

activity & nutrition



Child and Adolescent



Healthcare Provider TOOLKIT

- **Introduction**
- **Family Lifestyle Self-Assessment**

Parents/families may complete the quiz before their appointment with the healthcare provider. If the parent/family is willing to share the results, the healthcare provider can quickly identify the lifestyle behaviors that would benefit from further assessment and education. If the parent/family chooses not to share the results, ask what type of questions or feedback he/she is interested in receiving.
- **Family Pledge/Goal Log**

Families can use this tool to document their goals and track their progress.
- **Pocket Guide “Screening and Treatment of Child and Adolescent Overweight”**

This pocket guide summarizes the expert committee of pediatric health professionals’ recommendations for screening and treatment guidelines for children and adolescents.
- **Healthy Families: Tips for Parents**

This education tool may be reproduced and offered to parents as they play a critical role in the treatment of overweight children and adolescents.
- **MyPlate Materials: Build a Healthy Meal & Be an Active Family**
- **Body Mass Index-for-age Percentiles Growth Charts**

After determining BMI, this chart is used to identify BMI-for-age percentile for assessment of weight status.
- **High Blood Pressure Tables**

These tables are used to assess blood pressure levels and height percentiles.
- **Blood Cholesterol Classification Chart**

This tool provides classification of Total and LDL Cholesterol, and Triglyceride levels in children and adolescents.
- **Addendum Assessment and Counseling Form Pediatric Overweight**
- **State of Missouri Consensus Screening Guidelines for Pre-diabetes and Diabetes in a Medical Setting**

This tool provides guidelines for screening individuals exhibiting risks for diabetes.
- **Resource Listing**

This is a list of websites, local resources and on-line ordering information for additional materials.

Managing Overweight Children and Adolescents

Many parents do not recognize their children as overweight. Many parents do not recognize when their child is too sedentary or is not eating enough fruits and vegetables. You, as a doctor or health care professional, can help parents recognize these risk areas! By focusing efforts to improve children's health, the health of the entire family will often improve.



Results from *The Dietary Intervention Study in Children* show that families can learn to enjoy healthy foods and to be selective about their food choices if they have the right tools to help them make positive lifestyle changes.¹ The primary purpose of this toolkit is to provide health care professionals who work with children, adolescents and their families recommendations regarding screening, assessment and treatment for overweight youth. The tool kit information summarizes recommendations from the scientific literature and expert work groups relating to child and adolescent obesity.

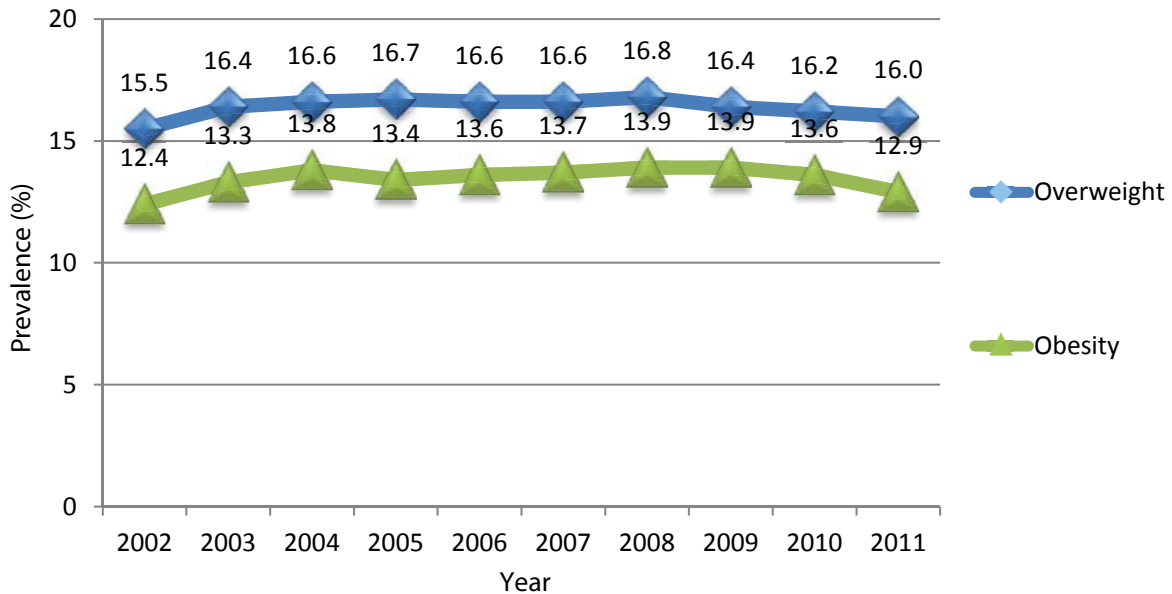
Over the past three decades, childhood obesity rates have tripled in the U.S., and today, the country has some of the highest obesity rates in the world. One out of six children is obese, and one out of three children is overweight or obese.² Though the overall U.S. child obesity rate has held steady since 2008, some groups have continued to see increases, and some groups have higher rates of obesity than others:

- In the 1970's, 5 percent of U.S. children ages 2 to 19 were obese, according to the Centers for Disease Control and Prevention's current definition; by 2008, nearly 17 percent of children were obese, a percentage that held steady through 2010.²
- Obesity is more common in boys than girls (19 percent versus 15 percent).²
- Obesity rates in boys increased significantly between 1999 and 2010, especially among non-Hispanic black boys; but obesity rates in girls of all ages and ethnic groups have stayed largely the same.²
- Hispanic (21 percent) and non-Hispanic black (24 percent) youth have higher rates of obesity than non-Hispanic white youth (14 percent), a continuing trend.²

The statistics in Missouri mirror national statistics. According to 2013 Missouri Youth Tobacco Survey data, 30.4 percent of high school students were overweight or obese. In 2011, 28.9 percent of children ages 2 to 5 participating in the WIC program were overweight or obese (PedNSS).



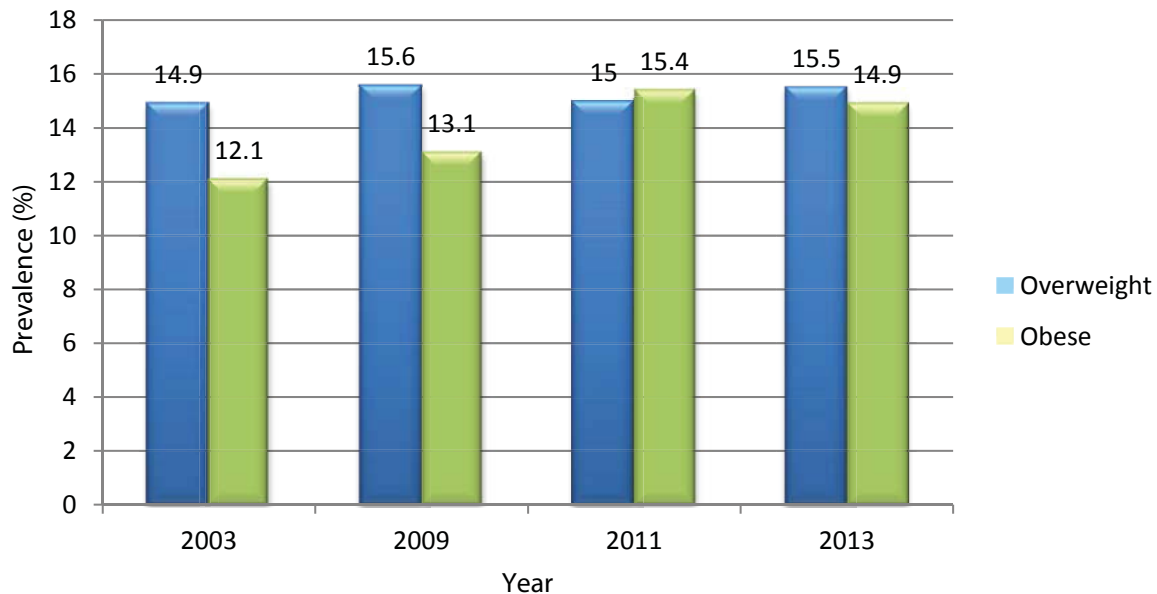
Trends in Overweight and Obesity Among Children Age 2 to < 5 Years, Missouri PedNSS, 2002-2011



