



# Zone 1 - Nutritional Concerns for Players 6-11

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ACP Nutrition

# About Angel Planells

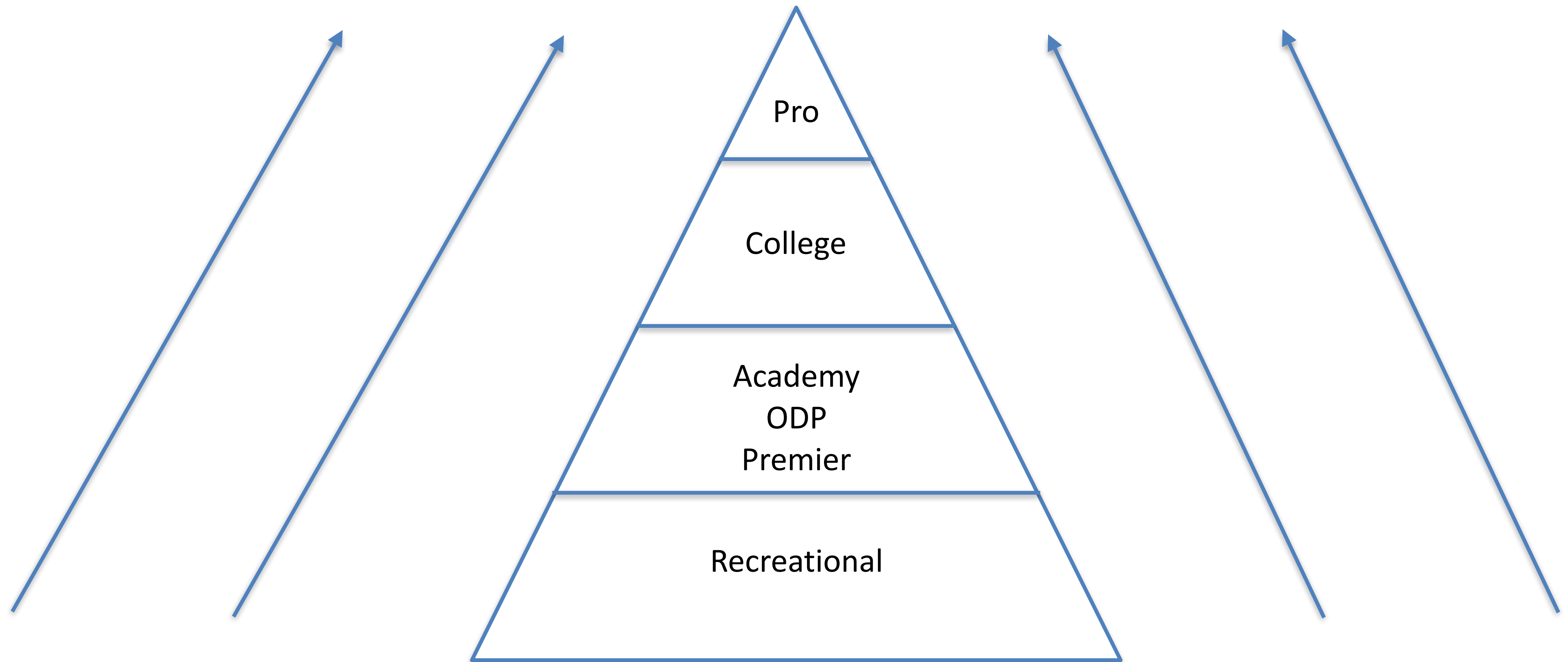
- Soccer Coach for 18 years - USSF C License, USYS National Youth License
  - Emerald City Football Club - Development Director
  - Louisiana, New York, Washington State
- Nutrition/Health
  - Media Spokesperson for the Academy of Nutrition & Dietetics
  - Veterans Health Administration
  - ACP Nutrition
- Education
  - Columbia University - M.S. Nutrition & Exercise Physiology
  - Tulane University - B.S. Exercise & Sports Sciences, B.S. Psychology



# Overview of the session

- Why the focus on youth players ages 6-11
- Snapshot of food/health in America
- Nutrition and the Beautiful Game
- Pediatric Nutrition
  - Body Stature/Body Image
- Nutrition Concerns for the youth soccer player
- Fueling Tactics for Championship Performance

# Why I became interested in Sports Nutrition?



# Why the Focus on Players Under 12 (Soccer)

- From the US Youth Soccer Player Development Initiatives
- US Youth Soccer made changes for players under 12
  - The coaching/playing environment needs to be improved for 6-12 year olds
    - Priority on developing skills
    - Kids under the age of 12 don't win World Cups
- Mastery of craft => Greater satisfaction => success at your highest level of play

# Why the Focus on Players Under 12 (Nutrition)

“I believe the children are our future, teach them well, and let them lead the way...”

Whitney Houston - “Greatest love of all”

Why do we eat?

Anyone in the crowd

# Why do we eat?

- Hunger/Appetite
- Stressed out
- Fuel
- Boredom
- Budget
- Metabolism/Hormonal fluctuations
- Medications
- Nostalgia



