Addressing Obesity, Healthy Eating and Physical Activity Post COVID-19

Ohio AAP Annual Meeting
Oct. 30, 2021
Presenters

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- Diplomat of the American Board of Obesity Medicine.
- Program Director of Healthy Me and Lipid Clinics at Dayton Children’s Hospital.
- Ten years as Primary Care Pediatrician/Preceptor in Pediatric Resident Clinic.
- Assistant Professor of Pediatrics, Wright State University Boonshoft School of Medicine.

Roohi Kharofa, MD, MPH

- Diplomat of the American Board of Obesity Medicine.
- Associate Director, Center for Better Health and Nutrition at Cincinnati Children's Hospital Medical Center.
- Associate Professor of Pediatrics, University of Cincinnati College of Medicine.
Disclosures

The speakers have no disclosures, and no off-label products will be discussed.
PMP launched in 2014 with a quality improvement (QI) component. The QI project had seven waves, and trained nearly 300 primary care providers.

In 2021, PMP transitioned to an educational-based training program. This includes educational training webinars (live and recorded), new and updated PMP resources, and a PMP toolkit to implement the project into individual practices.

PMP provides resources to assess and address “risk” of obesity and educate on nutrition and activity.

The Parenting at Mealtimes and Playtime (PMP) Training Series

CME/MOC PART 2 CREDIT AVAILABLE

TRAINING OBJECTIVES:
- Develop confidence in educating families on body positivity, nutrition and healthy routines
- Increase knowledge of PMP resources and how to educate families on nutrition and activity
- Engage families in positive conversations around nutrition and activity

Education Sessions for Pre-K to School Age
- Social Determinants and Body Positivity
  - September 16, 2021 @ 8:00-9:00 AM
- Nutrition Training and How to Discuss Food
  - TBD

Education Sessions for 8 to 10 Years of Age
- Healthy Routines: Eat Eating and Overeating After School
  - October 30, 2021 @ 1:00-2:30 pm
- Eating Disorders and the Perception of Food
  - TBD

PMP TOOLKIT

The PMP Toolkit offers interactive modules and resources to support primary care providers with well-child specific anticipatory guidance and daily routines. Participants will receive an interactive platform featuring activities to make providers optimally effective at identifying young children at risk for becoming overweight and increasing their likelihood of change techniques on engaging about healthy diet and activity.

Toolkit Registration: https://www.surveymonkey.com/r/PMPToolkitReg

REGISTER TODAY AT: ohioaap.org/caresource-training-series

**Join the Ohio AAP and CareSource for a 6-part virtual training series to improve the health of Ohio’s children and families by bringing sustainable, essential education and resources to accessible formats. Attendee benefits include:**
- CME credits available for all trainings
- Training and/or printed resources available for each topic
- Education to empower participants to utilize best practices and lessons learned in providing distance and virtual training for COVID and beyond!

Learning Objectives:
1. Develop confidence in referring families to healthcare providers for lead testing of high-risk children or adolescents in the presence of living in high-risk situations
2. Identify barriers to creating clean, safe spaces in high-risk communities and joining families in high-risk communities on health, food, transport, active lifestyles and language areas of focus such as obesity, proper nutrition, play and hunger benefits
3. Include confidence in adhering child adolescent and COVID-19 vaccine use
4. Practice unique communication, with focus on the high-risk, diverse and underserved communities.

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PMP Resources

Ohio AAP PMP Mobile App

Search Parenting at Meal and Playtime on Apple Store or Google Play

App Highlights....

- Physician-endorsed materials for parents to access on-demand
- Resources for parents organized by age
- Text reminders sent monthly and/or for age milestones
- Easy sign-up
- Videos on feeding, play, nutrition and more

http://ohioaap.org/pmp-resources/
Register for the PMP Toolkit

https://www.surveymonkey.com/r/PMPToolkitReg
Objectives

1. Discuss the state of pediatric obesity in the United State pre-COVID-19 and during the pandemic.
2. Explain how meal timings, meal contents, and sleep affect hunger hormones.
4. Understand how to use motivational interviewing techniques with parents and patients to engage them in nutrition counseling.
5. Tailor nutrition counseling based on patient history, family history, and metabolic lab testing.
Objective 1

Discuss the state of pediatric obesity in the United States pre-COVID-19 and during the pandemic.
Ohio Pediatric Overweight and Obesity Data Pre-COVID-19
Ohio Pediatric Overweight and Obesity Data Pre-COVID-19

WIC children ages 2-4 who have an overweight classification

WIC children ages 2-4 who have an obesity classification

Footnotes:
† Overweight is defined as body mass index (BMI) for age and sex ≥ 85th but < 95th percentile based on the 2000 CDC growth chart. BMI was calculated from measured weight and height (weight/height^2). Children with missing values of height, weight, and BMI were excluded. In addition, children with biologically implausible values for height, weight, and BMI defined as the following p-values in value, were excluded from the analyses: height for age < 5.0 or > 95.0; weight for age < 5.0 or > 95.0; and BMI for age < 1.0 or > 8.0. 

Data Source: Women, Infants, and Children Participant and Program Characteristics (WIC)
Ohio Pediatric Obesity Data Pre-COVID-19

Children ages 2-4 participating in WIC

- 12.4% Obesity Rate
- 37 of 51 Ohio state rank

Source: stateofobesity.org/wic

Children ages 10-17

- 15.7% Obesity Rate
- 20 of 51 Ohio state rank

Source: stateofobesity.org/children/1017
Pre-pandemic reports of meeting daily activity goals: Ohio high school students who achieved at least one hour of moderate or intense physical activity daily.
Impact of COVID-19 pandemic on our children
2021 Headlines:

"The number of states in which at least 35% of residents are obese increased last year by four."

Ohio is included.

Obesity rates before and during pandemic

According to the Centers for Disease Control and Prevention (CDC)
- Rate of obesity increased from 19% to 22%.
- Average weight gain (pounds/year) increase.

<table>
<thead>
<tr>
<th>Category</th>
<th>Pre-pandemic</th>
<th>During pandemic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy weight children</td>
<td>3.4</td>
<td>5.4</td>
</tr>
<tr>
<td>Moderate obesity</td>
<td>6.5</td>
<td>12</td>
</tr>
<tr>
<td>Severe obesity</td>
<td>8.8</td>
<td>14.6</td>
</tr>
</tbody>
</table>

Study: Childhood obesity in US accelerated during pandemic

by MIKE STOBBE, AP Medical Writer | Thursday, September 16th 2021
Indirect effects of COVID-19 on obesity

- Different sleep patterns
- Less physical activity
- More screen watching
- More social distancing
- More processed foods
- More snacking

COVID-19 and obesity

• Anxiety disorders
• Depression
• Self-isolation
COVID-19 pandemic impact on child obesity

![Graph showing obesity rates by age group during pre-pandemic and pandemic periods.]

**Figure 1:** Obesity rates by age, race and ethnicity, insurance status, and neighborhood median household income. A, Age. B, Race and ethnicity. C, Insurance. D, Neighborhood median household income. Areas highlighted in yellow show the prepandemic and pandemic comparison periods.
Early effects of COVID-19 pandemic on physical activity

Perceived changes in physical activity during pandemic

Perceived changes in sedentary behaviors during pandemic

Fig. 1 Unadjusted percentages for each category of perceived change in physical activity (from pre-COVID-19 (February 2020) to early-COVID-19 (April-May 2020)) by child age group. n = 114 for ages 5–8 and n = 91 for ages 9–13.

