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Preserving Food for Infants & Toddlers

Special Considerations for Infant Feeding

There are a few special considerations to take into account when feeding infants generally, but parents/guardians should always consult with the infant's pediatrician about what is best for each individual baby. Below is a list of some (but not necessarily all) special considerations to keep in mind when feeding infants.

- No honey: infants under 1 year of age should never be fed honey due to the risk of botulism.
- Plain milk from cows, goats or other non-human animals, or plant-based milk alternatives should not replace breastmilk and/or infant formula in the first year of a baby's life.
- Do not give infants homemade infant formula.
- Do not give infants raw/unpasteurized dairy products, raw eggs, or other foods known to be a high risk for food borne illness (e.g., raw cookie dough).
- Rice cereal and other foods containing rice may contain arsenic. Discuss the risks of giving foods containing rice with the infant's pediatrician.

Resources:

- American Academy of Pediatricians guidance on Infant Food and Feeding: https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/HALF-Implementation-Guide/Age-Specific-Content/Pages/Infant-Food-and-Feeding.aspx

- Center for Disease Control's guidance on Infant and Toddler Nutrition: https://www.cdc.gov/nutrition/infantandtoddlernutrition/index.html

- Center for Disease Control's guidance on Proper Storage and Preparation of Breast Milk: https://www.cdc.gov/breastfeeding/recommendations/handling_breastmilk.htm

- Center for Disease Control's guidance on Infant Formula Preparation and Storage: https://www.cdc.gov/nutrition/infantandtoddlernutrition/formula-feeding/infant-formula-preparation-and-storage.html

- FoodSafety.gov: People at risk: children under 5: https://www.foodsafety.gov/people-at-risk/children-under-five

- University of California Free Publications in English and Spanish: https://ucanr.edu/sites/Nutrition_BEST/Feeding_Tips/Infant_Feeding/

- USDA links to multiple Toddler Nutrition sites: https://www.nal.usda.gov/fnic/toddler-nutrition

Human Milk Storage Guidelines

	Countertop or table	Refrigerator	Freezer with separate door
Storage Temperatures	77˚ F or colder (25˚ C)	40˚ F or colder (4˚ C)	0˚ F or colder (-18˚ C)
Freshly Pumped/ Expressed Human Milk	Up to 4 hours	Up to 4 days	Within 6 months is best, up to 12 months is acceptable
Thawed Human Milk	1-2 hours	Up to 1 day (24 hours)	Never refreeze human milk after it has been thawed

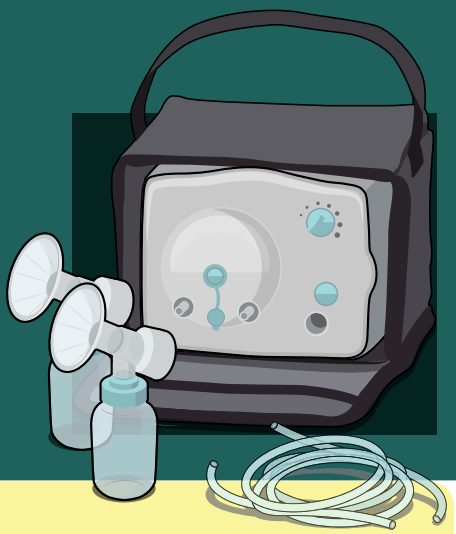
These guidelines are for healthy full-term babies and may vary for premature or sick babies. Check with your health care provider. Guidelines are for home use only and not for hospital use.

United States Department of Agriculture
Slightly Revised July 2018

Find more breastfeeding resources at:
WICBreastfeeding.fns.usda.gov
cdc.gov/breastfeeding/

Accessible version: www.cdc.gov/healthywater/hygiene/healthychildcare/infantfeeding/breastpump.html

How to Keep Your Breast Pump Kit Clean



Providing breast milk is one of the best things you can do for your baby's health and development. Pumping your milk is one way to provide breast milk to your baby. Keeping the parts of your pump clean is critical, because germs can grow quickly in breast milk or breast milk residue that remains on pump parts. Following these steps can help prevent contamination and protect your baby from infection. If your baby was born prematurely or has other health concerns, your baby's health care providers may have more recommendations for pumping breast milk safely.

