Early Childhood Nutrition: How to Get Feeding off to a Positive and Healthy Start

American Academy of Pediatrics
Dedicated to the Health of All Children
Orange County Chapter

May 23, 2013
Objectives

Through effective counseling techniques, guide parents to strike a balance between providing the fat and calories needed for their child’s growth and development while minimize the risk of future overweight/obesity.

Recognize the nutritional differences of beverages (water, juice, milk and milk substitutes) and equip parents to make the best choices to meet their child’s needs.

Support the parents’ role in helping their child develop long-term healthy eating habits, recognizing the role that culture, enjoyment, taste and other factors play.
Feeding Young Children: The HOW and WHY

Katja Rowell, M.D.

www.thefeedingdoctor.com
How we feed our children is as important as what we feed them.
“Knowing deep within us that someone is going to feed us when we are hungry is how trust and love begin…”

– Mr. Rogers
The “Feeding Crisis”

- Increased weight dysregulation—both extremes
  - up to 25% of children may have “feeding disorder” *(NIH)*
  - up to 80% of children with developmental issues struggle

- 1/3 parents of preschoolers ask a doctor about feeding problems*

- 2/3 teens are dieting *(Neumark-Sztainer, JADA ‘04)*; eating disorders up in younger children

- low rates of family meals, picky eating contributes
  - 40% grade school children get separate foods at meals *(Faulkerson, JADA ‘08)*

- food insecurity, poverty *(USDA)*, obesity focus
Toddler Troubles ...

“"I’m worried he’s not getting enough protein, so I give him chicken nuggets every night.”"

“"He’s stopped eating all fruits and veggies, no matter how hard we try. He’s growing, and drinking lots of milk, so our doctor isn’t worried.”"

“"He’s ‘obese’ so we limit portions, but he cries and grabs for more. We’ve tried everything to distract him. It’s getting harder and harder to keep food away from him.”"
“Risk factors for the later development of eating disorders comprise eating conflicts, struggles with food, and unpleasant meals in early childhood.”  (Kotler, J Am Acad Child Adolesc Psych ‘01)
"Worry Cycle"

Sensory issues, temperament, weight at extremes*, premature, GI, pain, allergies, oral motor...

Force feeding, pressure, restriction...

Weight, nutrition, passing on ED...

“Do whatever it takes to get her to eat.”
“She has to drink X oz of milk every day.”
“He has to eat 4 T of veggies a day.”

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Goal: Raise Competent Eaters (ecSatter)

Adults who are eating competent:

- have stable and lower BMI
- have less disordered eating
- have better nutrition
- enjoy and prepare meals for themselves
- do better socially and emotionally
- have better objective health measures
  - blood pressure, cholesterol, blood glucose

Lohse, JNEB ‘09, Appetite ‘12
How do we get there?
Trust Model

- **Moving towards structure**
  - to every 2-3 hours sit-down meals/snacks
  - avoid grazing (even “healthy”)

- **Opportunity: frequent, no pressure exposure**
  - most parents give up after 3 tries
  - parents assume children don’t or won’t like foods

- **Family meals!**

- **DIVISION OF RESPONSIBILITY (DOR)**
  - **Parents:** what, where, *when*
  - **Older infants:** how much from what is provided
DOR is responsive

Trying to get kids to eat less: tend to weigh more/eat more.
Trying to get kids to eat more: tend to eat less, grow less well.

- ‘08 ADA, DOR “still perhaps the best childhood feeding strategy” (WIC, Headstart…)
- Satter “operationalized responsive feeding” (Black & Aboud, J Nutr special issue ’11)

85-90% of American parents don’t feed with DOR: usually try to get young children to eat more. Some children will learn to overeat; others will resist and eat less than optimal.

(Stanek ‘90, Orrell-Valente ‘07, Galloway 06)
Children can be trusted

We can feed to preserve and support inborn skills of self-regulation, or we can choose to feed in a way that buries those skills.

- Infants/children are capable of self-regulation:
  - Rose, *Pediatrics* ‘68, Adair *JADA* ‘84
  - Scaglioni, *Br J Nutr* ‘08
  - Birch and Fischer…
  - Birch and Deysher, *Appetite* ‘86
  - Johnson, *Pediatrics* ‘00
Leap of faith

* big, small, picky, adventurous, special needs…
Rate of growth

- At least two points two months apart
- Gentle vs. abrupt changes
- Ask about feeding…
Support tuned-in feeding

Anticipatory guidance

- Development, gagging...
- Avoiding power struggles
- Responsive feeding
  - uncovering agenda
  - interpreting cues of hunger, fullness
  - pressure with feeding backfires

It's messy!
Readiness for solids, then table foods ...
(ellynsatterinstitute.org)

**Babies learn to eat step by step.** Many babies are ready to start eating mushy foods from the spoon at age 5 to 6 months and are ready for table food by age 8 to 10 months. Others aren’t ready to start solids until months later and only get to the table when they are 12 to 18 months old. Once you start, keep moving at your baby’s rate. Don’t get stuck on any one step. Remember that faster isn’t better, slower isn’t worse.