Fig. 2 Unadjusted percentages for each category of perceived change in sedentary behavior (from pre-COVID-19 (February 2020) to early-COVID-19 (April-May 2020)) by child age group. n = 114 for ages 5–8 and n = 91 for ages 9–13.
Impact of COVID-19 pandemic on exercise locations

Fig. 3 Unadjusted percentages of children whose parents reported that they performed physical activity in each location during the pre-COVID-period (February 2020 and early-COVID-19 period (April–May 2020). n = 187
BRAIN BREAK

What you will need:
• 2 writing utensils – pen, pencil, or highlighter (nothing too valuable)
• Piece of paper
• You Tube video of Cardio Desk Drumming with pool noodle – “Shake it off”

LET'S DANCE
Objective 2

Hunger and satiety hormones
Hunger Hormone Regulators

- Meal timing/pattern.
- Protein vs. Carbohydrates.
- Sugar-free substitutes.
- Sleep duration.
- Sleep quality.
- Sleep consistent with circadian rhythm.
The Hunger Hormone: Ghrelin

• Secreted by the stomach.
• Hormone is high before you eat and tells your brain to eat.
  –This hormone level will continue to increase the more you hold off on eating.
• Hormone level lowers after a meal.
The Satiety Hormone: Leptin

• Secreted primarily by fat cells.
• Tells your brain not to eat (or tries to...).
• Leptin is easily overpowered by Ghrelin.
• Level proportional to body fat is high in patients with obesity.
  – Leptin resistance develops similar to insulin resistance.
Meal Timing and Patterns

• Skipping meals leads to increased Ghrelin.
  – Skipping breakfast can lead to weight gain.
• Long periods between meals leads to increased Ghrelin.
  – Foregoing an afterschool snack can lead to excessive eating at dinner and/or after dinner.
Effects on Ghrelin: Protein vs. Lipids vs. Carbohydrates

Sugar-Free/Carbonated Drinks

• The amount of ghrelin in the stomach tissue was higher after exposure to diet soda and carbonated (sugar-free) beverages compared with non-carbonated drinks.

• Additionally, sweet taste is integrated with energy content. When sweetness versus energy is out of balance for a period of time, the brain recalibrates and increases hunger hormones to increase calories consumed.

Sleep Duration

• Insufficient sleep increases ghrelin and decreases leptin, which leads to increased hunger and appetite.
  – When awake longer, a person also has more time to eat.
• Insufficient sleep also affects parts of the brain that determine how we think about food.
  – Brain activity is enhanced in areas that are involved in viewing food as a positive reward.
### National Sleep Foundation Recommendations

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Recommended Hours of Sleep</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn</td>
<td>14-17 hours</td>
</tr>
<tr>
<td>Infant</td>
<td>12-15 hours</td>
</tr>
<tr>
<td>Toddler</td>
<td>11-14 hours</td>
</tr>
<tr>
<td>Preschool</td>
<td>10-13 hours</td>
</tr>
<tr>
<td>School-age</td>
<td>9-11 hours</td>
</tr>
<tr>
<td>Teen</td>
<td>8-10 hours</td>
</tr>
<tr>
<td>Young Adult</td>
<td>7-9 hours</td>
</tr>
<tr>
<td>Adult</td>
<td>7-9 hours</td>
</tr>
</tbody>
</table>
Sleep Quality

• Excessive screen time as well as screen time just prior to or while in bed can impact sleep quality.
  – Blue light in screens decrease melatonin, which can delay sleep onset.

• Screens lead to psychological and somatic arousal and cognitive over-activation through the media content.¹
  – This can lead to poor sleep quality, which can lead to increased ghrelin/decreased leptin (similar to obstructive sleep apnea).

How exposure to **blue light** affects your brain and body

**The disruption to your sleep schedule might leave you distracted and impair your **MEMORY** the next day.**

**A poor night’s sleep caused by smartphone light can make it HARDER TO LEARN.**

**Over the long term, not getting enough sleep can lead to **NEUROTOXIN** buildup that makes it even harder for you to get good sleep.**

**People whose melatonin levels are suppressed and whose body clocks are thrown off by light exposure are more prone to **DEPRESSION.****

**By disrupting melatonin and sleep, smartphone light can also mess with the hormones that control hunger, potentially increasing **OBESITY RISK.****

**There’s some evidence that blue light could damage our vision by harming the **RETINA** over time — though more research is needed.**

**Researchers are investigating whether or not blue light could lead to **CATARACTS.****

**There’s a connection between light exposure at night and the disturbed sleep that come with it and an increased risk of breast and prostate **CANCERS.****

**Sources:** Nature Neuroscience; Harvard Health Publications; ACE, Sleep Med Rev, American Macular Degeneration Foundation; European Society of Cataract and Refractive Surgeons; JAMA Neurology
Objective 3

Discuss physical activity in children and adolescents with obesity during the COVID-19 pandemic.
### 5 A's of Obesity Management

| **Ask** | - Ask for permission to discuss body weight.  
- Explore readiness for change. |
| **Assess** | - Assess BMI, waist circumference, and obesity stage.  
- Explore drivers and complications of excess weight. |
| **Advise** | - Advise the patient about the health risks of obesity, the benefits of modest weight loss (i.e., 5-10 percent), the need for long-term strategy, and treatment options. |
| **Agree** | - Agree on realistic weight-loss expectations, targets, behavioral changes, and specific details of the treatment plan. |
| **Arrange/Assist** | - Assist in identifying and addressing barriers; provide resources; assist in finding and consulting with appropriate providers; arrange regular follow up. |
Kids and teens ages 6 to 17 need 60 minutes of physical activity every day.

Do what's fun for you.

- Get your 60 minutes of activity all at once — or split it up over the day. It's your choice!
- I have basketball practice for an hour after school.
- I like to ride my bike to the park to play soccer with my friends.
- I help my mom with dinner.
- Yes, they all add up!

Lots of things count as physical activity.

- Try a mix of sports and other fun activities.
- They all count!

Getting 60 minutes will make you feel good.

- I feel happy.
- I feel strong.

You know how sometimes it's really, really hard to sit still?

When you're young, your body wants to move — naturally! (Adults, not so much.)

So get active every day — and feel great!

Moving more can give you a boost — in lots of ways.

- More energy
- Better confidence
- Very relaxed
- Amazing grades

How much activity do I need?

If you're between age 6 and 17, you need at least 60 minutes of activity each and every day.

* It's true — physical activity can actually help you do better in school.
<table>
<thead>
<tr>
<th>Benefits for Children</th>
<th>Benefits for Adults</th>
<th>Benefits for Healthy Aging</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Reduces risk of depression</td>
<td>• Lowers risk of high blood pressure</td>
<td>• Improves sleep</td>
</tr>
<tr>
<td>• Improves aerobic fitness</td>
<td>• Lowers risk of stroke</td>
<td>• Reduces risk of falling</td>
</tr>
<tr>
<td>• Improves muscular fitness</td>
<td>• Improves aerobic fitness</td>
<td>• Improves balance</td>
</tr>
<tr>
<td>• Improves bone health</td>
<td>• Improves mental health</td>
<td>• Improves joint mobility</td>
</tr>
<tr>
<td>• Promotes favorable body composition</td>
<td>• Improves cognitive function</td>
<td>• Extends years of active life</td>
</tr>
<tr>
<td>• Improves attention and some measures of academic performance (with school physical activity programs)</td>
<td>• Reduces arthritis symptoms</td>
<td>• Helps prevent weak bones and muscle loss</td>
</tr>
<tr>
<td></td>
<td>• Prevents weight gain</td>
<td>• Delays onset of cognitive decline</td>
</tr>
</tbody>
</table>

Strategies to increase physical activity
Promoting physical activity during COVID-19 pandemic

Discussion points with patients:
• Maintain physical distancing.
• Wear a mask.
• Practice good hand hygiene.
• Choose to get a COVID-19 vaccine.
• Have trusted resources available to give or share with patients.
  – Ohio AAP website (ohioaap.org)
  – CDC website (cdc.gov)
  – Ohio Department of Health website (odh.ohio.gov)

Where can I find free resources to help me stay active at home?

