

PEDIATRIC NUTRITION GUIDE: FROM A NURSING PERSPECTIVE

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by

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Table of Contents

SENIOR THESIS: PEDIATRIC NUTRITION GUIDE: FROM A NURSING
PERSPECTIVE1

REFERENCES.....12

APPENDIX

1. PEDIATRIC NUTRITON GUIDE: FROM A NURSING PERSPECTIVE
BOOKLET.....16

2. REFERENCES.....39

Senior Thesis: Pediatric Nutrition Guide: From a Nursing Perspective

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Abstract

There has been a dramatic increase in obesity in children globally. The World Health Organization (WHO) has estimates (as cited in Gaffney, Kitsantas, Brito, & Kastello, 2014) that over forty-million children under the age of five years old are overweight or obese. Not only is it affecting adults, it is also a growing concern for children as well. Trends have shown that obesity is increasing with no hint of slowing down. Nutrition and lifestyle are the key factors affecting obesity. What if a parent is unaware of how much a child should be eating or what they should be eating? Without this knowledge, children could be overfed or fed an unhealthy diet. Family education regarding proper pediatric nutrition is lacking in inner-city communities and communities with high poverty rates, which can be evidenced by the climbing rate of obesity in children within these areas. A child can be taught the difference between healthy and unhealthy foods, but needs the support of their caretakers to prepare and organize meals to help avoid becoming overweight. The objective of this project is to develop an easy-to-use guide about healthy pediatric nutrition from infancy through adolescence for family education purposes. This guide has been designed in simplistic terms in order to be used by families with limited knowledge of key guidelines to healthy pediatric nutrition through examples and factual information and focuses on the major points of infant, toddler, preschool, school-age, and adolescent nutrition through examples and facts.

Pediatric Nutrition

Obesity is a topic that causes concern. Obesity causes healthy related issues and social problems as well in pediatrics and in adults alike. Obesity is not only affecting adults, but is affecting children. Now, more than ever, overweight and obese children are common and the number of children affected is only growing. According to Ogden, Carroll, Kit, & Flegal (as cited in Hodges, Smith, Tidwell, & Berry, 2013) in the United States, 21.1% of preschoolers are overweight while an additional 10.4% are obese. A child cannot be held responsible for being obese; however, nutrition, genetics, environment, and activity levels are all factors to be included.

In the past, it was thought that children would outgrow obesity, or grow into their body. Recently studies have disproved this theory (Lee et al., 2010). It has been determined that children reflect their parents lifestyle, so by adopting their families eating and physical activity habits, this can make children at risk for becoming overweight or obese (Rutkowski & Connelly, 2011). Knowing this, the need for education on pediatric nutrition is prominent in inner-city communities and communities with high poverty rates, which can be evidenced by the climbing rate of obesity in children within these areas (Lee et al., 2010). Working to help families understand what can be done to reverse, or prevent, childhood obesity is of primary concern. Without educational resources, the valuable information families need to combat childhood obesity is lost as well as awareness to the consequences obesity can lead to.

Obesity makes a child open to social as well as health related issues including bullying, decreased self-esteem, and malnutrition. Obesity can lead to type two diabetes, heart disease, hypertension, dyslipidemia, and place individuals at higher risk for co-morbidities (American Heart Association [AHA], 2013a). Health concerns associated with childhood obesity are serious issues. Nutrition and activity can be used to counteract obesity and prevent it; conversely, high energy intake and physical inactivity are the key components in the progress of obesity (Hodges et al., 2013). Children, especially preschoolers, are exemplifying low levels of activity through the day which could account for the increase in obesity in that age group (Hodges et al., 2013). With time, effort, and education, childhood obesity can be prevented.

Developmental Effects Of Inadequate Nutrition

From the time a child is conceived until well into early adult life, the human brain is continuously developing and forming. Nutrition plays a key role in the development, physically and mentally, of the brain. An inadequate diet, depriving the child of needed nutrients, can lead to malformation of the brain causing physical and cognitive impairments (Rosales, Reznick, & Zeisel, 2009). Knowing this, it is apparent that nutrition is playing a key role in how children develop, thus the need for proper nutrition is increasing.

Childhood Obesity Rates

Obesity is measured by a person's body mass index (BMI). Normal BMI is between 18.5-24%. Any BMI greater than 25% is considered overweight, and greater

than 30% is considered obese (National Heart, Lung and Blood Institute [NHLBI], 2014). In the United States, children from low income, inner-city, and minority families are at the highest risk for obesity (Goodell, WakeField, & Ferris, 2009). According to the American Heart Association, childhood obesity most likely affects children of African American, and Mexican American descent. It may seem like only certain populations are at risk, but with the jumping rates, every child is at risk when a family is not educated on how to prevent obesity.