The escalating number of overweight youth has substantial short and long-term consequences for the physical and mental health of young people and society. The following conditions are occurring with increased frequency in overweight youth:³

- Type 2 diabetes
- Hypertension
- Hyperlipidemia
- Orthopedic problems

Trends in Overweight and Obesity among High School Students, Missouri Youth Tobacco Survey 2003-2013



A new study by the Trust for America's Health and the Robert Wood Johnson Foundation suggests that obesity rates will only get worse and that by 2030, rates of obesity and overweight may tip the 50 percent mark for much of the U.S., including Missouri. But, if obesity trends could be lowered by reducing the average adult BMI (body mass index) by only 5 percent, millions of Americans could be spared from serious health problems and billions of dollars in health spending would be saved—between 6.5 percent and 7.8 percent of costs in almost every state.⁴

A national analysis found combined medical costs associated with treating preventable obesity-related diseases are estimated to increase by between \$48 billion and \$66 billion per year in the U.S. by 2030—while the loss in economic productivity could be between \$390 billion and \$580 billion annually.⁵ Childhood obesity alone is responsible for \$14.1 billion in direct costs.⁶ Annually, the average total health expenses for a child treated for obesity under Medicaid is \$6,730, while the average cost for all children covered by Medicaid is \$2,446. The average total health expenses for a child treated for obesity under private insurance is \$3,743, while the average cost for all children covered by private insurance is \$1,109.⁷ Hospitalizations of children and youths with a diagnosis of obesity nearly doubled between 1999 and 2005, while total costs for children and youth with obesity-related hospitalizations increased from \$125.9 million in 2001 to \$237.6 million in 2005, measured in 2005 dollars.⁸

Reducing and preventing childhood obesity is critical to improving the future health of the country, and consequently would help to lower health care costs and improve productivity. Research supports getting children on a healthy path early in life so that the greatest successes can be achieved. The Missouri Council for Activity and Nutrition (MOCAN) is committed to providing tools and resources to assist you in providing care for your patients and families.

References

1. Van Horn L, Obarzanek E, Friedman LA, Gernhofer N, Barton B. Children's Adaptations to a Fat-Reduced Diet: The Dietary Intervention Study in Children (DISC). *Pediatrics*. 2005;115:1723-1733.
2. Ogden CL, Carroll MD, Kit BK, Flegal KM. Prevalence of obesity and trends in body mass index among US children and adolescents, 1999-2010. *JAMA*. 2012;307:483-90.
3. The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity. Rockville, Md: US Department of Health and Human Services, Public Health Service, Office of the Surgeon General, 2001.
4. F as in Fat: How Obesity Threatens America's Future, 2012 Report. Trust for America's Health. <http://healthyamericans.org/assets/files/TFAH2012FasInFatFnlRv.pdf>.
5. Wang YC et al. Health and Economic Burden of the Projected Obesity Trends in the USA and the UK. *The Lancet*, 378, 2011.
6. Trasande L. and Chatterjee S. "The Impact of Obesity on Health Service Utilization and Costs in Childhood." *Obesity*, 17(9):1749-54, 2009.
7. Marder W and Chang S. Childhood Obesity: Costs, Treatment Patterns, Disparities in Care, and Prevalent Medical Conditions. Thomson Medstat Research Brief, 2006. http://www.medstat.com/pdfs/childhood_obesity.pdf.
8. Trasande L, Liu Y, Fryer G, et al. "Effects of Childhood Obesity On Hospital Care and Costs, 1999-2005." *Health Affairs*, 28(4): w751-60, 2009.

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Family Lifestyle Self-Assessment

Instructions: Check the column that best describes your family’s nutrition and physical activity habits. The results are for your use only, but feel free to share the results with your healthcare provider.

	Never	Some Days	Most Days	Every Day
1. How often do you and your family eat at regularly scheduled times?				
2. How often do you sit down with other members of your family to eat dinner or supper?				
3. How often do you and your family eat less than three meals a day?				
4. How often do you try to make meal times enjoyable?				
5. How often do you and your family eat everything on your plate?				
6. How often do your meals last less than 15 minutes?				
7. How often do you eat meals in designated areas of your home?				
8. How often are your noontime meals prepared at home (including sack lunch)?				
9. How often are your evening meals prepared at home?				
10. How often do you tailor portion sizes to each person’s needs?				
11. How often do you plan snacks?				
12. How often do you use food-related rewards or punishments?				
13. How often do you and your family enjoy physical activities together?				
14. On an average school day, how often do you and your family clock more than 2 hours of TV, video, handheld game, computer or other screen-time?				
Total Points: _____ (add column subtotals)				

Scoring

For questions 1, 2, 4, 7, 8, 9, 10, 11 and 13, give yourself the following points:

Every Day = 0 pts
 Most Days = 1 pts
 Some Days = 2 pt
 Never = 3 pts

For questions 3, 5, 6, 12, and 14, give yourself the following points:

Every Day = 3 pts
 Most Days = 2 pts
 Some Days = 1 pt
 Never = 0 pts

- If your total score is 14 or lower – Your family is on the right track. Use “MyPlate for Kids” materials for additional healthy eating and physical activity ideas.
- 15-28 – Your family is doing well, but could work on areas where you scored 2 or 3 points. Use “My Plate for Kids” for additional healthy eating and physical activity ideas.
- 29-42 – Talk to your health care professional about how you and your family can improve your health habits.

family pledge

Instructions: Before completing the family pledge, talk about the 1-2 goal(s) you wish to achieve to become a healthy family and the reward(s) you will give yourself when you are successful.

We, the _____ family, pledge to [write goal(s)]

- 1) _____
- 2) _____

for the next 3 weeks. We will reward ourselves with

when we have made this a habit.

Family Member Signatures

Date

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Record your goals in the Goal Log for each week on the reverse side of this family pledge.



healthy families for life . . .

Adapted from Kosharek SM. *If Your Child is Overweight: A Guide for Parents*. 2nd ed. Chicago, IL: American Dietetic Association; 2003.

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goal log

In the calendar, ✓ off each day that you meet your goal(s). Good luck!

GOAL 1

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
week 1							
week 2							
week 3							

GOAL 2

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
week 1							
week 2							
week 3							

...time for reward!

activity & nutrition

Screening and Treatment of Child and Adolescent Overweight and Obesity

Step 1: Assess Weight Status

At a minimum, weight status (BMI for age) should be assessed yearly for all children and adolescents.

Calculating Body Mass Index (BMI)

Step 1: Measure weight and height then calculate BMI using the BMI calculator wheel (included in toolkit) or the following formula:

$$\text{BMI} = [\text{weight (lb)} \div \text{height (in)} \div \text{height (in)}] \times 703$$

Step 2: After BMI is calculated, plot it on the CDC BMI-for-age-and-gender percentile charts (included in toolkit; also found at: <http://www.cdc.gov/growthcharts>).

