

## Power Packing for Children

### Introduction

Good nutrition is most important during childhood. A child's normal growth and activity requires adequate calories, protein and other nutrients in proper balance. The body of a well-nourished child is able to fight infection and heal quickly.

The body's need for nutrition continues and increases during an illness, particularly if the illness is prolonged or severe. However, a poor appetite often accompanies illness. Meeting nutrient needs for a child who doesn't feel well and/or doesn't want to eat but needs the benefits of good nutrition, can be a great challenge.

This handout addresses the challenge of providing adequate calories and appropriate nutrition. **Power packing** may be helpful in the following situations:

- An underweight child needs to gain weight
- A child's appetite is poor and weight loss is noted
- The ability to eat normal amounts of food is compromised
- Additional calories and protein are needed because of increased demands on the child's body

### What is Power Packing?

**Power packing** increases calorie and protein content of food without increasing the amount. The easiest way to power pack foods is to add fat and carbohydrate to increase calories while including more high protein foods.

Many adults cut back on dietary fat for health reasons, but children in need of extra calories benefit from additional fat to meet energy demands of their bodies. This temporary addition of fat is important to provide adequate calories and should not have any long-lasting ill effects.

### Definitions

**Calories** are a measure of energy. They describe the energy you consume as food and the energy your body uses to keep warm, grow, move, and to repair itself. The more active you are, the more energy or calories your body requires. Recovery from an illness or injury may increase your need for calories. Protein, carbohydrate and fat are the calories-containing components of the foods we eat.

**Carbohydrates**, or sugars and starches, are the major sources of calories for your body. Many of the calories you eat come from carbohydrate foods such as breads, cereals, fruits and vegetables.

**Fats** are the most concentrated source of calories. Compared with equal amounts of protein or carbohydrate, fat provides double the number of calories. Fats are also important for satiety, the feeling of fullness after eating a meal. Fat sources include butter, margarine, cream, mayonnaise, salad dressings, meats, nuts and seeds.

Dietitian: \_\_\_\_\_

Phone: \_\_\_\_\_

Facility: \_\_\_\_\_

**Protein** provides building blocks for growth and repair of your body's muscles and organs. Protein not used for growth or repair is converted to energy. If you do not receive enough calories to meet your body's needs, protein is used for energy rather than for growth and repair. Meats, eggs, dairy products and legumes (such as dried beans) are good sources of protein

**Vitamins and minerals** do not provide calories but are essential for your body to function properly. The best source of vitamins and minerals is a balanced diet that includes a wide variety of foods. If you feel a vitamin and/or mineral supplement is needed, consult your physician.

**Water** is the single most important nutrient but by itself does not provide any calories. Water requirements can be met by including calorie-containing fluids such as milk, juices and soup.

## Heart Smart Power Packing

Many parents are reluctant to increase calories by adding fat to their child's diet. These "Heart Smart" recommendations can be incorporated into a power-packing plan.

- Frequently include nuts, peanuts, peanut butter, olives, or avocados, especially if other sources of fat are being reduced in the diet.
- Add 1 – 3 teaspoons nonfat powdered milk, evaporated skim milk or instant breakfast powder to low fat milk at each meal.
- Include concentrated carbohydrate sources such as dried fruit, fruit leathers, and canned fruits in heavy syrup, jams, preserves, or honey. (*Refer to the Heart Smart Power Packing Menus in the Comparison of Meals and Snacks at the end of this handout.*)

Important Points:

- Infants from birth to age two grow and develop rapidly. They require a high percentage of total calories from fat for normal growth and development. Restricting fat in this age group is inappropriate.
- Restriction of fat to less than 20% of total calories in an older child's diet may limit growth, especially if the child is already lean.
- Children experiencing growth problems may require a temporary increase in calories from fat to restore a more normal growth pattern.

## Power Packing Junior

Infants and toddlers require the calories from added fats to meet the energy demands of their bodies. The temporary addition of fat is important to support adequate growth and should not have any long-term ill effects. Your child's dietitian can supply information on using specific fats.

**Adding Solids:** If solids are being introduced for the first time, begin with single ingredient foods (such as plain rice cereal, applesauce, bananas, or squash) rather than food mixtures. Give one new food at a time and wait 3 – 5 days before introducing another new food.

## Boosting Calories

Select higher calorie baby foods. (Your child's dietitian can provide a list of calories available in baby food). You do not need to eliminate the lower calorie foods, just use the higher calorie foods more often. If your child is on formula, the concentration can be increased. Your child's doctor and dietitian can determine the concentration appropriate for your child.