Childhood obesity for children 6-11 years of age has increased from 4.0% to 18.0% while rates for adolescents from ages 12-19 have increased from 6.1% to 18.4% in 2010 (AHA, 2013a). Mounting evidence is showing that nutrition and physical activity are not understood globally since obesity rates for children are soaring. In some cultures, weight gain, even in excess to where the child is considered over weight, is seen as healthy and is viewed with pride (Gaffney et al., 2014). Childhood obesity has become an epidemic that needs contained (AHA, 2013a)

Childhood Hunger

Though improper nutrition can lead to obesity, hunger is another form of improper nutrition. In 2013, 3.9 million households with children in them suffered from food insecurity (Food Insecurity, 2013). As with childhood obesity, childhood hunger can lead to developmental delays and a decrease in health status (Food Insecurity, 2013). Hunger deprives a child of needed nutrients as well, just as poor nutrition does, so a child

is at risk for impaired brain development just as a child who is eating a poor diet is (Food Insecurity, 2013).

Other health related consequences to hunger include headaches, stomachaches, hospitalizations which can lead to death (Food Insecurity, 2013). When looking for ways to combat hunger, some of the same barriers seen in childhood obesity are faced. Many times, a lack of resources for families to get food are to blame as well as poverty (Food Insecurity, 2013). Poverty can lead to hunger, because the funds to buy food are not there, and obesity as well, because the funds that are available to buy food are used to purchase large amounts of non-nutritious food that lead to obesity.

High Risk Populations For Childhood Obesity

From the statistics presented above, children from African American and Mexican American backgrounds are more likely to be victims of childhood obesity (AHA, 2013a). Of American children, “36.9% of non-Hispanic black males and 41.3% females, 40.5% of Mexican American males and 38.2% females measured to be overweight or obese while 30.1% of non-Hispanic white males and 25.6% females measured to be overweight or obese,” (AHA, 2013a). These children were between the ages of two to nineteen years of age and measured using the BMI scale and measured at the 95th percentile or higher (AHA, 2013a). Along with this, families living in inner-cities are at a greater disadvantage as well. In inner-cities, resources are not abundant to low-income families. Many children in the preschool age were found to not meet the daily requirements for physical activity (Hodges et al., 2013).

According to Lee et al. (2010), obese children are at higher risk of staying obese as adults and developing health related conditions. Obesity as a child increases the chances that the child will one day develop cardiovascular issues, insulin resistance or other weight-related consequences leading to increased mortality (Agarwal et al., 2013).

Prevention Of Childhood Obesity

There are many things that can factor into childhood obesity. Families may not have income to buy fresh, nutritious food for a balanced diet, may not have easy access to a super market, or there may not be anywhere for the children to get the exercise they need. In addition to these challenges, families may not be properly educated about childhood obesity and ways to prevent it in their children with proper diet and adequate exercise.

Discussions about interventions concerning preventing or treating childhood obesity should be focused on “permanent changes in eating habits” rather than short term diets. Weight change takes time and should be gradual (AHA, 2013a). Losing weight in a short amount of time is not healthy and usually will not remain permanent (AHA, 2013a). Activity levels should also be increased to help lower weight. It is recommended that all children that are two years of age or older receive at least sixty minutes of high energy activity, or play each day (AHA, 2013b). Exercise is recommended and necessary to lose and maintain a healthy weight. Famous political figures have taken a stance on the obesity crisis in children and have implemented programs in schools which encourage kids to live a healthy lifestyle.

Michelle Obama and Chelsea Clinton have stressed the importance of physical activity and healthy eating habits. Michelle Obama started the “Let’s Move” campaign to help spread the word to children that being physically active and eating healthy food makes a difference (Lets Move, 2014). The website features an array of healthy recipes and snack options as well as photos of famous professional athletes to help convey the message that diet and exercise are important. Chelsea Clinton, through the Clinton Foundation Alliance for a Healthier Generation, started a campaign in which schools replace unhealthy snacks and beverages with healthy snacks and beverages in vending machines (Clinton Foundation, 2014). The Healthy Schools Program supports over 16,000 schools across America and has seen a 90% reduction in calories shipped to schools by pairing up with major drink manufactures (Clinton Foundation, 2014).

Education And Obesity

Education is a key component to obesity prevention. Without education on how to change, or what to change, families will constantly be fighting an up-hill battle. If a family does not know what a balanced diet for a toddler should be, they might feed the toddler adult portions. Educating families about healthy snacks to give children is important as well. Snack foods may be thought of as chips and candy, but healthy snacks should be low in calories, fat and sugar. An apple is an example of a nutritional snack that is easier to burn off with physical activity than the calorie equivalent in potato chips (AHA, 2014). Families need easy access to resources that will help them to understand what is in their power to change to improve their children’s health and wellbeing.