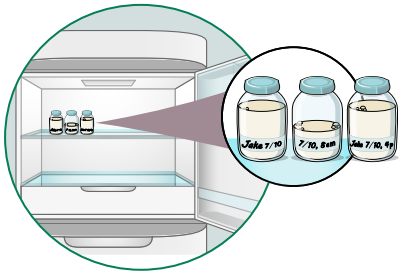
BEFORE EVERY USE

Wash hands with soap and water.

Inspect and assemble clean pump kit. If your tubing is moldy, discard and replace immediately.

Clean pump dials, power switch, and countertop with disinfectant wipes, especially if using a shared pump.

AFTER EVERY USE



Store milk safely. Cap milk collection bottle or seal milk collection bag, label with date and time, and immediately place in a refrigerator, freezer, or cooler bag with ice packs.

Clean pumping area, especially if using a shared pump. Clean the dials, power switch, and countertop with disinfectant wipes.

Take apart breast pump tubing and separate all parts that come in contact with breast/breast milk.

Rinse breast pump parts that come into contact with breast/breast milk by holding under running water to remove remaining milk. Do not place parts in sink to rinse.

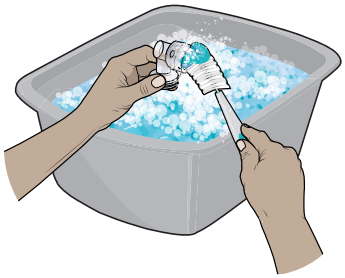
Clean pump parts that come into contact with breast/breast milk as soon as possible after pumping. You can clean your pump parts **in a dishwasher** or **by hand** in a wash basin used only for cleaning the pump kit and infant feeding items.

Follow the cleaning steps given on the next page.

Centers for Disease Control and Prevention
National Center for Emerging and Zoonotic Infectious Diseases

Clean Pump Kit

CLEAN BY HAND



Place pump parts in a clean wash basin used only for infant feeding items. **Do not place pump parts directly in the sink!**

Add soap and hot water to basin.

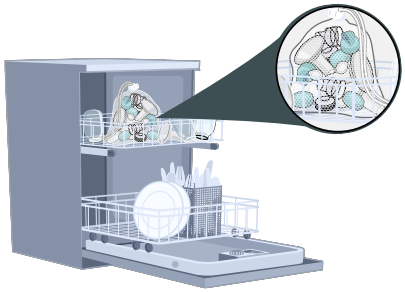
Scrub items using a clean brush used only for infant feeding items.

Rinse by holding items under running water, or by submerging in fresh water in a separate basin.

Air-dry thoroughly. Place pump parts, wash basin, and bottle brush on a clean, unused dish towel or paper towel in an area protected from dirt and dust. Do not use a dish towel to rub or pat items dry!

Clean wash basin and bottle brush. Rinse them well and allow them to air-dry after each use. Wash them by hand or in a dishwasher at least every few days.

OR CLEAN IN DISHWASHER

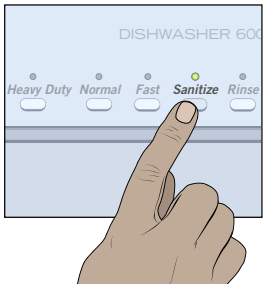


Clean pump parts in a dishwasher, if they are dishwasher-safe. Be sure to place small items into a closed-top basket or mesh laundry bag. Add soap and, if possible, **run the dishwasher using hot water and a heated drying cycle (or sanitizing setting).**

Remove from dishwasher with clean hands. If items are not completely dry, place items on a clean, unused dish towel or paper towel to air-dry thoroughly before storing. Do not use a dish towel to rub or pat items dry!

