

Kathleen Villarino
Clinical Rotation
ADIME
Pediatrics Chart

Case 1

Childhood Overweight

Objectives

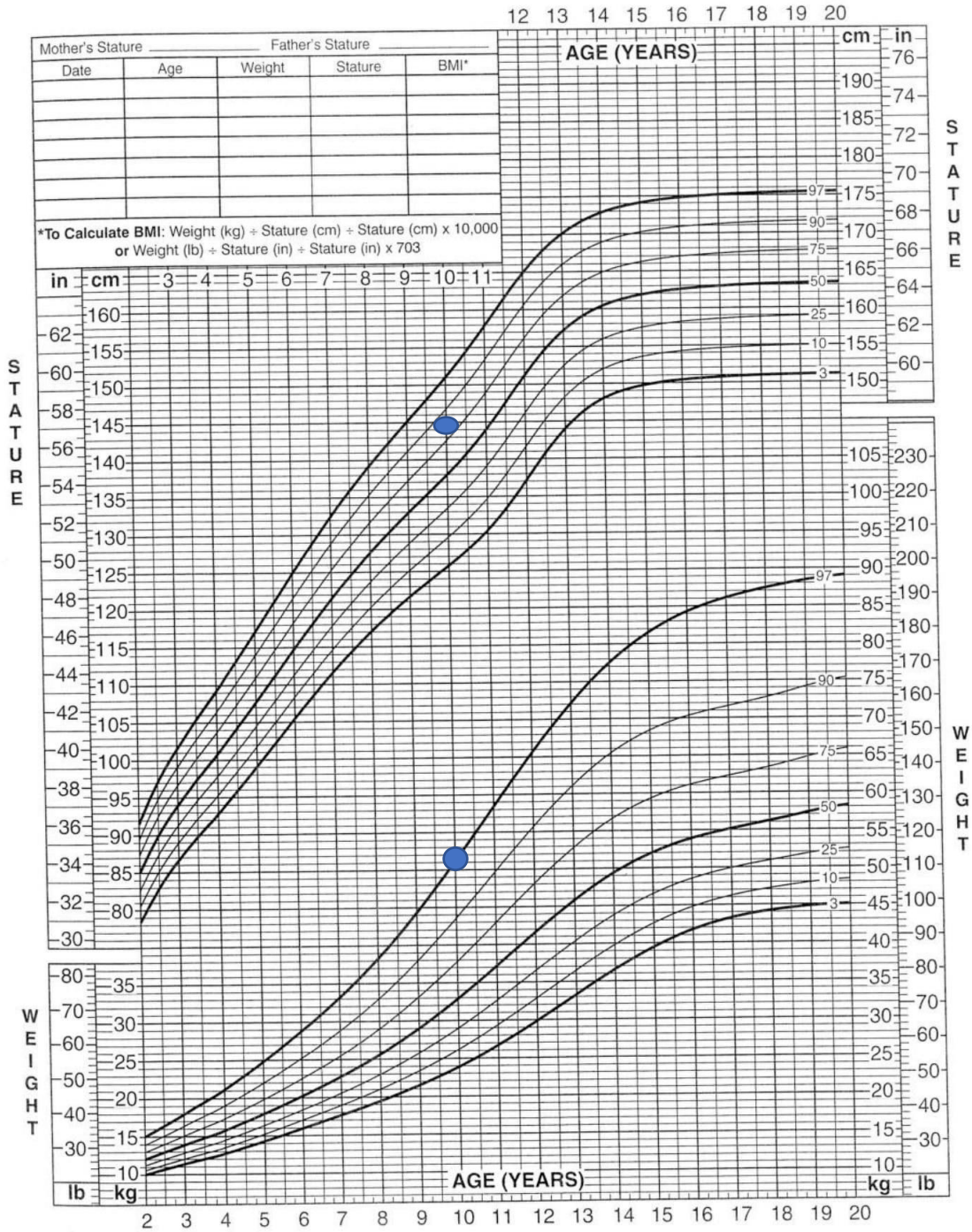
After completing this case, the student will be able to:

1. Discuss the physiological effects of pediatric overweight.
2. Interpret laboratory parameters for nutritional implications and significance.
3. Analyze nutrition assessment data to evaluate nutritional status and identify specific nutrition problems.
4. Determine nutrition diagnoses and write appropriate PES statements.
5. Prescribe appropriate nutrition therapy for weight loss in the pediatric population.