Don't be discouraged  
about the next 10 slides

I am sorry in advance

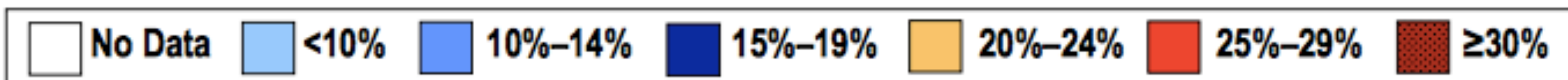
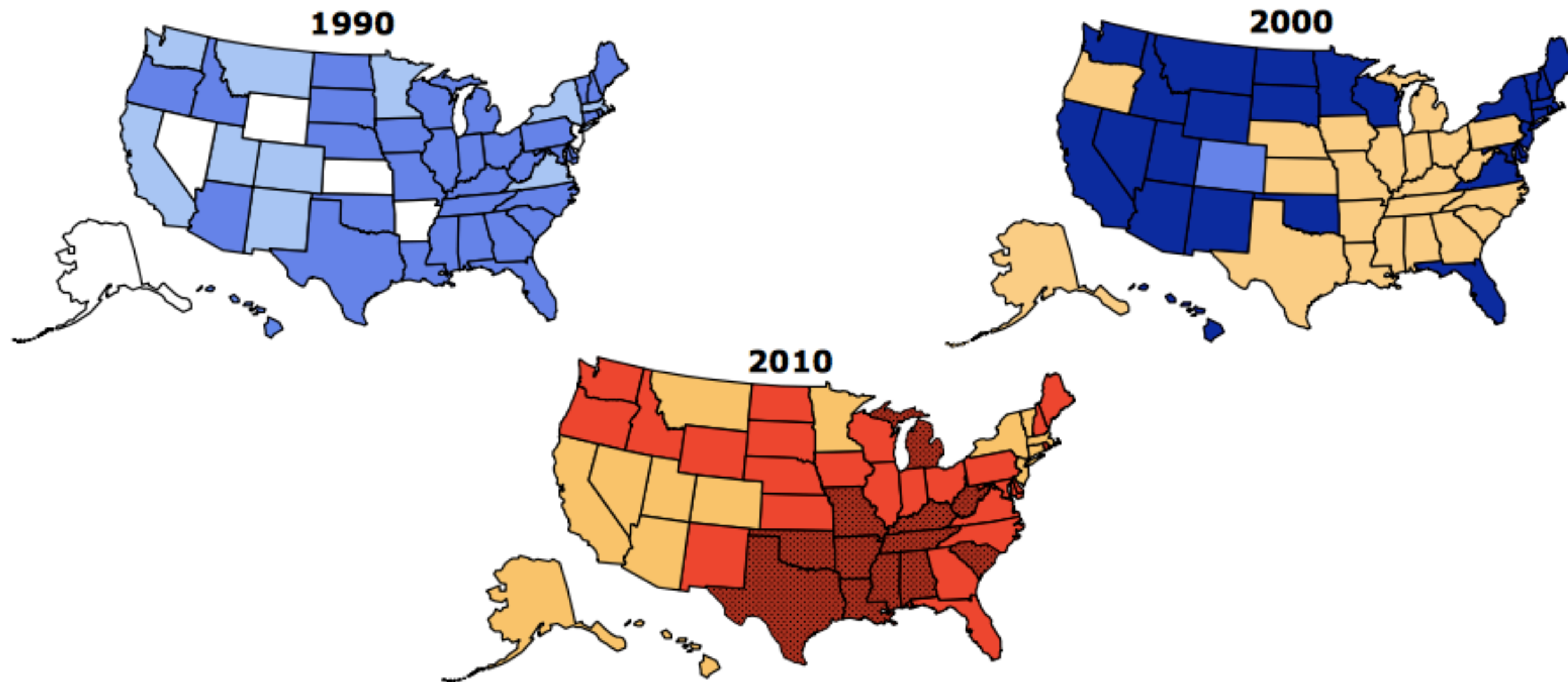
# Adults

- How are we doing as adults in America?
  - ~50% of adults (117 million) have one or more preventable, chronic diseases
    - Poor dietary quality and physical inactivity
    - 2009-2012 - 65% of females, 73% of males are overweight/obese
    - Rates are rising with increased health risks and more health care costs
      - 2008 - Obesity \$147 billion
      - 2012 - Diabetes - \$245 billion (\$176 billion direct care/\$69 billion in decreased productivity)
  - Are our role models failing us?

# Obesity Trends\* Among U.S. Adults

## BRFSS, 1990, 2000, 2010

(\*BMI  $\geq 30$ , or about 30 lbs. overweight for 5'4" person)



Source: Behavioral Risk Factor Surveillance System, CDC.

# Are parents at fault?!

- Money
  - Cost of living
  - Cost of food
  - Cost of raising kids
  - Debt - credit cards, student loans, mortgage
- Lack of time
  - Dual income families
  - Over-scheduled kids
- Helicopter Parents
- Research on raising/safety of kids
- Confusion about what to eat

# Our current food environment

- Cooking has become a lost art
  - Home economics in school
  - Loss of culture/identity
  - Traditional Gender roles
- As consumers, we crave convenience and taste
  - TV Dinners, packaged foods, vending machines, Fast-Food Restaurants
    - High-fat, High-sodium, High-Sugar
- Media
  - In 2013, fast food spent \$6.45 billion in advertising
  - How often do you see an ad for a fruit or vegetable?
  - Dairy (Got Milk, Nesquik)/Yogurt (Activia/Dannon Oikos) ads

# What about kids?

- The plugged-in generation
  - Instant Gratification
- Participation Trophies
  - Expertise with no experience
- Lack of grit
- Food habits - very impressionable time of life
  - Parents/peers

