

Introducing Solid Foods:

When is the right time to introduce solid foods?:

- The practice of introducing complimentary solid foods during the first year of life has varied over time and across cultures.
- The American Academy of Family Practice (AAFP), Academy of Pediatrics (AAP), and World Health Organization (WHO) recommend that introduction be delayed until 4-6 mo. of age.
 - Introduction of solid foods prior to 4-6 mo. is not associated with any known nutritional advantage and may be harmful.
 - Introduction prior to 2 mo. may result in inadequate nutrient intake, increased renal solute load, and increased risk of developing food allergies.
 - Delaying introduction of solid foods until after 4 mo. of age may reduce risk of eczema, allergies, and asthma.
 - Introduction of solids prior to the infant acquiring oral motor skills to safely swallow may result in choking or aspiration of food into the lungs.
- By 4 mo. of age most infants have doubled their birth weight and weigh at least 13 lbs (5.9 kg) and will need to begin supplementing their liquid diet soon to help support appropriate growth.
- IDEAL AGE to introduce solids: 4-6 mo.
- Withholding introduction of food until after 6 mo. of age may cause decreased growth due to inadequate caloric intake, iron deficiency in breast-fed infants, delayed oral motor function, or solid food aversion (where children have difficulty transitioning to solid foods).
- As a general rule, supplemental foods should be introduced when the infant is able to sit with support and has good head and neck control- babies who have mastered this usually have achieved the other skills necessary to successfully eat solids.
- By 5-6 mo., infants can indicate desire for food by opening their mouths & leaning forward and indicate disinterest or satiety by leaning back & turning away.
- By 8-10 mo. infants have the skills necessary to eat finger foods independently: able to sit independently; eye-hand coordination needed to grasp, manipulate, and release food; ability to “chew” (even in the absence of teeth); and able to swallow when food is adequately chewed.

Introducing solid foods:

- ***Types of Supplementary Foods:***
 - Single ingredient foods should be introduced first, one at a time at approximately weekly intervals to permit identification of food intolerances.
 - As solid foods are introduced, infants should consume no more than 28-32 ounces of formula or breast milk per day.
 - Acceptability of new foods increases with repeated exposure. Breast-feeding may facilitate acceptance as a result of the variety of flavors transmitted through human milk.
- ***Foods that should be avoided in all infants (≤ 1 yr of age)***
 - Unmodified cows milk (modified milk in formula okay)
 - Hard/round foods that are choking hazards (eg. Nuts, grapes, hot dogs, candies, carrots, etc)
 - Honey, due to risk of botulism prior to getting fully immunized
- ***Allergenic foods that should be delayed in introduction until 9-12mo of age:***
 - Eggs
 - Fish
 - Peanuts

- Tree nuts
 - Dairy
- **Cereal:** single grain infant cereal is a reasonable choice for the first supplemental foods because they supply additional calories as well as are frequently fortified with additional iron.
 - Rice cereal traditionally offered first because it is the least allergenic and best tolerated.
 - Introduction of wheat should not be delayed significantly beyond six mo. of age, as a delay has been associated with increased risk of developing a wheat allergy later in life.
 - Constipation (hard stools, straining) is common with the introduction of solid foods. Rice cereal (because they are fortified with iron) and bananas are especially constipating. Try oatmeal cereal in place of rice cereal, and increase fruits (especially prunes or apricots) and green vegetables.
 - Cereals can be prepared by adding breast milk, infant formula, or water.
 - Initially cereals should be offered in small amounts (1 tsp.) after breast/bottle feeding, then gradually increased to ~ ½ cup per day.
 - We encourage, as you progress with the introduction of solid foods, balancing cereal with higher nutrient density foods (vitamins, micronutrients, antioxidants, minerals) such as fruits and vegetables.
 - Avoid adding to bottles except if medically indicated for reflux. Spoon-feeding enhances oral motor function, which may influence speech development.
- **Cow's Milk:** consumption of unmodified cows milk prior to 1 yr of age is discouraged because of increased renal solute load and increased risk of iron deficiency. At 1yr of age, you can transition from breast (if desired) or formula to whole milk.
- **Juice:** Juices may be introduced when an infant can drink from a cup at ~6 mo. old.
 - Prior to 6 mo. of age juice provides no nutritional benefit, and should not be used (unless specifically recommended by your physician).
 - 100% pasteurized fruit juice can be a treat for infants ≥6 mo of age, but is not recommended daily or exceeding 4 ounces in a day.
 - Juice, while made from fruit, still contains a lot of natural sugars, and nutritionally adds very little to the diet. We recommend that you dilute juice with water by half to reduce the sugar content.
 - Excessive juice consumption may be associated with malnutrition (over and under nutrition), diarrhea, flatulence, abdominal distention, and increased dental cavities.
 - Juice should be served as a part of a meal or snack – not sipped throughout the day, as this has been associated with increased dental cavities. Offer water between feedings for hydration and prevention of dental cavities.
 - You want to teach your child to like plain water. Too often children get used to everything flavored and sweetened. As they get older this may lead children to refuse plain water. Later in life this can translate to unnecessary and unhealthy consumption of excess calories, sugars, and artificial additives in drinks such as Kool-Aid, Gatorade, sodas, juices, smoothies, etc, etc. This is your opportunity to set the stage for healthy habits early!
- **Pureed Foods:**
 - The order of introduction of pureed foods (eg. Vegetables, meats, fruits) is not critical. It is recommended however that single ingredient foods be introduced first one at a time at 3-4 day intervals to permit identification of food intolerances.