Without the ability to go to a gym or playground, getting active might feel tougher than normal. Many organizations and agencies on the local, state, and national levels are working hard to support activity in the home during this time.

The Move Your Way Activity Planner is a great way to identify activities you can do at home! Your local parks department or recreation center website might also have guidance. And you can find plenty of free streaming or on-demand videos to help you maintain or improve your physical and mental health online.

Here are a few resources to jump-start your new physical activity routine:

Resources for all ages:
• American College of Sports Medicine provides suggested aerobic and strength-training activities
• Cooper Institute has free videos with tips to help you get active on their YouTube channel
• National Center for Health, Physical Activity and Disability features inclusive videos that people with disabilities can do at home
• National Academy of Sports Medicine shares bodyweight exercises you can do without equipment
• YMCA features Your Y at Home resources for kids and families, adults, and older adults

Resources for youth:
• ACE Fitness gives instructions for creating a simple obstacle course for kids
• American Heart Association shares 25 Ways to Get Moving at Home for kids
• Fit Kids is providing access to a curriculum that kids and adults can use to get active at home
• SHAPE America has instructions for creating a Multi-Game Fitness Card Deck with games for kids of all ages

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Creating an exercise plan

Assess current physical activity level.

Assess readiness.

Create a SMART goal.

Write exercise Prescription – FITTE.

Troubleshoot a back-up plan.
Assess Healthy Eating and Active Living Behaviors
Interview, questionnaire

5210 Healthy Habits Questionnaire ages 2-6

Check Name ___________________________ Today’s Date ___________________________

1. How many servings of fruits or vegetables does your child eat a day? ___________________________
2. How many times in a week does your child eat at the table together with the family? ___________________________
3. How many times a week does your child eat chicken? ___________________________
4. How many times a week does your child eat fish or seafood? ___________________________
5. How often do you eat dinner at home? ___________________________
6. How many hours does your child watch TV? ___________________________
7. How much television does your child watch in a week? ___________________________
8. How much does your child drink milk? ___________________________
9. How much does your child drink water? ___________________________
10. How much does your child drink fruit juice? ___________________________
11. How much does your child drink soda or punch? ___________________________
12. How much does your child drink milk? ___________________________
13. How much does your child drink water? ___________________________
14. How much does your child drink fruit juice? ___________________________
15. How much does your child drink soda or punch? ___________________________

We are interested in the health and well-being of all our families. Please take a moment to answer these questions:

5210 Healthy Habits Questionnaire ages 10+

Your Name ___________________________ Today’s Date ___________________________

1. How many servings of fruits or vegetables do you eat a day? ___________________________
2. How many times in a week do you eat dinner at the table together with your family? ___________________________
3. How many times a week do you eat chicken? ___________________________
4. How many times a week do you eat fish or seafood? ___________________________
5. How often do you eat dinner at home? ___________________________
6. How much television does your child watch in a week? ___________________________
7. How much does your child watch TV? ___________________________
8. How much does your child watch TV? ___________________________
9. How much does your child drink milk? ___________________________
10. How much does your child drink water? ___________________________
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5210 Healthy Habits Questionnaire ages 10+

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13. How much does your child drink milk? ___________________________
14. How much does your child drink water? ___________________________
15. How much does your child drink fruit juice? ___________________________
16. How much does your child drink soda or punch? ___________________________
Case #1: Visit #1

13-year-old male

- Past Medical History: unremarkable.
- Family History: 1st: hypertension, 2nd: diabetes mellitus.
- Social History:
  - Lives with parents and three siblings.
  - Apartment, no yard.
  - Virtual school last year, in person now.
- Diet:
  - Large portions, frequent seconds.
  - Rare fruits/vegetables, frequent fast food.
- Physical Activity:
  - No routine physical activity some days > 60 minutes.
  - Doesn’t like to be outside.
- Sleep: 5-7 hours, snoring.
- Screens: > 4 hours per day, “gamer”

VITAL SIGNS AND LAB RESULTS

- Vital Signs:
  - Height: 70.28 inches (178 cm)
  - Weight: 264 pounds (120kg)
  - BMI: 37.66 (148% of 95th percentile)
- Labs: Approximately 9 months prior
  - Cholesterol: low HDL, borderline LDL
  - DM Risk: HgbA1C 5.8 (borderline/Pre-DM)
## Creating an exercise plan

### Step 1: Assess current physical activity

<table>
<thead>
<tr>
<th>Assess current physical activity</th>
<th>Case #1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask current/past exercise habits.</td>
<td>Currently no routine physical activity.</td>
</tr>
<tr>
<td>Current motivation and barriers.</td>
<td>Self-described gamer.</td>
</tr>
<tr>
<td>Preferred forms of physical activity.</td>
<td>Does not really like the outdoors.</td>
</tr>
<tr>
<td>Physical limitations.</td>
<td>No physical limitations.</td>
</tr>
<tr>
<td>Social support for exercise participation.</td>
<td>Mom reports willingness to support family level of change.</td>
</tr>
<tr>
<td>Time and scheduling considerations.</td>
<td>Patient felt that he could commit to five minutes per day.</td>
</tr>
<tr>
<td>Digital technology access.</td>
<td>Patient reports access to internet and YouTube.</td>
</tr>
<tr>
<td>House/yard space.</td>
<td>Limited space in house/yard.</td>
</tr>
<tr>
<td>Neighborhood safety.</td>
<td>Neighborhood is safe.</td>
</tr>
</tbody>
</table>
## Promoting physical activity during the COVID-19 pandemic

### Patient preferences

- Outdoors
- Group Classes
- Races
- Team Sport
- Weight-lifting
- Gaming
- Family fun
- Competitive
- Chores
- Parks/Trails

- Live streaming/workout videos
- Virtual races – Walk with a Doc
- Field space for individual skills training
- Used canned goods/milk jug/body
- Active video games – Virtual Reality
- Scavenger hunt, Geocaching
- Monthly challenge
- Gardening, snow shoveling, mowing, vacuuming, dusting
Creating an exercise plan

Step 2: Assess Readiness

The number chosen is not as important as the discussion about why not lower number (indicating motivation) or higher number (indicating barriers).

Readiness Ruler

- On a scale of 0—10, how willing/important is it to you to make a change toward a healthier lifestyle?
- On a scale of 0-10 how confident are you that you can make that change?

0 — 1 — 2 — 3 — 4 — 5 — 6 — 7 — 8 — 9 — 10

Not willing/Very confident

Somewhat

Very Willing/Very confident

Why didn’t you choose [lower #]? Why didn’t you choose [higher #]? What would make you more willing?

Adapted from Maine Youth Overweight Collaborative & the Permanente Medical Group Inc. Northern California Health Education

idph.iowa.gov
Case #1

SMART Goals:

1. Between now and next visit, work on mindful eating techniques:
   • Specifically, wait 20 minutes after dinner before having second helpings.
   • Before having second helpings, ask if hungry or bored.
   • Try to choose fruits or vegetables for second helpings.