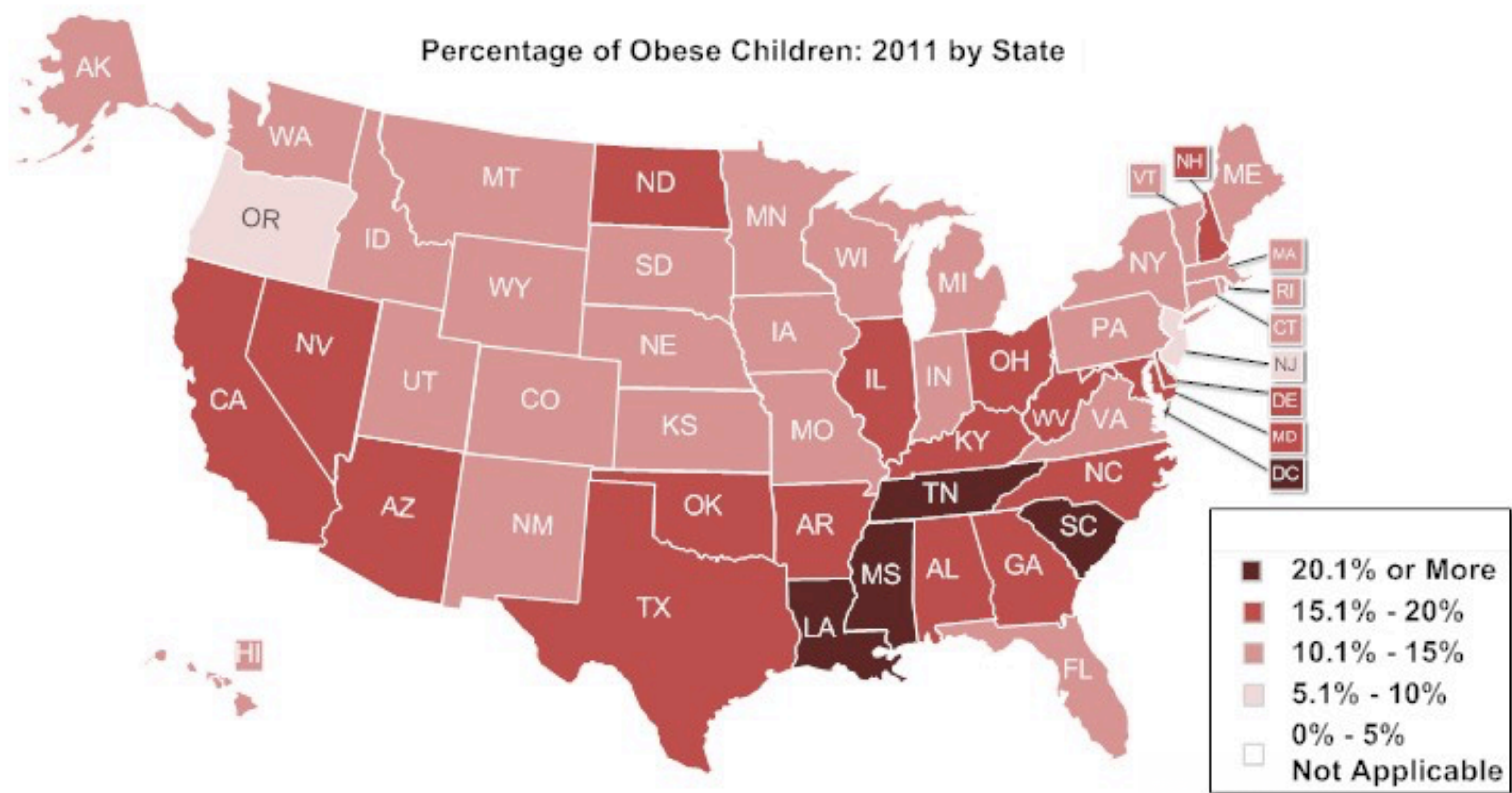
# Childhood Obesity

- Childhood obesity has more than doubled in children over the past 30 years
- 1980 - percentage of kids 6-11 was 7%
- 2012 - percentage of kids 6-11 was 18%
- >33% of kids and adolescents are classified as either overweight or obese





Percentage of Obese Children: 2011 by State



# Childhood Obesity

- Short-term
  - Increased risk factors for cardiovascular disease (high cholesterol, high blood pressure), pre-diabetes, bone and joint problems, sleep apnea, social and psychological problems
- Long-term
  - Increased risk factor for becoming obese as an adult with risk factors for heart disease, diabetes, stroke, cancer, osteoarthritis
  - Overweight/obesity are associated with increased risk of cancer (breast, colon, esophagus, kidney, pancreas, gall bladder, thyroid, ovary, cervix, prostate)

And we are done  
with the depressing part.

# 5 Guidelines from the Dietary Guidelines for Americans 2015-2020

1

**Follow a healthy eating pattern across the lifespan.** All food and beverage choices matter. Choose a healthy eating pattern at an appropriate calorie level to help achieve and maintain a healthy body weight, support nutrient adequacy, and reduce the risk of chronic disease.

Follow a healthy eating pattern over time to help support a healthy body weight and reduce the risk of chronic disease.

### **A Healthy Eating Pattern Includes:**



### **A Healthy Eating Pattern Limits:**



Saturated Fats  
& *Trans* Fats



Added Sugars



Sodium

2

**Focus on variety, nutrient density, and amount.** To meet nutrient needs within calorie limits, choose a variety of nutrient-dense foods across and within all food groups in recommended amounts.

Choose a variety of nutrient-dense foods from each food group in recommended amounts.

### Example Meal:



Lettuce  
& Celery

Vegetables



Grains



Whole-Grain  
Bread

Apples  
& Grapes

Fruits



Dairy



Fat-Free Milk

Chicken Breast  
& Unsalted  
Walnuts

Protein



Oils



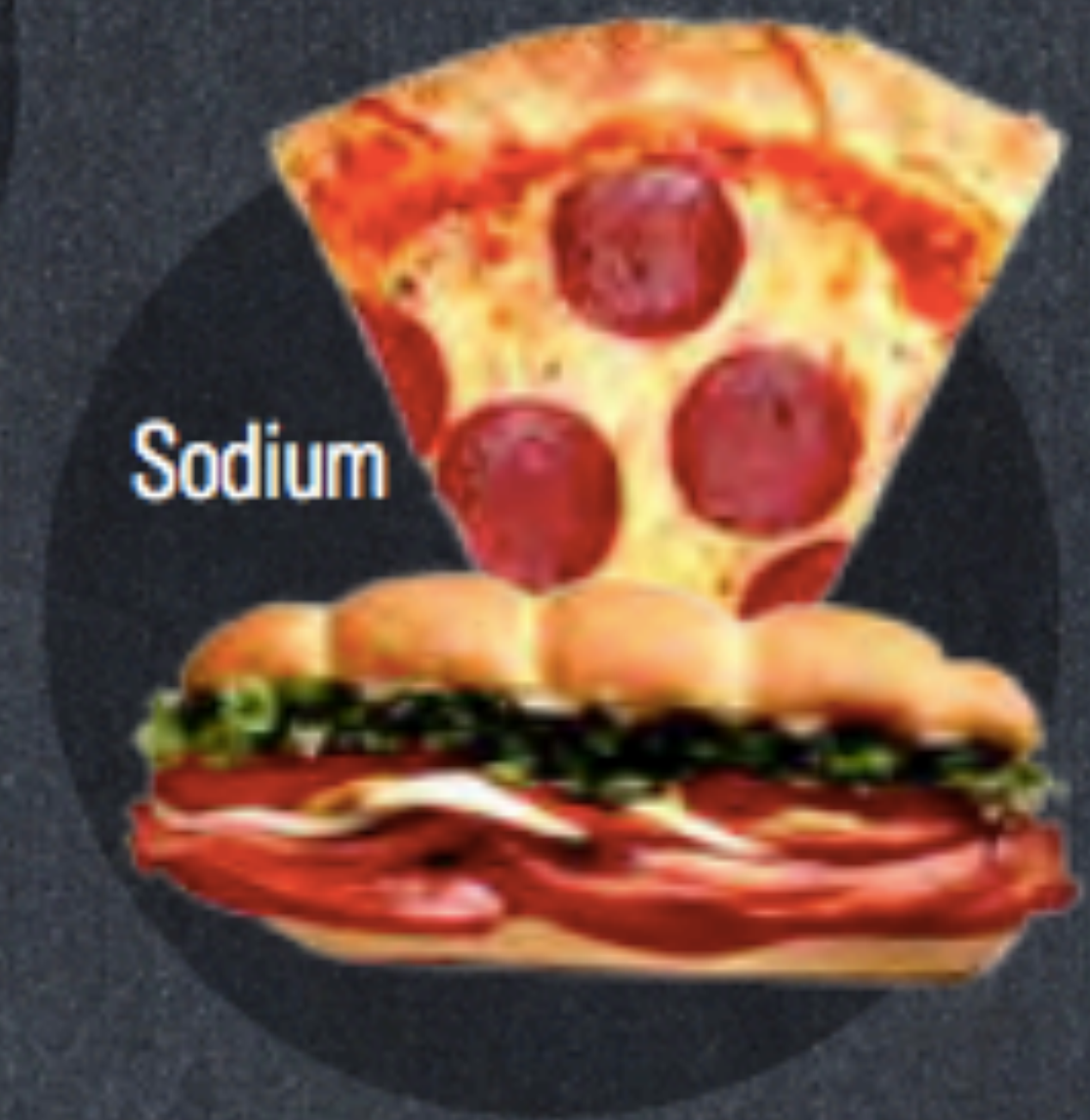
Mayonnaise

**3**

**Limit calories from added sugars and saturated fats and reduce sodium intake. Consume an eating pattern low in added sugars, saturated fats, and sodium. Cut back on foods and beverages higher in these components to amounts that fit within healthy eating patterns.**

Consume an eating pattern low in added sugars, saturated fats, and sodium.

