

Diet and Exercise and the Prevention of Obesity

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Overview

- Reduced energy intake
- Special metabolic situation of the individuals with PWS
- Keystones of a healthy balance diet
- Everyday nutrition - Sunday nutrition
- Psychological aspects of nutritional management
- Prevention of Obesity

Energy intake and Metabolism in PWS

- Reduce metabolic rate due to muscular hypotonia and less muscle mass
- Greater fat storage, gain fat readily
- Reduced active energy expenditure due to reduced movement and lack of exercise
- 60-80% daily recommended intake, of peers

- Disturbance in the glucose metabolism
- Reduced thermo genetic effect
- Disturbance of the oxidative energy production
- Less Growth hormone

Recommendations for Energy intake for individuals with PWS

- Children with PWS: start with 2/3 of the caloric intake of peers because of the lower energy expenditure
- Calculate the daily caloric intake with
- 1-4 years ca 60 kcal / kg*
- 5-7 years ca 55 kcal/ kg*
- 7-10 years ca 45 kcal / kg*
- 10-11 years ca 35 kcal / kg* of peers with normal weight

- > 12 years and for adults
- To maintain weight: 8-9 kcal/cm body height /day
- To reduce weight 7 kcal/cm body height/ day
- To gain weight 10-11 kcal/ cm body height/ day

Recommendations for Energy intake for individuals with PWS

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age	Boys with PWS (kcal)	Girls with PWS (kcal)
1-3 y	800	720
4-6 y	950	850
7-9 y	1100	1000
10-12 y	1250	1100
13-15 y	1500	1250

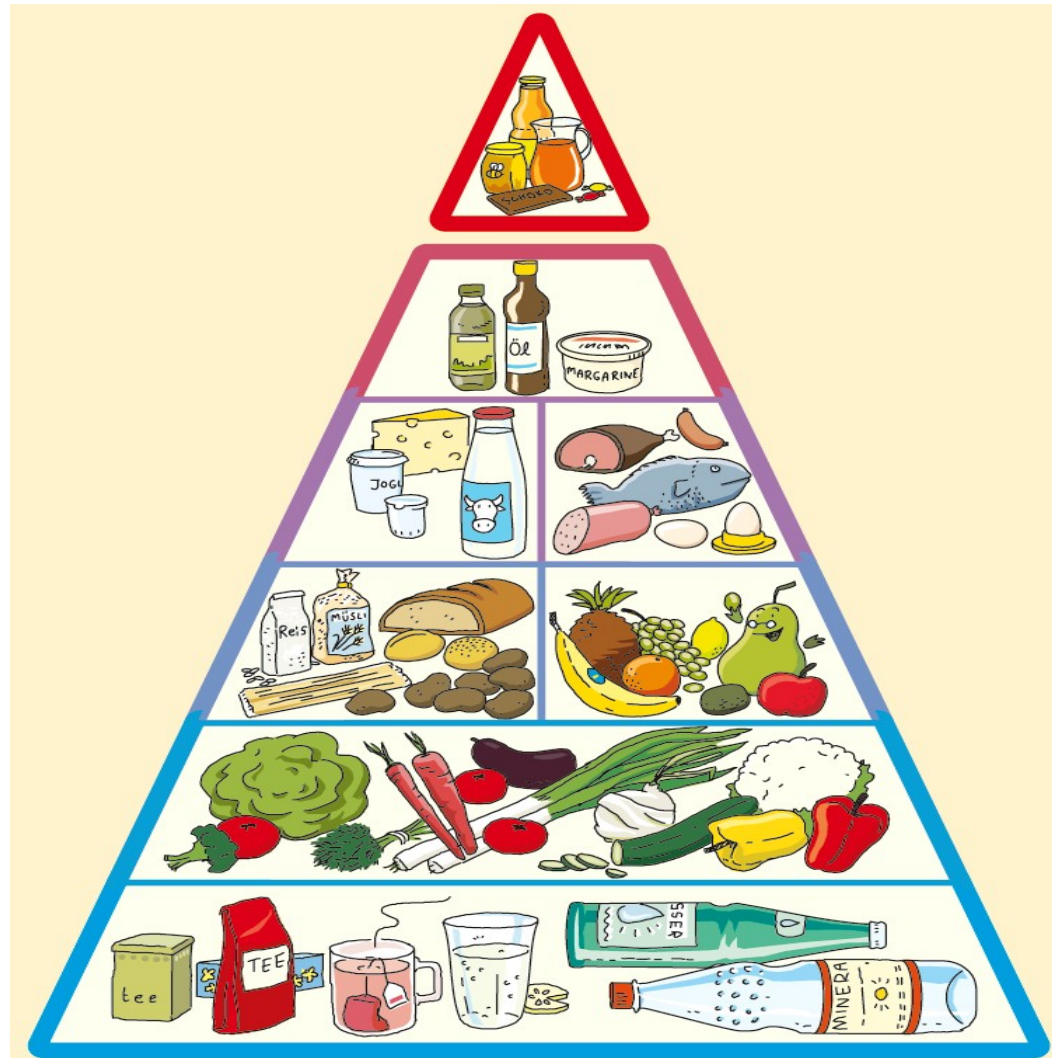
>15 years and for adults:

