



HEALTHY NUTRITION

...for ALS

Getting the right nutrition can be a challenge for anyone, but with ALS, you face a unique set of challenges. Because you have chewing and swallowing difficulties, your swallowing therapist and registered dietitian may recommend soft, pureed or blenderized foods, and thicker fluids.

Why is adequate nutrition important?

Adequate nutrition is necessary to maintain a healthy weight and the highest possible level of function. While ALS is a progressive disease, eating a well-balanced diet with proper calories, protein, vitamins and minerals can improve your strength and well-being. Even more importantly, adequate nutrition will *improve your endurance*. This should allow you to do more in a day and be less tired than if your nutrition is poor.



Maintaining adequate nutrition also helps protect your body from infection and illness, such as colds and the flu. It takes a lot to bounce back from these illnesses, and it will be harder to bounce back if nutrition has been inadequate and your energy reserves are low.

FEATURING...

2	Words to the Wise
3	Helpful Hints
4	Problem-Solving Tips
5	Sample Blenderized Menu Plan
5	Sample Soft Menu Plan
6	Recipes

Can I get enough nutrition using pureed and blenderized foods?

Yes. By eating a variety of foods according to the Food Guide Pyramid, you should be able to get the calories, protein and vitamins and minerals you need.

Food Guide Pyramid

Food Group	Servings/day
<i>Bread, Cereal, Rice, and Pasta</i>	6-11
<ul style="list-style-type: none"> 1 slice bread 1/2 cup cereal, rice, pasta, potatoes 	
<i>Fruit</i>	2-4
<ul style="list-style-type: none"> 1 piece fruit or melon wedge 3/4 cup fruit juice 1/2 cup chopped, cooked or canned fruit 	
<i>Vegetable</i>	3-5
<ul style="list-style-type: none"> 1 cup raw or 1/2 cup cooked vegetable 3/4 cup vegetable juice 	
<i>Milk, Yogurt and Cheese Group</i>	2-3
<ul style="list-style-type: none"> 1 cup milk or yogurt 1 1/2 ounces natural cheese 2 ounces process cheese 1 1/2 cups ice cream 1 cup frozen yogurt 	
<i>Meat, Poultry, Fish, Dry Beans, Eggs, & Nuts</i>	2-3
<ul style="list-style-type: none"> 2 1/2 to 3 ounces each 1/2 cup cooked beans or 1 egg or 2 tablespoons peanut butter count as 1 ounce of meat 	
<i>Fats, Oils, and Sweets</i>	In moderation
<ul style="list-style-type: none"> Note: Can be used <i>liberally</i> to help maintain or gain body weight 	

You may find it easier to eat small frequent meals (6-8 meals per day). If eating a variety of foods becomes difficult, your registered dietitian may recommend increasing the calorie and protein content of your foods. *Please see Helpful Hints for increasing calories and protein on page 3.* Vitamin and mineral supplements may also be recommended.

WORDS TO THE WISE

Tips for Safe and Healthy Eating

1. Blender or Food Processor

A good blender or food processor is the key to good nutrition.



To smoothly blend most foods:

- One minute on low speed (puree)
- Two minutes on high (liquefy)

2. Softening foods

Cook vegetables longer to make them softer. Cook fruit to make it soft. Top with whipped cream or ice cream.

3. Fluids

Adequate fluid intake is especially important. Symptoms of dehydration include increased thirst, *fatigue*, and dry skin. Your urine is also a darker color when you don't get enough fluids, which is your body's way of holding onto water. In a similar way, phlegm in the back of your throat may become thicker, stringier and hard to remove. A lack of adequate fluid is also the most common cause of constipation.

We need about eight (8 ounce) glasses of fluid daily for proper hydration and body function. Fluids include:

- Water
- Ice cream and jello
- Fruit juice
- Caffeine-free coffee, tea, soda
- Vegetable juice
- Fruit smoothies & milkshakes
- Milk
- Supplements (Ensure, Boost)

Some of these fluids may be used to blenderize or puree your food.