<table>
<thead>
<tr>
<th>WHEN YOUR CHILD...</th>
<th>SHE IS READY FOR...</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Cuddles</td>
<td>Nipple-feeding from the breast or bottle</td>
</tr>
<tr>
<td>✓ Roots for the nipple</td>
<td></td>
</tr>
<tr>
<td>✓ Sucks</td>
<td></td>
</tr>
<tr>
<td>✓ Sits up–alone or with support</td>
<td>Nipple-feeding from the breast or bottle</td>
</tr>
<tr>
<td>✓ Opens his mouth for the spoon</td>
<td>Step 1 food: Mushy food that you feed from the spoon</td>
</tr>
<tr>
<td>✓ Closes his lips over the spoon</td>
<td></td>
</tr>
<tr>
<td>✓ Keeps most of the food in his mouth</td>
<td></td>
</tr>
<tr>
<td>✓ Swallows</td>
<td></td>
</tr>
</tbody>
</table>
Start solids once or twice a day, joining in with family meals, increase to meals plus 2-3 snacks

- flexibility with timing snacks and meals (Q 2-3 hrs)
- work to offer everyone the same foods (adapted)
- choices, with at least one thing the toddler usually eats
- waste more now, less later
- avoid pressure: put in reach
- truly “offer”
- don’t just ask if the child wants it, answer will be “no”
- put it out in front of the child, or within reach
Avoid pressure/restriction

Reassure when possible

- be careful with labels, “obese,” “underweight”
- caution with amounts
  - give ranges—some days more, some less
- ask questions:
  - How is feeding going?
  - Are you worried your child is too big? Too small?
  - Are you working hard to get her to eat more or less?
  - How does it feel?
  - What were you told by your child’s doctor?
Uncover the worry

Worry ➔ Counterproductive feeding

- Lack of variety/textures/opportunities
  - fear of choking (stuck on stage one or pouches)
  - not following child’s development
  - he “won’t” or “doesn’t” like that
  - catering out of nutrition worries (chicken nuggets)

- Pressure
  - worry about nutrients (i.e. protein/chicken nuggets)

- Amount/growth
  - “eating too much” ➔ distracting, working hard to limit
  - “not eating enough” ➔ pressure/battles, forcing
“Drinking his calories, not eating.”

- Ask about feeding (video?)
  - Structure? Where? TV? Family meals? Opportunities? Did he eat a variety, and now doesn’t? How has he developed so far?
  - Variety until @15 ms, dropping/refusing foods, cried for favorites.
  - Eats in front of TV, wandering with sippy cup, mom told to feed him whenever she could, followed with food… (grazing)

- Ask about worries: weight, nutrition
  - 10th% steady, but mom worries he is “so underweight.”

- What have they tried?
  - Rewards, TV time, bribes, begging…
  - Mom remembers being forced as a child, also doesn’t want to fight too much, so gives in.
  - He’s growing, so MD not worried or offering help
Support

- Structure
- Family meals
- Offer variety
- Stop pressuring
- Help with what to serve within the context of the Trust Model
Resources

* Ellyn Satter RD, MSW
  * www.ellynsatterinstitute.org free PDFs
  * Handouts, video Ellyn Satter, booklet for parents
Resources/More reading

- Appendix C, Children and Food Regulation, the Research, *Your Child’s Weight: Helping Without Harming* (Satter ‘00)

- Birch and Fisher “Appetite and Eating Behavior in Children” *Ped Clinic N America* ‘95


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On Amazon.com
Feeding Young Children: The HOW and WHAT

Mary Mullen, M.S., R.D., L.D.N.
Objectives

- Provide guidance to parents on both the *how* and *what* to feed infants as they transition into toddlerhood.

- Recognize the nutritional differences of beverages (water, juice, milk and milk alternatives).

- Guide parents to help their child strike a balance between providing the fat and calories needed for growth and development while minimizing the risk of future overweight/obesity.
Quick Poll

What factor do you feel is the most concern in feeding young children today?

a) Offering juice and other drinks besides milk and water in the sippy cup.

b) Providing “super-sized” toddler portions.

c) Lacking structured meals and snacks.
Snapshot of A Toddler

- After rapid growth during the first year, starts to slow down.
- Gaining independence and are very busy!
- Naturally “picky eaters.” They need less food and are less interested in eating.
Snapshot of a Toddler

★ Continue to develop eating skills.