6. Develop a nutrition care plan with appropriate measurable goals, interventions, and strategies for monitoring and evaluation that addresses the nutrition diagnoses of this case.

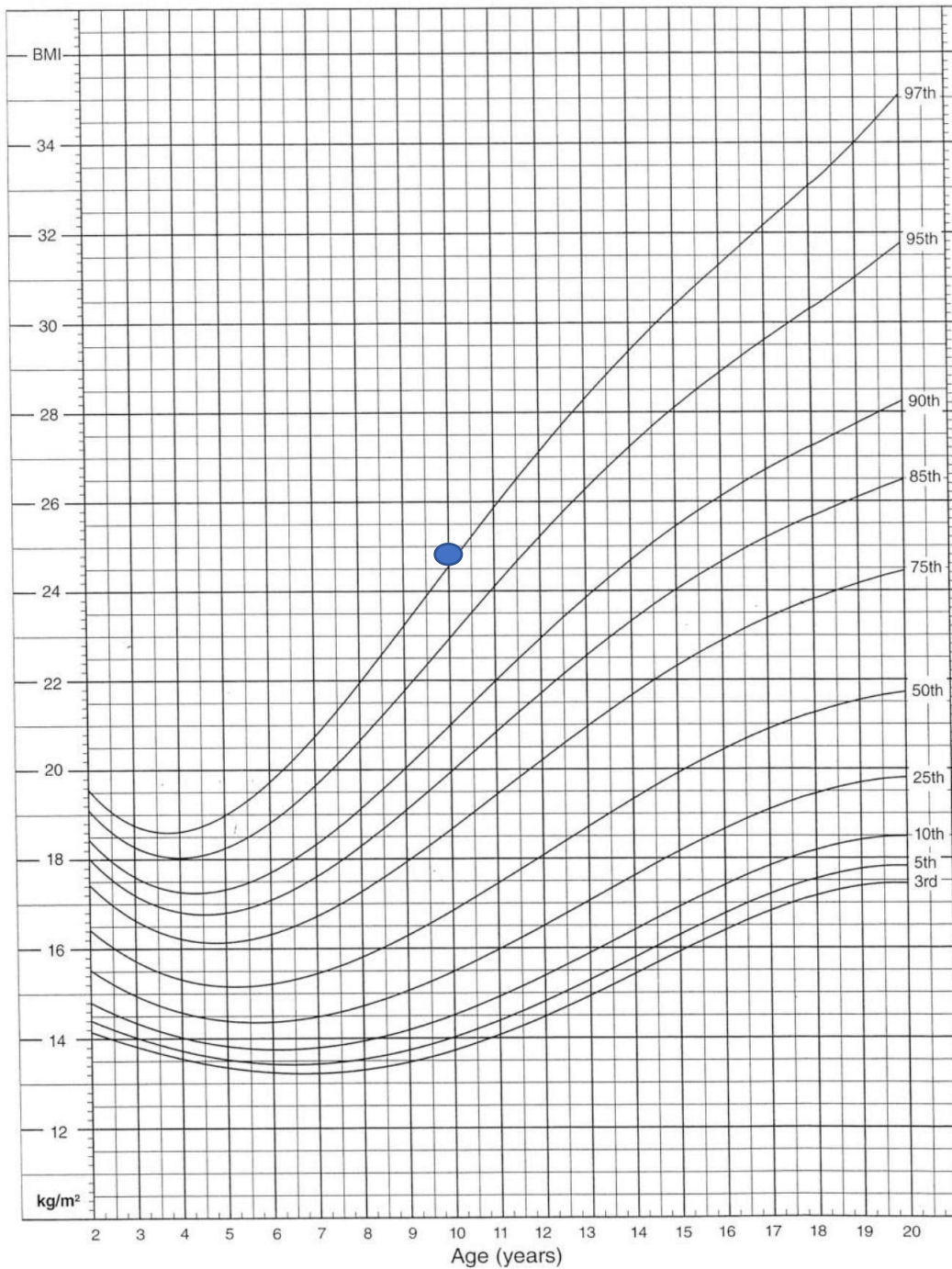
Missy Bloyd is taken to see her pediatrician by her parents, who have noticed that she appears to stop breathing while sleeping. She is diagnosed with sleep apnea related to her weight and referred to the registered dietitian for nutrition counseling.