4. Thickening Liquids

Your swallowing therapist or registered dietitian may recommend thickened liquids. Since thickened liquids move more slowly in your mouth and throat, you can control them better, and they may reduce the risk of choking. Commercial powdered thickeners, like Thicken-Up (Novartis), can be purchased at pharmacies and directly through the company. You can also purchase pre-thickened, ready-to-drink products. Household foods like potato flakes, unflavored gelatin, packaged gravy, and baby cereal can also be used to thicken liquids like soups. Your swallowing therapist or registered dietitian can teach you how to properly thicken liquids.

5. Fiber

Getting enough fiber may become more of a challenge as you change your food choices with swallowing difficulties. Remember to include plenty of fruits and vegetables. To make swallowing easier, choose canned and cooked fruits and vegetables; peel tough skins and avoid fruits with seeds. Try adding fiber supplements (like wheat bran, Metamucil, or Citrucel) to foods and fluids. Fiber will help you prevent constipation.



6. Carbonated Drinks.

Carbonated drinks could be a source of calories. Keep in mind that regular sodas provide calories but contain no protein, vitamins or minerals. If you tend to get full easily, limit regular sodas and avoid diet drinks.

7. Caffeine

Coffee, tea and soda can all contain caffeine, which is a diuretic (promotes loss of fluid). Caffeine takes extra water to form more urine. Therefore, caffeine really acts as a "dehydrator." Try to limit the amount of caffeine you take to insure adequate fluid hydration.



8. Adding Eggs

Raw eggs carry a high risk of Salmonella contamination. Instead of raw eggs, use cooked eggs or pasteurized egg products, available in the refrigerator section of grocery stores. These are easy to add to a shake for extra protein and other nutrients.

9. Tips for Safer Swallowing

There are a few basic principles to always consider to make swallowing safer. Be sure to eat slowly and carefully. Take small bites and sips. Focus your attention on swallowing. Avoid distractions, and do not try to speak with food or liquid in your mouth. To learn swallowing strategies that work best for you, make an appointment for an evaluation by your swallowing therapist.

HELPFUL HINTS

To Increase Calories

1. Add butter, cream, half-and-half, gravy.
2. Use vegetable oils, avocado.
3. Add honey, sugar, molasses, maple syrup.
4. Use full-fat dairy products such as whole milk and ice cream.



To Increase Protein

1. Use protein-fortified milk or make your own “Super-Milk”.
--Super-Milk Recipe: Add 2 tbsp dry milk powder to 8 oz whole milk
2. Add ice cream, yogurt, or instant breakfast mix to shakes.
3. Add protein powder.
--Available at most retail grocery stores and natural food stores.
--Dry milk powder is an inexpensive protein supplement!
4. Add pasteurized eggs, eggnog, malted mix.



Time-Saving Convenience Foods

1. Baby food
--Strained meat is a good source of protein.
2. Canned soups, creamy and chunky
--Blenderize, if needed. Add milk to thin if necessary.
3. Canned fruits or vegetables
--Blenderize, if needed. Add fruit juice or tomato juice to thin if necessary.
4. Carnation Instant Breakfast, Malt-o-Meal, Cream of Wheat
--Makes a quick breakfast. Just add whole milk, sugar, wheat bran.
5. Fruit smoothies from retail juice stores
--Order with added protein powder, frozen yogurt, or ice cream.
--Also try ready-to-drink products like Odwalla and Naked Juice.
6. Nutritional supplements like Ensure, Boost, Resource
--Choose the *Plus* version of supplements for extra calories and protein.
7. Prepare more than one serving at a time. Store in the refrigerator for 2-3 days, or freeze in individual Styrofoam cups, *labeled and dated*. Defrost in the refrigerator.



Milk Allergy or Lactose Intolerance

If you are lactose intolerant, use Lactaid-brand Milk and lactose-free (check labels) nutritional supplements, such as Boost, Ensure, Resource (in most drugstores). If you are allergic to milk protein, substitute calcium-fortified soy, almond, or rice milk and cheese. Use soy-based frozen dessert such as Tofutti in place of ice cream for shakes.