2. He will exercise, participate in active play, be physically active to the point of increased heart rate, and sweating for 5 minutes per day.
Creating an exercise plan
Step 3: Set a S.M.A.R.T goal

<table>
<thead>
<tr>
<th>Specific</th>
<th>Measurable</th>
<th>Action-oriented</th>
<th>Realistic</th>
<th>Timely</th>
</tr>
</thead>
</table>

**Case #1**
Patient will exercise, play, be active to the level of increasing heart rate, sweating for 5 minutes per day by the time of the next visit.
- **S**: Exercise
- **M**: Increased heart rate/sweating, 5 minutes a day
- **A**: Discussed options, resources provided
- **R**: Needed improvement in physical activity
- **T**: Change by next visit
Creating an exercise goal

Step 4: Write an Exercise Prescription

Goals

- Aerobic/ Cardiorespiratory
- Strength/weight training
- Flexibility
- Balance
- Functional
- Speed
- Core
Creating an exercise goal

Step 4: Write an Exercise Prescription

- **Frequency**: Daily
- **Intensity**: Heart rate increase/sweating
- **Time**: 5 minutes
- **Type**: Active play/handouts
- **Enjoyment**: TBD
Create an exercise goal
Step 5: Include a back-up plan

Physical Activity ideas: Case #1

<table>
<thead>
<tr>
<th>Indoor</th>
<th>Outdoor</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Workout routine centering on Call of Duty.</td>
<td>• Discussed geocaching.</td>
</tr>
<tr>
<td>• Handout from AHA on 25 ways to be active.</td>
<td>• Provided with an outdoor scavenger hunt.</td>
</tr>
<tr>
<td>• Handout on ways to be active while watching TV.</td>
<td></td>
</tr>
</tbody>
</table>
Case #1: Visit #2
1 month later

<table>
<thead>
<tr>
<th></th>
<th>Visit #1</th>
<th>Visit #2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Height</strong></td>
<td>178 cm (70.28 in)</td>
<td>178 cm (70.28 in)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>120kg (264 lb)</td>
<td>123 kg (271 lb)</td>
</tr>
<tr>
<td><strong>BMI</strong></td>
<td>37.66 (148% of 95th)</td>
<td>38.67 (152% of 95th)</td>
</tr>
</tbody>
</table>

Reported Changes

- Improved portion sizes.
- Realized he was craving protein/starch as second helping instead of fruits and vegetables.
  - Reported having less often.
- Struggled with remembering five minutes per day to be active.
- Started gym class two days a week.
- Wanted to adjust physical activity goals.

GOALS:

1. Continue to work on mindful eating goal.
2. Aim to eat two servings of fruits/vegetables per day.
3. Be physically active for 15 minutes a day twice a week to the point of increased heart rate/sweating.

- Readiness: 10/10
- Follow up in one month
The patient gained weight. Now what?

CELEBRATE

THE

LIFESTYLE

CHANGES
The day you plant the seed is not the same day that you eat the fruit.
Case #1: Visit #3
1 month later

<table>
<thead>
<tr>
<th></th>
<th>Visit #1</th>
<th>Visit #2</th>
<th>Visit #3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Height</strong></td>
<td>178cm (70.28in)</td>
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<td>179.4cm (70.63in)</td>
</tr>
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<tr>
<td><strong>BMI</strong></td>
<td>37.66 (148% of 95th)</td>
<td>38.67 (152% of 95th)</td>
<td>37.58 (147% of 95th)</td>
</tr>
</tbody>
</table>

**Reported changes:**
- Working on eating more fruits/vegetables.
- Patient and family acknowledge that physical activity has been a struggle.
- Considering organized activity – football.

**GOALS: No change**
1. Continue to work on mindful eating goal.
2. Aim to eat two servings of fruits/vegetables per day.
3. Be physically active for 15 minutes a day, twice a week to the point of increased heart rate/sweating.
   - Readiness 10/10.
   - Follow up in three months.
Case #1: Visit #4  
3 months later

**GOALS:** No change

1. Continue to work on mindful eating goal.
2. Aim to eat two servings of fruits/vegetables per day.
3. Be physically active for 15 minutes a day, twice a week to the point of increased heart rate/sweating.
   - Readiness 10/10.
   - Follow up in three months.

**Reported changes:**

- Football three days per week — ENJOYING.
- Discussing personal trainer off season.
- Family discussing YMCA.
- HHQ noted: 3 fruits/vegetables per day, increased water, less SSB, good portions, activity most days more than 60 minutes, less screen time.

<table>
<thead>
<tr>
<th></th>
<th>Visit #1</th>
<th>Visit #2</th>
<th>Visit #3</th>
<th>Visit #4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Height</strong></td>
<td>178 cm (70.28 in)</td>
<td>178 cm (70.28 in)</td>
<td>179.4 cm (70.63 in)</td>
<td>179.9 cm (70.83 in)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>120 kg (264 lb)</td>
<td>123 kg (271 lb)</td>
<td>121 kg (266 lb)</td>
<td>120 kg (265 lb)</td>
</tr>
<tr>
<td><strong>BMI</strong></td>
<td>37.66 (148% of 95&lt;sup&gt;th&lt;/sup&gt;)</td>
<td>38.67 (152% of 95&lt;sup&gt;th&lt;/sup&gt;)</td>
<td>37.58 (147% of 95&lt;sup&gt;th&lt;/sup&gt;)</td>
<td>37.16 (144% of 95&lt;sup&gt;th&lt;/sup&gt;)</td>
</tr>
</tbody>
</table>
Growth Curve for Case #1

<table>
<thead>
<tr>
<th></th>
<th>Visit #1</th>
<th>Visit #4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Height</strong></td>
<td>178 cm (70.28 in)</td>
<td>179.9 cm (70.83 in)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
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<tr>
<td><strong>BMI</strong></td>
<td>37.66 (148% of 95th)</td>
<td>37.16 (144% of 95th)</td>
</tr>
</tbody>
</table>
Physical Activity

Being physically active and eating a proper diet are two ways to help you keep a healthy weight.

Try being active at least 60 minutes a day.

There are many ways to be active:
- Sports
- Walking the dog
- Jumping
- Doing chores

To make an ACTIVITY PLAN:
- Each day plan out what you would like to do.
- Schedule each day’s activity time and screen time.
- Each day be active throughout the day.
- Your activities can be done in 15 minute blocks.
- Talk to your doctor to learn about the right level of activity for you.

Make a goal that’s right for you!
- I will help out with chores around the house.
- I will do 15 minute blocks of activity four times a day.
- I will wear a pedometer and track my footsteps.
- I will try a new activity each week.

PARENT CORNER
- Engage your child in fun activities that promote physical activity.
- Encourage your child to be active every day.
- Limit screen time to less than two hours a day for the whole family.

Ideas for INSIDE:
- Get up and move during TV commercials.
- Climb up and down the stairs 10 times.
- Challenge your parents or siblings to a game on Wii Fit.
- Move a sit-up or push-up contest.
- Build a fort.
- See who can jump on one foot the longest.
- Make a dance routine to your favorite song and show it to your parents.
- Jump rope.
- Rent an exercise video—follow the workout.
- Brush out those muscles.
- Lift some weights—use milk jugs filled with water or care of vegetables to pump up your muscles.

Ideas for OUTSIDE:
- In the SUMMER:
  - Walk your dog.
  - Ride your bike.
  - Play tag with siblings or kids in your neighborhood.
  - Play Red Rover.
  - Go to the park or playground.
  - Build an obstacle course.
  - Play Hide and Go Seek.
  - Plan a family walk for after dinner.
  - Go roller skating.