BMI is evaluated using the following percentile cutoffs (2-18 years old)	
Underweight	BMI-for-age-and-gender < the 5th percentile.
Overweight	BMI-for-age-and-gender between the 85th and 94th percentiles.
Obese	BMI-for-age-and-gender ≥ 95th percentile or BMI exceeding 30 (whichever is smaller).

Blood Pressure 95% by Age, Sex and Height %

AGE	BOYS HEIGHT %		GIRLS HEIGHT %	
	50%	90%	50%	90%
2 Yr	106/61	109/63	105/63	108/65
5 Yr	112/72	115/74	110/72	112/73
8 Yr	116/78	119/79	115/76	118/78
11 Yr	121/80	124/82	121/79	123/81
14 Yr	128/82	132/84	126/82	129/84
17 Yr	136/87	139/88	129/84	131/85

Pediatrics Vol. 114 No. 2 August 2004 p. 555-576

Step 2: Assess Behaviors

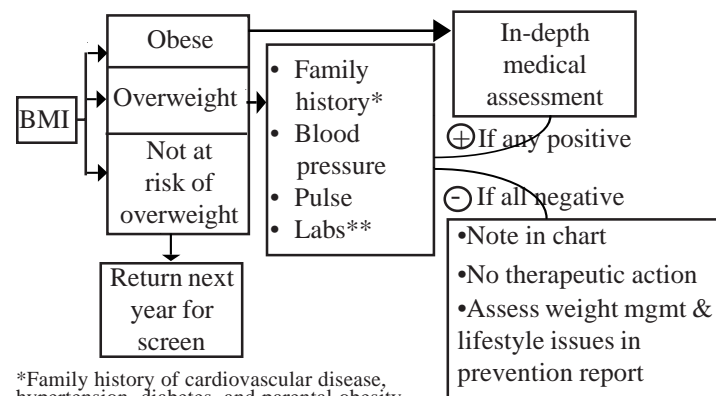
Dietary practices that may be targets for change:

- Frequent meals outside the home
- Excessive intake of fruit juice or sweetened beverages
- Intake of excessive portions for age
- Excessive intake of high energy density foods
- Low intake of fruits and vegetables
- Meal frequency and snacking patterns (including quality)
- Breakfast consumption (frequency and quality)

Activity practices that may be targets for changes:

- Less than 1 hour of at least moderate physical activity per day
- More than 2 hours per day of sedentary activities, including watching television, playing video games, and using the computer
- Barriers to physical activity such as environment and social support

Screening Guidelines



*Family history of cardiovascular disease, hypertension, diabetes, and parental obesity.
Elevated blood pressure: see high blood pressure tables in toolkit.
Elevated total cholesterol: see classification of cholesterol levels in toolkit.

**Laboratory Tests:
• Overweight with no risk factors - fasting lipid profile
• Overweight with risk factors - also obtain AST and ALT, fasting glucose
• Obese - fasting lipid profile, AST and ALT, fasting glucose, BUN, creatinine

Step 3: Assess Attitudes

Assessment of self-efficacy and readiness to change:

How ready are you to make a change toward a healthier lifestyle?

Not ready-----**Ready**
0-----1-----2-----3-----4-----5-----6-----7-----8-----9-----10

0-2 = What would make you more ready

3-7 = What might your next steps be?

8-10 = What is your plan?

Motivational Interviewing Tips:

Ask permission:

- Would you be willing to spend a few minutes discussing ways to stay healthy and energized?
- How do you feel about your weight?
- What have you tried so far to work toward a healthier weight?

Share BMI/weight:

- Your current weight puts you at increased risk for developing heart disease and diabetes.
- Your BMI is at the ___%. The recommendation for your age is 85 or below.
- What do you make of this?

Negotiate dietary and physical activity behaviors that could be targeted for change:

- There are a number of ways to help you achieve a healthy weight. Is there one of these you'd like to discuss further today?

Assess readiness:

- On a scale of 0-10, how ready are you to consider (option chosen above)?

- Why a ___(# chosen)? Why are you a ___ and not a (backward)/(forward) # on readiness scale?

Explore and summarize ambivalence:

- What are the things you like/dislike about ___?

- What are the advantages of keeping things the same/making a change?
- Let me see if I understand what you have told me so far. Did I get it all? Did I get it right?

Close the encounter:

- Our time is almost up. Thank you for being willing to discuss ____.
- I strongly encourage you to _____. The choice is, of course, entirely yours.
- I am confident that if you decide to _____, you can be successful.
- Confirm next steps: follow up appointment/referral to specialist.

Treatment Recommendations for Children Age 2-19 with BMI \geq 85th Percentile:

Stage 1: Prevention Plus protocol:

1. Family visits with provider or health professional based on family needs and risk behaviors.
2. Encourage healthy dietary habits and physical activity
 - At least 2 1/2 cups of fruits and vegetables per day
 - Less than 2 hours of screen time per day, and no television in the child's room
 - 1 hour or more of daily physical activity
 - No sugar-sweetened beverages
 - Serve a healthy breakfast daily
 - Limit meals outside the home
 - Serve family meals at least 5-6 times per week
 - Allow child to self-regulate intake and avoid overly restrictive behaviors

Goal: weight maintenance and monthly follow-up.

After 3-6 months, if no improvement in BMI/weight status, advance to Stage 2.

Stage 2: Structured Weight Management protocol:

1. Dietary and physical activity behaviors:
 - Develop a balanced diet plan emphasizing low amounts of energy-dense foods
 - Structure daily meals and snacks
 - Supervise active play of at least 1 hour per day
 - Limit screen time to 1 hour or less per day
 - Increase behavior monitoring (e.g., screen time, physical activity, dietary intake, restaurant logs) by provider, patient and/or family

Goal: weight maintenance or weight loss not to exceed 1 lb/month in children aged 2-11 years, or an average of 2 lb/wk in older overweight/obese children and adolescents.

After 3-6 months, if no improvement in BMI/weight, advance to Stage 3.

Stage 3: Comprehensive Multidisciplinary protocol:

1. Eating and activity goals are the same as in Stage 2.
2. Activities in this stage should also include:
 - Structured behavioral modification program, including food and activity monitoring and development of short-term diet and physical activity goals

Children with BMI > 95th percentile, with significant comorbidities and who have not been successful with Stages 1-3 or children > 99th percentile who have shown no improvement under Stage 3, advance to Stage 4.

Stage 4: Tertiary Care protocol:

Referral to pediatric tertiary weight management center with access to a multidisciplinary team with expertise in childhood obesity and which operates under a designed protocol. For more information on Stages 3 and 4, please see Expert Committee Recommendations.