PROBLEM-SOLVING TIPS

Problem	Solution
Solid Foods are Difficult to Chew or Swallow	Make food softer and easier to chew and swallow by adding liquids. <ul style="list-style-type: none"> -- Add whole milk or cream to shakes, soups, hot cereal. -- Add fruit juice to shakes, smoothies, hot cereal, yogurt. -- Add meat or vegetable broth or tomato juice to meats, soups.
Feeling Full	Eat small meals 6-8 times/day. Maximize the calories and protein in liquids. <ul style="list-style-type: none"> -- Avoid “empty calorie” beverages like coffee, tea, diet soda. -- Limit “sugar-only” beverages like sodas.
Constipation	Increase the fiber content of your food: <ul style="list-style-type: none"> -- Add fruits to smoothies (peel off tough skins and avoid raspberries or other fruits with seeds that don't blend well). -- Add vegetables to soups (avoid celery, corn, cabbage and asparagus that don't blend well). -- Choose high fiber bean soups, such as lentil, split pea, black bean. -- Read food labels on prepared foods. Look for \geq 5g fiber. -- Add wheat bran to cereals, soups, shakes (2 tbsp/day). -- Try adding prune juice once a day.
Diarrhea	Drink plenty of liquids during the day to replace the fluids you are losing. Check with your physician to see if your medications may be the cause.
Nausea and Vomiting	Some people have nausea and vomiting when they are not eating enough. Check with your physician to see if your medications may be the cause. Eat smaller amounts at each sitting. Some people find relief from nausea with ginger. <ul style="list-style-type: none"> -- Add ginger juice to beverages or boil a piece of the root in soup (remove root after cooking because it is too fibrous to blend well).
Excessive Weight Loss	If you lose >10 pounds, or 5% of your usual body weight: <ul style="list-style-type: none"> -- Consider taking supplemental beverages between meals, for example, Resource, Boost, Ensure, Instant Breakfast. -- Refer back to “Helpful Hints” on increasing calories and protein. -- Contact your registered dietitian or physician for further guidance.
Embarrassment When Eating with Other People	Try eating with close family and friends before eating in public. Blenderize the same food everyone else is served.
Boredom with Diet	Use a variety of herbs and spices in cooking. <ul style="list-style-type: none"> -- Add ground dill, oregano, basil, parsley, or your favorite herbs to savory food, and ground cinnamon, ginger, or nutmeg to shakes. Experiment with chocolate syrup, vanilla extract, flavored syrups. Try the recipes provided at the end of this handout.

SAMPLE MENU

Pureed or Blenderized foods

- Breakfast:** **Hot Cereal (Malt-O-Meal, Cream of Wheat...)**
-- Pureed or blenderized with brown sugar, "super milk" *, butter, wheat bran.
Fruit or Vegetable Juice
- Snack:** **Fruit Smoothie**
--Add protein powder.
- Lunch:** **Progresso Split Pea Soup (canned)**
--Pureed or blenderized and thinned with "super milk" *
Canned Fruit
--Pureed or blenderized and thinned with fruit juice
- Snack:** **Milkshake or Eggnog**
- Dinner:** **Mashed Potatoes and Gravy**
--Pureed or blenderized with butter, cream, and thinned with broth
Creamed Vegetables
--Made with baby food peas and carrots
- Snack:** **Chocolate and Vanilla Swirl Pudding**
--Add bananas and thin with chocolate milk

* "Super Milk" Recipe: Add 2 tbsp dry milk powder to 8 oz whole milk

SAMPLE MENU

Soft foods

- Breakfast:** **Oatmeal, Yogurt, Banana, Juice**
- Snack:** **Canned Fruit with Cinnamon**
- Lunch:** **Chunky Potato Soup, Steamed Vegetable, Vanilla Pudding**
- Snack:** **Fresh Berries or Melon with Whipped Cream**
- Dinner:** **Fish, Baked Potato with Butter and Sour Cream, Creamed Corn**

RECIPES

SHAKES AND SMOOTHIES

Creamy Orange Delight

1 cup whole milk
1 cup orange juice
3 cups orange sherbet
3 packages vanilla instant breakfast powder
2 small ripe bananas

Blend until smooth.

Yield: 4 cups
Per cup: 418 calories, 10 g protein

Chocolate Dream

2 cups rich vanilla ice cream
1 cup whole milk
¼ cup chocolate syrup

Blend until smooth.

Yield: 1 ½ cups
Per cup: 711 calories, 13 g protein

Variation: Add 2 tbsp peanut butter and
3 tbsp malted milk powder

Per cup: 944 calories, 21 g protein

Blueberry Lemon Shake

3 cups frozen blueberries
1/2 cup sugar
1 ½ cups half and half
3 tbsp lemon juice
Milk to thin

In blender combine all ingredients until smoothly pureed. You may thin shake with additional milk if desired.