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To increase calories:

- Add 1 teaspoon liquid margarine to each 4oz. jar of baby cereals, meats, combination dinners, or vegetables.
- Add 1 teaspoon table sugar, light Karo syrup, or polycose (a powdered carbohydrate supplement available in drug stores) to each 4oz. jar of baby fruits. (Honey isn't recommended for infants under one year of age.)
- Use custard-style yogurt. Compare the labels for calories.
- If your child drinks milk instead of formula, use whole, milk, not 2% or skim milk. Add one of the following to each 8 ounces of whole milk:
  - 2 tablespoons nonfat powdered milk
  - 2 or more tablespoons whipping cream
  - 1 package "instant breakfast" type powder
- Mix any dry infant cereal with high calorie milk or infant formula rather than water or juice.
- Use your blender to adapt the texture of the high calorie foods listed in this pamphlet.
- Use your imagination and your knowledge of your own child to develop additional ideas for power packing. Some of the very best ideas have come from the parents who are using these power-packing principles and thinking of other ways to increase calories.

*(Refer to the Power Packing Junior Menus at the end of this handout to compare meals and snacks.)*

Important Points:

- Any suggestion in this handout should be adapted to meet your child's specific needs and abilities.
- Do not give foods that exceed your child's ability to chew or swallow. This is especially true for children with physical or neurological impairments.

## Encouraging Your Child to Eat

- **Use a positive approach** to encourage children to eat. A cheerful, tension-free environment makes eating more enjoyable. Minimize distractions that may take a child's attention away from eating.
- **Include the child at family meals.** Have someone sit and eat or just drink a glass of water when the child is having a meal or a snack.
- **Be creative!** Use your imagination with power packing to make food fun. Offer nutritious foods in a variety of colors and textures for appealing snacks.
- **Involve the child** in the planning and preparation of food. Children's cookbooks are great sources of fun, nutritious snacks with "kid appeal." (Check your local library.)
- **"Dress" your child's foods** with gravies, sauces, dips, toppings, etc. Don't serve foods plain.
- **Offer small meals with scheduled nutritious snacks** in between. Small portions of food served frequently may avoid overwhelming the child while still providing enough calories. Allow at least 2 – 3 hours between meals and snacks.
- **Allow a reasonable length of time** for each meal or snack, usually 15 – 30 minutes for each meal and 5 – 15 minutes for a snack.
- **Avoid nibbling**, grazing" or non-stop snacking. When the meal or snack is over, food should be put away until the next scheduled meal or snack.
- **Watch fluid intake.** Some toddlers and preschoolers will "fill up" on water, juice, or soda then refuse to eat.

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## Encouraging Babies and Toddlers to Eat

- Never put cereal or solids in a bottle. Use a baby-sized spoon.
- Pull a baby/toddler chair up to the dinner table so he/she can be and feel part of the family.
- Don't get frustrated. Toddlers can be very picky eaters!
- Food jags are common. A food jag is when a child will only eat a single food item. Give the requested food for a few days and continue to offer small amounts of other foods.
- Minimize distractions. Turn off the TV.
- Buy plates with separate compartments. Some children do not like to have their foods together.
- Make meals interesting! Serve foods that are:
  - Colorful – cooked peas and carrots
  - Crunchy – graham crackers, toast, saltines
  - Smooth – yogurt, pudding, hot cereal
  - Warm – room temperature to body temperature foods, ones that aren't too hot or too cold.

## Increasing Protein and Calories

### Cheese

- Melt on sandwiches, meats, fish, vegetables, eggs
- Grate into sauces, casseroles, mashed/baked potatoes, rice, noodles
- Add an extra slice to grilled cheese sandwiches

### Cottage Cheese

- Stuff fruits or vegetables
- Add to casseroles
- Use as a dip
- Top baked potatoes

### Cream Cheese

- Spread on sandwiches, fruit slices, toast, bagels, crackers, muffins, cookies
- Add to egg dishes or vegetables
- Use in sauces

### Whole Milk or Cream

- Use in place of water in soups, hot cereals, instant puddings
- Serve cream sauce with vegetables
- Add powdered milk to regular milk (see recipe for muscle milk), eggnog, milk shakes, soups, casseroles, meatloaf, cookie dough, cake, muffin and bread batters
- Add cream to sauces
- Use whole milk instead of 2% or skim milk
- Use evaporated milk in a sauce or in cooking

### Fruit Juices

- Add less water when mixing frozen juice
- Substitute fruit juice for some of the water when making gelatin
- Freeze fruit juice to make Popsicles or slushes

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### Ice Cream

- Use in beverages such as sodas, milk shakes or fruit whips
- Add to fruits, gelatin desserts, pies
- Sandwich between cookies, cake or graham crackers
- Compare labels to choose higher calorie products.