**Example Sources of:**



4

**Shift to healthier food and beverage choices.** Choose nutrient-dense foods and beverages across and within all food groups in place of less healthy choices. Consider cultural and personal preferences to make these shifts easier to accomplish and maintain.

Replace typical food and beverage choices with more nutrient-dense options. Be sure to consider personal preferences to maintain shifts over time.

**Example:**



**Meal A**



**Meal B**



Everyone has a role in helping to create and support healthy eating patterns in places where we learn, work, live, and play.

5

**Support healthy eating patterns for all.** Everyone has a role in helping to create and support healthy eating patterns in multiple settings nationwide, from home to school to work to communities.



# Nutrition at 6-11

- Now & Later
  - Now
    - Optimal growth during the pre-teen years
    - Fueling for performance
  - Later
    - More aware as teenagers, and adults
    - Feel less paralyzed = Make better choices
    - Prevention of disease through good dietary habits and remaining physically active for life

# Nourishment for life

- Childhood is an impressionable time to develop healthful eating habits
- Implications of this time effect the trajectory of our children
  - Lifelong health and wellness as a teen, adult, and older
  - Children will become role models for their own children

# 3 goals for kids

- Goal 1 - Learning skills to make good food choices
- Goal 2 - Listening to body cues to eat the right amount of food
- Goal 3 - already doing it but making active play a part of daily life

# “Trying something new”

- Before offering, talk about the food - color, texture, size, shape, aroma, flavor
- Offer new foods at the beginning of the meal - children are most hungry
- Keep quiet about your own personal dislikes - this may influence your kids
- Keep trying
  - “Maybe you'll like it next time”
  - May take 8-10 times before they learn to like it

# Snacks

- As adults, we may think of decadent foods for snacks
- For kids, this is a great opportunity to help meet their nutrient needs
- Snacks are supplements to meals, not replacements
- Offer snacks 90-120 minutes before mealtime
- Think fun - colors, flavors, textures

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# Snacks

- Grains - animal crackers, unsweetened cereal (with or without milk), bagel, english muffin, graham crackers, pita, rice cake, toast, tortilla, crackers, pretzels
- Dairy - Cheese sticks, pudding, milk, string cheese, yogurt, frozen yogurt
- Vegetables - any raw vegetable (cut in strips or circles); vegetable soup, salsa
- Fruit - any fresh fruit (sliced), canned or frozen fruit, fruit juice, fruit leather, dried fruit, applesauce
- Protein - bean soup, peanut butter, egg, tuna salad, hummus, turkey/meat



# Food to “Chews”

More often	Less often
Baked potato, sweet potato, colorful veggies	French fries, deep-fat fried veggies
Baked or grilled chicken	fried chicken strips/nuggets
Bagels or English Muffins	doughnuts, breakfast pastries
Graham crackers, animal crackers, fig bars	chocolate chip cookies, cupcakes
Pretzels, plain popcorn	most potato chips, cheese puffs
Low-fat milk, 100% fruit juice	soft drinks, fruit drinks
raw vegetable snacks, fruit	candy
frozen yogurt	ice cream

Option A



Option B



I dont even know how that happened...

# SPORTS PERFORMANCE

# Nutrition & the Beautiful Game

- Overlooked part of the game
- Young, free, and careless
- Get away with poor nutritional habits
  
- Over-fueled players
  - Sluggish, decreased flexibility/speed, gain more fat than muscle
- Under-fueled players
  - Lethargic, decreased reaction time/speed, lose both muscle and fat
  - Poor nutrition with suboptimal energy intake can result in iron deficiency, eating disorders, delayed healing

# Activity Levels

- The sport of soccer is high-intensity intermittent exercise
  - Short, intense activity
  - Low-level or moderate intensity activity
- Pace - Sprinting, jogging, walking
- Direction - forward, diagonal, lateral or backwards
- Sports specific - dribble, passing, shooting, receiving, shielding, tackling, jumping, turning, avoiding contact, making contact
  - Heading is missing due to concussion protocol
- **Lots of energy used = calories need to be replaced**

# Duration of Youth Soccer Matches

Youth Soccer Match Duration	Warm-up	Game Time	Total Activity
U6-U8	10-15 minutes	4 * 10 minute quarters	50-55 minutes
U9-U10	20-30 minutes	2 * 25 minute halves	70-80 minutes
U11	30 minutes	2 * 30 minute halves	90 minutes

# Performance Scenarios

- Fit versus unfit
- Player 1 versus Player 2
  - Player 1 - play the full 90 minutes
  - Player 2 - play for 55-60 minutes
- Fit - more efficient during the game
- Nutrition - more efficient fuel utilization, better use of aerobic energy system

# Body Stature 6-11

- Ultimate Question - Can our players perform to the best of their abilities?
- Height
- Weight
- “Optimal” body type for soccer?
  - Professional
- Body Image