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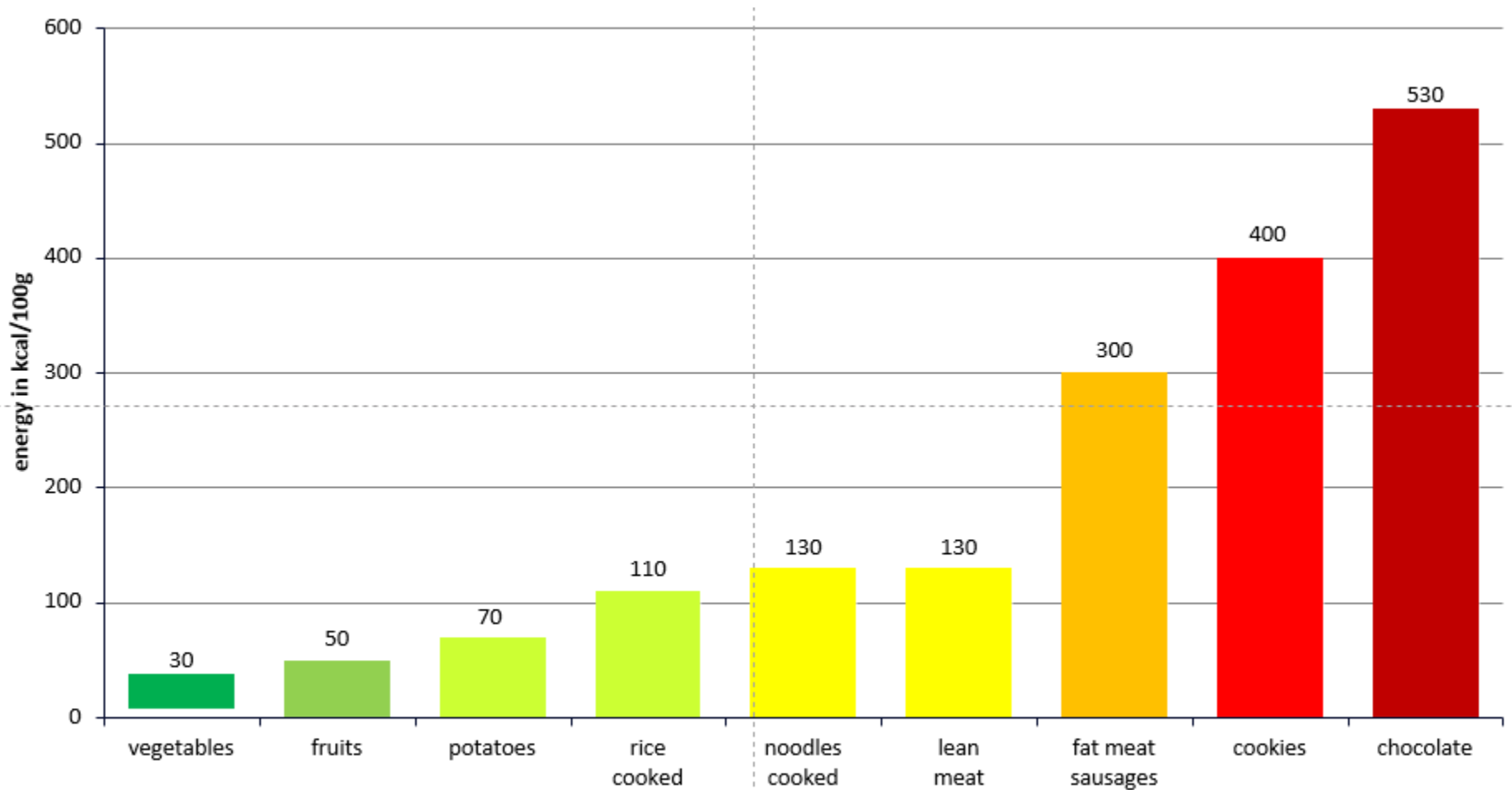
Nutrition for individuals with PWS