During WINTER:
- Build a snowman.
- Make snow angels.
- Have a snowball fight.
- Go sledding.
- Go ice skating.
- Help your parents grab a shovel and start digging!
Case #2

- 13-year-old male
- PMHx: unremarkable.
- Diet:
  - Skips breakfast, lunch from Grub Hub daily.
  - Some days snacking/grazing throughout day.
  - Large portions, eat fast, and second helpings.
- Physical Activity:
  - Occasional – walking or treadmill.
  - Rarely days/week, less than 30 minutes/session
- Sleep: + snoring, 5-7 hours.
- Stress: Reports some concerns.
- Screens: + Excess > 4 hours rec/day.

VITAL SIGNS AND LAB RESULTS

- Vital Signs:
  - Height: 5 feet 11 inches, 182 cm ( > 95th)
  - Weight: 269 pounds, 122 kg (> 95th)
  - BMI: 36.86 (144% of 95th)
  - Normotensive
- Labs: Unremarkable
# Case #2

Creating an exercise plan

<table>
<thead>
<tr>
<th>Assess current physical activity</th>
<th>Case #2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask current/past exercise habits.</td>
<td>Was a baseball player, but didn’t make the team.</td>
</tr>
<tr>
<td>Current motivation and barriers.</td>
<td>Starting CTC Fire Training Program.</td>
</tr>
<tr>
<td>Preferred forms of physical activity.</td>
<td>Walking or treadmill</td>
</tr>
<tr>
<td>Physical limitations.</td>
<td>No physical limitations.</td>
</tr>
<tr>
<td>Social support for exercise participation.</td>
<td>Mom reports willingness to support family level of change.</td>
</tr>
<tr>
<td>Time and scheduling considerations.</td>
<td>30 minutes per day</td>
</tr>
<tr>
<td>Digital technology access.</td>
<td>Not needed with current activity</td>
</tr>
<tr>
<td>House/yard space.</td>
<td>Has space and a treadmill.</td>
</tr>
<tr>
<td>Neighborhood safety.</td>
<td>Neighborhood is safe.</td>
</tr>
</tbody>
</table>
Case# 2: Creating an exercise plan

Goals - Activity

1. He will take a daily walk for 30 minutes per day.

- **Specific**: Increase physical activity daily.
- **Measurable**: 30 minutes per day
- **Action-oriented**: Walking
- **Realistic**: Has access to walk indoor and outdoor
- **Timely**: Will assess in one month.

Readiness to change: 10/10
Increasing steps

Figure 2. Average steps per day before and after playing Pokémon GO. IQR indicates interquartile range.
Case #2: Visit 2

Reported changes:
- Improved portion sizes.
- Increased awareness of what, how much, and which food groups he is eating. Downloaded MyFitnessPal app.
- Decreased fast food intake.
- Drinking water.
- Asking to take walks.
- Having granola bar for breakfast.
- Helping with cooking.
- Increasing fruits/vegetables.

<table>
<thead>
<tr>
<th></th>
<th>Visit #1</th>
<th>Visit #2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>182 cm (5’11.6”)</td>
<td>183.2 cm (6’0”)</td>
</tr>
<tr>
<td>Weight</td>
<td>122 kg (269lb)</td>
<td>128 kg (280lb)</td>
</tr>
<tr>
<td>BMI</td>
<td>36.86 (144% of 95th)</td>
<td>37.93 (147% of 95th)</td>
</tr>
</tbody>
</table>

GOALS:
1. Continue working on meal prep at home and limiting takeout/fast food to weekends.
2. Activity: Walk daily 30 minutes for four to five days/week.
3. Alternatives: Home exercise routine.

Follow up in two months.
Sample Home Exercise Plan

• Increase activity to add in cardiovascular activity.
  – Walk brisk pace for 30 minutes
• Complete the following for 30 seconds per activity
  – Repeat each three times:
    • Jumping jacks or jump rope.
    • High knees or running in place.
    • Squat jumps or squats.
    • Skiers or shuffle.
    • Pogo stick with or without rotation.
    • Tin soldier.
    • Plank jacks or hold plank.
    • Burpees or mountain climbers.
    • Sit-ups or crunches.
Ideas for home exercise

Circuit Training

25 Jumping Jacks
7 Pushups
15 Crunches
8 Squats
8 Burpees
25 Jumping Jacks
1 Minute Wall Sit
7 Pushups
15 Crunches
8 Squats
20 High Knees
15 Bicycle Crunches

Repeat 3 times!
Case #2: Visit #3

Reported changes

– Using MyFitnessPal to track intake/output.
– Increase physical activity – walking, some home exercises.
– Increasing fruits/vegetables.
– Regulating portion sizes.
– Family purchased gym membership.
– Sleeping 12 hours per night.
– HHQ: Activity some days, 30-60 minutes.

Goals:

• Continue current goals

Follow up in 3 months

<table>
<thead>
<tr>
<th></th>
<th>Visit #1</th>
<th>Visit #2</th>
<th>Visit #3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Height</strong></td>
<td>182 cm</td>
<td>183.2 cm (6’0”)</td>
<td>183.8 cm (6’0.3”)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>122 kg (269 lb)</td>
<td>128 kg (280 lb)</td>
<td>123 kg (272 lb)</td>
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<td><strong>BMI</strong></td>
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<td>36.53 (141% of 95th)</td>
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</tbody>
</table>
Case # 2: Visit #4
Seven months from first visit

Reported changes
– Using MyFitnessPal to track intake/output.
– Regular meals/snacks, drinking water.
– Increase physical activity – walking, gym three times per week, strength training, home weight/aerobic activity.
– Increasing fruits/vegetables – two to three servings per day.
– Regulating portion sizes.
– Lean meats.
– Sleep better this school year.
– HHQ: activity most days, 30-60 minutes.

Goals:
– Continuing working plan.
## Case #2

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Month 7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Height</strong></td>
<td>182 cm (5’11”)</td>
<td>184.2 cm (6’0.5”)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>122 kg (269 lb)</td>
<td>117 kg (257 lb)</td>
</tr>
<tr>
<td><strong>BMI</strong></td>
<td>36.86 (144% of 95th)</td>
<td>34.42 (132% of 95th)</td>
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</tbody>
</table>
Tools for exercise

• Encourage family-based change.
  – Family walk after dinner.
  – Family gym membership use.
  – Family challenges: Fitness trackers/step counting/circuit training.
  – Use local parks and Metroparks.
  – Everyday changes when shopping.

• Challenge families to set a specific goal.
  – 1,000 hours outside 2021 challenge – Visit 1000hoursoutside.com.
  – Set a mileage goal.