After Cleaning

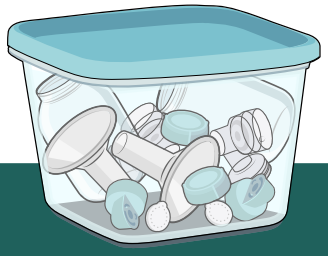
FOR EXTRA PROTECTION, SANITIZE



For extra germ removal, sanitize pump parts, wash basin, and bottle brush **at least once daily** after they have been cleaned. Items can be sanitized using steam, boiling water, or a dishwasher with a sanitize setting. Sanitizing is especially important if your baby is less than 3 months old, was born prematurely, or has a weakened immune system due to illness or medical treatment.

For detailed instructions on sanitizing your pump parts, visit www.cdc.gov/healthywater/hygiene/healthychildcare/infantfeeding.html

STORE SAFELY



Store dry items safely until needed. Ensure the clean pump parts, bottle brushes, and wash basins have air-dried thoroughly before storing. Items must be completely dry to help prevent germs and mold from growing. Store dry items in a clean, protected area.

Learn more about safe and healthy diapering and infant feeding habits at www.cdc.gov/healthywater/hygiene/healthychildcare.

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Dehydration Recipes

Dried Apple Rings

1. Peel and core, cut into slices or rings about 1/8 inch thick.
2. Pre-treat: (optional) Dip into ascorbic acid mixture according to package directions.
3. Dehydrate at 140°F for 6-12 hours.
4. Variation: sprinkle rings (or apple wedges) with cinnamon before drying.

Dried Bananas

1. Use solid yellow or slightly brown-flecked bananas. Avoid bruised or overripe bananas. Peel and slice 1⁄4-inch to 3/8-inch thick, crosswise or lengthwise.
2. Pre-treat: (optional) Dip into ascorbic acid mixture according to package directions.
3. Dehydrate at 140°F for 8-10 hours.

Dried Blueberries

1. Select firm ripe fruit. Wash well. Plunge into boiling water 15-30 seconds to crack skins. Stop cooking action by placing fruit in ice water. Drain on paper towels.
2. Arrange on drying trays not more than two berries deep.
3. Dehydrate at 140°F for 24-36 hours, or until berries are hard and rattle when shaken on trays.

Fruit Powder

2 cups dehydrated fruit (any unsweetened fruit like strawberries, watermelon, apricots, kiwi, citrus peel, etc.)

1. Thinly slice your fruit of choice and place the fruit on the dehydrating trays.
2. Dehydrate at 125°F for 4- 12 hours until dry, depending on chosen fruit.
3. Freeze the dehydrated fruit overnight (optional).
4. Blend the fruit until it turns into a powder.

Yogurt Chips/Powder

1. Choose plain yogurt with low fat content (3% or less), to prevent it from spoiling.
2. Spread the yogurt on dehydrator tray covered with a non-stick sheet or parchment paper in an even, thin layer (about 1/8-inch thick).
3. Dehydrate at 135°F for about 6-8 hours until completely dry and brittle. Rotate tray every couple of hours and flip-over the yogurt bark halfway through the drying time.
4. Remove from the dehydrator and let cool.
5. Either store in pieces or grind into a fine powder using a coffee grinder. Vacuum-seal and freeze

Rehydrate dried yogurt:

1. With yogurt chips: Slowly add water into the bag with dried yogurt chips (in ratio 1:1). Close the bag and gently knead until you get creamy and smooth consistence. Mix in your favorite filling.
2. With yogurt powder: add about 2-3 ounces of water to one ounce of yogurt powder, mix well, and let set for 10-20 minutes. The result will not be as smooth as the original yogurt, but will be as tasty.

Yogurt Drops

1. Use any commercially prepared flavored yogurts or make your own by blending plain yogurt with the fruits powder of your choice. Greek yogurt works well.
2. Line the dehydrator tray with a non-stick sheet or parchment paper.
3. Pour prepared yogurt mixture into a zip lock bag and close tightly. Cut off the corner of the bag and gently squeeze yogurt onto dehydrator tray, making small dots.
4. Dry at 135°F for 8-16 hours until crispy. Vacuum-seal the yogurt drops and freeze until ready to use.