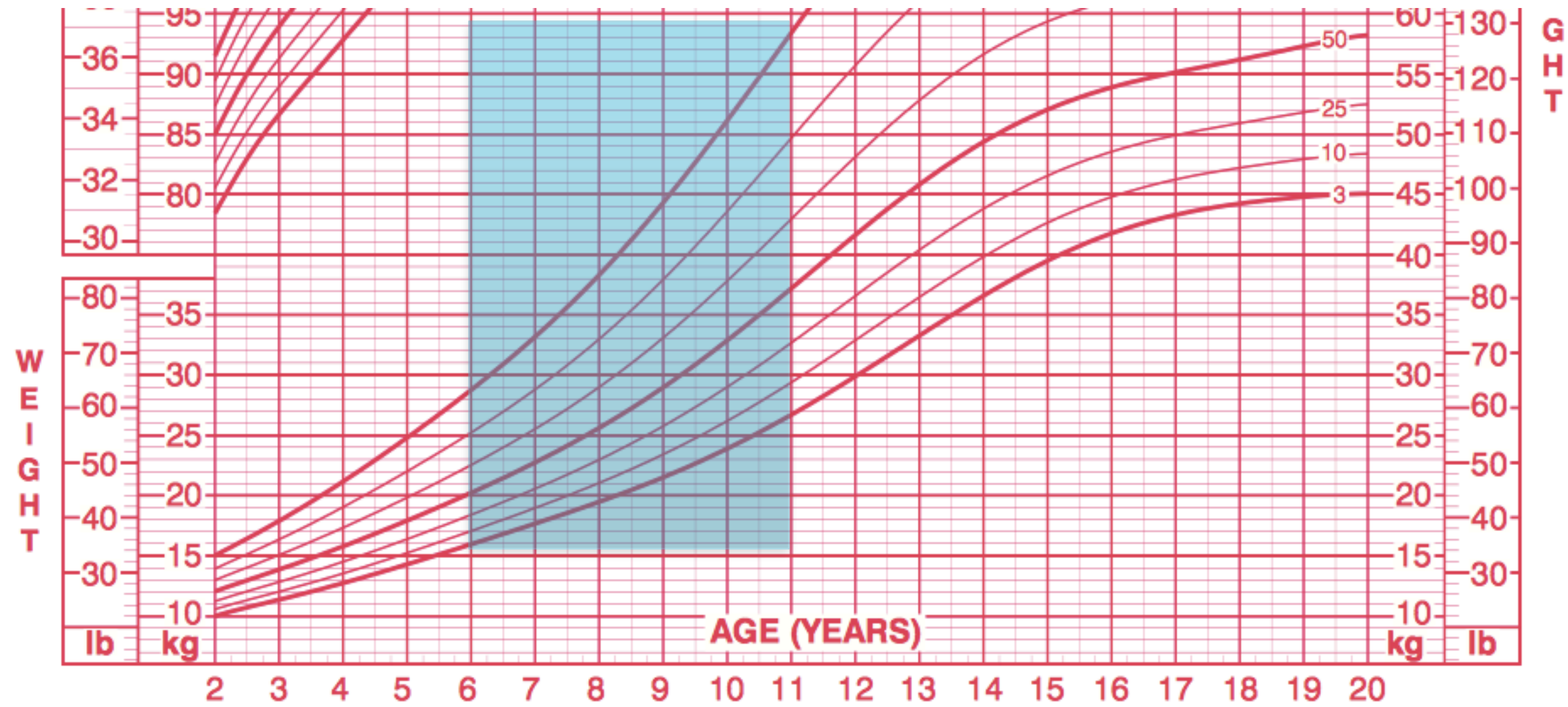
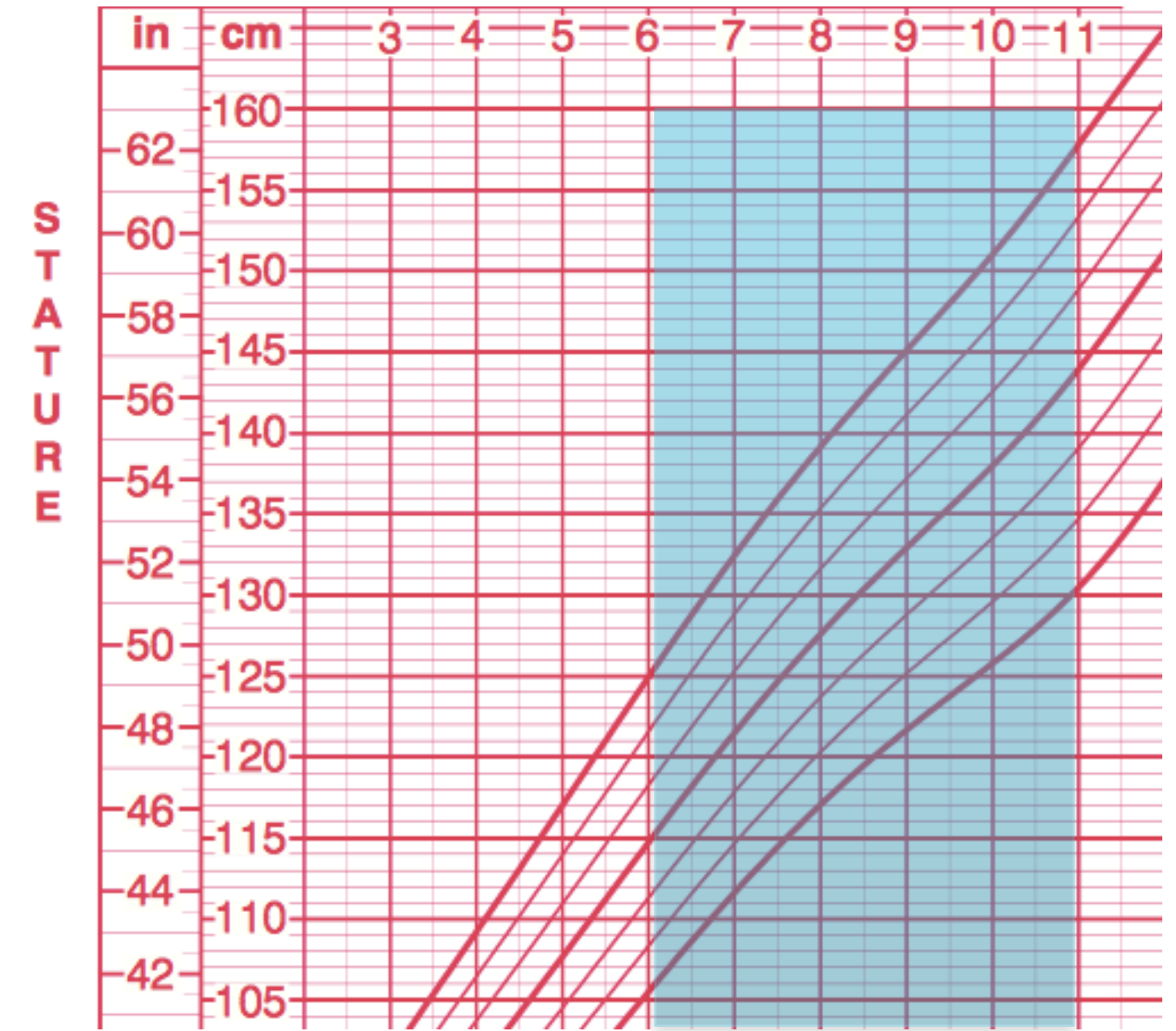
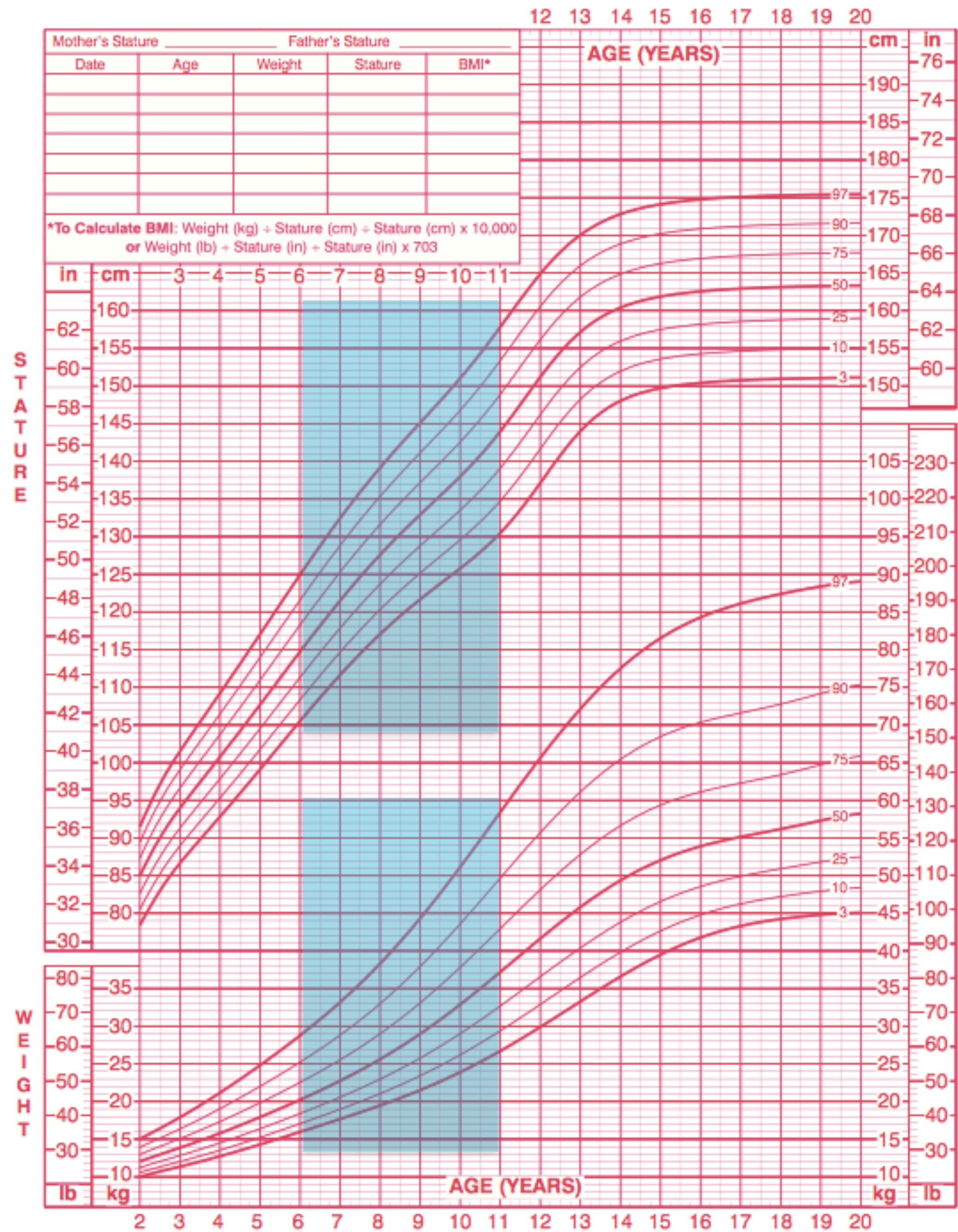