Pediatric clinics for low income families provide health care and education to help those in need. Resources for individuals to use while in the clinic should be user-friendly. The need for education within areas like inner cities, the highest risk population, is crucial to help prevent obesity in children. Hager et al.(as cited in (Gaffney et al., 2014), stated that 80% of mothers of overweight toddlers thought that their child's weight was within normal range rather than noticing that there was a problem. This highlights the need for education of pediatric weight management and guidance. An easy to understand guide to pediatric nutrition based on current guidelines provides families with age appropriate information to properly manage diet and exercise to avoid obesity. As a nation, now is the time to start fighting obesity to keep future generations of children healthier.

Project Completion And Goals And Challenges

Many current nutrition resources are available for families, but the objective is to develop a user-friendly, nutrition guide listing the most important aspects of nutrition. In the healthcare field, there are many resources families utilize to learn about nutrition and seek information. Dispersion of educational information takes place at many organizations include Planned Parenthood, public health clinics, health departments, urgent care facilities, and more. Having a resource for families to use that is basic and age-appropriate regarding pediatric nutrition is valuable for pediatric and family healthcare clinics. The major goal of this project is to educate families on serving sizes, healthy food choices, exercise requirements for children, healthy snacks, and ways to

reduce empty calories in a child's diet. The content in the nutrition guide will provide families with the tools needed to provide the healthiest lifestyle possible for their children and to prevent obesity.

The overall objective of this project is to prevent obesity. Over the last thirty years, pediatric obesity has increased in prevalence (Sample, Carroll, Barksdale, & Jessup, 2013). Seeing trends like this raises a red flag and calls for intervention. Obesity can lead to many body function failures including death (Sample et al., 2013). The literature presented about childhood obesity and its impact on decreased quality of life helped to form my decision to create a nutritional packet for the pediatric client.

Personal Reflection

While working on this project, I encountered many obstacles. First, I had to determine the target audience for my project. When writing an informational packet for public use, it should be written in simple and basic terms. Putting researched information into simple terms can be difficult. Being able to analyze and understand a study takes time, and a high education level. Most individuals in a low income, minority families, living in an inner-city setting, do not possess the skills necessary to fully grasp how a study was conducted or understand the findings. Communicating findings and research in a manner that convey the end results was my biggest challenge throughout this project. Another hurdle I ran into was to consider the means to disperse and publish the newly created informational packet.

Initially, I had hoped to publish and present the packets to outside agencies such as Planned Parenthood, Help Me Grow, and health clinics. I was burdened with duplication issues as well as costs for this task. Distribution of the packets would have been very difficult to accomplish within a reasonable time frame. I am disappointed with this, though I still may be able to succeed in accomplishing this goal in the future as I further my educational pursuits after achieving my bachelor's degrees in nursing.

Conclusion

Since 1963, childhood obesity has almost tripled in its rates (AHA, 2014). The number of children affected continuously climbs, making childhood obesity the number one concern of parents today (AHA, 2014). This does not have to be the case; obesity is treatable. Through education about proper nutrition and exercise, childhood obesity can be counteracted. Resources need to be more readily available for families who need education on nutrition, diet, and exercise requirements for their children. The nutritional booklet that I created, "Pediatric nutrition guide: From a nursing perspective," is aimed to help families realize what a balanced diet consists of and what activity standards are for their children. Hopefully, through time, education, and intervention, childhood obesity can be reduced or eradicated.

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Pediatric Nutrition Guide: From a Nursing Perspective

Created by Erika Young 2014

Introduction

This is a nutrition guide to help families establish healthy eating patterns and plan meals according to their child's age. Each age group of children, infants, toddlers, preschoolers, school-age, and adolescents, has different nutrition requirements. Childhood obesity is a growing concern, with rates continuously rising. This booklet is designed to help prevent and reverse childhood obesity.

Nutrition affects many other functions of the body other than weight too. Behavior patterns and brain development are highly affected by nutrition as well (2). Some nutrients act as "switches" that help "turn on" certain genes in the body and specifically in the brain. If a child does not receive adequate nutrition, some "switches" will not be "turned on" and the child can suffer from developmental delays such as short-term and long term memory impairment, and learning disabilities (2). The brain is altered by the lack of nutrients in foods that are highly processed such as canned meats, fried foods, T.V. dinners, and junk food. Food high in added sugars, such as pop, artificial fruit juice, candy, popsicles, and punch, lack adequate nutrients as well. Foods like these do not deliver what the child needs to grow and develop in a healthy way.