Stature-for-Age and Weight-for-Age Percentiles: Girls, 2 to 20 Years



Source: Centers for Disease Control and Prevention. National Center for Health Statistics. 2000 CDC Growth Charts: United States. Available at <http://www.cdc.gov/growthcharts>. Accessed April 10, 2008.

Body Mass Index-for-Age Percentiles: Girls, 2 to 20 Years



Source: Centers for Disease Control and Prevention. National Center for Health Statistics. 2000 CDC Growth Charts: United States. Available at www.cdc.gov/growthcharts. Accessed April 10, 2008.

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Client name: Missy Bloyd
DOB: 10/9
Age: 10
Sex: Female
Education: Less than high school *What grade/level?* 5th grade
Occupation: Student
Hours of work: Regular school hours
Household members: Father age 36, mother age 35, sister age 5
Ethnic background: Biracial (African American and Caucasian)
Religious affiliation: Catholic
Referring physician: D. Null, MD

Chief complaint:

"We've noticed that Missy appears to stop breathing for several seconds several times a night. She is really cranky when she gets up for school. Her teacher says Missy gets very sleepy during school. . . . She fell asleep in class yesterday."

Patient history:

Parents describe sleep disturbance in their daughter for the past several years, including: sleeping with her mouth open, cessation of breathing for at least 10 seconds (per episode), snoring, restlessness during sleep, enuresis, and morning headaches. Parents discussed changes in Missy's grades and overall success in school. They state that Missy's teacher has described deficits in attention span at school. Additionally, she has been overweight since she was born.

Onset: Actual date of onset unclear; but parents first noticed onset of the above-mentioned symptoms about 1 year ago.

Type of Tx: None at present

Meds: None at present

Smoker: No

Family Hx: *What?* Possible gestational diabetes; type 2 DM *Who?* Mother and grandmother

Physical exam:

General appearance: Somewhat tired and irritable 10-year-old female

Vitals: Temp 98.5°F, BP 123/80 mm Hg, HR 85 bpm, RR 17 bpm

Heart: Regular rate and rhythm, heart sounds normal

HEENT:

Eyes: Clear

Ears: Clear

Nose: Normal mucous membranes

Throat: Dry mucous membranes, no inflammation, tonsillar hypertrophy

Genitalia: SMR (Tanner) pubic hair stage 3, genital stage 3.

Neurologic: Alert, oriented × 3

Extremities: No joint deformity or muscle tenderness, but patient complains of occasional knee pain. No edema.

Skin: Warm, dry; reduced capillary refill (approximately 2 seconds); slight rash in skin folds

Chest/lungs: Clear

Abdomen: Obese

Nutrition Hx:

General: Very good appetite with consumption of a wide variety of foods. Missy's physical activity level is generally low. Her elementary school discontinued physical education, art, and music classes due to budget cuts 5 years ago. She likes playing video games and reading.