Recommendations for Weight Goals for Age

Goal: BMI < 85th Percentile

Age 2-5 Years

- BMI 85th-94th percentile - weight maintenance or slowing of weight gain
- BMI > 95th percentile - weight maintenance or weight loss not to exceed 1 lb/month
- BMI > 21 or 22 percentile - gradual weight loss not to exceed 1 lb/month

Age 6-11 Years

- BMI 85-94th percentile - weight maintenance or slowing of weight gain
- BMI 95th-98th percentile - weight maintenance or weight loss not to exceed 1 lb/month
- BMI > 99th percentile - weight loss not to exceed 2 lb/week

Age 12-18 Years

- BMI 85th-94th percentile - weight maintenance or slowing of weight gain
- BMI 95th - 98th percentile - weight loss, not to exceed an average of 2 lbs/week
- BMI > 99th percentile - weight loss, not to exceed an average of 2 lbs/week

Reference:

<http://www.ama-assn.org/ama/pub/category/11759.html>



Missouri Council for Activity and Nutrition

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Healthy Families: Tips for Parents

1. ***Be a positive role model.*** Get every member of your family involved in healthy eating and physical activity.
2. ***Create a healthy food environment.*** Have plenty of nutritious, low-calorie foods available such as fruits and vegetables and limit high-energy/nutrient-poor foods such as salty snacks, cookies, ice cream, fried foods and sweetened beverages. Don't overly restrict.
3. ***Establish daily family meal and snack times.*** Parents or caregivers should determine what food is offered and when, and the child should decide how much he or she eats.
4. ***Encourage your child to eat breakfast.***
5. ***Never use food as a reward or punishment.***
6. ***Assist your child in making healthy food choices at restaurants.***
7. ***Limit television, video games or computer time to one to two hours a day.***
8. ***Plan regular, fun, physical activities for the family.*** Initiate activities in the evening or on the weekends by inviting your child to take a walk in the park, or take a family bike ride together.
9. ***Provide positive incentives for your child on a regular basis.*** Give lots of praise and inexpensive rewards, such as taking your child bowling or skating, new tennis shoes/ball, or inviting a friend over.
10. ***Be prepared for setbacks - they're inevitable!*** Discuss problem situations with your child and brainstorm ways to handle them. Reassure your child that you love and accept him/her no matter what his/her size.



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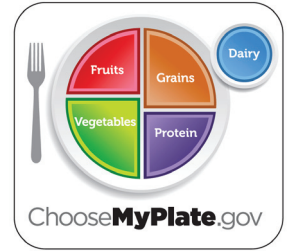
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10 tips

Nutrition
Education Series

build a healthy meal

10 tips for healthy meals



A healthy meal starts with more vegetables and fruits and smaller portions of protein and grains. Think about how you can adjust the portions on your plate to get more of what you need without too many calories. And don't forget dairy—make it the beverage with your meal or add fat-free or low-fat dairy products to your plate.

1 make half your plate veggies and fruits

Vegetables and fruits are full of nutrients and may help to promote good health. Choose red, orange, and dark-green vegetables such as tomatoes, sweet potatoes, and broccoli.



2 add lean protein

Choose protein foods, such as lean beef and pork, or chicken, turkey, beans, or tofu. Twice a week, make seafood the protein on your plate.

3 include whole grains

Aim to make at least half your grains whole grains. Look for the words "100% whole grain" or "100% whole wheat" on the food label. Whole grains provide more nutrients, like fiber, than refined grains.

4 don't forget the dairy

Pair your meal with a cup of fat-free or low-fat milk. They provide the same amount of calcium and other essential nutrients as whole milk, but less fat and calories. Don't drink milk? Try soy milk (soy beverage) as your beverage or include fat-free or low-fat yogurt in your meal.



5 avoid extra fat

Using heavy gravies or sauces will add fat and calories to otherwise healthy choices. For example, steamed broccoli is great, but avoid topping it with cheese sauce. Try other options, like a sprinkling of low-fat parmesan cheese or a squeeze of lemon.

6 take your time

Savor your food. Eat slowly, enjoy the taste and textures, and pay attention to how you feel. Be mindful. Eating very quickly may cause you to eat too much.

7 use a smaller plate

Use a smaller plate at meals to help with portion control. That way you can finish your entire plate and feel satisfied without overeating.

8 take control of your food

Eat at home more often so you know exactly what you are eating. If you eat out, check and compare the nutrition information. Choose healthier options such as baked instead of fried.

9 try new foods

Keep it interesting by picking out new foods you've never tried before, like mango, lentils, or kale. You may find a new favorite! Trade fun and tasty recipes with friends or find them online.



10 satisfy your sweet tooth in a healthy way

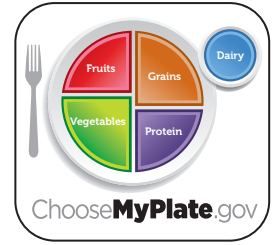
Indulge in a naturally sweet dessert dish—fruit! Serve a fresh fruit cocktail or a fruit parfait made with yogurt. For a hot dessert, bake apples and top with cinnamon.

10 tips

Nutrition
Education Series

be an active family

10 tips for becoming more active as a family



Physical activity is important for children and adults of all ages. Being active as a family can benefit everyone. Adults need 2½ hours a week of physical activity, and children need 60 minutes a day. Follow these tips to add more activity to your family's busy schedule.

1 set specific activity times

Determine time slots throughout the week when the whole family is available. Devote a few of these times to physical activity. Try doing something active after dinner or begin the weekend with a Saturday morning walk.



2 plan ahead and track your progress

Write your activity plans on a family calendar. Let the kids help in planning the activities. Allow them to check it off after completing each activity.

3 include work around the house

Involve the kids in yard work and other active chores around the house. Have them help you with raking, weeding, planting, or vacuuming.



4 use what is available

Plan activities that require little or no equipment or facilities. Examples include walking, jogging, jumping rope, playing tag, and dancing. Find out what programs your community recreation center offers for free or minimal charge.

5 build new skills

Enroll the kids in classes they might enjoy such as gymnastics, dance, or tennis. Help them practice. This will keep things fun and interesting, and introduce new skills!

6 plan for all weather conditions

Choose some activities that do not depend on the weather conditions. Try mall walking, indoor swimming, or active video games. Enjoy outdoor activities as a bonus whenever the weather is nice.

7 turn off the TV

Set a rule that no one can spend longer than 2 hours per day playing video games, watching TV, and using the computer (except for school work). Instead of a TV show, play an active family game, dance to favorite music, or go for a walk.

8 start small

Begin by introducing one new family activity and add more when you feel everyone is ready. Take the dog for a longer walk, play another ball game, or go to an additional exercise class.



9 include other families

Invite others to join your family activities. This is a great way for you and your kids to spend time with friends while being physically active. Plan parties with active games such as bowling or an obstacle course, sign up for family programs at the YMCA, or join a recreational club.