Dried Cauliflower Cereal

Drying Cauliflower Rice

1. Remove the outer leaves and stalk from the cauliflower head. Cut into florets. Place the cauliflower florets in a food processor. Pulse until you get the texture of rice or couscous.
2. Preheat oven to 400°F. Line a baking sheet with parchment paper. Pour the riced cauliflower onto prepared baking sheet. Roast for about 15 minutes, mixing once or twice during cooking. Remove from the oven and let cool slightly.
3. Spread the cauliflower rice on dehydrator trays covered with non-stick sheets or parchment paper. Cover with mesh sheet to prevent scattering of small dried cauliflower rice pieces throughout the dehydrator.
4. Dehydrate at 135°F for about 4-8 hours until completely dry and crunchy.
5. Let cool, then pack into airtight container or zip-lock bag. Store in dry, dark and cool place.

Rehydration:

1. Dehydrated cauliflower rice rehydrates very quickly. Just mix it with equal quantity of hot water, stir well, and let sit in a cozy for 5 to 10 minutes.
2. Mix in mashed fruit, fruit powder to make a cereal.

Banana Bread Flax Seed Crackers

Prep: **8 hrs,** Dehydrate: **20 hrs**

2 cups whole golden flax seeds
1 cup ground flax seed
6 cups water
2 peeled bananas
1-1/2 cup pitted Medjool dates
1 tsp sea salt
1/2 tsp ground cinnamon

1. Soak 2 cups whole golden flax seeds in 4 cups of water for 8-12 hours. Do not drain or rinse.
2. Soak medjool dates in 2 cups of water for 1-2 hours or until softened. Drain.
3. Puree the bananas, medjool dates, sea salt, and cinnamon in a food processor.
4. Add soaked flax, ground flax and fruit puree to a large mixing bowl and mix until well combined.
5. Spread batter evenly onto ParaFlexx lined Excalibur Dehydrator trays. Approximately 2 cups per tray. Score the crackers into the shape you desire.
6. Dehydrate at 145°F for the first 2 hours then lower temp to 105° F for another 10 hours.
7. Flip the crackers on the mesh polyscreens, removing ParaFlexx sheets.
8. Continue to dry at 105°F for another 20 hours or until dry & crisp.
9. Allow crackers to cool completely. Store in a sealed container for up to 2 months.

Source: https://www.excaliburdehydrator-recipes.com/recipe/banana-bread-flax-seed-crackers/

Healthy Homemade Teething Wafers

2 cup oats, dry
1 medium banana
2 tablespoon coconut oil
1 teaspoon vanilla extract (optional)
1/8 teaspoon cinnamon (optional)

1. In a blender (or food processor), blend the oats into a very fine powder. (A blender will work best for this job, but a food processor will also work)
2. Add banana and coconut oil (and any vanilla or spices you may be using) to the blender and puree until mixture comes together in a dough.
3. If the dough is very sticky to handle, you can pat a little flour onto the exterior of the ball to make it easier to handle. If the dough is too dry, you can add a little additional coconut oil.
4. Divide the dough into 12 balls or sections. Pat out each ball into a little baton about 4 inches long and 1 to 1 1/2 inches wide, and about 1/4 inch thick. Round the edges of each baton with your fingers so there are no sharp edges.
5. *Either:*
   Place on dehydrator trays and dry for 4 to 6 hours at 155°F; **or**
   Bake at 350°F on a baking sheet with parchment paper or a silicone baking mat so that none of the bars are touching for 10 minutes. Flip and cook another 5-10 minutes or until the edges are golden and the centers are set but not too crunchy.
6. Allow to cool completely. Store in an airtight container at room temperature, in the refrigerator, or the freezer.