24-hour recall:

- AM:* 2 breakfast burritos, 8 oz whole milk, 4 oz apple juice, 6 oz coffee with ¼ c cream and 2 tsp sugar
- Lunch:* 2 bologna and cheese sandwiches with 1 tbsp mayonnaise, 1-oz pkg Frito corn chips, 2 Twinkies, 8 oz whole milk
- After-school snack:* Peanut butter and jelly sandwich (2 slices enriched bread with 2 tbsp crunchy peanut butter and 2 tbsp grape jelly), 12 oz whole milk
- Dinner:* Fried chicken (2 legs and 1 thigh), 1 c mashed potatoes (made with whole milk and butter), 1 c fried okra, 20 oz sweet tea
- Snack:* 3 c microwave popcorn, 12 oz Coca-Cola

Food allergies/intolerances/aversions: NKA

Previous nutrition therapy? No

Food purchase/preparation: Parent(s)

Vit/min intake: Flintstones vitamin daily

Dx:

R/O Obstructive sleep apnea (OSA) secondary to obesity and physical inactivity

Tx plan:

Polysomnography to diagnose OSA, FBG, HbA1C, lipid panel (total cholesterol, HDL-C, LDL-C, triglycerides), psychological evaluation, nutrition assessment

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UH UNIVERSITY HOSPITAL

NAME: Missy Bloyd
AGE: 10
PHYSICIAN: D. Null, MD

DOB: 10/9
SEX: F

*****CHEMISTRY*****

DAY:
DATE: 11/20
TIME:
LOCATION:

	NORMAL		UNITS
Albumin	3.5-5	4.8	g/dL
Total protein	6-8	6.2	g/dL
Prealbumin	16-35	33	mg/dL
Transferrin	250-380 (women) 215-365 (men)	254	mg/dL
Sodium	136-145	138	mEq/L
Potassium	3.5-5.5	4.2	mEq/L
Chloride	95-105	101	mEq/L
PO ₄	2.3-4.7	4.6	mg/dL
Magnesium	1.8-3	2.1	mg/dL
Osmolality	285-295	288	mmol/kg/H ₂ O
Total CO ₂	23-30	29	mEq/L
Glucose	70-110	108	mg/dL
BUN	8-18	8	mg/dL
Creatinine	0.6-1.2	0.6	mg/dL
Uric acid	2.8-8.8 (women) 4.0-9.0 (men)		mg/dL
Calcium	9-11	9.2	mg/dL
Bilirubin	≤ 0.3	0.1	mg/dL
Ammonia (NH ₃)	9-33	8	μmol/L
ALT	4-36	5	U/L
AST	0-35	6	U/L
Alk phos	30-120	99	U/L
CPK	30-135 (women) 55-170 (men)	72	U/L
LDH	208-378	220	U/L
CHOL	120-199	190	mg/dL
HDL-C	> 55 (women) > 45 (men)	50	mg/dL
VLDL	7-32	30	mg/dL
LDL	< 130	110	mg/dL
LDL/HDL ratio	< 3.22 (women) < 3.55 (men)	2.2	
Apo A	101-199 (women) 94-178 (men)		mg/dL
Apo B	60-126 (women) 63-133 (men)		mg/dL
TG	35-135 (women) 40-160 (men)	114	mg/dL
T ₄	4-12	5	mcg/dL
T ₃	75-98	78	mcg/dL
HbA _{1c}	3.9-5.2	5.5	%

Pediatric Chart Notes

Assessment

The patient is a 10 y/o girl diagnosed with Obesity.

Anthropometrics:

Ht: 4'9" (Between 75th – 90th percentile)

Wt: 115 lbs (97th percentile)

BMI: $[115 \text{ lbs} \div (57)^2] \times 703 = 24.9$ (Obese) 97th percentile

Pertinent Lab Values:

HDL 50 mg/dL (low)

Medical History:

1. Chief complaint is that patient appears to stop breathing for at least 10 seconds several times a night per patient's parents. Started 1 year ago.
2. Family hx of heart attack, high bp, diabetes mellitus.

Medications:

None at this time

Nutrition hx:

Very good appetite consumes a variety of food as per parents. Low physical activity.

