

9 year-old presents for obesity

CC: “Concern about weight and health”

HPI: “Always above growth curve” but concerned about increase in weight gain beginning last year – 25# weight gain last year (2020)

Nutrition: 2 meals (skips breakfast) + 2 snacks/day; +2nd portions

Fast food 4x/week; distracted eating

+SSBs (90 oz/day of soda, gatorade, juice)

+refined foods; limited fruits & vegetables

No food insecurity, hiding/sneaking food, emotional eating

Activity: Softball (1 hr 3-4x/week); excess screen time, +TV in room

Sleep: 11 pm – 6 am; +fatigue, snoring

PMH / PSH

PMH:

- Term newborn, BW 8#, 4oz.
- Formula-fed for 10 months
- Normal development
- Allergies – on Zyrtec and Flonase
- Obesity – followed by PCP x 1 year for weight gain

PSH:

- T&A at 2 yo due to “noisy breathing”

Family History

- Obesity – mom, dad, paternal grandparents
- HTN – mom (dx age 36 yo)
- T2DM – dad (dx age 25 yo) with ESRD (on dialysis), PGM
- Hypercholesterolemia – dad (dx 40 yo)
- Cerebrovascular disease – PGM (stroke)
- Depression – mom, MGF
- Hypothyroidism – mom (dx 13 yo)
- Migraines – mom, MGF

Social History

- Lives with parents; dad on disability
- No siblings or extended family in home
- Attends 3rd grade in-person school; As & Bs
- School activities: plays softball
- H/o teasing at school last year
- Culture: Dad is AI Choctaw; Mom is Korean