Each meal time should be treated as a family activity and be a positive experience. Also, each child should be getting adequate exercise. Habits established by children are often copied from their parents (3). If a child sees his or her parents eating unhealthy food daily and not exercising, this child will usually adopt the same habits because that is what is normal for them (3). Knowing this, changing family lifestyle nutrition is a positive goal as well. If a family eats healthy together and exercises regularly, a child will have a decreased risk for becoming overweight or obese.

Rules for All:

- 1) Each meal time should be spent as a family. This means that everyone should eat together without distractions of a T.V., cellphone, or any other device. This enhances family bonding and allows for a positive atmosphere.

- 2) Discussions during meal time should be positive, such as talking about how each other's day went and allowing children to have a conversation with their parents.
- 3) Do not use food as a punishment. Children should not be made to clear their plate if they are full or forced to eat something that others are not eating as well. This creates a hostile environment and bad eating habits.
- 4) Food should also not be used as rewards. Rewarding a child with food creates bad eating habits by a child associating accomplishments with eating poorly. Emotional eating increases the risk of obesity. Try using exercise as a reward. For example, if you finish your homework before 5pm, we can take a walk as a family.
- 5) Children should be getting at least 60 minutes of high energy exercise a day (1). Even infants can be active by doing tummy time and being interacted with. Exercise should be incorporated in to everyday. Exercise can also be a family event.
- 6) Try to use fresh vegetables and fruits when possible. The next preference would be frozen vegetables and fruits then canned vegetables and fruits.

Infant: Age 1 month to 12 months old



Infancy is an ever changing phase. Infants grow quickly and their eating patterns change rapidly as well. During this phase of life, brain development is the key element. Through infancy, babies develop fine and gross motor skills, such as picking up block and grasping bit sized pieces of food, language function, and social bonds as well (1). This is an important time since their brain is forming and nutrition plays a key role.

Nutrition and Intake

Below is a descriptive eating habit chart (3).

1 week old: 2-3oz every 2-4 hours

2-4 weeks: 3-4oz every 4 hours

1 month: 3-4oz every 4 hours

2-3 months: 5 feedings a day of 4-6oz

4-5 months: 5-6 feedings of 5-7oz

6-7 months: 4-5 feedings of 6-8oz

8-9 months: 3-4 feedings of 8oz

9-12 months: 3 feedings of 8oz a day

It is encouraged by the American Academy of Pediatrics that an infant receive only breast milk for the first 6 months and continue breast feeding for at least 12months as food are introduced. Breastfeeding is connected with a decreased obesity rate and a decrease in sudden infant death syndrome (SIDS). Along with this, breastfeeding supplies passive immunity, which means that the antibodies that a mother has to viruses and bacteria are passed to the infant during feeding, which builds the infants immune system which lessens their chance of getting sick (2).

At 4-6 months a formula fed infant can be introduced to solids, and at 6 months a breastfed infant can start solids (4). Typically, the first solid food is fortified rice

cereal, followed by vegetables, fruits, and protein (1). It is important to check with your doctor before beginning food introduction (5).

4–7 months: When the baby is ready to try more foods, it is important to start with finely pureed, single ingredient foods such as apples, pears, peas, carrots, squash, etc. Baby food can be bought at a store, or can be made at home in a food processor. After successfully trying individual foods, mixed variety of two foods can be offered, such as peas AND carrots or apples AND pears (5).

At 9 months, chunkier foods can be added and should be tolerated since the baby will be able to eat table foods to fulfill the diet needs (5).

It is the goal to introduce many foods gradually to the baby to expand their diet with textures and variety. If the baby does not like a particular food at first, re-introduce it within a meal another time, such as about 3–7 days later (5).

Sleep and Rest

Sleep and rest patterns for every baby vary, but the American Academy of Pediatrics suggests this is considered an average sleep and rest pattern (1):

0–3 months: At this age, the baby will sleep 12–16 hours in about 5 durations of 30 minutes to 4 hours. The baby will sleep throughout the day and the night.

3–6 months: The baby should sleep 13 hours with longer periods at night than during the daytime with 2–3 naps a day.

6–12 months: The baby should sleep between 12–14 hours with longer periods during the night time and should be taking 1–2 naps during the day.

Important Bits to Keep in Mind

- Avoid over feeding. Over feeding can increase vomiting after meals, or reflux, and increases risk for obesity. Eating habits are hard to change so maintaining a regular and healthy diet is important.
- It is important to wait until after the child is 1 year old to give them honey. This is because spores that could be in the honey can cause

botulism. Honey is fine for adults, but a baby's immune system may not be able to fight it off (5).

