



**Alberta Health
Services**

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Alberta **Children's** Hospital

Home Blended Food (HBF) for Tube Feeding Handbook

Introduction to the Home Blended Food for Tube Feeding:

Home Blended Food for Tube Feeding (HBF) is the use of food that has been blended and thinned to a formula-like consistency and is given through a gastrostomy feeding tube. Using real food in place of formula offers another way to feed your child.

This book provides information to families who have chosen to use home blended food to feed their tube fed child.

Please ask your Registered Dietitian (RD) to help to plan a nutritionally complete diet for your child that meets their needs.

The Registered Dietitians will:

1. Complete a nutrition assessment to determine your child's needs for nutrients and fluids, any food allergies and potential food/drug interactions, and your family's diet.
2. Consider your goals. Some families choose to use all home blended food (HBF), while others choose to make 1-2 meals or snacks with the rest from formula.
3. Help you create recipes for HBF.
4. Assist with nutritional adequacy of your home blended food recipes and make recommendations for any additional food, fluids and/or supplements that may be required.

Step 1: CHOOSING the Blender

A high performance power blender is recommended to make home blended food for tube feeding. Currently, there are two blenders recommended by parents:

1. Blendtec®

[Blendtec Blenders](#)

2. Vitamix®

[Vitamix Blenders](#)

Step 2: PLANNING home blended meals for tube feeding

1. Follow Canada's Food Guide

- ✓ Have plenty of vegetables and fruits.
- ✓ Choose whole grain **foods** and protein **foods**. Choose protein **foods** that come from plants more often.
- ✓ Limit highly processed foods.
Make water your drink of choice.
- ✓ Eat a variety of healthy foods each day.

2. Ensure that all meat products are fully cooked

- ✓ Do not give raw egg yolk, fish or meat to your child.

3. Variety is key

- ✓ Providing different colored fruits and vegetables will help to ensure that your child receives a variety of vitamins and minerals.

4. Encourage Family Meals

- ✓ Give your child syringe feeds during family meals. This will allow your child to be a part of the dining experience.

5. Timing is important

- ✓ Keep meal times structured.
- ✓ Give snacks over 10-15 minutes.
- ✓ Give meals over 20-30 minutes.
- ✓ If using a syringe, evenly space the feeding throughout the meal. Example: if feed is 250ml – syringe feed 40ml every 5 minutes. This will promote proper digestion and help you to read cues if your child is hungry or full!

6. Foods that Blend Well

- ✓ Protein: tofu, legumes, eggs, fish, tender meat/poultry, cottage cheese, yogurt, nut butter
- ✓ Whole grains: oatmeal, bread, rice, quinoa, wheat, barley
- ✓ Vegetables and Fruit: carrots, squash, sweet/white potato, leafy greens, apples, blueberries, mango, etc
- ✓ Fat: oils, nut butter, full fat dairy products, avocado
- ✓ Liquids: milk, non-dairy milk (e.g. soy milk), coconut milk, nutrition supplement drinks, tube feeding formula, water

Step 3: FOOD SAFETY for Everyone!

Note: Blending food increases the risk for bacterial growth.

1. At the Store

- ✓ When shopping for meat, poultry or fish, wrap them in a separate plastic bag to prevent contamination of other foods in your cart.
- ✓ Pick items that need to be kept cold or kept hot last, so that these foods stay out of the temperature danger zone for less time.
- ✓ If the trip from the grocery store to home is long, bringing along an ice pack will help to keep foods cold.

2. The Fridge

- ✓ The refrigerator should be kept at 4 degrees Celsius. If your refrigerator does not show the temperature, a small thermometer can be purchased and placed inside.
- ✓ Food will last longer before spoiling when kept in the fridge.

3. The Freezer

- ✓ The freezer should be kept at -18 degrees Celsius or lower. If your freezer does not show the temperature, a small thermometer can be purchased and placed inside.
- ✓ Thaw frozen foods slowly in the refrigerator. If frozen food needs to be used right away, it can be thawed more quickly by covering in a sink of cold water (replace water every 30 minutes), or by using defrost setting in the microwave.

4. The Pantry

- ✓ Dry and canned goods can be stored in a cool dry pantry at room temperature. Once the packages or containers are opened, follow the directions for storage stated on the label.
- ✓ If canned goods are opened, store the leftovers in an airtight plastic or glass container instead of the can they were purchased in.
- ✓ When shopping for canned goods, ensure the containers are checked and free of any dents, leaks, or bulges.