ROS

**General: +weight gain,
fatigue**

ENT: +congestion

Resp: +cough w/activity

Musculoskeletal: +foot pain

Sleep: +snoring

Neuro: +HAs

Psych: low self-esteem; mild
anxiety

CV: negative

GI: negative

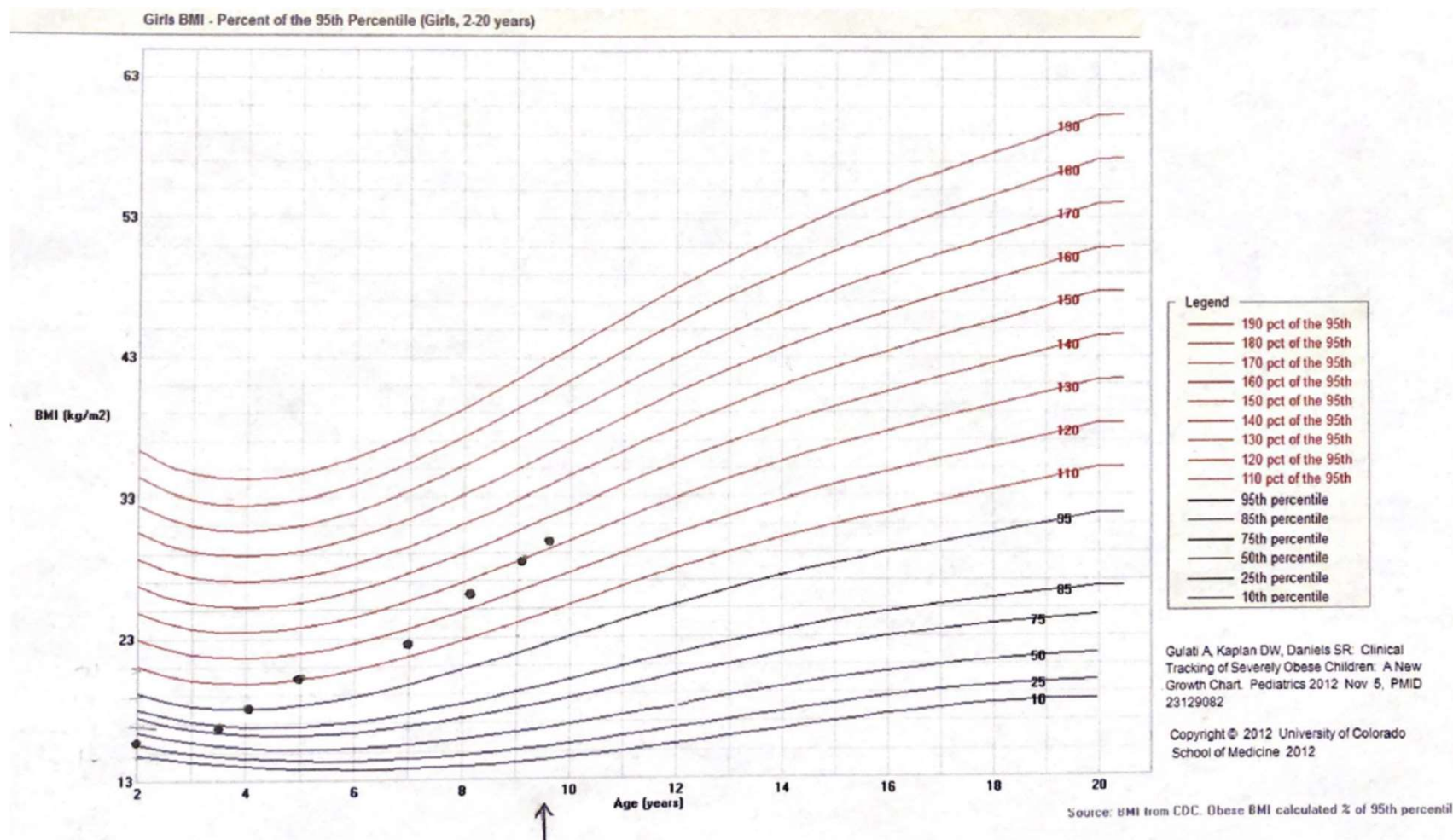
GU: negative

Endo: negative

Skin: negative

Vitals

Weight:	131.1 lbs	(100%ile)
Height:	56.1 in	(86 th %ile)
BMI:	29.4 kg/m ²	(130 th %ile)
BP:	110(74 %ile) / 76	(91 %ile)
Repeat BP (avg %ile)	106 (60 %ile) / 74	(87 %ile)



Physical Exam

General: well-appearing

HEENT: normocephalic; EOMI; Malampatti 3

Neck: normal

Respiratory: CTAB; no wheezing

Chest: RRR; no murmurs; Tanner Stage 2

Abdomen: soft; non-tender; no hepatomegaly

Genital: normal female; Tanner Stage 2

Musculoskeletal: WNL

Extremities: pes planus

Skin: +acanthosis nigricans—neck & axilla

Psych: alert and interactive

Laboratory results

FG: 107 → IFG
 ALT: 40 → Elevated
 TG: 278 → Dyslipidemia
 Chol: 165 → Normal
 LDL: 64 → Normal
 HDL: 40 → Borderline low
 A1c: 5.8 → Prediabetes

	Prediabetes	Diabetes
Fasting glucose	100-125	≥126
HbA1c	5.7-6.4	≥6.5
	Girls (IU/L)	Boys (IU/L)
ALT	≥22	≥26

Lipid Category	Low (mg / dL)	Normal (mg/dL)	Border-line (mg/dL)	High (mg/dL)
Total cholesterol	-	< 170	170-199	≥ 200
LDL	-	< 110	110-129	≥ 130
HDL	<40	>45	-	-
Triglycerides	-	<75	75-99	≥ 100
0-9	-	<90	90-129	≥130
10-19 yrs				

Management

- Obesity

Lifestyle modifications – MI to focus on health concerns

- Decrease SSBs: set goal of eliminating Big Gulp; replacing Gatorade w/Gatorade 0
- Increase activity level due to interest in sports: parents
plan to change softball league to more intensive one
- Sleep: work up possible OSA; discussed increasing sleep duration but no goal set
- Parent support