★ They feed themselves and enjoy eating with the rest of the family.

★ Can make a mess when eating! Need to look at, touch, feel and smell new foods.
Quick Look at “What” to Feed

- Offer foods from *all* the food groups each day.
- Provide enough *fat* and *calories* for growth and development.
- Schedule well-timed *nutrient-rich* meals and snacks.
Quick look at the “What” to Feed

- Provide “toddler-size” portions:
  - ½ cup milk vs. 1 cup
  - ¼ - ½ slice bread vs. 1 slice
  - 1 – 3 tablespoons meat vs. 3 ounces

- Vary meals and snacks in color and texture

- Avoid choking risks

- Offer whole milk starting at age 1 yr
  - Encourage parents to talk with healthcare provider about concerns about milk intake.
<table>
<thead>
<tr>
<th>Food Group</th>
<th>Daily Servings</th>
<th>1 Serving Equals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk and Milk Products</td>
<td>4 - 6</td>
<td>½ cup milk or yogurt 1/2 ounce cheese</td>
</tr>
<tr>
<td>Meat and Other Protein Foods</td>
<td>2</td>
<td>1 – 3 tablespoons beef, pork, poultry, or fish 2-4 tablespoons beans or chopped nuts 1 small egg</td>
</tr>
<tr>
<td>Grains</td>
<td>6</td>
<td>¼ - ½ slice bread, bagel or bun 1/3 – ½ cup ready-to-eat cereal 1/4 - ½ cup cooked cereal 1/4 - ½ cup rice or pasta</td>
</tr>
<tr>
<td>Vegetables</td>
<td>2-3</td>
<td>1/4 – 1/3 cup cooked, canned, or fresh chopped vegetables 1/4 - 1/3 cup juice</td>
</tr>
<tr>
<td>Fruits</td>
<td>2-3</td>
<td>½ small fruit 1/4 - 1/3 cup cooked, canned or fresh chopped fruit 1/4 - 1/3 cup juice</td>
</tr>
<tr>
<td>Fats and Oil</td>
<td>3</td>
<td>1 teaspoon added butter, margarine or oil</td>
</tr>
</tbody>
</table>
The Challenges - Weighty Issues

“Obesity” Epidemic – mixed messages about push for prevention

Failure to Thrive – increased need for nutrition guidance

Feeding Disorders – focusing more on complex issues

“My husband and I have a weight problem. Shouldn’t we restrict fat as early as possible?”
The Challenges - Beverage Choices

* Parents are confused about the “multiple” amounts of beverage choices

* Concern regarding what’s going in the sippy cup

* Provide parents with guidance on beverage choices.

“My child prefers to drink more at snacks. I just give him juices or blenderize fruit and vegetables on my own and put in his sippy cup.”
## Beverage recommendations from the American Academy of Pediatrics (AAP)

<table>
<thead>
<tr>
<th>FLUID</th>
<th>AGE OF INTRODUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Milk (recommended)/Infant Formula</td>
<td>Birth</td>
</tr>
<tr>
<td>100% Juice</td>
<td>No earlier than 6 mo (limited amount)</td>
</tr>
<tr>
<td>Water</td>
<td>No data basis for min/max intake in infant; primary daily hydration beverage for children/adults</td>
</tr>
<tr>
<td>Cow’s Milk</td>
<td>No earlier than 12 mo</td>
</tr>
<tr>
<td>Fruit Drinks, Sports Drinks, Energy Drinks</td>
<td>No introduction period&lt;br&gt;Recommendations are generally to limit</td>
</tr>
</tbody>
</table>

*AAP, 2001-2011*
What goes in the bottle or sippy cup?

Introduction of beverages for children birth to 1 year

Dairy Research Institute NHANES 2007-2010
Average fruit juice portions are within AAP recommendations for school-aged juice drinkers, but not younger kids.

Average daily fluid ounces of fruit juice consumed by juice drinkers

Dairy Research Institute, NHANES 2007-2010
Here are some helpful hints about how much of which kinds of beverages kids should get at what age — and which drinks to avoid altogether.

- Make Way for Water
- Make Room for Milk
- Juice News You Can Use
- Say "so long" to sugary drinks.

* www.healthykidshealthyfuture.org
Make Room For Milk

Here are some guidelines on what kind of milk to give to babies, toddlers, and preschoolers:

* Infants (up to 12 months old) should get only breast milk and/or formula — never cow's milk.

