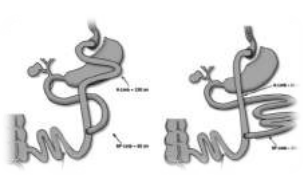
## Mini gastric bypass or single anastomosis RYGB

= BPD-DS

- More effective? No DOUBT!

Malabsorption by
- longer biliary limb
- Shorter common limb

**Solution?**



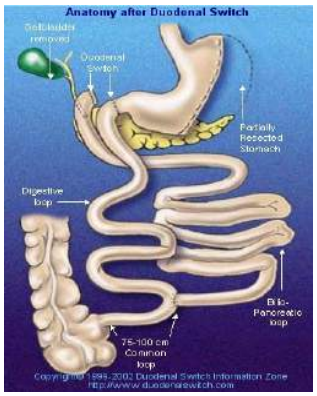
| | All | long BP limb | long A limb | P value |
|---|---|---|---|---|
| Vitamin D | 57 (30.5 %) | 39 (44.8 %) | 18 (20.9 %) | <0.001 |
| PTH | 1 (0.5 %) | 15 (17.2 %) | 3 (3.5 %) | 0.003 |
| Iron | 2 (6.4 %) | 32 (36.8 %) | 13 (15.1 %) | <0.001 |
| Ferritin | 11 (5.9 %) | 58 (66.7 %) | 45 (52.3 %) | 0.055 |
| Haemoglobin | 2 (1.1 %) | 53 (60.9 %) | 37 (43.0 %) | 0.019 |
| diarrhea (GSRS) | | 2,66 | 1.19 | 0.007 |

Nergaard et al. Obes Surg. 2014; 24:1595-1602

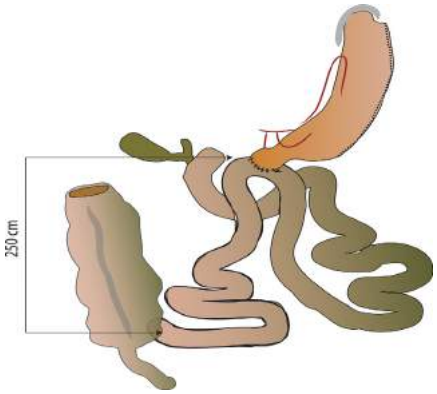
100

**SADI-S:** single-anastomosis duodenoileal bypas with SG

"BPD – DS

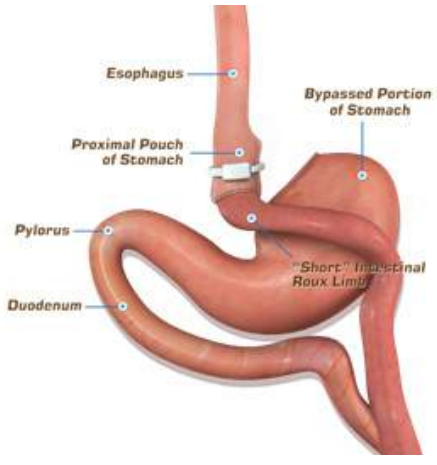



SADI-S



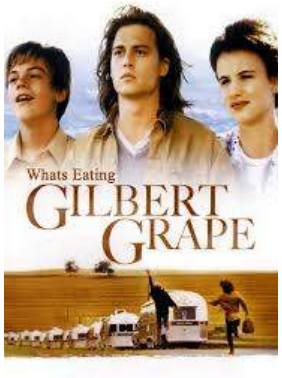

101

# Banded "Fobi" RYGB?




102

# What's eating Gilbert Grape
# A Family History




103

# What's eating gilbert grape
# A Family History

- The patient loses a huge amount of weight on PSMF and is finally operated 6 months later
- Post-operatively a lot of complications occur and the patient dies 6 months after still in the hospital because of an overwhelming pneumonia
- The four children our left to their own, and the 3rd one (Sofie) (9 yo) has visibly gained an enormous amount of weight over this very traumatic year

104

## What's eating gilbert grape
## A Family History
## -SOFIE-

- Social services send Sofie to the hospital for a check up as she has gained +20 kg after the last year and is starting to have huge problems with mobility and at school.
- She now weighs a 82 kg for 1m 48 => BMI 37 kg/m²

105

What can the GP or pediatrician do ?