10 treat the family with fun physical activity

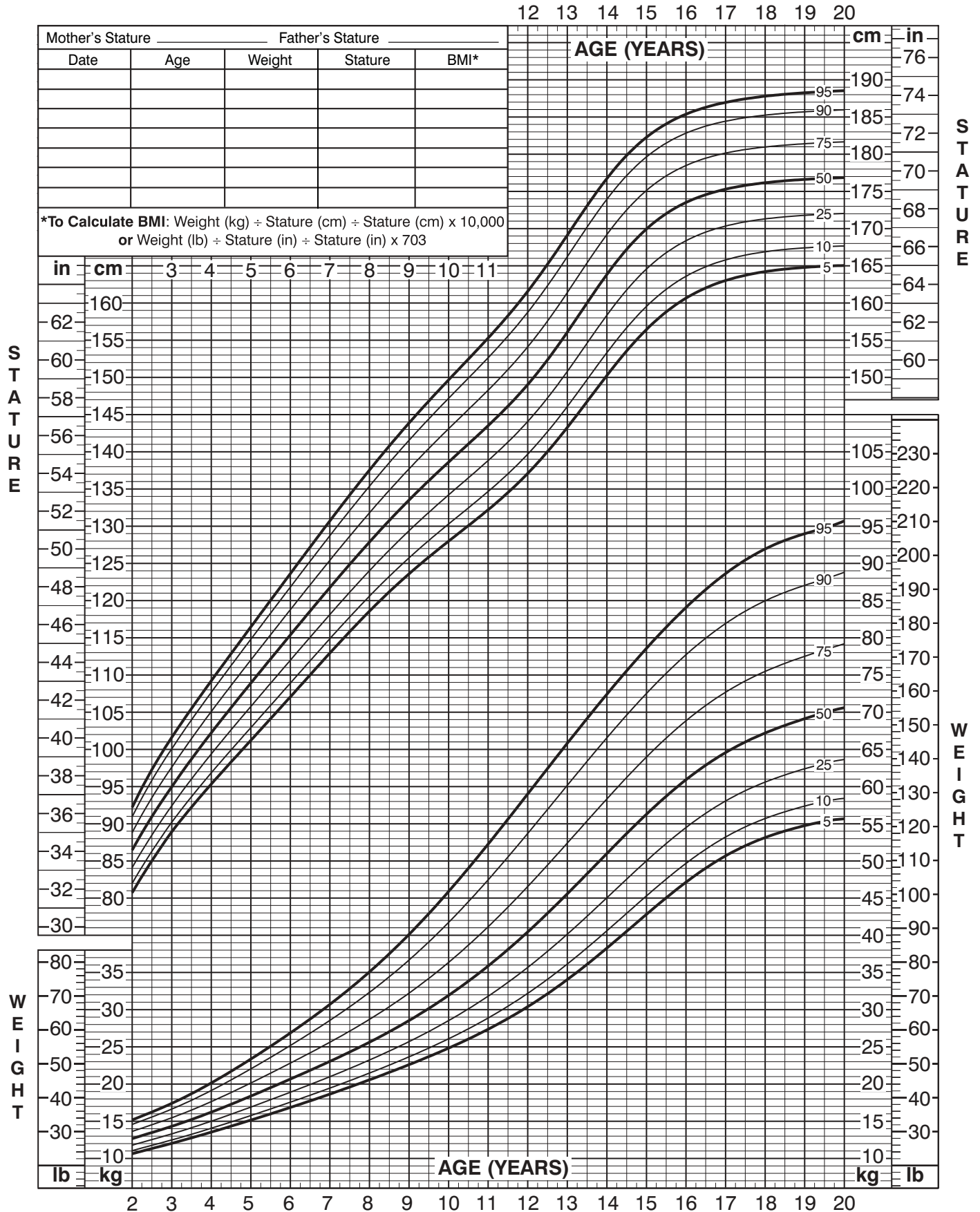
When it is time to celebrate as a family, do something active as a reward. Plan a trip to the zoo, park, or lake to treat the family.

2 to 20 years: Boys

Stature-for-age and Weight-for-age percentiles

NAME _____

RECORD # _____



Published May 30, 2000 (modified 11/21/00).

SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).
<http://www.cdc.gov/growthcharts>

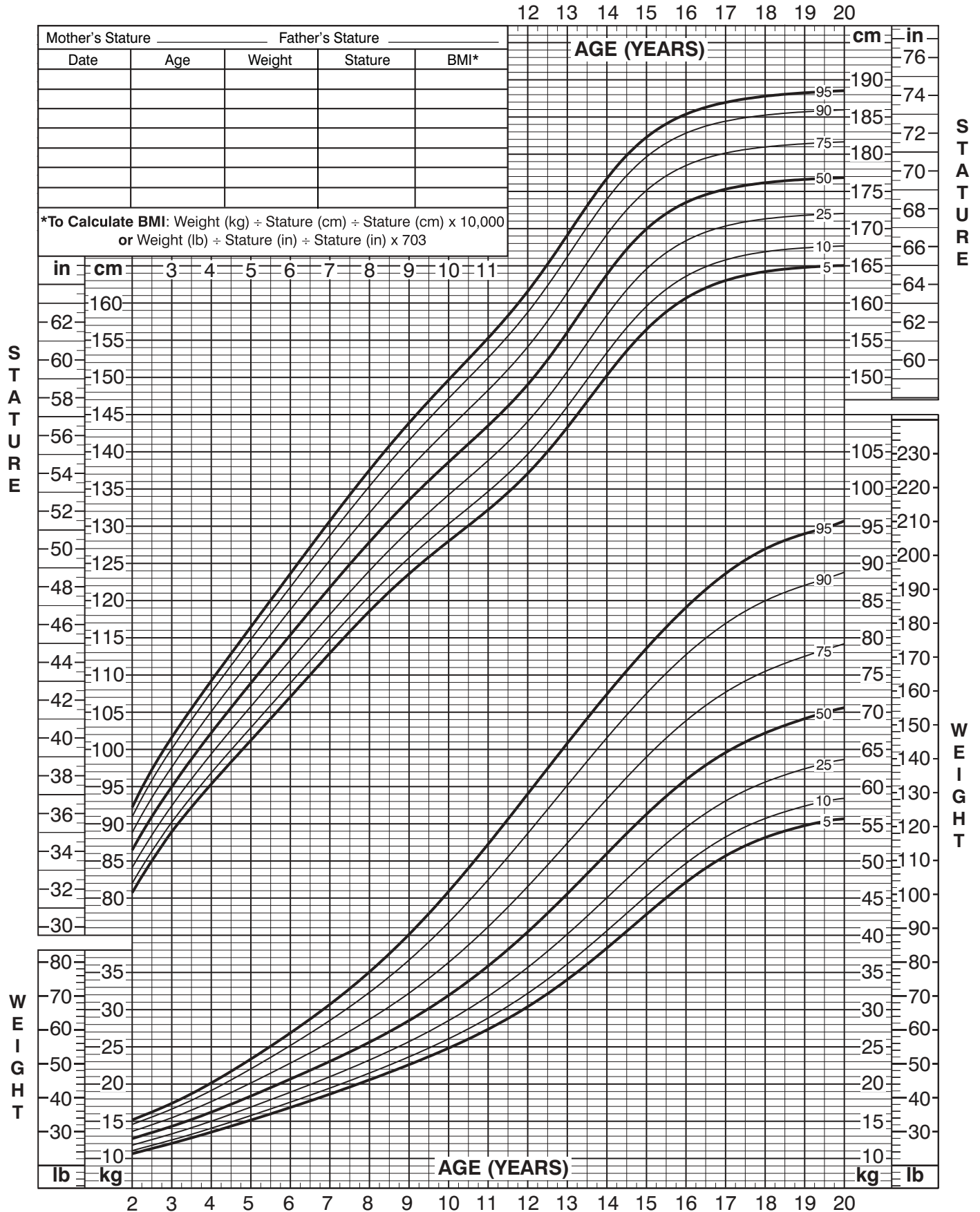


2 to 20 years: Boys

Stature-for-age and Weight-for-age percentiles

NAME _____

RECORD # _____



Published May 30, 2000 (modified 11/21/00).

SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).
<http://www.cdc.gov/growthcharts>



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Blood Pressure Levels for Boys by Age and Height Percentile

Age (Year)	BP Percentile ↓	Systolic BP (mmHg)							Diastolic BP (mmHg)						
		← Percentile of Height →							← Percentile of Height →						
		5th	10th	25th	50th	75th	90th	95th	5th	10th	25th	50th	75th	90th	95th
2	50th	84	85	87	88	90	92	92	39	40	41	42	43	44	44
	90th	97	99	100	102	104	105	106	54	55	56	57	58	58	59
	95th	101	102	104	106	108	109	110	59	59	60	61	62	63	63
	99th	109	110	111	113	115	117	117	66	67	68	69	70	71	71
3	50th	86	87	89	91	93	94	95	44	44	45	46	47	48	48
	90th	100	101	103	105	107	108	109	59	59	60	61	62	63	63
	95th	104	105	107	109	110	112	113	63	63	64	65	66	67	67
	99th	111	112	114	116	118	119	120	71	71	72	73	74	75	75
4	50th	88	89	91	93	95	96	97	47	48	49	50	51	51	52
	90th	102	103	105	107	109	110	111	62	63	64	65	66	66	67
	95th	106	107	109	111	112	114	115	66	67	68	69	70	71	71
	99th	113	114	116	118	120	121	122	74	75	76	77	78	78	79
5	50th	90	91	93	95	96	98	98	50	51	52	53	54	55	55
	90th	104	105	106	108	110	111	112	65	66	67	68	69	69	70
	95th	108	109	110	112	114	115	116	69	70	71	72	73	74	74
	99th	115	116	118	120	121	123	123	77	78	79	80	81	81	82
6	50th	91	92	94	96	98	99	100	53	53	54	55	56	57	57
	90th	105	106	108	110	111	113	113	68	68	69	70	71	72	72
	95th	109	110	112	114	115	117	117	72	72	73	74	75	76	76
	99th	116	117	119	121	123	124	125	80	80	81	82	83	84	84
7	50th	92	94	95	97	99	100	101	55	55	56	57	58	59	59
	90th	106	107	109	111	113	114	115	70	70	71	72	73	74	74
	95th	110	111	113	115	117	118	119	74	74	75	76	77	78	78
	99th	117	118	120	122	124	125	126	82	82	83	84	85	86	86
8	50th	94	95	97	99	100	102	102	56	57	58	59	60	60	61
	90th	107	109	110	112	114	115	116	71	72	72	73	74	75	76
	95th	111	112	114	116	118	119	120	75	76	77	78	79	79	80
	99th	119	120	122	123	125	127	127	83	84	85	86	87	87	88
9	50th	95	96	98	100	102	103	104	57	58	59	60	61	61	62
	90th	109	110	112	114	115	117	118	72	73	74	75	76	76	77
	95th	113	114	116	118	119	121	121	76	77	78	79	80	81	81
	99th	120	121	123	125	127	128	129	84	85	86	87	88	88	89
10	50th	97	98	100	102	103	105	106	58	59	60	61	61	62	63
	90th	111	112	114	115	117	119	119	73	73	74	75	76	77	78
	95th	115	116	117	119	121	122	123	77	78	79	80	81	81	82
	99th	122	123	125	127	128	130	130	85	86	86	88	88	89	90
11	50th	99	100	102	104	105	107	107	59	59	60	61	62	63	63
	90th	113	114	115	117	119	120	121	74	74	75	76	77	78	78
	95th	117	118	119	121	123	124	125	78	78	79	80	81	82	82
	99th	124	125	127	129	130	132	132	86	86	87	88	89	90	90
12	50th	101	102	104	106	108	109	110	59	60	61	62	63	63	64
	90th	115	116	118	120	121	123	123	74	75	75	76	77	78	79
	95th	119	120	122	123	125	127	127	78	79	80	81	82	82	83
	99th	126	127	129	131	133	134	135	86	87	88	89	90	90	91

Blood Pressure Levels for Boys by Age and Height Percentile

Age (Year)	BP Percentile ↓	Systolic BP (mmHg)							Diastolic BP (mmHg)						
		← Percentile of Height →							← Percentile of Height →						
		5th	10th	25th	50th	75th	90th	95th	5th	10th	25th	50th	75th	90th	95th
13	50th	104	105	106	108	110	111	112	60	60	61	62	63	64	64
	90th	117	118	120	122	124	125	126	75	75	76	77	78	79	79
	95th	121	122	124	126	128	129	130	79	79	80	81	82	83	83
	99th	128	130	131	133	135	136	137	87	87	88	89	90	91	91
14	50th	106	107	109	111	113	114	115	60	61	62	63	64	65	65
	90th	120	121	123	125	126	128	128	75	76	77	78	79	79	80
	95th	124	125	127	128	130	132	132	80	80	81	82	83	84	84
	99th	131	132	134	136	138	139	140	87	88	89	90	91	92	92
15	50th	109	110	112	113	115	117	117	61	62	63	64	65	66	66
	90th	122	124	125	127	129	130	131	76	77	78	79	80	80	81
	95th	126	127	129	131	133	134	135	81	81	82	83	84	85	85
	99th	134	135	136	138	140	142	142	88	89	90	91	92	93	93
16	50th	111	112	114	116	118	119	120	63	63	64	65	66	67	67
	90th	125	126	128	130	131	133	134	78	78	79	80	81	82	82
	95th	129	130	132	134	135	137	137	82	83	83	84	85	86	87
	99th	136	137	139	141	143	144	145	90	90	91	92	93	94	94
17	50th	114	115	116	118	120	121	122	65	66	66	67	68	69	70
	90th	127	128	130	132	134	135	136	80	80	81	82	83	84	84
	95th	131	132	134	136	138	139	140	84	85	86	87	87	88	89
	99th	139	140	141	143	145	146	147	92	93	93	94	95	96	97

Blood Pressure Levels for Girls by Age and Height Percentile

Age (Year)	BP Percentile ↓	Systolic BP (mmHg)							Diastolic BP (mmHg)						
		← Percentile of Height →							← Percentile of Height →						
		5th	10th	25th	50th	75th	90th	95th	5th	10th	25th	50th	75th	90th	95th
2	50th	85	85	87	88	89	91	91	43	44	44	45	46	46	47
	90th	98	99	100	101	103	104	105	57	58	58	59	60	61	61
	95th	102	103	104	105	107	108	109	61	62	62	63	64	65	65
	99th	109	110	111	112	114	115	116	69	69	70	70	71	72	72
3	50th	86	87	88	89	91	92	93	47	48	48	49	50	50	51
	90th	100	100	102	103	104	106	106	61	62	62	63	64	64	65
	95th	104	104	105	107	108	109	110	65	66	66	67	68	68	69
	99th	111	111	113	114	115	116	117	73	73	74	74	75	76	76
4	50th	88	88	90	91	92	94	94	50	50	51	52	52	53	54
	90th	101	102	103	104	106	107	108	64	64	65	66	67	67	68
	95th	105	106	107	108	110	111	112	68	68	69	70	71	71	72
	99th	112	113	114	115	117	118	119	76	76	76	77	78	79	79
5	50th	89	90	91	93	94	95	96	52	53	53	54	55	55	56
	90th	103	103	105	106	107	109	109	66	67	67	68	69	69	70
	95th	107	107	108	110	111	112	113	70	71	71	72	73	73	74
	99th	114	114	116	117	118	120	120	78	78	79	79	80	81	81
6	50th	91	92	93	94	96	97	98	54	54	55	56	56	57	58
	90th	104	105	106	108	109	110	111	68	68	69	70	70	71	72
	95th	108	109	110	111	113	114	115	72	72	73	74	74	75	76
	99th	115	116	117	119	120	121	122	80	80	80	81	82	83	83
7	50th	93	93	95	96	97	99	99	55	56	56	57	58	58	59
	90th	106	107	108	109	111	112	113	69	70	70	71	72	72	73
	95th	110	111	112	113	115	116	116	73	74	74	75	76	76	77
	99th	117	118	119	120	122	123	124	81	81	82	82	83	84	84
8	50th	95	95	96	98	99	100	101	57	57	57	58	59	60	60
	90th	108	109	110	111	113	114	114	71	71	71	72	73	74	74
	95th	112	112	114	115	116	118	118	75	75	75	76	77	78	78
	99th	119	120	121	122	123	125	125	82	82	83	83	84	85	86
9	50th	96	97	98	100	101	102	103	58	58	58	59	60	61	61
	90th	110	110	112	113	114	116	116	72	72	72	73	74	75	75
	95th	114	114	115	117	118	119	120	76	76	76	77	78	79	79
	99th	121	121	123	124	125	127	127	83	83	84	84	85	86	87
10	50th	98	99	100	102	103	104	105	59	59	59	60	61	62	62
	90th	112	112	114	115	116	118	118	73	73	73	74	75	76	76
	95th	116	116	117	119	120	121	122	77	77	77	78	79	80	80
	99th	123	123	125	126	127	129	129	84	84	85	86	86	87	88
11	50th	100	101	102	103	105	106	107	60	60	60	61	62	63	63
	90th	114	114	116	117	118	119	120	74	74	74	75	76	77	77
	95th	118	118	119	121	122	123	124	78	78	78	79	80	81	81
	99th	125	125	126	128	129	130	131	85	85	86	87	87	88	89
12	50th	102	103	104	105	107	108	109	61	61	61	62	63	64	64
	90th	116	116	117	119	120	121	122	75	75	75	76	77	78	78
	95th	119	120	121	123	124	125	126	79	79	79	80	81	82	82
	99th	127	127	128	130	131	132	133	86	86	87	88	88	89	90