24-hour recall:

Breakfast: 2 breakfast burritos, 8 oz whole milk, 4 oz apple juice, 6 oz coffee with 1/4 c cream and 2 tsp sugar.

Lunch: 2 bologna and cheese sandwiches w/ 1 tbsp mayonnaise, 1-oz package Frito corn chips, 2 Twinkies, 8 oz whole milk.

Snack (after-school): Peanut butter and jelly sandwich (2 slices enriched bread with 2 tbsp crunchy peanut butter and 2 tbsp grape jelly), 12 oz whole milk.

Dinner: Fried chicken (2 legs and 1 thigh), 1 c mashed potatoes (made with whole milk and butter), 1 c fried okra, 20 oz sweet tea.

Snack: 3 c microwave popcorn, 12 oz Coca-Cola

Diagnosis

Excessive carbohydrate intake related to medical dx of obesity and food-and nutrition-related knowledge deficit as evidenced by BMI in the 97th percentile and 24-hour recall.

Intervention

1. Educate patient and her parents regarding macronutrients.
2. Educate patient and her parents regarding the health consequences of obesity.
3. Counsel the patient and her parents regarding best carbohydrate sources.
4. Work with the patient and her parents to come up with a sample menu which incorporates fruits, vegetables, whole-grains, protein, and water.
5. Educate patient and her parents regarding the benefits of physical activity and encourage the patient to exercise for 30 minutes/day 3 days a week.

Sample menu for patient:

Breakfast: 1 breakfast burrito (whole-wheat tortilla, scrambled eggs, turkey sausage, bell peppers, spinach, onions), 8 oz low-fat milk, 1 apple.

Lunch: 1 turkey and cheese sandwich (whole-wheat bread, 1 tsp mayonnaise, choice of cheese, lettuce, tomato), 1 oz Frito corn chips, 8 oz low-fat milk, 8 oz yogurt or 1 fruit.

Snack (after school): Peanut butter and banana sandwich (whole wheat bread, low-fat peanut butter), water.

Dinner: 1 large grilled chicken breast, 1 small baked-potato (1 tsp butter), choice of grilled or baked non-starchy vegetables, water

Snack: 1 c microwave popcorn, water

Monitoring & Evaluation

1. Monitor patient's weight.
2. Ask the patient and her parents to keep a food diary until next follow-up.
3. Ask the patient to and her parents to keep an exercise journal until next follow-up.
4. See patient at next follow-up visit.

Questions:

1. Intern's comments about nutritional intervention(s) for this patient. How receptive was / were the patient and family to nutrition intervention? What were the factors that influenced this the most? Patient/family factors? Institutional/environmental factors?

N/A

2. Was the nutrition intervention successful? Why/Why not?

N/A

Glossary of unfamiliar terms:

Enuresis – involuntary urination

Tonsillar hypertrophy – enlarged tonsils

Obstructive sleep apnea - type of apnea that occurs when your throat muscles intermittently relax and block your airway during sleep. One of the signs of obstructive sleep apnea is snoring.

Polysomnography – another term for sleep study. During a sleep study your brain waves are recorded as well as the oxygen level in your blood, heart rate and breathing, and eye and leg movements.

Applies to:

CRDN 1.6 Incorporate critical-thinking skills in overall practice.

CRDN 2.1 Practice in compliance with current federal regulations and state statutes and rules, as applicable and in accordance with accreditation standards and the Scope of Nutrition and Dietetics Practice and Code of Ethics for the Profession of Nutrition and Dietetics.

CRDN 2.2 Demonstrate professional writing skills in preparing professional communications.

CRDN 2.11 Show cultural competence/ sensitivity in interactions with clients, colleagues and staff.

CRDN 3.1 Perform the Nutrition Care Process and use standardized nutrition language for individuals, groups and populations of differing ages and health status, in a variety of settings.

CRDN 3.3 Demonstrate effective communications skills for clinical and customer services in a variety of formats and settings.

CRDN 4.10 Analyze risk in nutrition and dietetics practice.