- Juice can be introduced to a child at 6 months of age, but no more than 4–6 ounces, and 6 ounces being the maximum for a day (1). Too much juice can lead to dental cavities and diarrhea (1).

For more information, please visit:

USDA Infant Nutrition: <http://fnic.nal.usda.gov/lifecycle-nutrition/infant-nutrition>

Life Stages: <http://www.nutrition.gov/life-stages/infants>

World Health Organization: http://www.who.int/topics/infant_nutrition/en/

Information on homemade baby food:

Homemade Baby Food- Make it Safely:

http://www.foodsafety.gov/blog/homemade_babyfood.html

Homemade Baby Food Recipes: <http://www.homemade-baby-food-recipes.com/>

Toddlers: Age 1-3 years old



Toddlers are at an age where growth and development are the biggest concerns. Nutrition plays a key role in the growth and development of children. Children are now active and mobile. At this age, children are now eating whole foods so diet and proper nutrition are important. This is also an age where obesity has been becoming a growing problem.

Nutrition and Intake

Since a toddler's stomach is small, frequent smaller meals are beneficial. Here is a helpful guide to how much a toddler should be eating throughout the day (3):

Grains: 3–5 ounces (1 ounce is equal to 1 slice of whole grain bread, 1 cup of ready to eat cereal, $\frac{1}{2}$ cup of cooked rice or pasta).

Vegetables: 1– $1\frac{1}{2}$ cups a day (Use measuring cups to measure after cooking. It is important to serve them soft and cooked so the child does not choke).

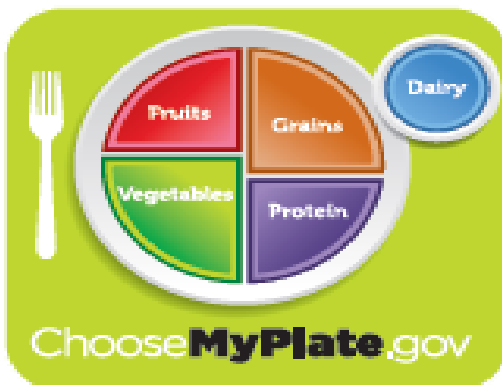
Fruits: 1 cup (1 cup is equal to a medium sized banana)

Milk and dairy: 2 cups (1 cup equals 1 cup of milk or yogurt, 1 $\frac{1}{2}$ ounces of cheese)

Meat, eggs and beans: 2–4 ounces a day (1 ounce is equal to 1 ounce of lean meat or fish, 1 egg, and $\frac{1}{4}$ cup cooked beans) Whole milk for children 1–2 years old and 2% at 2–3 years old (1).

Water: Be sure you are giving your toddler water throughout the day while he or she is playing. Water keeps the toddler hydrated better than juice or other sugary beverages such as soda pop.

Proportions



For a toddler, a serving size is one tablespoon, per year, per food. So a 3-year-old needs to have 3 tablespoons of apple sauce for it to be considered a serving. MyPlate.gov recommended plate portion:

Notice that vegetables are the largest portion, followed by grains, then fruits and protein. Dairy, such as milk or yogurt, is also being served. This is a completed, balanced meal. Also, these are served in portions. There is no need to fill the entire plate (2).

Snacks

Snacks should be healthy and easy to eat. Junk food, like soda, sugary foods, or food high in fat like chips, should not be given to the toddler. Snacks like whole grain crackers, slices of fruit or fruit cups, raisins, cheese, or cut up vegetables are easy to eat and healthy for the toddler.

Play and Exercise

A toddler should be getting at least 60 minutes of play time in a day (1). Play can include high energy play like outdoor activities or playing inside with objects (1). Quiet play includes activities such as coloring, reading, movie time, and rest periods. A toddler needs mom and dad to initiate rest periods and naps (1).

Important Bits to Keep in Mind

- Food should not be used as a punishment. If a child is afraid of meal time, or the food, the child will not want to eat. Also, food should not be used to bribe a child. Rewarding a child with food, such as sweets or junk foods, creates bad eating habits.
- Foods easy to pick up or bite are best for a toddler since they are not masters of forks and spoons.
- Do not force your child to clear their plate. This can lead to bad eating habits like over eating. Over eating can lead to obesity, and other health problems.
- Toddlers need water to stay hydrated throughout the day- and water is better than sugary drinks (1).
- It takes 7 times of trying a food before it is established that the child does not like (1).