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Section on Obesity

➤ Follow up in 2-4 weeks, then every 4-6 weeks

SUGAR SHOCKERS

Drink Water
instead of Sugary Drinks



WATER

16 oz.
0 calories
0 grams sugar

100% JUICE SMOOTHIE
15.2 oz. bottle ▲ 300 calories



60
grams sugar

LEMON-LIME SODA*
30 oz. bottle ▲ 285 calories



77
grams sugar

ORANGE SODA*
30 oz. bottle ▲ 325 calories



85
grams sugar

COLA* WITH ICE
44 oz. cup ▲ 210 calories
38 oz. cola, 6 oz. ice



128
grams sugar

ICED COFFEE* MOCHA FLAVOR
9.5 oz. bottle ▲ 180 calories



31
grams sugar

SPORTS DRINK*
20 oz. bottle ▲ 125 calories



35
grams sugar

SWEETENED ICED TEA*
16 oz. bottle ▲ 140 calories



36
grams sugar

ENERGY DRINK*
15 oz. can ▲ 200 calories



54
grams sugar

100% ORANGE JUICE
8 oz. glass ▲ 110 calories



21
grams sugar

CHOCOLATE SKIM MILK*
8 oz. glass ▲ 145 calories



23
grams sugar

100% APPLE JUICE
8 oz. glass ▲ 115 calories



27
grams sugar

CRANBERRY JUICE COCKTAIL*
8 oz. glass ▲ 120 calories



30
grams sugar

COFFEE
8 oz. cup ▲ 0 calories



0
grams sugar

VEGETABLE JUICE
8 oz. glass ▲ 50 calories



8
grams sugar

PLAIN SOY MILK*
8 oz. glass ▲ 120 calories



8
grams sugar

SKIM MILK
8 oz. glass ▲ 90 calories



12
grams sugar

*Contains added sugar. Dietary guidelines recommend consuming no more than 10% of daily calories from added sugar. Sugar in milk and milk products are naturally occurring and do not contribute added sugar. One sugar cube = 15 grams of sugar. SUGAR: Nutrition information based on typical values for drinks shown and may vary by brand and formulation. The number of sugar cubes pictured are rounded to the nearest whole cube.