Blood Pressure Levels for Girls by Age and Height Percentile

Age (Year)	BP Percentile ↓	Systolic BP (mmHg)							Diastolic BP (mmHg)						
		← Percentile of Height →							← Percentile of Height →						
		5th	10th	25th	50th	75th	90th	95th	5th	10th	25th	50th	75th	90th	95th
13	50th	104	105	106	107	109	110	110	62	62	62	63	64	65	65
	90th	117	118	119	121	122	123	124	76	76	76	77	78	79	79
	95th	121	122	123	124	126	127	128	80	80	80	81	82	83	83
	99th	128	129	130	132	133	134	135	87	87	88	89	89	90	91
14	50th	106	106	107	109	110	111	112	63	63	63	64	65	66	66
	90th	119	120	121	122	124	125	125	77	77	77	78	79	80	80
	95th	123	123	125	126	127	129	129	81	81	81	82	83	84	84
	99th	130	131	132	133	135	136	136	88	88	89	90	90	91	92
15	50th	107	108	109	110	111	113	113	64	64	64	65	66	67	67
	90th	120	121	122	123	125	126	127	78	78	78	79	80	81	81
	95th	124	125	126	127	129	130	131	82	82	82	83	84	85	85
	99th	131	132	133	134	136	137	138	89	89	90	91	91	92	93
16	50th	108	108	110	111	112	114	114	64	64	65	66	66	67	68
	90th	121	122	123	124	126	127	128	78	78	79	80	81	81	82
	95th	125	126	127	128	130	131	132	82	82	83	84	85	85	86
	99th	132	133	134	135	137	138	139	90	90	90	91	92	93	93
17	50th	108	109	110	111	113	114	115	64	65	65	66	67	67	68
	90th	122	122	123	125	126	127	128	78	79	79	80	81	81	82
	95th	125	126	127	129	130	131	132	82	83	83	84	85	85	86
	99th	133	133	134	136	137	138	139	90	90	91	91	92	93	93

National Cholesterol Education Program Classification of Total and LDL Levels in Children and Adolescents

<i>Category</i>	<i>Total Cholesterol (mg/dL)</i>	<i>LDL Cholesterol (mg/dL)</i>	<i>Triglycerides 0-9 years</i>	<i>Triglycerides 10-19 years</i>
Acceptable	<170	<110	<75	<90
Borderline	170-199	110-129	75-99	90-129
High	≥200	≥130	≥100	≥130

Source: National Institutes of Health, National Heart, Lung and Blood Institute, National Cholesterol Education Program. *Report of the Expert Panel on Blood Cholesterol Levels in Children and Adolescents*. Bethesda, Md: National Institutes of Health; 1991.

healthy families for life . . .



10/2013

Addendum Assessment & Counseling Form_Pediatric Overweight

Name _____ DOB _____ Record # _____

Assessment

Date	BMI	BMI:Age Percentile	BP	BP:Age Percentile	Hrs PA*	Hrs Sedentary	FL Quiz Score**	Pledge Signed?

* Structured and leisure physical activity per week

** Family Lifestyle Quiz

Date	Total Cholesterol	LDL	BS	Liver enzymes	Thyroid Function	Serum/urinary Cortisol

Family history of obesity	Y	N	Depression	Y	N	
Number of months breastfed	_____	Mos	Altered self esteem	Y	N	
# of previous weight loss attempts	_____		Altered body image	Y	N	
Does pt/caregiver see overweight as a problem	Y	N	Striae	Y	N	
Oligomenorrhea	Y	N	NA	Hirsutism	Y	N
Amenorrhea	Y	N	NA	Acanthosis nigricans	Y	N
Snoring	Y	N	Hepatomegaly	Y	N	
Breathing difficulties	Y	N	Hip or knee pain	Y	N	
Daytime somnolence	Y	N	Leg bowing	Y	N	
Perceived causes of weight gain	_____					