For more information visit: <https://www.canada.ca/en/health-canada/services/general-food-safety-tips.html>



Step 4: PREPARING Home Blended Food for Tube Feeding

1. Clean

- ✓ Wash hands with hot soapy water.
- ✓ Wash counter and /or cutting board, where food will be prepared with hot soapy water.
- ✓ Use clean equipment (pots, pans, measuring cups, spoons).
- ✓ Wash fruits and vegetables thoroughly (even if packaging states it has been pre-washed) before foods are cut or placed in a blender.
- ✓ Prepare ingredients as you would if intended to be eaten by mouth (remove stems, skins, seeds and bones).
- ✓ Clean counters, appliances, and utensils between cooking steps with hot soapy water.

2. Prepare

- ✓ Cook or prepare foods as needed.
- ✓ Tip: Save the vegetable cooking water to use as extra fluid when blending.
- ✓ Chop the food into small pieces and place in the blender.
- ✓ Ensure all foods are cooked to a safe internal temperature to prevent foodborne illness.

Refer to :<https://www.canada.ca/en/health-canada/services/general-food-safety-tips/safe-internal-cooking-temperatures.html>

3. Blend

- ✓ Place foods in the blender and blend thoroughly to a honey like consistency.
- ✓ See “Tips for blending food for successful tube feeding” section below.

4. Storage

- ✓ If not using right away, label the blended food by name and date and time of preparation and store in the fridge or freezer as soon as possible. Ex. John Smith, prepared 12/2/2020 10:30h
- ✓ Blended food should not remain at room temperature longer than 2 hours.
- ✓ Blended food can be refrigerated for up to 2 days for home use, or frozen for up to 2 months. The date and time of thawing should be added to the label when the blended food is removed from the freezer to be thawed. Ex. Thawed 22/02/2020 11:12h

5. Transportation

- ✓ If blended food needs to be transported (for school lunch, a picnic or a road trip):
 - o Pack foods that need to be kept cold or hot into a thermos to keep the food at a safe temperature.
 - o Cold foods can also be stored with an ice pack or a frozen juice box in an insulated bag.



Feeding Your Child Home Blended Food using the Tube:

1. Preparation

- ✓ If blended food needs to be served warm, ensure it is not too hot. Test a drop of blended food on the inside of your wrist or the back of your hand.
- ✓ Thaw frozen blended food in the refrigerator or microwave, not at room temperature.
- ✓ If using syringe:
 - Use a 60 ml syringe to push feeds into your child's G-tube.
 - Repeat as many times as needed, until your child has received their full meal or snack, or if your child gives you signs they have had enough. Recommend breaks between each syringe of formula.
- ✓ If using pump:
 - Ensure your blend is a thin enough consistency to pass through the bag and pump tubing.
 - Set the rate and dose and connect to G-tube.
 - Once the blended feed is finished, you may follow with a water bolus via pump to help remove residue left in bag or tubing.
 - Do not leave blended food in a feeding bag for more than 2 hours unless it is refrigerated.

2. Watch & Listen:

- ✓ Watch how your child reacts to feeds.
- ✓ If your child complains or is irritable, looks like he/she is full, has a stomachache, or feels nauseous, G-tube feeds should be stopped. Wait a few minutes before trying feeds again.

3. Blocked feeding tube

- ✓ Refer to your Home Enteral Nutrition Resource Booklet (provided by HENT)
- ✓ To prevent further tube blockages:
 - Ensure the feed is smooth. If there are chunks of food in the feed then it should be re-blended. Make sure that your feed is the right consistency. If it is too thick consider adding more liquids to your feed. See section below: Tips for Successful Tube Feeding Consistency