106

## How to define obesity in a 9 year old?

BMI ≥ 30 kg/m2

Weight to Heigth Ratio @ W/H chart ≥ P90

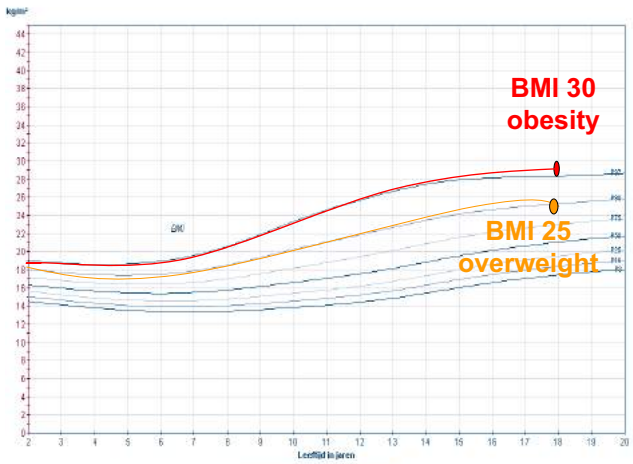
BMI @ BMI chart ≥ P90

BMI @ BMI chart ≥ P97



107

## Definition overweight/obesity in kids




**www.vub.ac.be/groeicurven**

108

## Sofie
## Clinical examination

- Acnea
- X-legs
- Acanthosis nigricans @neck, axilla
- Erysipelas
- Puberty: Tanner A2P3M3

109

## Underlying genetic causes ?

**Genetic syndroms:**

- **Early onset obesity**
- **Often developmental delay and mental retardation**
- **Short or very tall stature**
- **Red hair, polydactyly, facial dysmorfism, epilepsy, deafness**
- **Multiple hormonal insufficiencies**
- **Recurrent infections, diarrea**

110

# Exclude other causes

Hypothyroidism

Decrease growth velocity

Constipation

Fatigue

Poor psychomotor development

Cushing

Michael Santoro and his twin sister, Paula, who had Cushing's Syndrome.