Yield: 4 cups
Per cup: 279 calories, 4 g protein

Banana Pineapple Hawaiian

1 cup pineapple juice
½ cup coconut milk (sweetened)
½ cup dry milk powder
1 ripe banana
½ cup vanilla ice cream

Blend until smooth.

Yield: 3 cups
Per cup: 334 calories, 8 g protein

Basic Milkshake

2 cups ice cream
1 cup whole milk

Blend until smooth. Can add extra milk if too thick.

Yield: 1 ½ cups
Per cup: 575 calories, 12 g protein

Peaches-n-Cream

2 peeled ripe peaches, or 4 canned peach halves
1 cup vanilla ice cream
1 cup super milk (*see recipe on page 5*)
3 ice cubes (*optional*)

Blend until smooth.

Yield: 3 cups
Per cup: 210 calories, 6 g protein

Mocha Sunrise

1 pkg instant breakfast powder
1 cup vanilla ice cream
1 cup super milk (*see recipe on page 5*)
1 tbsp instant coffee
2-3 ice cubes, crushed

Blend ice cream and coffee. Add crushed ice.

Yield: 2 cups
Per cup: 316 calories, 12 g protein

RECIPES

SOUPS

Cream of Pumpkin Soup

2 tbsp butter
1 med onion; roughly diced
4 cups canned pumpkin
3 quarts chicken or vegetable stock
1 tsp salt
1 tsp ground coriander
½ tsp curry powder
½ tsp white pepper
3 cups whole milk

Melt butter in a 2-quart pot over medium heat. Add the onion and cook, stirring occasionally, until onion softens, about 10 minutes. Add the pumpkin and salt and continue to cook, stirring, another 5 minutes. Add the stock, salt, coriander, curry and pepper. Cover, increase heat to high and bring to a boil. Reduce heat to low and simmer 15 minutes. Remove from heat and place in a food processor or blender and puree until smooth. Combine puree and milk. Cover, bring to a boil and cook 2 minutes.

Substitute half-and-half for whole milk to increase calories.

Yield: 19 cups
Per cup: 55 calories, 2 g protein

Cream of Tomato Soup

2 tbsp margarine
1 tsp onion powder
3 tbsp flour
2 tsp sugar
1 tsp salt
1/8 tsp pepper
Dash of basil, garlic, salt oregano, thyme
2 cups tomato juice
2 cups whole milk

Melt margarine in a saucepan. Wisk in flour. Add remaining ingredients and stir until mixture thickens.

Yield: 4 cups
Per cup: 174 calories, 6 g protein

Chilled Mango Cantaloupe Soup

1 whole cantaloupe
2 cups whole milk or soy milk
(Soymilk: Use creamy, vanilla Vitasoy)
1 cup mango juice or nectar
2 tbsp protein powder
(Dry milk powder may be substituted)

Remove cantaloupe rinds, seeds, and cut into chunks. Put all ingredients in food processor or blender. Process until mixture is completely smooth. Chill for 2 hours in refrigerator.

Yield: 6 cups
Per cup: 115 calories, 5 g protein

Cheesy Potato Soup

1 can condensed cheese soup (11 oz.)
1 ½ cups mashed potatoes, cooked
1 cup super milk *(see recipe on page 5)*
¼ cup dry milk powder
1 tbsp butter

Using a blender or food processor, blend ingredients together until smooth. Heat in saucepan to desired temperature.

Yield: 4 cups
Per cup: 300 calories, 10 g protein

Cream of Chicken Soup

6 tbsp butter or margarine
1/3 cup all-purpose flour
1 cup half-and-half
3 cups low sodium chicken broth
1 cup cooked or canned chicken, finely minced
Dash of white pepper

Melt butter in saucepan. Wisk in flour, half-and-half, and broth. Cook and stir until mixture thickens and boils; reduce heat. Stir in chicken and white pepper.

Yield: 5 cups
Per cup: 277 calories, 13 g protein

RECIPES

SIDE DISHES

Creamed Noodles

8 oz uncooked egg noodles
½ cup margarine or butter
½ cup low fat plain yogurt
½ cup grated parmesan cheese
1 tbsp parsley flakes
¼ tsp salt, dash of pepper

Cook noodles and drain. Combine remaining ingredients in saucepan with noodles over low heat stirring until margarine is melted.