For more information, please visit:

Infant and Toddler Forum: <https://www.infantandtoddlerforum.org/>

Nutrition for Young Children: <http://www.health.govt.nz/your-health/healthy-living/babies-and-toddlers/nutrition-young-children-1-year-and-over>

Preschool age: Ages 3-6 years old



As a child grows, nutrition needs and intake grows as well. It is also important to keep a healthy, balanced diet, along with regular exercise, to prevent childhood obesity. Obesity for a child is determined by body mass index (BMI) (1).

Nutrition and Intake

Daily requirements for a preschooler, suggested by the USDA (4):

Grains: 6 servings or more a day (1 serving is one ounce. 1 ounce= 1 slice of bread, $\frac{1}{2}$ cup cooked pasta or rice, $\frac{1}{2}$ cup cooked cereal, $\frac{1}{2}$ of a bagel or English muffin, $\frac{3}{4}$ cup uncooked cereal, 1 medium potato)

Vegetables: 3 or more servings a day (1 serving= 1 cup green leafy vegetables, $\frac{1}{2}$ cup raw, or cooked vegetables. “5 a day rule:” the preschooler should be getting a **combination** of 5 fruit and vegetable servings a day (3).

Fruits: 2 servings a day (1 serving= $\frac{1}{2}$ banana, $\frac{1}{2}$ cup cooked or canned fruit, $\frac{1}{4}$ cup melon, $\frac{1}{2}$ grapefruit, $\frac{1}{2}$ cup berries, $\frac{1}{4}$ cup dried berries, $\frac{3}{4}$ cup 100% fruit juice). “5 a day rule:” the preschooler should be getting a combination of 5 fruit and vegetable servings a day (3).

Milk and dairy: 2 cups or more a day; 2 servings a day (1 serving= 1 cup dairy or soy milk, 1 cup yogurt, $\frac{1}{2}$ cup of cottage cheese, $\frac{1}{2}$ cup pudding, $\frac{1}{2}$ cup ice cream) Also, at this age, you can start using 1% milk.

Meat, eggs and beans: 2 servings or 5 ounce (1 ounce of meat= 1 egg, $\frac{1}{2}$ ounce of nuts, $\frac{1}{4}$ cup of tofu, $\frac{1}{4}$ cup dried beans, lentils, or peas. A 2 ounce portion of meat is slightly less than the size of a deck of cards)

Water: Throughout the day water can be given to the preschooler to make sure he or she stays hydrated.

Snacks

Ants on a log: Clean celery, fill with peanut butter and place raisin on top in a row to look like “ants on a log.”

Fruit kabobs: Cut up favorite fruits and place on a skewer for kabobs that are easy to eat on the go.

“Sushi” for kids: Take a piece of bread and flatten it with a rolling pin. Next place a leaf of lettuce with thinly sliced carrots, and or other vegetables. Roll and slice to look like sushi rolls.

PB & Banana Graham Crackers: Break graham crackers into halves. Spread peanut butter on halves and add bananas on top.

Ranch Dip: Take plain yogurt and add a powdered ranch packet to it (to taste) and stir. Presto! Healthy ranch dip for vegetables!

Fruit Dip: Take vanilla yogurt (or any fruit flavored yogurt) and stir vigorously until whipped and smooth. Serve with fruit!

Yogurt parfaits: Use any flavor yogurt and let kids top with their favorite toppings like fruit, sprinkles, granola, or chocolate chips.

Play and Exercise

Children should be getting at least 60 minutes of high energy activity daily (2). This could include bike riding, roller skating, tee-ball, swimming, playing at a park, dance, baton, or running.

Important Bits to Keep in Mind

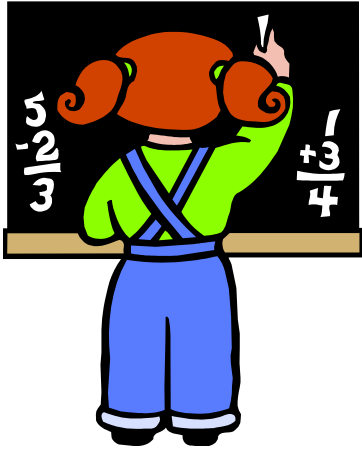
- Let the child go grocery shopping and pick out healthy food they like to eat
- Let them be adventurous, but also do not lose you cool over a picky eater. Encourage them to try new things but do not force them or make meal times a bad experience for them.
- Eat meals together to encourage family bonding and conversation. This will help to improve relations and healthy eating habits.

- Do not let the child eat in front of the TV and serve snacks in a bowl instead of allowing a child to eat out of a container. This allows for portion control.