Poor height gain

Moon face – buffalo hump

Striae; acnea

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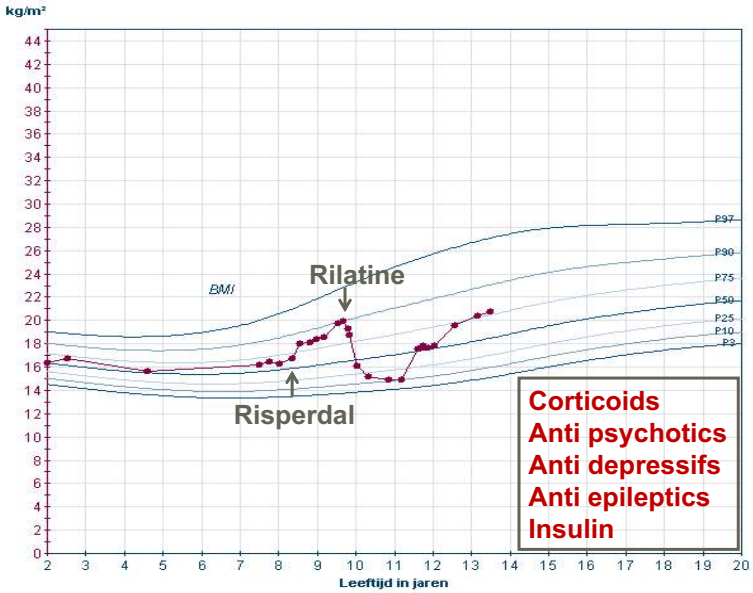
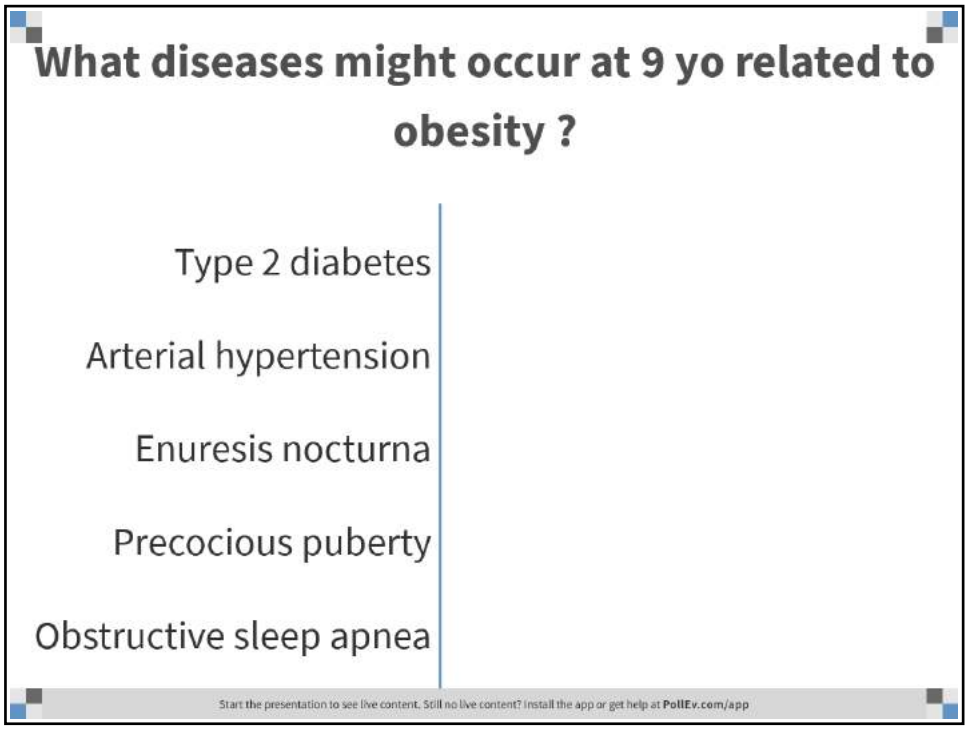
# Exclude other causes




**Corticoids**
**Anti psychotics**
**Anti depressifs**
**Anti epileptics**
**Insulin**

112




113

## What diseases might occur at 9 yo related to obesity ?

A/ Type 2 diabetes
B/ Arterial hypertension
C/ Enuresis nocturna
D/ Precocious puberty
E/ Obstructive sleep apnea

114

## Sofie
## What can the dietitian do?

1. Evaluation of the situation
2. Goal/expectations/motivation patient
3. Points for attention
4. Intervention plan
5. Follow up

115

## Sofie
## What can the dietitian do?

1. **Evaluation of the situation**

- Home situation: Who's taking care of Sofie?
- Emotional eating factors – psychological factor
- Eating and physical activity habits
- Circumstances of eating (television, fast...)
- Sleep time – quality of sleep
- Medication

116

## Sofie
## What can the dietitian do?

**2. Goal/expectations/motivation patient**

- Psychological situation?
- Motivation?

Goal (child and environment) =
- Stabilization weight – improving the patients health
- Better quality of life (psychological and medical)
- Expectations realistic?
- Chronic

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## Sofie
## What can the dietitian do?

**3. Most common nutritional problems**

- Energy density foods (added sugars – fats)
- Sugary drinks
- Poor consumption fruits and vegetables
- Portions
- Skipping meals
- Snacking

- Sleep, physical activity

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## Sofie
## What can the dietitian do?

**3. Most common nutritional problems - intervention**

| Points for attention | First intervention |
|---|---|
| Snacking | Limit soda and juice<br>1 biscuit a day<br>Max 3 extra's a week |
| More fibres | Min 1 fruit a day<br>0.5 plate vegetables<br>Whole grains |
| Right portions | 1 plate or 2 little plates<br>2nd = vegetables |

119

## Sofie
## What can the dietitian do?

**4. Intervention plan dietician**

- Child and environment
- Nutritional education – health literacy
  - Environment: information food – how to prepare meals,…
  - Child visual education