### Egg

- Add chopped, hard-cooked eggs to salads, dressings, vegetables, casseroles, creamed meats
- Add extra egg to cooked foods such as custards, French toast, muffin and pancake batter, and bread dough
- CAUTION: Raw eggs are **NOT** recommended because of possible contamination

### Peanut Butter

- Spread generously on sandwiches, toast, muffins, French toast, pancakes, fruit slices, crackers, carrot and celery sticks
- Add to sauces, milk shakes, cookie and muffin batter, bread dough
- Swirl through ice cream, yogurt or pudding

### Meat and Fish

- Add cooked meat to vegetables, salads, casseroles, soups, omelets, scrambled eggs, sandwiches, stuffing and baked potatoes

### Margarine or Butter

- Melt into hot cereals, soups, casseroles, mashed/baked potatoes, rice noodles, pasta, cooked vegetables, pancakes, sauces, gravies
- Spread extra on toast, rolls, bread (best done when the toast, bread, rolls are hot)
- Butter both slices of bread in sandwiches
- Butter buns for hot dogs or hamburgers

### Mayonnaise

- Add to salad dressing
- Spread on sandwiches and crackers
- Make vegetable dips
- Use to make meat, fish or vegetable salads

### Honey, Jams, Jellies or Sugar

- Add to cereals, milk shakes, fruit, desserts, yogurt, toast, muffins, French toast, pancakes and cookies. (Honey is **not** recommended for infants under one year of age or immunosuppressed children.)

### Other Favorites

- Olives, peanuts, nuts, seeds, raisins and other dried fruits. (These are **not** recommended for infants under one year of age.)

## Supplements – Ready to Use

A variety of ready-to-use supplements are available in most large grocery or drug stores. Examples include: Pediasure, Kindercal, Boost, or Ensure. They are nutritious, a good source of calories, and convenient to use. These products are complete meals by themselves and can be used for snacks or to supplement mealtime. They can also be added to other foods.

## Recipes

<b>Muscle Milk</b>	1 cup whole milk 2 tbsp dry skim milk powder Mix together. Serve cold. Yield = 1 cup (210 calories)		
<b>Orange Cow</b>	2 tbsp orange juice concentrate 1 tbsp dry skim milk powder ½ cup water Mix together until well blended. Serve cold Yield = 6 oz serving (84 calories)		
<b>Orange Juice Frappe</b>	1 cup vanilla ice cream ¾ cup orange juice Blend thoroughly. Yield = 10 oz serving (348 calories)		
<b>Frappe</b>	½ cup vanilla ice cream ½ cup sherbet ½ cup lemon-lime or orange soda Blend thoroughly. Yield = 10 oz serving (300 calories)		
<b>Frappe Variation</b>	Add ½ c. strawberry ice cream and ½ c. pineapple sherbet instead of lime or orange soda. Yield = 12 oz (445 calories)		
<b>Frozen Yogurt</b>	2 tbsps. orange juice concentrate ½ cup fat free yogurt Mix and freeze.		
<b>Vanilla Shake</b>	1 ½ cup vanilla ice cream ¼ cup half and half Blend thoroughly. Yield = 12 oz (448 calories)		
<b>Shake Variation</b>	<u>Amount</u>	<u>Extra calories</u>	
Add any of the following prior to mixing:	Strawberry topping	3 tbsps.	132
	Fresh banana	½	40
	Peanut Butter	1 tbsp	90
	Chocolate chips	3 tbsps.	150
	Caramel topping	3 tbsps.	110
<b>High Protein/Calorie Milk Shake</b>	1 ½ cup vanilla ice cream 2 ½ tbsps. powdered vanilla instant breakfast ¼ cup whipping cream 2 tbsps. dry skim milk powder Blend thoroughly. Yield = 12 oz. (750 calories)  Variation: Can vary the flavor of ice cream and instant breakfast.		