For more information, please visit:

Choose My Plate: <http://www.choosemyplate.gov/preschoolers.html>

Kids Eat Right: <http://www.eatright.org/kids/>



School age: Age 6-12 years old



Every child is different. Some children will not be such picky eaters while others are extremely picky eaters. Some will try all sorts of new foods while others prefer to not step outside the box, at all. It takes patience to go through this. Being calm and understanding is better than losing it and yelling at the child. Through this age, children should start to venture outside of their comfort zone and try food they think they do not like or have not liked (4). It takes seven times of eating a food for an individual to determine that they do not like it, so keep that in mind!

Nutrition and Intake

The school aged child may not be growing rapidly like an infant, but their intake is increasing. This is a time in the child's life where eating habits are being formed (3). For an active 6–8 year old, intake should be around 1,500 calories a day. If your child is receiving less than 1 hour of physical activity a day, they should receive less than 1,500 calories a day to prevent obesity (2).

An active 9–12 year old needs around 2,000 calories a day. If your child is receiving less than 1 hour of endurance activity a day, they should receive around 1,500 calories a day to prevent obesity (1).

Each child in this age group still needs the basic food group requirements. Based on 2,000 calories, servings suggested by the USDA are as follows (5):

Grains: 6 servings a day. 1 ounce is considered a serving. At least half of the servings should be whole grains (1 ounce= 1 slice of bread, $\frac{1}{2}$ cup cooked pasta or rice, $\frac{1}{2}$ cup cooked cereal, $\frac{1}{2}$ of a bagel or English muffin, $\frac{3}{4}$ cup uncooked cereal, 1 medium potato)

Vegetables: 5 servings a day (1 serving= 1 cup green leafy vegetables, $\frac{1}{2}$ cup raw or cooked vegetables) Raw vegetables have the most nutrients in them, but frozen and canned are still good too!

Fruits: 4 servings. (1 serving= $\frac{1}{2}$ banana, $\frac{1}{2}$ cup cooked or canned fruit, $\frac{1}{4}$ cup melon, $\frac{1}{2}$ grapefruit, $\frac{1}{2}$ cup berries, $\frac{1}{4}$ cup dried berries, $\frac{3}{4}$ cup 100% fruit juice).

Milk and dairy: 3 cups a day (1 serving= 1 cup dairy or soy milk, 1 cup yogurt, $\frac{1}{2}$ cup of cottage cheese, $\frac{1}{2}$ cup pudding, $\frac{1}{2}$ cup ice cream (Limit! Frozen yogurt works too!))

Meat, eggs and beans: $5\frac{1}{2}$ ounces of lean meats, fish, poultry, beans, eggs, or nuts (1 ounce of meat= 1 egg, $\frac{1}{2}$ ounce of nuts, $\frac{1}{4}$ cup of tofu, $\frac{1}{4}$ cup dried beans, lentils, or peas. A 2 ounce portion of meat is slightly less than the size of a deck of cards)

Water: Children should be drinking water throughout the day to stay hydrated, especially while being active (3)! Replacing soda pop with water is a smart choice to avoid weight gain.

Staying Healthy

Avoid fast food! Fast food is easy and convenient for the busy family, but it is high in fat, grease and salt! Eating it every now and then is not bad, but when it becomes what is eaten mostly during the week, it leads to weight gain. Eating out for a family should be a treat. A child should not be eating out more frequently than eating in. It is not healthy. Promote balanced healthy meals. It is more beneficial for a child's nutrition to eat at home. Avoid television and video games. These age groups should be limited to less than 2 hours of video/TV time a day (1). TV and video games promote a sedentary lifestyle, which is not healthy and leads to overweight and obesity.

Exercise and Play

Keep your child active! By being involved in school sports or activities, your child is getting exercise that he or she needs to be fit and active. Dance, baton, gymnastics or baseball, pee-wee football, keeping your child in activities is healthy for social development, cognitive development, and nutrition and weight management. Children should be getting at least 60 minutes of play a day (3)!

Important Bits to Keep in Mind

- Let children go grocery shopping and pick healthy foods they like. It's a simple way to keep them involved in food choices!

- Let the child participate in cooking/preparing the meals! With supervision, a child can peel vegetables with peelers, wash fruits and vegetables, and can help mix food together. Also, they can prepare the table for dinner for the family to eat.
- Make eating time fun- eat as a family and discuss the day. Meal time is not a time for punishment and lecture.

For more information, please visit:

Life Stages: <http://www.nutrition.gov/life-stages/children>

Nutrition for Children and Teens:

http://www.helpguide.org/life/healthy_eating_children_teens.htm

Adolescent: Ages 12-18



The adolescent phase of the growing child starts when puberty hits. This phase can last until 18 years of age until or until around 25 years of age (3). At this age, children are learning to become adults and making their own decisions. Making the right diet choices is important to stay a healthy weight.