  - Less focus on calories, more focus on the patient's health

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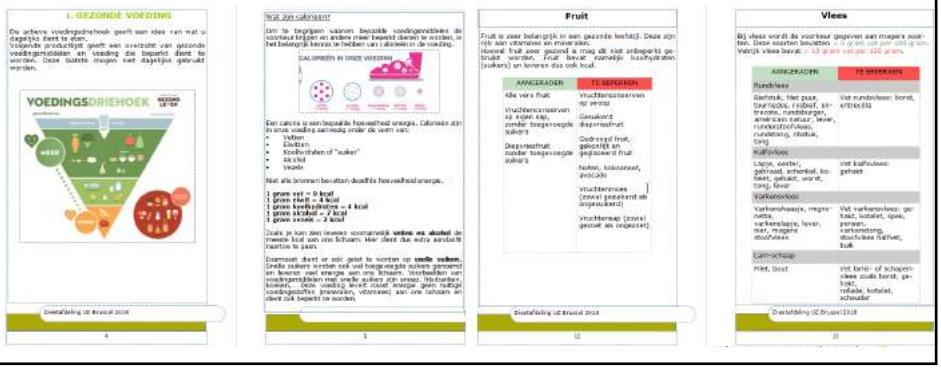
120

# Sofie
# What can the dietitian do?

**4. Intervention plan dietician**

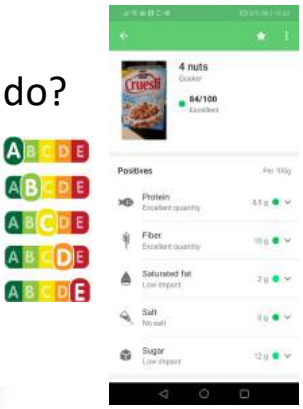

- Nutritional education – health literacy
  - Environment: information food – how to prepare meals,…




121

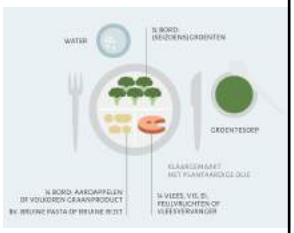
# Sofie
# What can the dietitian do?

**4. Intervention plan dietician**




- Nutritional education – health literacy
  - Child visual explanations





122

## Sofie
## What can the dietitian do?

**5. Follow up**

- Progress?
- Obstacles?
- Support!!

123

## Sofie
## What can the psychologist do?

– Obesity is secondary to emotional/familial suffering

General question :
– Who is going to take care of Sofie?
> Collaboration and partnership in psychological process

– How can the brothers and sisters be a resource to Sofie?

124

## Sofie
## What can the psychologist do?

2 therapeutic goals :

1. Heal the trauma/stress/suffering (recent death of the mother and other) by helping Sofie to put emotions into words > how to cope with stress and trauma (sooner than her mother)

2. Create a positive climate for discussing dietary changes and understanding the function of food in the complexity of family history and relationships

125

## Sofie
## What can the **physiotherapist** do?

1. Offer a tailor-made exercise program
   - Cardiorespiratory fitness, muscle strength, flexibility, balance, motor skills
   - Challenge = keep it fun and enjoyable
   - Realistic goal setting -> experience success

2. Start in a safe environment and progress to activities with friends and peers

3. Involve family members in exercise training and active lifestyle program

126

Sofie
What can the surgeon do?

## Q: Is Sleeve gastrectomy the preferred option in this case

- No
- Yes
- Yes, but…

127

Sofie
What can the surgeon do?

## NO Gastric Banding

- Food impaction : food intolerance, Vô
- Pouch dilatation (14%)
- Esophageal dysmotility
- Intra-gastric migration (5-10%)
- Infected port'a cath, catheter break …
- Small bowel on-bstruction (rare)

128

## Sofie
## What can the surgeon do?

Sleeve gastrectomy as “primary” procedure:

- No small bowel involvement ( no internal hernia, …
- Less micronutrient deficiencies (only iron adn vitamin B12)
- Protein absorption shoulde be better (cave intake!)
- Less hypoglycemia in case of non-compliance

- BUT weight regain more often and GERD
  Cave Barrett !

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https://belgium.easo.org/

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130