**2 to 20 years: Girls**  
**Stature-for-age and Weight-for-age percentiles**

NAME \_\_\_\_\_

RECORD # \_\_\_\_\_



Boys Height	5%	50%	95%	Difference
6	42"	45.5"	49.5"	7.5"
7	44.5"	48"	51.5"	7"
8	47.5"	50.5"	54.5"	7"
9	48.75"	52.5"	56.5"	7.75"
10	50.5"	54.5"	58.5"	8"
11	52"	56"	61"	9"

Girls Height	5%	50%	95%	Difference
6	42"	45.5"	48.75"	6.75"
7	44.25"	47.5"	51.5"	7.25"
8	46.5"	50.25"	54.25"	7.75"
9	48.5"	52.5"	56.5"	8"
10	50"	54.5"	59"	9"
11	52"	56.75"	61.5"	9.5"

Boys Weight	5%	50%	95%	Difference
6	36#	46#	59#	23#
7	40#	50#	67#	27#
8	46#	56#	77#	31#
9	49#	63#	88#	39#
10	55#	70#	100#	45#
11	60#	79#	114#	54#

Girls Weight	5%	50%	95%	Difference
6	36#	45#	60#	24#
7	40#	49#	68#	28#
8	45#	56#	80#	35#
9	49#	64#	92#	43#
10	53#	72#	104#	51#
11	61#	82#	120#	59#