Nutrition and Intake

This is a time when nutrition is ultimately important, along with good exercise! Teens need to be active in order to start their adult years off right. Healthy choices and adequate exercise can help a teen deal with changes, and manage their appearance.

A teenager should be getting 2,000 calories a day and more if they are active (5) Diets should be adjusted for activity. Based on 2,000 calories a day, servings suggested by the USDA are as follows:

Grains: 6 servings a day. 1 ounce is considered a serving. Try to eat as many whole grains as possible (1 serving (ounce)= 1 slice of bread, $\frac{1}{2}$ cup cooked pasta or rice, $\frac{1}{2}$ cup cooked cereal, $\frac{1}{2}$ of a bagel or English muffin, $\frac{3}{4}$ cup uncooked cereal, 1 medium potato)

Vegetables: 5 servings a day (1 serving= 1 cup green leafy vegetables, $\frac{1}{2}$ cup raw or cooked vegetables (hint: raw vegetables have more nutrients in them!))

Fruits: 4 servings. (1 serving= $\frac{1}{2}$ banana, $\frac{1}{2}$ cup cooked or canned fruit, $\frac{1}{4}$ cup melon, $\frac{1}{2}$ grapefruit, $\frac{1}{2}$ cup berries, $\frac{1}{4}$ cup dried berries, $\frac{3}{4}$ cup 100% fruit juice—avoid added sugars!!)

Milk and dairy: 3 cups a day (1 serving= 1 cup dairy or soy milk, 1 cup yogurt, $\frac{1}{2}$ cup of cottage cheese, $\frac{1}{2}$ cup pudding, $\frac{1}{2}$ cup ice cream (Limit! Frozen yogurt works too!))

Meat, eggs and beans: $5\frac{1}{2}$ ounces of lean meats, fish, poultry, beans, eggs, or nuts (1 ounce of meat= 1 egg, $\frac{1}{2}$ ounce of nuts, $\frac{1}{4}$ cup of tofu, $\frac{1}{4}$ cup dried beans, lentils, or peas. A 2 ounce portion of meat is slightly less than the size of a deck of cards)

Water: Water throughout the day is healthy. At this age, an adolescent should be drinking around 8 glasses of water a day– the same as an adult!

Staying Healthy

This child has the ability to make food choices. It is important that the child knows what healthy food is by this point and can make informed decisions. Habits have been formed and this is where teaching healthy habits will pay off! Remaining active is big key along with proper nutrition. Being active burns calories and increases metabolism.

School sports, private organizations, clubs, intramurals and any other group activity is a good way to stay active! Even pets can be motivation to be active– they need walked too!

Do not over salt! Increased salt intake can lead to cardiovascular heart problems and high blood pressure (4).

Limit foods high in sodium such as:

Processed meats such as lunch meat

Chips, pretzels, Fritos, and other junk food

Canned foods such as soups

Boxed meals such as Ramen Noodles and macaroni and cheese

Healthy Weight Management

Keep in mind, there are no secret diets to over-night weight loss. If your child expresses they are looking to lose weight, here are some good tips:

- Are they already at a healthy weight? BMI is the way to determine this. It goes by height and weight (1).
- Be sure they are receiving at least 60 minutes of exercise a day (3)!
- If they are over-weight, healthy eating, empty calorie limiting (like junk food, sweetened beverages and other fats), and exercise are the only way to go! This does not shed pounds over night, but this is the way to keep the pounds off.

- Anorexia and bulimia are serious diseases and should be taken seriously if expected. These are disorders that need to be dealt with, with a health care provider. It is usually young girls who develop these disorders in order to become “skinny” or maintain the “thin” appearance. Both disorders not only affect eating habits and weight management, but they become a way of thinking and determine mental habits as well.
- Do not take weight loss supplements or any other nutrition supplement over-the-counter, unless it is indicated by doctor who sees you regularly.

Important Bits to Keep in Mind

- Avoid fast food!! Limit fast food intake as much as possible and take out! Cooking and eating at home is a way to limit grease, oils, and fats.
- Limit computer, television, and video game time. By limiting it, it decreases the development of a sedentary lifestyle, which can lead to weight gain and obesity.
- Pick vegetables and fruits! These food groups are always good snacks
- Make sure children are getting at least 60 minutes of high energy activity time in a day (2).

For more information, please visit:

Nutrition for Children and Teens:

http://www.helpguide.org/life/healthy_eating_children_teens.htm

Center for Disease Control and Prevention, Adolescent and School Health:

<http://www.cdc.gov/healthyyouth/nutrition/facts.htm>

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