• Small changes, done consistently, will add up.
Tools for Exercise: Videos, Apps, You Tube

• Exercise Videos/You Tube
  – Go Noodle
  – Cosmic Kids yoga.
  – Beachbody/Get Fit.
• Apps for smart phones/tablets
  – Increase Steps:
    • Pokémon Go, Harry Potter Wizards Unite, Zombie Run.
    • Geocaching.
  – Exercise:
    • My Fitness Pal.
    • iPhone – Health app – track step.
    • Under Armor.
    • Sworkit Kids.
    • Nike Training Club.
    • Kids Exercise – Animal Workout.
AAP Guidance: Return to sports and physical activity during COVID-19 pandemic

• Encourage routine physical activity.
• If you've had more than 1 month off, start slowly and increase (25% of usual volume/intensity).
• Sports physical (PPE) should include COVID-19 history/vaccination status.
• Sport, physical activity and setting influence risk of transmission. Must be assessed at the local level.
• Small pods, focus on conditioning, cleaning surfaces, hand hygiene.
• Face Masks – Depend on the sport, location/activity, vaccination status.
• Testing – Symptomatic or exposure, antibody testing – not recommended.
• Vaccination – Recommended.
• If you're an athlete who has had COVID-19, follow return-to-play guidance.
## COVID-19 + athletes: AAP Guideline

<table>
<thead>
<tr>
<th>Asymptomatic/mild symptoms</th>
<th>Moderate symptoms</th>
<th>Severe symptoms</th>
</tr>
</thead>
</table>
| **•** < 4 days, fever < 100.4.  
**•** < 1 week myalgia/chills/lethargy. | **•** ≥ 4 days, fever >100.4.  
**•** ≥ 1 week myalgia/chill/ lethargy.  
**•** Non-ICU, No MIS-C. | **•** ICU or MIS-C |
| Appointment with PCP by phone/telemedicine- screening: CP, SOB >, new onset palpitations, syncope.  
In-office visit: PE, +/- EKG for clearance. | PCP evaluation – post symptoms/quarantine.  
14 element screening, PE, EKG. | Exercise restricted 3-6 months. |
| **•** No exercise until cleared.  
**•** < 12 years old: as tolerated.  
12+: Return-to-play protocol 7 days minimum. | **•** (-) Cardiac eval = gradual return after 10 days (+ and no symptoms).  
**•** (+) Cardiac eval or + EKG = Cardiology referral. | **•** Cardiology clearance needed. |
AAP guidelines for return to sports and physical activity after COVID-19 infection

• **Stage 1 (Days 1 & 2):** 15 minutes or less, light activity, no resistance; 70% HR max
• **Stage 2 (Day 3):** 30 minutes or less, simple movement – run/drills; 80% HR max.
• **Stage 3 (Day 4):** 45 minutes or less, more complex training, add light resistance; 80% HR max.
• **Stage 4 (Days 5 & 6):** 60 minutes or less, normal training; 80% max HR.
• **Stage 5 (Day 7):** Return to full participation.

• Consider starting a Walk With a Doc Chapter from your clinic.
  • Invite families to join you and your team on a walk at different times during the year.
  • Promote the virtual Walk With a Doc challenges to your families.
REMEMBER ...

- If you quit now, you’ll end up back where you FIRST began.

- When you first began, you were desperate to be RIGHT WHERE you are now.

- Just keep going!
Brain/Movement Break

Research shows that moving a minimum of three minutes every hour can lead to:

• Increased energy.
• A clearer mind.
• Improved mood.
• Higher metabolism.
• Improved response to insulin.
• Increased blood flow.
• Improved posture.
Objective 4

Brief overview of how motivational interviewing helps set you up for a successful visit.
Motivational Interviewing: A *BRIEF* Overview

- According to founders William Miller and Stephen Rollnick, *motivational interviewing* is a collaborative, person-centered form of guiding to elicit and strengthen motivation to change in a counseling setting.

- While the clinician guides the work in a particular direction, *motivational interviewing* should aim to inspire the patient to create and formulate a plan for moving toward appropriate therapeutic goals for himself or herself.
Four fundamentals of motivational interviewing

- **Engaging**: the relational foundation
- **Guiding**: the strategic focus
- **Evoking**: the transition to motivational interviewing
- **Planning**: the bridge to change. Negotiating a change plan, consolidating commitment
Engaging

Establish a relationship with the patient/family through **RULE:**

**R:** Resist the righting reflex.

**U:** Understand the patient's own motivations.

**L:** Listen with empathy.

**E:** Empower the patient.
Guiding

• Once the client has been engaged, the clinician can focus on what needs to change or the “change target.”
• The clinician does not tell the client what or how they need to change but rather plays an active role in guiding the client toward the target.
  – This is where you share the objective data you have access to such as family history, labs, physical exam findings.
• Allow the patient/family to “zoom in” on the treatment target based on what they feel is most important.
Evoking

• Evoking involves discovering the client’s personal interest in and motivation to change.

• Use “OARS” to help further change talk.
  
  **O:** Open questions.
  
  **A:** Affirming clients’ strengths.
  
  **R:** Reflecting to clients what they may wish to express but have not yet spoken aloud.
  
  **S:** Summarizing what has occurred in the therapeutic interaction.
Planning

• The plan comes from the patient/family and is based on their unique life/situation.
  – Attempts to “take the reins” during the planning process may undermine patient/family empowerment.

• So where does your expertise as the provider come in?
  – Not all families will have a plan of their own.
  – If your advice is wanted, your input can be a valuable part of helping to create a plan.
    • If you’re not sure if your advice is wanted, ask!
Objective 5

- Tailor counseling patient.
- Subjective/objective findings.
Weight/Height/BMI

• It is vital to review the growth chart at every check-up, regardless of the patient’s BMI.
• Alert parents to whether the BMI is normal and whether there is an upward or downward trend over the past year.
• However, you will NOT use this data to tailor counseling.
Family History

Great way to engage family and tailor counseling.

• Diabetes.
• High blood pressure, heart disease.
• PCOS.
• Sleep Apnea.
• Other.
Physical Exam: Common Findings

- Acanthosis nigricans
- Abdominal striae
- Hirsutism
- Tonsillar Hypertrophy
- Pseudo/Gynecomastia
- Blount’s Disease
Metabolic Labs

- Lipid Panel
  - Total Cholesterol
  - Triglycerides
  - LDL
  - HDL
- Liver Enzymes
  - AST/ALT/GGT
- Diabetes Screening Labs
  - Hgb A1c/Fasting
  - Insulin/Glucose
Triglycerides OR Hgb A1c

• Limit simple carbohydrates: white bread, white rice, pasta and tortillas.

• Kids should have less than 25 grams (6 teaspoons) of added sugar per day.
  - Limit sodas, fruit juices, baked goods, snack cakes, cereals, candy, ice cream, and cookies.
  - 12-ounce Gatorade (small) = 21 grams added sugar
Video on Sugar

This is Catherine Anthony, Registered Dietitian at Cincinnati Childrens
### GREEN
Have More Often

