

Children's Wisconsin Clinical Nutrition Department

Module Weight Management: Case Study – Answers

Patient: S.K.

- 15 y/o Male
- Weight: 100 kg
- Height: 177cm
- BMI of 31.9 kg/m² (99thile)
- BMI >85th percentile since 8 years old

S.K. is admitted to the ICU s/p MVC where he is intubated and sedated. He has been NPO x4 days. The medical team consults you for a plan to start enteral feeds today. A provider lets you know that IVF will continue to be given and the current goal is for weight maintenance. During parent interview, mom reports:

- No recent appetite changes prior to admission
- Eats two large meals with 2-3 snacks (usually skips breakfast)
- Drinks juice and soda throughout the day
- Mom has noticed a steady increase in patient's weight throughout the past year
- Little to no physical activity outside of school gym class
- No reported GI intolerances prior to admit
- On exam, pt has evident excess subcutaneous fat mass at abdomen and extremities

1. How would you calculate this patient's current energy needs?(Note method used)

Possible Answers:

Per provider recommendation, calories for weight maintenance: TEE-125-250 or REE x 1.0

TEE using sedentary PAL and ABW = 3106-3231

REE x 1.0 = 3000

Or OK to subtract calories per clinical judgment: TEE-500-1000 or REE x 1 -250-1000

TEE using sedentary PAL and ABW = 3356

TEE using sedentary PAL and ABW -500 = 2856

TEE using sedentary PAL and ABW -750 = 2606

TEE using sedentary PAL and ABW -1000 = 2356

REE -250 = 2750

REE -500 = 2500

REE -750 = 2250

REE -1000= 2000

If >3 days in ICU, order metabolic cart based off critical care guidelines

2. How would you determine protein needs? (grams and g/kg)

Possible Answers:

1.5 g/kg ABW for the first week = 150 g/day

2 g/kg IBW = 123 g/day

2.5 g/kg IBW = 157 g/day

Eight months following his inpatient admission S.K. is seen in GI clinic for stomach pain, but would also like to discuss weight loss interventions with an RD.

- Weight: 110 kg
- Height: 179 cm
- BMI of 34.3 (>99%ile)

You conduct an interview and S.K.'s 24 hour recall shows:

- He skips breakfast most days during the school week.
- He has juice with lunch and soda at dinner.
- Most of his meals consist of a refined carbohydrate and protein.
- Mom describes him as a picky eater. She states his currently accepted fruits and vegetables include banana, applesauce, corn and potato.
- He has gym class every other day for 40 minutes during the school week but is otherwise sedentary.

1. Based on your discussion with S.K. and his mother, which nutrition/lifestyle interventions would you prioritize?

Answer:

4,3,2,1,0: Steps to a Healthier You (4 family meals per week, 3 meals/day, 2 hours or less of screen time/day, 1 hour of physical activity/day, 0 sugar sweetened beverages/day)

Keeping patient goals/level of motivation in mind choose 1-2 things to focus on until their next visit

2. What would be your desired outcome? If weight loss is desired how much and how quickly?

Possible Answers:

Desired outcome of adherence to interventions made above

Weight loss of up to 2 pounds/week is desired

3. How would you calculate his calorie needs? Protein?

Answer:

TEE using ABW -500-1000 = 2574-3074

REE using ABW x 1.0-250-1000= 2300-3050

RDA for age using ABW: ≥ 94 grams/day

4. Write a PES statement for this patient.

Possible Answers:

- Overweight/obesity related to calorie consumption in excess of metabolic demand as evidenced by BMI >99%ile
- Undesirable food choices as evidenced by diet of highly refined carbohydrates and limited fruit and vegetable intake as evidenced by patient/parent report
- Undesirable food choices as evidenced by consumption of sugar-sweetened beverages as evidenced by patient report/diet recall
- Limited food acceptance related to poor dietary habits/food preferences as evidenced by limited fruit and vegetable intake
- Physical inactivity related to reported sedentary lifestyle evidenced by patient report and BMI >99%ile