36" - 3 feet, 42" = 3 feet 6 in, 48" = 4 feet, 54" = 4 feet 6 in, 60 = 5 feet

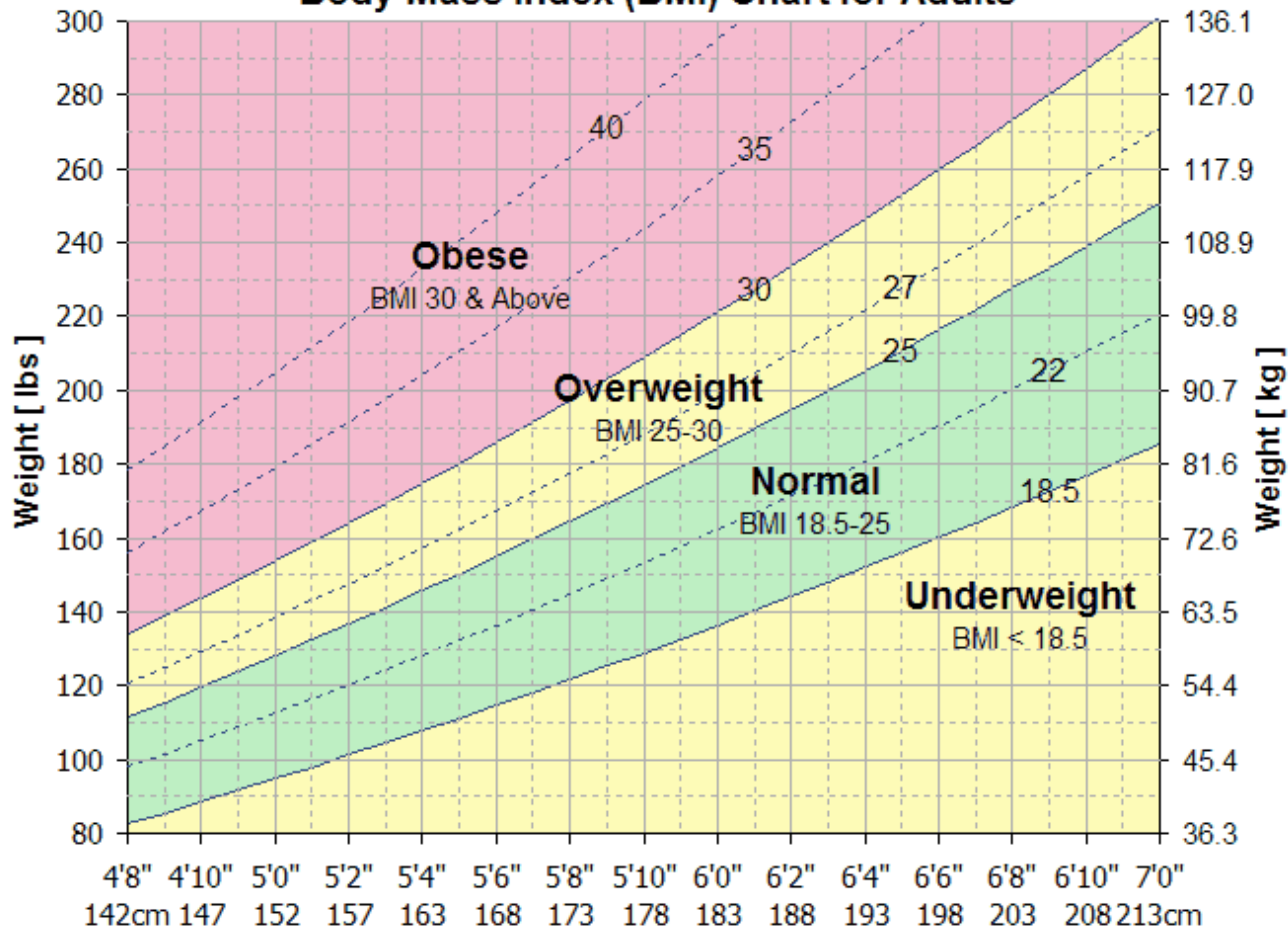


# Body Type for Optimal Performance

Body Type	Height	Weight	BMI
Messi	5'7"	159	24.92
Ronaldo	6'1"	176	24.56
Neymar	5'8"	141	21.45
Luis Suarez	5'11"	187	26.10
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Alex Morgan	5'7"	137	21.47
Carli Lloyd	5'7"	141	22.1
Marta	5'4"	126	21.64
Abby Wambach	5'11"	179	24.98

- Beauty of soccer is that any one can play - tall, short, large, small
- Professionals
  - BMI - normal and lean

# Body Mass Index (BMI) Chart for Adults



# Height

- We can't do anything about height? Or can we
- Genetics versus Environment
- Step 1 - Thank/Blame your parents ;)
- Step 2 - Malnutrition or poor nutrition in the early stages of life can effect height

# Weight

- What about weight?
  - Variability
- Should we care/advise?
  - Yes/No?

# Body Image Issues

- Common Sense Media - research on how kids/teens feel about their bodies

Reference: Common Sense Media - <https://www.commonsensemedia.org/research/children-teens-media-and-body-image>



## Many kids are dissatisfied with their bodies, and society's body appearance ideals are highly unrealistic.

Body image is really important for self-esteem, which is crucial to a young person's development, and disorders linked to poor body image can result in serious mental and physical health issues.

### Get involved

- Tune into kids' lives (ask about friends, school, and feelings).
- Nurture a positive self-image.
- Step in when kids need support



Children as young as 5 express dissatisfaction with their bodies.



More than half of girls and 1/3 of boys as young as 6 to 8 feel their ideal body is thinner than their current body size.

## You are your child's first teacher.

You have a lot of power to shape their attitudes, values, and behavior.

### Ban "fat talk"

- Say why you appreciate your own body.
- Watch your comments about other people's bodies and appearance.
- Be active and eat well for health, not size.



5- to 8-year-olds who think their moms are dissatisfied with their bodies are more likely to feel dissatisfied with their own bodies.

## Body image concerns start earlier than you think; even preschoolers learn that society judges people by how they look.

Ideas and habits formed young last a lifetime.

### Start early

- Emphasize health not weight.
- Teach appreciation for all types of people.
- Focus on talents and strengths.



## Boys have issues with body image too.

Boys' own body concerns and risky behaviors can go unnoticed, and their role in supporting healthy attitudes among girls is vital.

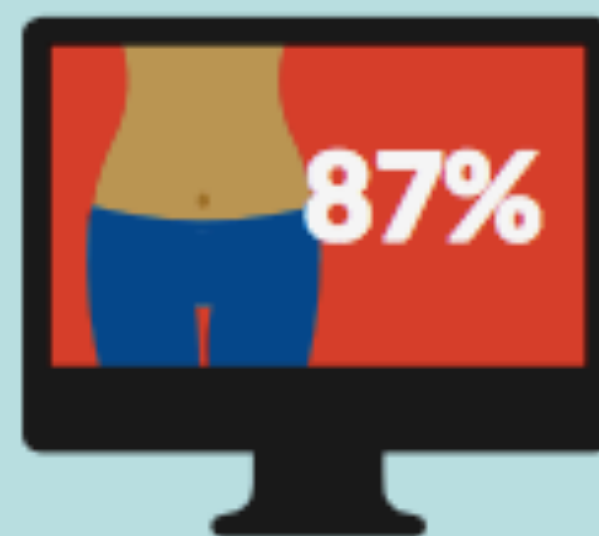
### Pay attention to your son, too

- Listen for negative body talk.
- Look for dramatic weight loss or gain.
- Check the messages from coaches, peers, and online forums about weight, exercise, and muscle-building.



Measurements of toy male action figures exceed even that of the biggest bodybuilders.

## Unrealistic, sexualized, and stereotypical images and messages about bodies and gender are rampant on the media your kid consumes.



of female TV characters aged 10 to 17 are below average in weight.

Media is influential — if all your child sees are unrealistic body types she'll come to believe they're the ideal.

### Immunize your child

- Choose quality media with diverse characters.
- Question assumptions about appearance.
- Challenge stereotypes about gender, body types, abilities.

## Teens feel pressure to look good and cool online, but also feel social media helps their friendships and connections.



of teen girls say they use social media to "make themselves look cooler."

Kids live in a constant feedback loop of criticism and connection that moves quickly and is difficult to escape.

