Optimal Nutrition At First Bite: Identifying First Foods For Healthier Lifespans

Julia Nordgren, MD, Chef
Julia Nordgren, MD, Chef

Palo Alto Medical Foundation
• Pediatric Lipid Specialist
• Pediatric Weight Management Specialist
• Pre-diabetes Program
• Culinary Medicine Program

Culinary Institute of America

DrJuliaCooks.com
Speaker Disclosure

- Honorarium provided by the Hass Avocado Board
First Foods Matter!
Session Objectives

• **Amplify science findings** to help improve knowledge among health professionals and colleagues on best practices to follow when feeding infants and toddlers.

• Counsel clients and the public on **specific food combinations** to ensure toddlers and infants are exposed to **appropriate textures and flavors**, and are meeting nutrient needs.

• **Create tools and tips** to help caregivers choose optimal foods for their infants and/or toddlers to ensure they are building lifelong healthy eating habits.
Outline

• Why first foods matter
• Goal for caregivers: Best Practices for Infant Feeding
• Challenges of feeding infants healthfully
• Strategies for optimizing for infant feeding
First Foods Matter

It is no longer arguable that the foods that are introduced to a developing fetus and baby have long-term effects.

- Physical development
- Neurologic development
- Feeding patterns and flavor preferences
Physical Development

• Infancy is a rapid stage of growth. Body weight is tripled in the first year. Babies who don’t get adequate calories and nutrition suffer from stunting and developmental delays.

• High nutrient requirements for all body functions. Developing iron stores, immunity, gastrointestinal function.

Neurologic Development

• Brain growth: The brain doubles in size the first year, and by age three has 80 percent of its adult volume

• Rapid time of brain development; more synapses created in first two years than any other time in life

• Critical connections are made: hunger, satiety, comfort, habits

• These connections can influence quality of foods and impact

Synapse Development

Also see: http://www.urbanchildinstitute.org/why-0-3/baby-and-brain
No Food in Mommy’s Car!
Infant Feeding: Neurologic Connections
Neurologic Connections: Hunger and Satiety
Neurologic Preferences

• Flavor Development. Offering very sweet or salty foods will teach infants a preference for these foods.

• Taste preferences: importance of repeated offering of foods

Importance of Setting Early Habits

• Intake of fruits and vegetables at 1 year was strongly associated with intake of fruits and vegetables at 6 years.

• Intake strongly influenced by repeated offering, parental modeling, and parental response.

Fruit and Vegetable Intake During Infancy and Early Childhood. Grimm et al, Pediatrics 2014;134, S63
Variety Matters

• The variety of foods introduced by age 6 months is predictive of the variety of foods eaten at age 6 years

Fruit and Vegetable Intake During Infancy and Early Childhood. Grimm et al, 
Pediatrics 2014;134, S63
Drinks Matter: Sugar Sweetened Beverages

- Intake of sugar sweetened beverages at 1 year was strongly associated with intake of SSB at 6 years.
- Sugar sweetened beverages are not nutritive, not essential and contribute to overweight / obesity.

The Association of Sugar-Sweetened Beverage Intake During Infancy With Sugar-Sweetened Beverage Intake at 6 Years of Age. Park, S et al, Pediatrics 2014;134;556
Implications of Habit Setting

• Most common foods offered outside of mealtime for infants are cereals, crackers, cookies, and French fries
• Vegetable and fruit intake drops off at 9 months
• By one year of age, the most commonly consumed vegetable is French fries

Opportunity for Improvement

• Children over 2 consume nearly 40% of their calories from refined grains, sugar-sweetened beverages, and fruit juice

• Infants and toddlers were much more likely to consume sweets (cookies/ candies) than vegetables and fruits on any given day


Time of Opportunity - Parents

• This is an amazing window of opportunity to develop and shape these important connections.

• Parents have more control and influence over their child’s eating from birth to 24 months than at any other time in their child’s life.
Time of Opportunity: Doctors, Nurses, Nutritionists

- We are a trusted source of information on how to best feed infants
- Parents are motivated and receptive to advice when they feel encouraged and empowered
What Clinicians Can Do

- Motivate
- Educate
- Provide Tools

Positive Feeding Practices
Best Practices: Complementary and Transitional Feeding
baked whole grain corn snack

Mild Cheddar

made with Whole Grains
Best Practices: Selecting First Foods

• Texture: soft foods that are easily chewed and swallowed
• Rich in nutrients, antioxidants
• Mild flavor for initial foods
• Low in sugar and added salt
• Whole, fresh good
COST

*Safeway or Sprouts – personal experience*

### Whole foods
- Sweet potatoes: 8 servings, $1.28
- Carrots: 20 cents per serving
- Green beans: 30 cents per serving
- Mango: 50 cents per serving
- Avocado: 30-60 cents per serving
- Black beans: 5 – 10 cents per serving

### Low nutrient or convenience food
- Baby cheese puffs $3.49
- Pureed Pouches: $1.49 per serving
- Jarred foods: $1.25 each
- Baby yogurt bites: 4.49 for 4 servings (at whole foods)
- Baby mango puffs $3.99 at whole foods
Specific Food Combinations

• Fat-Soluble Vitamins and unsaturated fat sources
  Vitamins A, D, E, K need fats for proper absorption
  Babies and toddlers should not follow a low-fat diet
  *Avocado and pepper, carrot, tomato*

• Iron sources and Vitamin C

• *Meat (ground beef or chicken) and tomato, strawberries, etc*

• Iron absorption is aided by ingesting source of vitamin C at the same meal
Pitfalls of Complementary and Transitional Feeding

- Introducing solids too early: obesity link (6 months is recommended)
- Feeding for comfort instead of hunger (crying, fussing, squawking does not always mean hunger!)
- Offering empty calories (processed food, prepackaged food, baby junk food)

uptodate.com/contents/dietary-recommendations-for-toddlers,preschool accessed 7/14/16
Constant Feeding

- Constant feeding interferes with hunger / satiety development, interferes with proper tooth development, and sets the stage for adipose tissue development

  *(e.g. feeding in car, stroller, in waiting room, exam room, car ride home)*
B A B Y
E S S E N T I A L S

❤️ Food is Love ❤️
THANK YOU

To all of the wonderful mothers and friends who offered these images of their children

And to Comadre for the Creative Direction on the Easel Project
References


• Fruit and Vegetable Intake During Infancy and Early Childhood. Grimm et al, *Pediatrics* 2014;134, S63


• uptodate.com/contents/dietary-recommendations-for-toddlers,preschool accessed 7/14/16