Adapted from https://www.superhealthykids.com/recipes/healthy-homemade-teething-biscuits/

Canning Recipes

Sugar-free Applesauce

Yield: about 8 pints

12 pounds apples, peeled, cored, quartered, treated to prevent browning* and drained (about 36 medium)
Water
4 tablespoons lemon juice

1. Combine apples with just enough water to prevent sticking in a large stainless steel saucepan. Bring to a boil over medium-high heat. Reduce heat and boil gently, stirring occasionally, for 5 to 20 minutes, until apples are tender (time will depend upon the variety of apple and their maturity). Remove from heat and let cool slightly, about 5 minutes.
2. Working in batches, transfer apples to a blender, food processor or food mill and purée until smooth.
3. Return apple purée to saucepan. Add lemon juice. Bring to a boil over medium-high heat, stirring frequently to prevent sticking. Maintain a gentle boil over low heat while filling jars.
4. Ladle hot applesauce into hot jars leaving 1/2-inch headspace. Remove air bubbles. Wipe rims with a dampened clean paper towel; adjust two-piece metal canning lids.
5. Process pint jars in either a boiling water or steam canner for 20 minutes between 0-1,000 feet elevation, 25 minutes between 1,001-3,000 feet, 30 minutes between 3,001-6,000 feet, 35 minutes between 6,001-8,000 feet, and 40 minutes between 8,001-10,000 feet.
6. Remove jars from canner. Let cool, undisturbed, 12-24 hours and check for seals. Clean and label jars. Store sealed jars in a cool, dry, dark location.

Source: Adapted from the Ball Complete Book of Home Preserving, 2012

*To prevent browning, apply ascorbic acid, citric acid, or Fruit Fresh according to the manufacturer's instructions or submerge cut apples in a mixture of 1/4 cup lemon juice and 4 cups water.

Sugar-free Pears

Yield: about 17-1/2 pounds yields 7 quarts; 11 pounds yields 9 pints

1. Choose ripe, mature fruit of ideal quality for eating fresh or cooking. Wash and peel pears. Cut lengthwise in halves and remove core. A melon baller or metal measuring spoon is suitable for coring pears. To prevent discoloration, keep pears in an ascorbic acid solution.
2. (Raw packs make poor quality pears.) Boil drained pears 5 minutes in water. Fill jars with hot fruit and cooking liquid, leaving 1/2-inch headspace.
3. Remove air bubbles and adjust headspace, if necessary, by adding hot liquid. Wipe rims with a dampened clean paper towel; adjust two-piece metal canning lids.
4. Process jars in a boiling water or steam canner according to the table below.

Jar Size	0 - 1,000 ft	1,001 - 3,000 ft	3,001 - 6,000 ft	Above 6,000 ft
Pints	**20 minutes**	25 **minutes**	30 **minutes**	35 **minutes**
Quarts	**25 minutes**	30 **minutes**	35 **minutes**	40 **minutes**

5. Remove jars from canner. Let cool, undisturbed, 12-24 hours and check for seals. Clean and label jars. Store sealed jars in a cool, dry, dark location.

Source: National Center for Home Food Preservation (nchfp.uga.edu), 2019

Apples - Sliced

Quantity: An average of 19 pounds is needed per canner load of 7 quarts; an average of 12-1/4 pounds is needed per canner load of 9 pints. A bushel weighs 48 pounds and yields 16 to 19 quarts-an average of 2-3/4 pounds per quart.
Quality: Select apples that are juicy, crispy, and preferably both sweet and tart.

1. Wash, peel, and core apples. To prevent discoloration, slice apples into water containing ascorbic acid.
2. (Raw packs make poor quality products.) Place drained slices in large saucepan and add 1 pint water per 5 pounds of sliced apples. Boil 5 minutes, stirring occasionally to prevent burning.
3. Fill jars with hot slices and hot water, leaving 1/2-inch headspace. Adjust lids and process.
4. Process pint jars in either a boiling water or steam canner for 20 minutes between 0-1,000 feet elevation, 25 minutes between 1,001-3,000 feet, 30 minutes between 3,001-6,000 feet, 35 minutes above 6,000 feet.
5. Remove jars from canner. Let cool, undisturbed, 12-24 hours and check for seals. Clean and label jars. Store sealed jars in a cool, dry, dark location.