#### GRAIN FOODS (Breads, Cereals, Pasta & Rice)

<table>
<thead>
<tr>
<th>Green Foods</th>
<th>Yellow Foods</th>
<th>Red Foods</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Breads - 100% Whole Wheat or Whole Grain</strong>&lt;br&gt;Bagel Bread Bun English muffin Pita Tortilla</td>
<td><strong>Cereals (Hot and Cold)</strong>&lt;br&gt;6 grams or less of sugar AND 4 grams or more of fiber&lt;br&gt;Examples: Old-fashioned oatmeal; Fiber One (original &amp; chocolate); Shredded Wheat, Wheat Chex</td>
<td><strong>Breads - made with White Flour</strong>&lt;br&gt;Bread Biscuits Buns Croissants Muffins Rolls French Toast Fried Taco Shells Breakfast Pastry- (even if whole grain)&lt;br&gt;Donuts Pop tarts Toaster Strudel Cereals (Hot and Cold)&lt;br&gt;10 grams or more of sugar OR less than 2 grams of fiber&lt;br&gt;Examples: Flavored instant oatmeal, Cinnamon Toast Crunch, Special K Crackers - made with white flour (examples: saltines, Ritz, even low fat)&lt;br&gt;Pancakes &amp; Waffles - made with white flour&lt;br&gt;Examples: Fleet &amp; Active Light &amp; Crispy Vitality; Kellogg's Nutri-Grain Bar (Chocolatey Crunch)</td>
</tr>
<tr>
<td><strong>Cereals (Hot and Cold)</strong>&lt;br&gt;2 grams or more of fiber&lt;br&gt;Examples: Cheerios, Multi Grain Cheerios, Life, Wheaties</td>
<td><strong>Pancakes &amp; Waffles</strong>&lt;br&gt;Pancakes made whole wheat mix&lt;br&gt;Whole wheat toaster waffles</td>
<td><strong>Rice - Brown, Basmati, Converted (parboiled), Long grain, Wild</strong>&lt;br&gt;Snack Bars – have to meet 2 of the 3 criteria listed for bars on the Green list&lt;br&gt;Examples: Fit &amp; Active Light &amp; Crispy Vitality; Kellogg's Nutri-Grain Bar (Chocolatey Crunch)</td>
</tr>
<tr>
<td><strong>Snack Bars –</strong>&lt;br&gt;3 grams or more of fiber AND 3 grams or more of protein&lt;br&gt;Examples: Kellogg's Special K Protein Granola, Nature Valley Protein (Peanut, Almond Chocolate)</td>
<td><strong>Rice - Instant, Processed (Rice-A-Roni, Uncle Ben's, Lipton)</strong>&lt;br&gt;Short grain, White Snack Bars – meets only 1 of the 3 criteria listed for bars on the Green list&lt;br&gt;Examples: Fiber Now (Oats &amp; Chocolate); Nutri-Grain Apple Cinnamon</td>
<td><strong>Rice - Instant, Processed (Rice-A-Roni, Uncle Ben's, Lipton)</strong>&lt;br&gt;Short grain, White Snack Bars – meets only 1 of the 3 criteria listed for bars on the Green list&lt;br&gt;Examples: Fiber Now (Oats &amp; Chocolate); Nutri-Grain Apple Cinnamon</td>
</tr>
</tbody>
</table>
Elevated Liver Enzymes

• Decrease carbohydrates.
• Focus on avoiding foods and drinks that contain large amounts of fructose.
  – Soft drinks/sodas, sports drinks, sweetened tea, juices.
  – Fructose changes blood-sugar levels much more gradually than glucose and doesn’t seem to impact insulin levels, and thus does not induce leptin, meaning you won’t feel full.
  – Unlike glucose, which is processed throughout the whole body, fructose is almost entirely metabolized by the liver. Overconsumption can cause fatty liver.
Triglycerides OR LDL

Reduce the saturated fat and trans fat content of your diet.

- Limit fatty meats (aim for 3 grams or less per ounce).
- Avoid deep frying, fast food.

<table>
<thead>
<tr>
<th>GREEN</th>
<th>Have More Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lean, unprocessed meat (Round, Sirloin)</td>
<td></td>
</tr>
<tr>
<td>Ground meat (≥90% lean)</td>
<td></td>
</tr>
<tr>
<td>Chicken &amp; Turkey (skin removed)</td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td></td>
</tr>
<tr>
<td>Canadian bacon</td>
<td></td>
</tr>
<tr>
<td>Lunchmeat (less than 3 grams or less fat/ounce)</td>
<td></td>
</tr>
<tr>
<td>Vegetarian burger (Boca Burger)</td>
<td></td>
</tr>
<tr>
<td>Eggs</td>
<td>Beans (all kinds)</td>
</tr>
<tr>
<td>Hummus</td>
<td>Lentils</td>
</tr>
<tr>
<td>Nuts; Nut Butters-peanut, almond, etc</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>YELLOW</th>
<th>Choose NO MORE THAN 2 servings a day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground meat (85% lean)</td>
<td></td>
</tr>
<tr>
<td>Meat (e.g. beef, pork) – chuck</td>
<td></td>
</tr>
<tr>
<td>Turkey sausage (low-fat)</td>
<td></td>
</tr>
<tr>
<td>Turkey bacon (low-fat)</td>
<td></td>
</tr>
<tr>
<td>Chicken nuggets – baked</td>
<td></td>
</tr>
<tr>
<td>Fish sticks – baked</td>
<td></td>
</tr>
<tr>
<td>Lunchmeat (4-7 grams fat/ounce)</td>
<td></td>
</tr>
<tr>
<td>Vegetarian burger (Garden Burger)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RED</th>
<th>Limit to NO MORE THAN 7 servings per week NO MORE THAN 2 servings per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacon</td>
<td></td>
</tr>
<tr>
<td>Baked beans (in sauce)</td>
<td></td>
</tr>
<tr>
<td>Chicken, Turkey with skin; fried chicken</td>
<td></td>
</tr>
<tr>
<td>Flavored nut butters (such as Nutella)</td>
<td></td>
</tr>
<tr>
<td>Fish – fried</td>
<td></td>
</tr>
<tr>
<td>Goetta</td>
<td></td>
</tr>
<tr>
<td>Lunchmeat with ≥8 grams fat/ounce (e.g. bologna, salami)</td>
<td></td>
</tr>
<tr>
<td>Meat (e.g. beef, pork) – brisket, ribs, corned beef</td>
<td></td>
</tr>
<tr>
<td>Pork chops - fried</td>
<td></td>
</tr>
<tr>
<td>Sausage</td>
<td></td>
</tr>
</tbody>
</table>
HDL

• HDL is the "good" cholesterol because it helps remove other forms of cholesterol.
• Higher levels of HDL are associated with a lower risk of heart disease.
• Benefits can be seen with as little as 60 minutes of moderate intensity aerobic exercise a week.
  ○ More is better though!
Now, it's time to make a plan in the one minute you have left during the well visit...
Plan Part 1: Focus on **ONE** change today.

- You don’t need to fix everything in one visit.
- Ask the family if there is one area they want to work on after your discussion.
  - If the family doesn’t self-identify an area, sugary drinks is a great place to start.
Sugary drinks have a negative impact because ...

• The most obvious: the excess calories from sugar.
• The less obvious:
  – Does not lower hunger hormone ghrelin, as much as sugar from starchy foods does.
  – Does not induce leptin. You still feel hungry when you shouldn’t be hungry.
  – Causes rebound increase in ghrelin, which drives hunger to increase more.
Replace sugary beverages with the following:

HEALTHIER BEVERAGE OPTIONS

- Water (flat, not carbonated).
- Low-fat milk.
- Fresh fruit soaked in water.

If you must ...
- Sugar-free drinks.
  - No calories, but remember, these drinks increase hunger.
Remember to make goals SMART

SMART GOALS EXPLAINED

**SPECIFIC**
Be clear and specific so your goals are easier to achieve. This also helps you know how and where to get started!

**MEASURABLE**
Measurable goals can be tracked, allowing you to see your progress. They also tell you when a goal is complete.

**ACTIONABLE**
Are you able to take action to achieve the goal? Actionable goals ensure the steps to get there are within your control.

**REALISTIC**
Avoid overwhelm and unnecessary stress and frustration by making the goal realistic.

**TIMEBOUND**
A date helps us stay focused and motivated, inspiring us and providing something to work towards.
Assess readiness

Number chosen is not as important as the discussion about why a number is not lower (indicating motivation) or higher (indicating barriers).

If confidence less than 7, REVISE GOAL!
What is a win?