* From 1 year (12 months) to 2 years (24 months), stick to whole milk — toddlers need the extra dietary fats to help their brains and bodies develop and grow like they should.

* For 2- to 5-year-olds, serve only fat-free (skim) or low-fat (1%) milk.

* **A word on milk: Don’t overdo it.** Kids only need 16-24 fluid ounces (2-3 cups) a day. Other than milk, water is the best choice when children are thirsty.

* [www.healthykidshealthyfuture.org](http://www.healthykidshealthyfuture.org)
Juice News You Can Use

- Babies don’t need any juice at all.

- And 4-6 ounces of juice a day (that's less than one cup) is more than enough for children over age 1.

- Just make sure it’s 100% fruit juice — not fruit drink, punch, or cocktail.

www.healthykidshealthyfuture.org
Say “So Long” to Sugary Drinks

Wondering how bad a couple of sugary drinks here and there can be? Consider this: A 12-ounce non-diet, carbonated soft drink contains about **10 teaspoons of sugar** and **150 calories**.

[www.healthykidshealthyfuture.org](http://www.healthykidshealthyfuture.org)
The Challenges - Food Allergies and Intolerances

🌟 Don’t Self-Diagnose - Stress importance of talking with a pediatrician and other appropriate health professionals for diagnosis and treatment.

🌟 Discuss importance of **all** food groups.

🌟 Milk is an important part of the toddler’s diet

“My child turns his head when I offer him milk so he must not be able to tolerate”
The Challenge - Food Allergies and Intolerances

Prevalence & Trends

• Food Allergy Prevalence Increasing (last 10-20 years)
  • 5% Children < Age 5 years
  • 4% of Teens and Adults
The Challenge - Food Allergies

"Unfortunately, we occasionally see children with failure to thrive due to severe dietary restriction based solely on in vitro immunoassay testing."

“In the absence of anaphylaxis, food specific IgE tests aren't sufficient evidence for cutting out food from a child’s diet”

125 children aged 1-19 yrs with “food allergy”

Oral Food Challenge

Vast Majority of Foods Tolerated: 84-93%

Fructans
Wheat, Onions, Garlic

Lactose
Milk, yogurt, cheese

Sugar Alcohols
Sorbitol, xylitol, mannitol

Gluten
Barley, wheat, rye

Food Intolerances
The Challenge - Vegetarian or Other Restrictive Diets

- The American Academy of Nutrition and Dietetics and AAP agree. “Well-planned vegetarian diets are healthy for infants and toddlers.”

- Some nutrients need special attention:
  - Protein
  - Vitamin B12
  - Vitamin D Calcium
  - Iron
  - Fiber

- Caution when use alternate milk choices
**Nutrient content chart of types of milk**

Nutrient information based on 1 cup (8oz):

<table>
<thead>
<tr>
<th>Type of milk</th>
<th>Calories</th>
<th>Protein(g)</th>
<th>Total Fat(g)</th>
<th>Calcium(mg)</th>
<th>Vitamin D (IU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole</td>
<td>149</td>
<td>7.7</td>
<td>7.9</td>
<td>276</td>
<td>120</td>
</tr>
<tr>
<td>2%</td>
<td>122</td>
<td>8.1</td>
<td>4.8</td>
<td>293</td>
<td>98</td>
</tr>
<tr>
<td>1%</td>
<td>102</td>
<td>8.2</td>
<td>2.4</td>
<td>305</td>
<td>98</td>
</tr>
<tr>
<td>Fat free</td>
<td>83</td>
<td>8.3</td>
<td>0.2</td>
<td>299</td>
<td>98</td>
</tr>
<tr>
<td>Soy</td>
<td>104</td>
<td>6.3</td>
<td>3.6</td>
<td>299</td>
<td>104</td>
</tr>
<tr>
<td>Almond (original)</td>
<td>60</td>
<td>1</td>
<td>2.5</td>
<td>450</td>
<td>150</td>
</tr>
<tr>
<td>Rice (unsweetened)</td>
<td>113</td>
<td>0.7</td>
<td>2.3</td>
<td>283</td>
<td>101</td>
</tr>
<tr>
<td>Coconut</td>
<td>552</td>
<td>5.5</td>
<td>57.2</td>
<td>38</td>
<td>0</td>
</tr>
</tbody>
</table>

1- Nutrient information obtained from USDA nutrient database
Case Study

- KG full term birth with no complications
- Mom breast fed till age 12 months
- Started introducing solids at 6 months – made most of baby food
- Growing along own growth curve till 15 months started falling
Birth to 24 months: Girls
Length-for-age and Weight-for-age percentiles