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## Comparison of regular, power packed, and super power packed meals and snacks

Junior		Power Packed		Super Power Packed	
<b>Breakfast</b>	<b>Calories</b>	<b>Breakfast</b>	<b>Calories</b>	<b>Breakfast</b>	<b>Calories</b>
6 – 8 oz breast milk or formula (standard)	160	6 – 8 oz breast milk or formula		6 – 8 oz breast milk or formula	
2 tbsp rice cereal, mixed w/ 2 tbsp water	19	(24 kcal / oz)**	192	(27 kcal / oz)**	216
3-4 tbsp applesauce	20	2 tbsp rice cereal, mixed with		2 tbsp rice cereal mixed with	
¼ cup cottage cheese (2% milkfat)	51	2 tbsp 24 kcal / oz milk	43	2 tbsp 27 kcal / oz milk	46
<b>Total</b>	<b>250</b>	3 – 4 tbsp ripe bananas	33	3 – 4 tbsp ripe bananas with	
		¼ cup cottage cheese (4% milkfat)	54	1 tsp polycose	52
		<b>Total</b>	<b>322</b>	¼ cup cottage cheese (4% milkfat)	
				with 1 tsp liquid margarine	99
				<b>Total</b>	<b>413</b>
<b>Mid-Morning Snack</b>		<b>Mid-Morning Snack</b>		<b>Mid-Morning Snack</b>	
1 graham cracker square	30	1 graham cracker square	75	1 graham cracker square with 1 tsp	92
		with 1 tsp butter or margarine		butter or margarine and 1 tsp jelly	
<b>Lunch</b>		<b>Lunch</b>		<b>Lunch</b>	
6 – 8 oz breast milk or formula (standard)	160	6 – 8 oz breast milk or formula		6 – 8 oz breast milk or formula	
3 – 4 tbsp carrots	11	(24 kcal / oz)**	192	(27 kcal / oz)**	216
3 – 4 tbsp chicken	55	3 – 4 tbsp sweet potatoes	30	3 – 4 tbsp sweet potatoes with	
½ slice plain bread	34	3 – 4 tbsp chicken mixed with		1 tsp margarine	75
<b>Total</b>	<b>260</b>	1 tsp margarine	89	3 – 4 tbsp chicken mixed with	
		½ slice bread		1 tsp margarine	100
		with 1 tsp margarine or butter	79	½ slice bread with 1 tsp margarine	
		<b>Total</b>	<b>401</b>	or butter	79
				1 tsp jelly	16
				<b>Total</b>	<b>486</b>
<b>Mid-Afternoon Snack</b>		<b>Mid-Afternoon Snack</b>		<b>Mid-Afternoon Snack</b>	
3 – 4 tbsp pears	18	3 – 4 tbsp apricots	38	3 – 4 tbsp apricots with 1 tsp polycose	57
<b>Dinner</b>		<b>Dinner</b>		<b>Dinner</b>	
6 – 8 oz breast milk or formula (standard)	160	6 – 8 oz breast milk or formula		6 – 8 oz breast milk or formula	
2 tbsp rice cereal, mixed w/ 2 tbsp water	19	(24 kcal / oz)**	192	(27 kcal / oz)**	216
3 – 4 tbsp green beans	10	2 tbsp rice cereal, mixed with 2 tbsp of		2 tbsp rice cereal mixed with 2 tbsp of	
2 crackers	36	24 kcal / oz milk	43	27 kcal / oz milk	46
3 – 4 tbsp turkey dinner	33	3 – 4 tbsp creamed peas	23	3 – 4 tbsp creamed peas with	
<b>Total</b>	<b>258</b>	2 crackers with 1 tsp butter or margarine	81	1 tsp margarine	68
		3 – 4 tbsp vegetable turkey dinner	33	2 crackers with 1 tsp butter or	
		<b>Total</b>	<b>372</b>	margarine and 1 tsp jelly;	98
				3 – 4 tbsp vegetable bacon dinner	31
				<b>Total</b>	<b>459</b>
<b>Bedtime Snack</b>		<b>Bedtime Snack</b>		<b>Bedtime Snack</b>	
6 – 8 oz breast milk or formula (standard)	160	6 – 8 oz breast milk or formula		6 – 8 oz breast milk or formula	
2 tbsp rice cereal, mixed w/ 2 tbsp water	19	(24 kcal / oz)**	192	(27 kcal / oz)**	216
<b>Total</b>	<b>179</b>	2 tbsp rice cereal, mixed with 2 tbsp of		2 tbsp rice cereal mixed with 2 tbsp of	
		24 kcal / oz milk	43	27 kcal / oz milk	46
		<b>Total</b>	<b>235</b>	<b>Total</b>	<b>262</b>
<b>Total Calories for the Day</b>	<b>995</b>	<b>Total Calories for the Day</b>	<b>1,442</b>	<b>Total Calories for the Day</b>	<b>1,769</b>

\*\*Check with your dietician for instructions on concentrating infant formulas to 24 – 27 calories per ounce.

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