- Breast-fed babies need to focus on getting some iron rich foods daily (fortified cereals, green vegetables, meats).
- Start by 6 mo. of age, introducing solids (pureed) twice daily. By 8-9 mo. of age, we recommend solids 3 times daily and by 12 mo. of age, 3 meals daily in addition to 1-2 healthy snacks.
- Strained whole foods prepared at home are typically nutritionally equivalent to commercially prepared foods. However—
 - Canned foods should not be used for home preparation of pureed infant foods as they often contain large amounts of salt, sugar, and (in some) nitrates.
 - Beets, turnips, carrots, spinach, and collard greens may contain nitrates, which increase the risk of anemia (commercial preparations are tested to assure low nitrates).
- Incremental increase in varieties of textures and flavors is important to acquisition of normal chewing/swallowing & acceptance to different foods.
- **Variety:**
 - You want to continue to expand the diversity of foods presented to your child, so that they develop a healthy varied palate. This will help so that your child is less likely to be picky in latter years, when it is harder to change and met with much more resistance!
 - Remember, just because your child pushes away a particular food once or even 5 times—they may start to appreciate it on the 6th try! You do not want to eliminate healthy, nutrient dense foods at such an early age—as this will limit your child’s healthy options later.
 - Mixing favorite foods, with less desirable foods can be a trick to help with acceptance. For instance: mixing applesauce into his/her yams may provide a familiar taste and make this more palatable!
- **Finger Foods:**
 - As fine motor skills progress, children can be advanced to a modified adult diet at 8-12 mo.
 - Start with softer foods such as avocado or bananas. Progress to other finger foods such as “O” cereals, well-cooked vegetables, very small pieces of chicken, toast, soft pasta, etc.
 - Avoid choking hazards such as hot dogs, nuts, grapes, raisins, raw carrots, popcorn, round candies, gum, etc. in children younger than 4 yrs of age.
 - An adult should always be present monitoring child while eating!

Establish Healthy Eating Habits and Structured Meals by age 1:

- By 12 mo. of age, we recommend 3 meals and 1-2 snacks daily.
- If your child grazes or snacks throughout the day, they are more likely to not finish or eat their more balanced meals. This frequently results in overall less nutritious diet—as snacks frequently do not include a good balance of whole foods (fruit, vegies, protein).
- If your child is not eating his/her meals, you may consider reducing between snacks, water only between meals (save milk for just after meal), and structuring eating times (so their tummies/appetites are trained to eat at similar times each day).
- Try to sit down at the table and eat meals as a family whenever possible. Have fun with this! Your child will take cues from you, and are more likely to be engaged with eating if you are participating as well!
- By 12 mo. of age, you can feed your child variations of the same healthy balanced meal you are eating. Lead by example, your children will notice!

- Teaching healthy eating is an invaluable gift you can give to your children that can establish healthy lifestyles they can take with them into adulthood. It is a precious gift of health (what is more important?)!
- Avoid feeding your child separate “kid food”, while you eat something completely different! Most “kid food’s” (as seen on kids menus at restaurants) include items such as: processed fried chicken nuggets/strips, pizza, macaroni and cheese, spaghetti-O’s, french-fries, hot dogs, PB&J, etc—and are generally unhealthy and lacking in real nutritional value. We recommend that these foods not become staples of your children’s diet as a general rule, but rather saved for the rare occasion!
- Balance your child’s plate with a vegetable, fruit, protein (dairy, cut meat, beans, nut butter), and healthy grains/starch (rice, noodles, potatoes).
- Here are some easy rules that can help you balance your child’s meals after 12mo:
 - Make sure all 3 meals are balanced with a protein.
 - 2-3 servings (6-8 ounces/serving) of whole milk daily.
 - 1-2 servings of other dairy daily with meals or snacks, such as yogurt or cheese.
 - One serving of fruit with breakfast, and a second serving for one of their snacks for a minimum of 2 servings daily.
 - One serving of vegetable at lunch, and a double serving at dinner for a minimum of 3 servings each day (the more the better!).
 - Try to avoid unbalanced carbohydrate loaded meals such as macaroni and cheese, pasta, cereal, cookies, crackers.
 - Avoid fast food, heavily processed foods, fried food, junk food.
 - Avoid excess sugar (daily deserts, ice-cream, sugar-drinks like Koolaid for example), more than 4 ounces of juice daily, sugar cereals, cookies, waffles, ‘fruit’ gummy treats made with corn syrup, etc).
 - Avoid nutritionally “empty” snacks such as: crackers alone (Ex: Ritz, fishies, saltines, gram crackers), fruit gummies (lots of sugar/corn-syrup and frequently not even made from real fruit), cookies/sweets, chips/junk-food, etc. While we realize, these can be the more convenient options while ‘on the go’—they are rich in sugars, preservatives, artificial colorings, and are nutritionally “empty”. Better examples include: string cheese, fresh fruits, vegetables with hummus or ranch, whole-grain cracker with nut butter or tuna fish, real dried fruit (watch for added sugar), turkey rolled with pesto or mustard, and low sugar yogurt.