Weight loss?
Sometimes, but not always.
There are many other endpoints that can be wins ...
## Pediatric weight-loss expectations

<table>
<thead>
<tr>
<th>Age group/BMI</th>
<th>Weight Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2-5 years</strong></td>
<td></td>
</tr>
<tr>
<td>85-94%</td>
<td>Weight maintenance</td>
</tr>
<tr>
<td>≥ 95%</td>
<td>Weight maintenance</td>
</tr>
<tr>
<td>≥ 99% or 120p95</td>
<td>Weight Loss – 1 pound per month</td>
</tr>
<tr>
<td><strong>6-11 years</strong></td>
<td></td>
</tr>
<tr>
<td>85-94%</td>
<td>Weight maintenance</td>
</tr>
<tr>
<td>≥ 95%</td>
<td>Weight loss – 1 pound per month</td>
</tr>
<tr>
<td>≥ 99% or 120p95</td>
<td>Weight Loss – 2 pounds per week MAX</td>
</tr>
<tr>
<td><strong>12-18 years</strong></td>
<td></td>
</tr>
<tr>
<td>85-94%</td>
<td>Variable (depends on weight/puberty)</td>
</tr>
<tr>
<td>≥ 95%</td>
<td>Weight Loss – 2 pounds per week MAX</td>
</tr>
<tr>
<td>≥ 99% or 120p95</td>
<td>Weight Loss – 2 pounds per week MAX</td>
</tr>
</tbody>
</table>
What ELSE is a win?

<table>
<thead>
<tr>
<th>Weight maintenance/BMI stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved PBF</td>
</tr>
<tr>
<td>Improvement in labs</td>
</tr>
<tr>
<td>Improved blood pressure</td>
</tr>
<tr>
<td>Increased endurance</td>
</tr>
<tr>
<td>Improved nutrition</td>
</tr>
<tr>
<td>Increased minutes of exercise</td>
</tr>
</tbody>
</table>
Case Study

17-year-old male

• Overweight BMI starting at ≤ age 4
• Had made attempts at weight loss in the past, but reports “nothing stuck.”
• Self-motivated to make changes now.
Case Study: History

• Skips breakfast.
• Eats overnight sometimes when up late playing video games, but does not wake up only to eat.
• Eats 1-2 fruits/vegetables combined per day.
• Sleeps 8 hours per night most nights.
• Occasionally naps.
• Plays basketball a couple days per week with friends (1 hour).
• ~ 5,000 steps per day.
Case Study: History and Impacts

• Skipping breakfast → Increased Ghrelin
• Some overnight eating (likely due to earlier meal skipping) → Increased glucose intolerance
• 1-2 fruits/vegetables combined per day → Increased hunger, as fiber makes you full from volume and time for digestion
• Sleeping 8 hours → Meeting guidelines here (as long as he is not waking to eat in this 8 hours).
• Occasionally napping (disturbing the circadian rhythm) → Increased Ghrelin
• Playing basketball a couple days a week with friends, ~ 5000 steps per day → Inadequate NEAT and EAT activity → Lack of use of calories that are supposed to be attributed to physical activity → Weight gain
## Goals at Visit 1

### Nutrition Goals
- Will track via MyFitness Pal for two weeks.
- Goal is around 2,000-2,200 calories.
- Will check in with dietitian after two weeks.
- *This plan is for a 17-year-old male, remember, not a prepubertal child.*
- Will work on a consistent meal pattern.
  - 3 meals, 1 snack per day
  - No eating overnight.

### Physical Activity Goals
- 5 times per week, 40 minutes of exercise (20 minutes of cardio, 20 minutes of strength).
- Takes breaks from screens every hour (5 minutes).
- Stop napping.
Dietitian check-in at two weeks

• Tracked for 1.5 weeks and was at goal with calories and feeling full.
• Stopped tracking, as foods were consistent day to day.
• Barriers identified: eating when out with friends.

New goal: Eat before going out with friends so decreased hunger. If hungry when out, stick to single portion of carbohydrate.
Visit 2
Lost 14 pounds in 8 weeks (1.75 pounds per week).
Management of the Toddler with Obesity: 2-4 Years

- Active play almost constantly
- Minimal sedentary time
- No screen time < 2 years, < 1 hour/day for 2-4 years

Behavior and Sleep

- Routine sleep pattern
- No TV in bedroom
- 11-14 hours of sleep
- All meals at the table/highchair
- Parents as role models
- Food not used as reward
- Parents should not be over-controlling
- Family-based therapy

Intake

- Three meals plus snack(s)
- 3 servings of protein (1-3 oz)/day
- 2-2.5 cups dairy/day
- 3 servings non-starchy vegetables (3/4 cup to 1.5 cups)/day
- 1 cup/day of fruit
- Dessert only on special occasion
- NO sugar-sweetened beverages
- NO fast food
- Age-appropriate portion sizes
- Praise for trying new foods

Activity

- Parents should not be over-controlling
- Family-based therapy

Management of the Young Child with Obesity: 5-9 Years

- Minimize obesogenic medications especially second-generation antipsychotics (SGAPs)
- Treat asthma with controller meds to minimize systemic steroid use
- Consider ACE inhibitor for persistent hypertension

- Screen time < 1-2 hours
- Routine sleep pattern
- No TV in bedroom
- 11-14 hours of sleep
- All meals at the table
- Parents as role models
- Parents should not be over-controlling
- Sleep study if severe obesity and/or symptoms
- Tonsillectomy and adenoidectomy if indicated

- Three meals; 1-2 snacks
- 3 servings of protein/day
- 2-3 servings of dairy/day
- 1.5-2 servings of fruit/day
- 4-5 servings non-starchy vegetables
- Dessert only on special occasion
- NO sugar-sweetened beverages
- NO fast food
- Age-appropriate portion sizes
- Praise for trying new foods
- Consider LGI/reduced-CHO diet

- Moderate to vigorous activity for 60 minutes or greater each day; can be organized or not

Management of the Pubertal Child with Obesity: 10-14 Years

- Orlistat (Xenical) FDA-approved for ≥ age 12
- Minimize obesogenic medications, especially SGAPs
- Treat asthma with controller meds to minimize systemic steroid use
- Consider ACE inhibitor for persistent hypertension
- Metformin FDA-approved for T2DM ≥ age 10 and PCOS

- Orlistat (Xenical) FDA-approved for ≥ age 12
- 3 meals; 1-2 nutritious snacks
- 3 servings of protein/day
- 3 servings of dairy/day
- 1.5-2 servings of fruit/day
- 4-5 servings of non-starchy vegetables
- Dessert only on special occasion
- No sugar-sweetened beverages
- No fast food
- Age-appropriate portion sizes
- Allow child to leave food on plate

- Screen time less than 1-2 hours/day
- 10-12 hours of sleep
- Routine sleep pattern
- No TV in bedroom
- Parents should not be over-controlling
- Peer groups become increasingly important
- All meals at the table with family and encourage socialization
- Recommend meal and exercise tracking

- Vigorous activity for 60 minutes or more daily; can be organized or not
- Monitor for changes in decreased activity level
- Decrease non-academic sedentary time as much as possible

QUESTIONS?
PMP Resources

Ohio AAP PMP Mobile App

- Search Parenting at Meal and Playtime on Apple Store or Google Play

App Highlights:

- Physician-endorsed materials for parents to access on-demand
- Resources for parents organized by age
- Text reminders sent monthly and/or for age milestones
- Easy sign-up
- Videos on feeding, play, nutrition and more

http://ohioaap.org/pmp-resources/
Register for the PMP Toolkit

https://www.surveymonkey.com/r/PMPToolkitReg
Additional References

2. https://nccd.cdc.gov/
5. https://doi.org/10.3390/children8020135
6. https://doi.org/10.1542/peds.2021-050123
7. https://doi.org/10.1186/s12889-020-09429-3