NAME __________________________
Date ____________________________

Published by the Centers for Disease Control and Prevention, November 2009

SOURCE: CDC and German Childhood Nutrition Study and Czech Children's Study.
Case Study - KG Diet History

- Started on whole milk at 12 months but mom felt she was not tolerating (fussy, spitting out milk)

- First tried soy milk but switched to rice milk – about 12 ounces each day

- Mom also concerned about too much fat in her diet
Meeting The Challenges - Helping Parents to Get Feeding off to a Positive and Healthy Start

- Develop consistent core messages for parents/caregivers
- Deliver messages in positive and encouraging manner
- Provide messages and counseling in a variety of settings and avenues
Maximize the Messages - Helping Parents to Get Feeding off to a Positive and Healthy Start
Helping Parents to Get Feeding off to a Positive and Healthy Start

Health Professionals

* Take advantage of well child visits – Recommendations or Preventative Care at 12, 15, 18, 24, 30 months

* Utilize Screening and Assessment Tools — *J Acad Nutr Diet* 2012;112:1578-1602

* Teachable Moments – AAP, Bright Futures

* Refer to expert when appropriate

Childcare

* Provide training to teachers and caregivers

* Encourage parent education
Key Messages on Feeding Toddlers

- Healthy Beverages – choose water or milk
- Healthy Snacking – Offer 2 to 3 healthy nutritious snacks each day
- Introduce a variety of food multiple times and in multiple ways.
- Parent Provides, Child Decides
  - Appropriate food in age appropriate portions at meals and snacks
  - Let child decide how much to eat

Source: AAP
Meeting The Challenges - Helping Parents to Get Feeding off to a Positive and Healthy Start

Resources

* American Academy of Pediatrics
* Academy of Nutrition and Dietetics
* Kidseatright.org
* WIC
* Bright Futures
* Head Start – 0 to 3
Article: Milk: More Important Than You Think!

Milk and dairy products are the main source of calcium in our diets, a critical mineral kids need to build strong bones, help muscles contract and transmit nerve impulses. Try these tips to get your kids... more »

articles for toddlers

Make Fitness Fun
Want to encourage healthy weight for your whole family to prevent heart disease, cancer and stroke, all while having fun? Get outside and... more »

Breakfast: The Key to Learning
Kids who fuel up in the morning focus and perform better in the classroom. Get your clan to eat breakfast with these simple suggestion... more »

Picnic with Your Toddler!
If you struggle to get your toddler or preschooler to eat at the kitchen table why not take it outside and enjoy a picnic? more »

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Labor Day is a perfect time for a picnic in the park. If you're heading outdoors, follow these tips to plan a healthy picnic more »

Say No to Cookie Dough
It seems harmless. While making cookies, you decide to taste the dough. But regardless of how good it tastes, you are taking a risk. more »

Eat Your Spinach!
Spinach is packed with powerful nutrients and is an excellent source of folate, vitamin A, iron and vitamin K. Like other leafy greens,... more »

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California Chicken Wrap

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Dietary Fat and Toddlers

If you're worried that your toddler is overweight or concerned that he might become obese at some time in the future (perhaps because obesity runs in your family), you might already be thinking about cutting down on the amount of dietary fat he consumes. However, you should think again.

Here's the bottom line: in the first 2 years of life, you need to avoid placing any restrictions on the amount of fat your child consumes.

Your toddler actually needs fat in his diet to ensure proper growth and brain development, and those first few years of life are particularly crucial. Dietary fat serves a number of other important functions as well, including providing energy and promoting wound healing. It also helps your child absorb certain vitamins.

How much fat is enough? During his first 2 years, about half of his calories should come from fat. Then after age 2 years, you can modify his diet gradually until his dietary fat makes up about one third of his caloric intake.

Last Updated: 1/31/2013
Source: A Parent's Guide to Childhood Obesity: A Road Map to Health (Copyright © 2006 American Academy of Pediatrics)

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In Conclusion

- Feeding a young child can be a challenge!
- Parents are bombarded with a magnitude of advice – sometimes conflicting.
- Parents need guidance to meet the challenge of getting feeding off to a positive and healthy start.
HealthyEating.org

- **Healthy Kids**
  [http://www.healthyeating.org/Healthy-Kids.aspx](http://www.healthyeating.org/Healthy-Kids.aspx)

- **Tip Sheets**
  - Start Your Preschooler on the Path to Healthy Eating
  - Healthy Eating For Your Preschooler

- **Newsletters**
  - Raising Healthy Eaters: Benefits and Challenges of Gathering Around the Table