- Balanced diet
 - Energy relations:
 - 45-50% carbohydrates, 25-20% proteins, 30% fat
 - Restricted use of sugar and high-glycemic- index- carbohydrates
 - Prefer unsaturated fatty acids (oil)
 - Enough free-caloric drinks
- Add vitamins and minerals if necessary: usually only
- Vit D has to be added

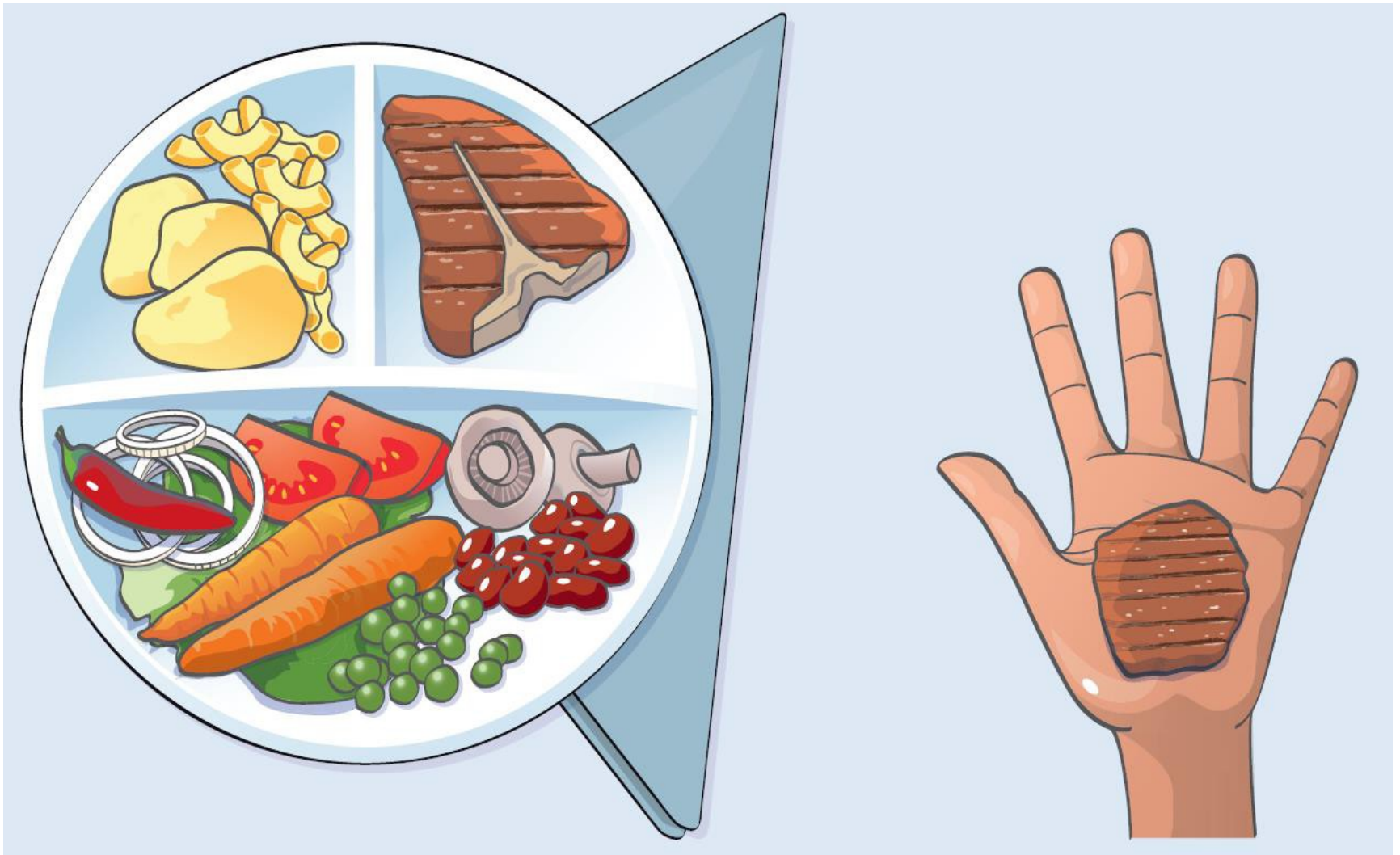
PWS food is healthy food for the whole family