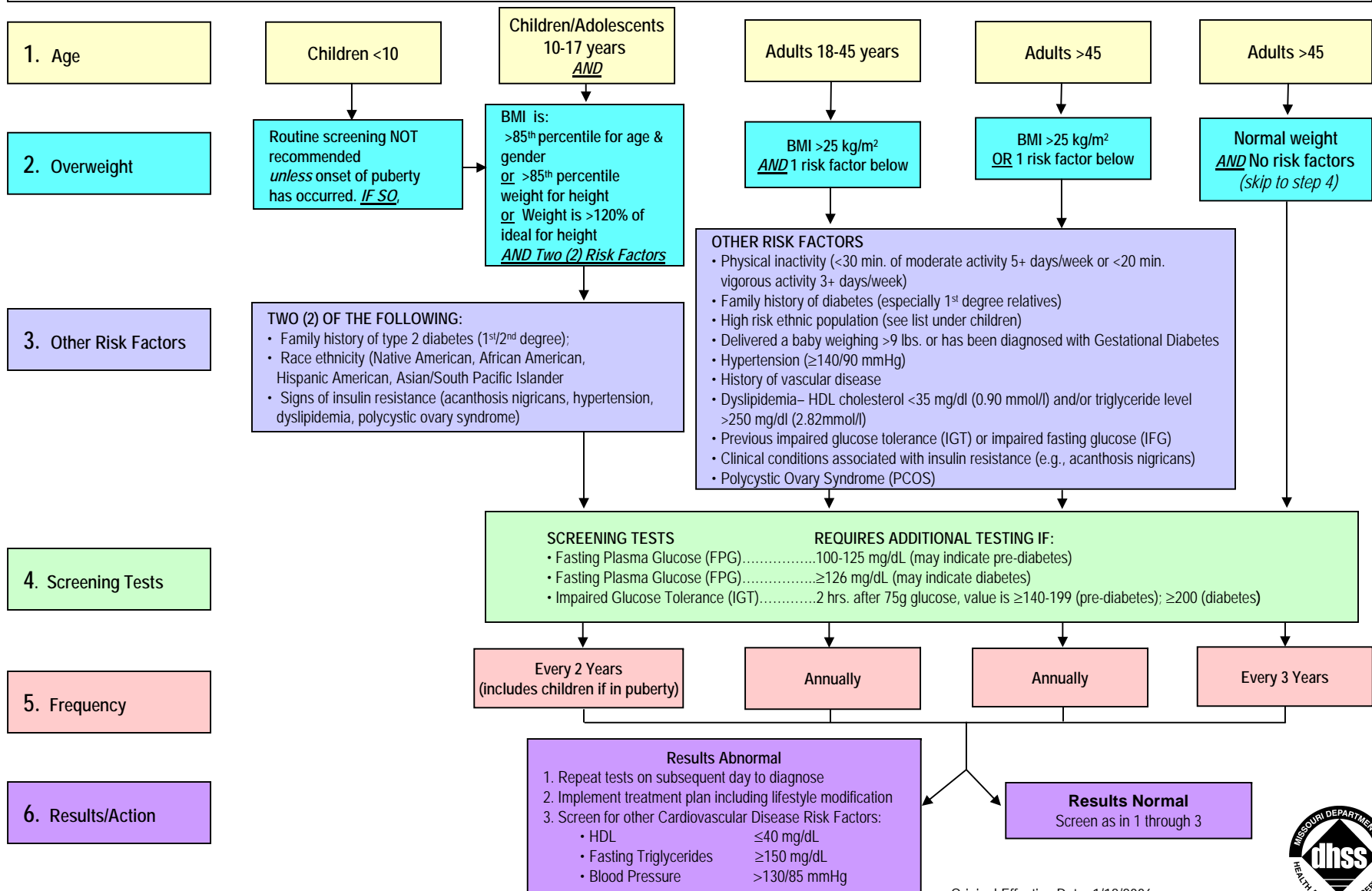
Family Counseling

	<u>Date</u>		<u>Date</u>		<u>Date</u>
Complications of overweight	_____	Empty calories	_____	Eating breakfast	_____
Parent as role models	_____	Healthy drinks	_____	Dining out	_____
Calcium intake	_____	Healthy snack foods	_____	Limiting fast foods	_____
Fruits and vegetables	_____	Portion size	_____		_____
Physical activity	_____	Limit screen time (TV/computer/games)	_____		_____

State of Missouri Consensus Screening Guidelines for Pre-diabetes and Diabetes in a Medical Setting

Developed by the Diabetes Screening Guidelines Work Group and supported by the Missouri Association of Health Plans Education and Research Foundation and the Missouri Department of Health and Senior Services

Consensus Panel Recommendations: Although the entire Missouri population is at risk for diabetes, current evidence is insufficient to recommend for or against routinely screening asymptomatic individuals for type 2 diabetes, impaired glucose tolerance, or impaired fasting glucose. The purpose of screening is to identify persons previously not diagnosed with pre-diabetes or diabetes. To effectively utilize resources, screening efforts should be directed to individuals exhibiting risks for diabetes as outlined below. Additional research is needed to determine effective approaches for screening in venues outside the medical setting.



Reference: American Diabetes Association Standards of Medical Care in Diabetes, Diabetes Care 28:S5-S7, 2005.

Original Effective Date: 1/18/2006



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Diabetes

1-800-316-0935

Missouri Department of Health & Senior Services

Bureau of Cancer and Chronic Disease Control

www.dhss.mo.gov/diabetes

Web Sites

Academy of Nutrition & Dietetics

www.eatright.org

Provides health professionals and consumers with science-based food and nutrition information including research articles, dietary guidelines, fact sheets and educational resources.

American Academy of Pediatrics

www.aap.org

Provides professional education and parenting resources including nutrition tips, books and other publications. Locate obesity to view Overweight and Obesity AAP recommendations, summary and conclusions.

American Academy of Family Physicians

www.aafp.org

Provides information for health care professionals including clinical care and research, practice management and publications. Learn more about Americans in Motion (AIM) and order AIM to Change tool kit.

American Medical Association

www.ama-assn.org

Information for health care professionals including resources, standards and publications. Locate professional resources for information on CPT codes.

Centers for Disease Control and Prevention

www.cdc.gov

Provides information for health care professionals and consumers on overweight and obesity, state-based programs and resources.

Centers for Disease Control and Prevention Nutrition and Physical Activity Program

www.cdc.gov/needphp/dnpa

Provides science-based activities for children and adults. Focuses on the role of nutrition and physical activity in prevention and control of chronic disease.

Missouri Council for Activity and Nutrition

www.mocan.org

Provides information about statewide obesity prevention efforts.

United States Department of Agriculture

MyPlate Kids' Place

<http://www.choosemyplate.gov/kids/index.html>

Information for professionals and consumers including nutrition tips, sample menus, recipes, interactive games and resources.

Kids Eat Right

<http://www.eatright.org/kids/>

Provides scientifically-based health and nutrition information, recipes and activities.

Team Nutrition

www.fns.usda.gov/tn

Team nutrition supports the Child Nutrition Programs through training and technical assistance for food service, nutrition education for children and their caregivers, and school and community support for healthy eating and physical activity. Locate links to sister web sites: Healthy Meals Resource System and Healthier U.S. Schools Challenge.

Food and Nutrition Information Center

www.nal.usda.gov/fnic

A directory to resources for consumers, nutrition and health professionals, educators and government personnel. Locate printable format educational materials, government reports, and research papers, as well as Dietary Guidelines and MyPlate personalized plans.

Maternal and Child Health Library

www.mchlibrary.info

This index includes biographies, knowledge paths, organization lists, publications and MCH links.

National Association of Pediatric Nurse Practitioners

www.napnap.org

Provides information about H.E.A.T. (Healthy Eating and Activity Together).

National Heart, Lung, and Blood Institute

www.nhlbi.nih.gov

Provides information on programs We Can! (Ways to Enhance Children's Activity and Nutrition) and Hearts N' Parks, and clinical guidelines on overweight and obesity and the NHLBI Obesity Initiative.

President's Challenge

www.presidentschallenge.org

Provides information on The President's Challenge program including incentives and physical activity tracking forms for kids and teens.

Weight Control Information Network

www.win.niddk.nih.gov/index.htm

Provides the general public, health professionals, the media, and congress with up-to-date, science-based information on weight control, obesity, physical activity and related nutrition issues.

Web Sites for Kids

Activate

www.kidnetic.com

Interactive site where kids can play games that get them moving, locate recipes, and learn about the human body.

American Council of Exercise

www.acefitness.org

Provides health and fitness tips for professionals and consumers.

Body and Mind

www.bam.gov

Interactive site for kids to learn about diseases, food and nutrition, physical activity, safety and their bodies.

Bright Futures

www.brightfutures.org

Provides information for health professionals and consumers on the health and well-being of infants, children and adolescents.

HealthFinder

www.healthfinder.gov

Provides health information for professionals and consumers from kids to seniors of various race and ethnicity.

KidsHealth

www.kidshealth.org

Provides separate interactive sections for parents, children and teens.

National Diabetes Education Program

www.ndep.nih.gov

Provides diabetes information for health care professionals, business, schools and consumers.

President's Council on Physical Fitness and Sports

www.fitness.gov

Provides information for professionals and the general public on exercise related to a healthy lifestyle. Includes information on the President's Challenge program including incentives and physical activity tracking forms for kids and teens.

Local Resources

County Health Department

<http://www.health.mo.gov/living/lpha/lphas.php>

County Extension

<http://extension.missouri.edu/directory/Places.aspx>

YMCA

<http://www.missouriymcas.org/index2.html>



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