### Be a social media supporter

- Help teens find supportive online communities.
- Encourage social media breaks when online drama heats up.
- Ask teens how online feedback makes them feel.

# Body Image Issues

- Should we as coaches advise?
  - Wearing multiple hats
    - No - don't be the bad guy
    - Don't be afraid to utilize resources in the community
      - Refer to pediatrician to make sure height/weight are on track for optimal growth
      - Refer to a Registered Dietitian to help with making better food choices to help meet estimated needs

# Nutrition in Soccer

- Protein
  - Children (due to rapid growth)
  - Players who limit caloric intake
  - Poor dietary quality
- Fluid
  - Warmer temperatures/higher humidity - players can lose 2-3 liters
  - Children
    - Produce more heat than adults
    - Lower capacity for sweating/acclimatizing
      - Greater risk for dehydration/heat illness
      - Fluids consumed every 15-20 minutes (cool and palatable)

# Nutrition in Soccer

- Multiple Matches in day/Tournament
  - Quick turnaround time
    - Little time for recovery
      - Glycogen depletion and heavy fluid loss = most bang for the buck to get back to above baseline
- Weight
  - Make sure players choose nutrient-dense foods from various food groups - all foods fit

# Nutrition in Soccer

- Individualized for each player and their respective needs/situation
  - U6 versus U12 versus U18
  - Recreational versus competitive
  - 1 game versus 6 game tournament in 48 hours
  - Pre-season, In-season, Post-season
- No special “soccer” diet at 6-11
  - Eat quality, healthful, moderation

# Fueling Tactics for Championship Performance

- **Hydration**

- Dehydration equals poor performance
  - Females - 2.7 liters per day; Males - 3.7 liters for per day

- **Eat Breakfast every day**

- Top off the fuel tank before taking on the day

- **Whole-grain carbohydrates**

- Rich in fiber and nutrients to fuel the body

- **Protein**

- choose leaner cuts of meats, poultry, seafood, beans, peas, eggs, soy, nuts, seeds

# Fueling Tactics for Championship Performance

- **Fats**

- Choose healthful fats - olive oil, flaxseed, avocados, nuts, seeds

- **Experience the rainbow**

- Incorporate different fruits and vegetables

- **Minimally Processed Foods**

- Limit foods with with added sugar, fat, sodium

# Fueling Tactics for Championship Performance

- **Fuel Your Body for Trainings/Matches**

- Don't ever skip meals/snacks
- Consider nutrition as part of your pre-game or you'll already be losing before kick-off

- **Recovery**

- Best window for recovery is 30-60 minutes post-activity
- Chocolate milk
- Attempt to eat a balanced meal within 2 hours

- **Sleep**

- Importance cannot be underrated; 8-10 hours per sleep will help with proper recovery



# Foods that may hinder performance

<u>Pre-Exercise</u>	<u>During Exercise</u>	<u>Post-Exercise</u>
High-Fat Foods	High-Fat Foods	High-Fat Foods
High-Fiber	High-Fiber	High-Fiber
Alcohol	Alcohol	Alcohol
Carbonated Beverages	Fluids > 8% carbohydrates	Fluids > 8% carbohydrates

# Typical Youth Soccer Scenario

- Coach for the U10 Zebras who are registered to play in the ABC Cup in XYZ town
- Schedule is
  - Saturday - 9 AM, 1 PM, 5 PM
  - Sunday - semi-final at 9:30 AM; final at 1:30 PM
- 5 matches from 8:30 AM Saturday through 3 PM Sunday - 30.5 hours
- How do we prepare?

# Soccer Tournament Prep

- Plan ahead
  - Once you have schedule, plan out times between games
- Method of travel
  - Car
    - Bring along healthful snacks on the road
    - Pack a sandwich with fruit or yogurt
    - If you do stop at fast food, avoid fries and soda, assess the menu and see what is available
  - Plane
    - Bring ahead snacks/sandwich and snacks
    - Research options available at the airport
- Research tournament destination
  - Look at restaurants and menu options near field/hotel
  - Go to grocery stores and get snacks/beverages
  - Food storage/safety

# Soccer Tournament Prep

- Pack healthful snacks
  - Non-perishable snack items
    - Granola/energy bars, peanut butter crackers, fruit cup, trail mix, nuts, string cheese
- Eating at restaurants
  - Ask for meats/veggies to not be cooked in butter
  - Sauces, gravies, dressings on the side
  - Choose foods that are grilled, baked, or broiled (instead of fried)

# What about your own concession stand?

- Supply and demand
- Offer more healthful alternatives
  - Grilled chicken sandwiches and hamburgers
  - Fruit
  - Granola bars
  - Water/Gatorade/Chocolate milk

# Case Study - 1

- 9 year old player
  - Eating a small breakfast at 7 AM (yogurt), go to school and eat lunch at 12 PM (1/2 sandwich, 2 carrots), no snack or anything before practice (5:30-6:45), eat dinner afterwards
  - Decline in performance in school, soccer field, life
- Plan
  - Growing needs, consuming something every 2-3 hours
  - Focus on protein, snack prior to lunch, snack prior to training
- Improved performance in the classroom, and soccer field

# Case Study - 2

- 11 year old player
  - Wake up at 5:30 AM, eat hot pocket, train for 90 minutes, go to school with no food until lunch at 12 PM (school lunch), afternoon snack of Starbucks frappuccino and chocolate chip cookie at 3:30 PM, train for 2 hours, eat dinner (7-8 PM), and do homework until 11 PM
  - Lethargic during the day, weak during training/games, school grades decreasing
  - Dad was disappointed he didn't have a 6-pack or frame like his 13 year old brother
    - Player exhibited eating-disorder like tendencies (sometimes skipped lunch, afraid to eat)
- Plan
  - Sleep more - important for growth/recovery
  - Body image - growth/variability, puberty, body changes - focus on health and strength
  - Better quality diet, eating every 2-3 hours
- Improved performance in the classroom, and in athletic endeavors

# In Conclusion

- Dealing with 6-11 year old soccer players
  - These are not collegiate or professional soccer players
  - When it comes to nutrition, want to focus on two things
    - Taking care of health by optimal growth
    - Fueling up for performance
- More guidance and education at younger ages will result in better health and understanding when they hang up their boots



# In Conclusion

- Consult with a Registered Dietitian/Nutritionist for information
  - Business Investment - the act of committing money or capital to an endeavor with the expectation of obtaining additional income or profit
  - Youth Soccer Club investment => better performance, quicker recovery, confidence, and better overall health
- Education efforts
  - U-10 and below - aimed at parents
  - U-11 through U-14 - both parents and players
  - U15 and above - aimed at players

# In Conclusion

- Afternoon session - Zone 2 - Nutrition for Players 12-18
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