Energy of Food Groups



Lunch plate rule



Write a Nutrition Plan

- Calculate the necessary energy intake
- 5 meals
 - breakfast and morning snack 1/3 each
 - lunch 1/3
 - Afternoon snack and dinner (incl “bed hop”) 1/3 each

Rules for Healthy Food

- Varied, but not too much food
- Cook yourself with fresh ingredients, avoid ready to serve meals
- Cook tasty and with care on the vitamins
- Enough grain and potatoes
- Plenty of vegetables
- Daily low fat milk and milk products
- Less fat and no high caloric food
- Use herbs and spices for a better taste
- Accept the natural taste of food
- Avoid sugar and high-glycemic- index-carbohydrates
- Drink enough of caloric free drinks per day
- Avoid fried food
- Take your time when you are eating

Psychological Aspects of Nutrition

- “My plate – my meal”
- Write individual food plan
- Plans have to be given also to grandparents, nursery school/ kindergarten/ care giver
- Cut the bread in pieces - looks more
- Do without butter to reduce calories
- Add vegetables- looks more
- Drink one glass of water or one cup of tea before every meal
- Be sure that there is no uncontrolled access to food, If verbal rules are not accepted locking the kitchen is necessary
- Involve the individual with PWS in decisions if possible
- Be prepared for the possible change in behavior

Everyday nutrition- Sunday nutrition

- Children with PWS like their daily routine - it gives them safety
- Clearly defined eating rules
 - Where are places to eat?
 - When is the right time to eat?
 - What is to be eat?
 - No eating in front of the TV
- Changes irritating them and may trigger behavioral problems
- Nutrition is the most sensitive point
- When visiting nursery school they may understa
- be aware of extra energy intake - from unplanned food access
- nd the difference between everyday and Sunday/holidays, than you can start with exceptions
- Explain the exceptions hardly in advance
- Nutritional control has to be in the hands of the parents and caregivers

Nutrition Management in PWS needs control

- Control weight on a regular basis: daily or weekly
- Nutrition and Exercise together can prevent loss of muscle mass under low caloric diet
- Biological impedance analysis is helpful to control body composition