Source: National Center for Home Food Preservation (nchfp.uga.edu), 2019

Sugar Free Fruit Purees

Caution #1: *These recommendations should not be used with bananas, figs, Asian pears, tomatoes, cantaloupe and other melons, papaya, ripe mango or coconut. There are no home canning recommendations available for purees of these products. Freeze these pureed product.*

Caution #2: Do not attempt to can pureed vegetables, red meats, or poultry meats, because proper processing times for pureed foods have not been determined for home use. *Instead, can and store these foods using the standard pressure canning processing procedures; puree or blend them at serving time. Heat the blended foods to boiling, simmer for 10 minutes, cool, and serve. Store unused portions in the refrigerator and use within 2 days for best quality. Or freeze these pureed foods.*

1. Stem, wash, drain, peel, and remove pits if necessary.
2. Measure fruit into large saucepan, crushing slightly if desired.
3. Add 1 cup hot water for each quart of fruit. Cook slowly until fruit is soft, stirring frequently.
4. Press through sieve or food mill.
5. Reheat pulp to boil. Fill hot into clean jars, leaving 1/4-inch headspace. Adjust lids and process.
6. Process pint or quart jars in either a boiling water or steam canner for 15 minutes between 0-1,000 feet elevation, 20 minutes between 1,001-6,000 feet, and 25 minutes above 6,000 feet.
7. Remove jars from canner. Let cool, undisturbed, 12-24 hours and check for seals. Clean and label jars. Store sealed jars in a cool, dry, dark location.

Source: National Center for Home Food Preservation (nchfp.uga.edu), 2019

Peaches

CAUTION: Do not use this process to can white-flesh peaches. *There is evidence that some varieties of white-flesh peaches are higher in pH (i.e., lower in acid) than traditional yellow varieties. The natural pH of some white peaches can exceed 4.6, making them a low-acid food for canning purposes. At this time there is no low-acid pressure process available for white-flesh peaches nor a researched acidification procedure for safe boiling water canning. Freezing is the recommended method of preserving white-flesh peaches.*

Quantity: An average of 17-1/2 pounds is needed per canner load of 7 quarts; an average of 11 pounds is needed per canner load of 9 pints.

Quality: Choose ripe, mature yellow-flesh peaches of ideal quality for eating fresh or cooking.

1. Dip fruit in boiling water for 30 to 60 seconds until skins loosen. Dip quickly in cold water and slip off skins. Cut in half, remove pits and slice if desired.
2. To prevent darkening, keep peeled fruit in ascorbic acid solution.
3. (Raw packs make poor quality peaches.) In a large saucepan place drained fruit in water and bring to boil. Fill jars with hot fruit and cooking liquid, leaving 1/2-inch headspace. Place halves in layers, cut side down.
4. Remove air bubbles and adjust headspace, if necessary, by adding hot liquid. Wipe rims with a dampened clean paper towel; adjust two-piece metal canning lids.
5. Process jars in a boiling water or canner according to the table below.

Style of Pack	Jar Size	0 - 1,000 ft	1,001 - 3,000 ft	3,001 - 6,000 ft	Above 6,000 ft
Hot	Pints	20 minutes	25 minutes	30 minutes	35 minutes
	Quarts	25 minutes	30 minutes	35 minutes	40 minutes
Raw	Pints	25 minutes	30 minutes	35 minutes	40 minutes
	Quarts	30 minutes	35 minutes	40 minutes	45 minutes

6. Remove jars from canner. Let cool, undisturbed, 12-24 hours and check for seals. Clean and label jars. Store sealed jars in a cool, dry, dark location.

Source: National Center for Home Food Preservation (nchfp.uga.edu), 2019