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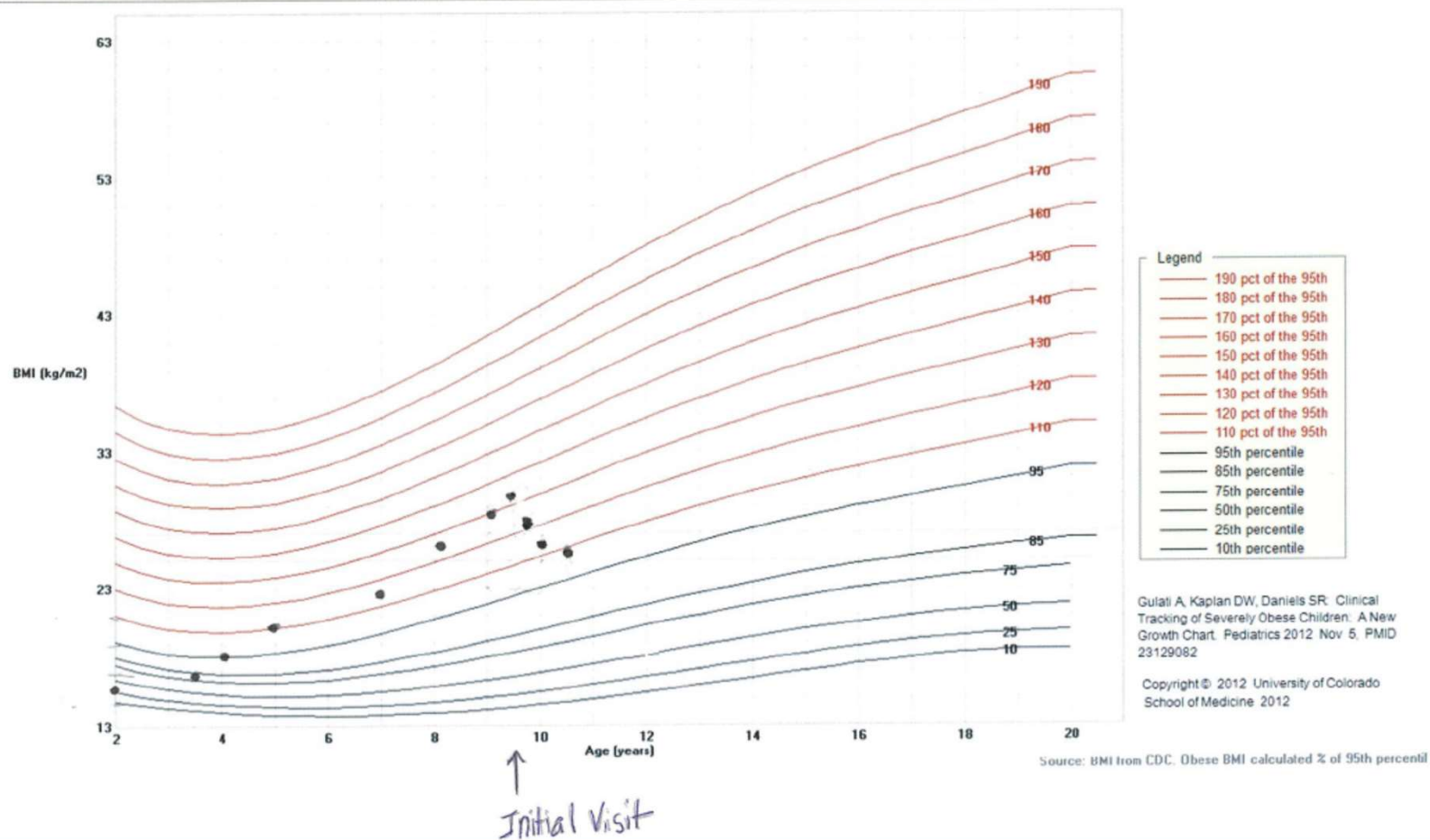
Management

- Insulin resistance, dyslipidemia, elevated ALT
 - Decrease SSBs, increase activity level
 - Follow-up visits to work on decreasing fast foods, balanced meals, healthy snacks, meal regulation
 - Repeat labs in 6 months
- Snoring/daytime fatigue/HAs
 - Peds Epworth score of 6; Referral for sleep study
- Cough w/ activity
 - Albuterol prior to activity
- Foot pain/pes planus
 - Referral to orthotics
- Anxiety

6 & 12-month follow-up visits

- Obesity
 - Weight stable; decreasing BMI & BMI percentile
 - Eliminated SSBs; drinking water + occasional Gatorade 0
 - No longer meal skipping with improved portions + vegetables
 - Packs healthy snacks for game days; skips concession foods
 - Still consuming fast food 3x/week but choosing healthier options
 - Activity increased to 2 hours 5x/week
 - Sleep improved to 8 hours/night (10 pm-6am)

Girls BMI - Percent of the 95th Percentile (Girls, 2-20 years)



6 and 12-month follow-up visits

- Insulin resistance, elevated ALT, dyslipidemia
 - FG: 97 98
 - ALT: 25 16
 - HbA1c: 5.4 5.2
 - FLP: TG: 96 HDL: 49 TG: 64 HDL: 57
- Snoring/Fatigue/HAs
 - Sleep study with AHI of 3 with REM AHI of 5.7
Mild OSA – symptoms improved with weight management
- Asthma
 - Pre-treating with albuterol
- Foot pain
 - Pain resolved with orthotics
- Anxiety

➤ Re-evaluation was WNL; Peds QL improved



THANK YOU!

Questions:

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