If desired, put all ingredients in blender or food processor and blend until smooth.

To blend, combine: 2 cups creamed noodles, 1 cup water, 2 slices American cheese. Add milk or water to thin.

Yield: 3 cups

Per cup: 356 calories, 12 g protein

Chicken and Rice Soup

2 quarts chicken broth
2 cups diced cooked chicken
¼ tsp salt
½ cup celery
2 scallions chopped
2 carrots, peeled and sliced thin
1/8 tsp ground cloves
½ tsp nutmeg
1 tsp dried parsley
1 cup frozen peas
1 cup sliced fresh mushrooms
½ cup quick rice (dry)

Combine all ingredients in a 4-quart stockpot. Bring to a boil, reduce heat, and simmer for 30 minutes. If desired, blend until smooth using a blender or food processor.

Yield: 10 cups

Per cup: 138 calories, 14 g protein

Butternut Squash

1 butternut squash
2 tbsp olive oil
1 tbsp brown sugar (optional)
1 ½ cups vegetable broth or water
1 tsp curry powder (optional)

Use vegetable peeler to peel squash, then cut into 2 inch cubes; set aside. Heat oil in medium saucepan. Add onions, sauté until translucent. Add brown sugar and curry, cook 2 minutes more. Add squash and broth to onions. Let simmer until squash is easily pierced with a fork (about 20 minutes). If desired, put all ingredients in blender or processor and blend until smooth.

Yield: 4 cups

Per cup: 105 calories, 1 g protein

Hummus

15 oz canned garbanzo beans, with juice
2/3 cup tahini (ground sesame seeds)
¾ cup lemon juice
1 tsp garlic powder or fresh, chopped garlic
1 tsp salt
2 tbsp olive oil
½ cup vegetable broth

Put all ingredients in a blender or food processor and blend until smooth.

Yield: 4 cups

Per cup: 434 calories, 13 protein

RECIPES

SAVORY ENTREES

Sweet Potato and Apple Bisque

1 tbsp canola or corn oil
1 cup chopped onions
1 pound sweet potatoes
1 Granny Smith apple
1 ½ cups low-sodium chicken broth
¾ cup apple juice
Dash of black pepper

Peel potatoes and apple and cut into 1 inch cubes. In a large saucepan, heat oil over medium heat. Add onion and cook about 3 minutes, stirring occasionally, until tender. Add remaining ingredients, cover partially, and bring to boil. Reduce heat and simmer for 15 minutes or until potatoes are tender. Cool slightly. If desired, blend until smooth using a blender or food processor.

Yield: 3 cups

Per cup: 284 calories, 6 g protein

Chicken Tetrazzini

3 oz chicken or turkey, diced, cooked
(1 small chicken or turkey breast)
1/3 cup canned mushrooms
½ cup noodles, cooked
Pinch onion powder
2/3 cup chicken broth
Salt and pepper to taste

If desired, blend until smooth using a blender or food processor.

Yield: 1 1/3 cup

Per serving: (1 1/3 cup): 285 calories, 32 g protein

Macaroni and Cheese

½ cup milk
½ tbsp flour
1 tbsp butter or margarine
Pinch onion powder
½ tsp dry mustard
1 cup elbow macaroni, cooked, drained
1 cup shredded cheddar cheese

Add flour to milk and whisk over low heat until no lumps remain. Add butter and seasonings. Cook until sauce thickens. Stir in macaroni and cheese. Bake in greased casserole dish, uncovered, at 400° for 15 minutes. If desired, put all ingredients in a blender or food processor and blend until smooth.

To blend, combine: 2 cups macaroni and cheese
2 slices American cheese
2 cups whole milk

Yield: 4 cups

Per cup: 335 calories, 18 g protein

Cheesy Hamburger Supreme

1 cup macaroni, cooked
3 oz ground beef, cooked
½ cup tomato sauce
5 oz condensed cheddar cheese soup
1 cup beef broth
1 slice American cheese
Dash onion powder
Salt and pepper to taste

If desired, blend until smooth using a blender or food processor.

Yield: 4 cups

Per cup: 176 calories, 12 g protein