Tips for Blending Food for Successful Tube Feeding

- 1. Food is fully blended when its consistency is smooth and its color is uniform**
 - ✓ Power blenders such as Vitamix® or Blendtec®, are recommended for blended tube feeds.
 - ✓ If you do not have a power blender then food should be blended twice in either a blender or food processor.
- 2. Home Blended Food should be a honey like consistency**
 - ✓ If you can pull up the blended food in a 60 ml syringe without resistance, then the consistency is likely appropriate.
- 3. If the blend is too thick add fluid**
 - ✓ If your child needs additional calories add
 - milk & alternatives
 - fruit juices (limited to ½ cup/day)
 - oil or melted butter
 - oral rehydration solution such as, Pedialyte or Enfalyte
 - ✓ If your child does not need additional calories add water
 - ✓ Warming the food may help to thin the blend
- 4. If the blend is too thin add a thickening agent**
 - ✓ Thickening agents include starchy vegetables and grain products such as rice cereal, pasta, potatoes & yams.
- 5. Seedy fruits such as blackberries & raspberries may plug your child's G-tube**
 - ✓ If you add these fruits to the blended food, use a strainer to remove unwanted seeds
- 6. Rehydrate (soak) dried fruit (prunes, cranberries, dates)**
- 7. Vegetables should be steamed & then blended for desired consistency**
 - ✓ Avoid stringy vegetables such as kale (can remove the ribs), celery, and corn (avoid popcorn).
- 8. Meats should be cooked using high moisture techniques**
 - ✓ For best results, cook foods with lots of liquid such as braising, steaming, poaching, stewing and boiling.
 - ✓ Avoid tough meats because they do not blend well.
- 9. Pre-grind nuts and oats.**
 - ✓ Grind nuts and oats separately in a food processor or coffee grinder prior to adding them to your blended food.



Travel Considerations

When away from the home for short or long durations, it is still possible to continue giving your child blended tube feeds. It may not be easy to bring food, supplies, containers, and a blender to use during the vacation to prepare the blended tube feeds. Alternatives such as jarred baby foods or cans of pureed foods and entrees can be purchased at your destination or prior to travel.

If this will not work well for your family, another option would be returning to the formula your child previously tolerated. This way, nothing new is being introduced, and your child will be familiar with this formula.

Emergency Planning

Emergencies can happen at any time. Children that use a tube for feeding, require additional planning in times of emergencies.

It may be helpful to have an emergency plan in order to be prepared for these situations.

Important information to consider:

Example:

1. Friends and family members trained in tube feeding:

Name:

Contact:

2. Commercial formula to use in case of emergency:

3. Delivery method and Feeding schedule: number and volume of feeds, timing and rate:

4. Extra water and pureed/strained infant foods stored at home for hydration and nutrition:

March 20/2020: Note: Due to COVI-19 pandemic, implementation of in-hospital process is on hold and will be revisited post pandemic.

Home Blended Food in Hospital

Home blended food (HBF) for tube feeding is a good choice for your child's nutritional needs. Your health care team supports having you bring and feed your child their home blended food in-hospital.

The diet does require careful attention to nutrition completeness, food safety and consistency.

1. Preparation:

- You will be responsible for ensuring the home blended food for tube feeds has been prepared safely, is nutritionally complete, and is the proper consistency to be ready to feed to your child.
- You are responsible for preparing the feeds at home and maintaining food safety during transportation to the hospital.
- In hospital, all HBF must be used within 24 hours of preparation or 24 hours from reaching a thawed state, if previously frozen.
- Identification and date labels are required during admission.

Please clearly label with child's first and last name, date and time of preparation and date of expiration. In using frozen blended food, please add the date and time of removal from freezer to be thawed.

Ex: Doe, John, Prepared Oct 1, 2019 @ 10:30h. Expires Oct 2, 2019 @ 10:30h.

OR

Doe, John, Prepared Oct 1, 2019@10:30h. Thawed Nov 10, 2019@11:02h. Expires Nov 11 2019 @ 11:02h

Note: To prepare for planned or unplanned hospital admissions families are encouraged to have a copy of their recipe and if possible a nutritional analysis of the recipe(s). It is also important to have a list of any supplements or other health products that may be added to the recipe or at time of feeding. Some products may be safe, and others may interact with drugs that your child is receiving in hospital. The medical team will discuss the safety of products with you.



2. Administration:

- You are responsible for feeding your child while in hospital as your health care team will not administer the home blended tube feed.
- You may find that you are unable to be present for all feeds and can choose a hospital formulary product as an alternative.
- Bolus feeds under 2 hours in length are required due to food safety.
- You can choose to syringe feed or use your own enteral feeding pump and syringes.

3. Alternative Formula

It is important for you to know that when a child is admitted to hospital, there may be medical reasons for which the home blended diet is not the best choice. The team will work together with you to develop a plan for an alternate formula from hospital formulary to use and to transition back to the home blended diet when your child is medically ready.

If you have any questions, please ask your child's health care provider or admitting team.

We are committed to partnering with you in the care of your child to make sure that your child has safe and nutritious feeds during their hospital stay.