

Lung Cancer Nutrition Guide

Nutritional Tips And Suggestions
For Patients During Treatment



MARY BIRD PERKINS
CANCER CENTER

Fighting Cancer For Over 40 Years.

Preparing For Treatment

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Dealing with cancer is difficult, but adequate nutrition during treatment can significantly improve your treatment experience and outcome.

Predicting how cancer treatment will affect you is difficult because side effects vary from one person to another. Also, there are cases where some people do not experience any side effects and have a normal appetite.

Some cancer treatments promote significant weight loss, weight gain, fatigue and other side effects that can be managed with proper nutrition. Some of the services an oncology dietitian can assist you with include:

- Correcting intake problems
- Monitoring body weight changes
- Providing tube feeding recommendations
- Reviewing nutrition resources
- Identifying oral supplements
- Assisting with healthier eating practices

We invite you to take advantage of the nutritional care services available to you at no charge.

Please feel free to contact your local oncology dietitian to schedule an appointment or to ask a question.

Dietitian: _____ Phone Number: _____

Next Appointment: _____ at _____
(date) (time)

What Should I Do Now?

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After your diagnosis, you may still have a lot of unanswered questions. Just realize that this is a journey and you control how you feel along the way. You can play a vital part in your treatment by controlling what you eat. Healthy eating during treatment can help you minimize side effects and help ensure a full recovery.

Things to Think About . . .

- Do you have any current side effects that affect your intake?
- What type of meal patterns do you have now?
- Do you have regular bowel movements?
- How much weight have you lost in the past month?
- Have you noticed any changes in your appetite?
- Do you have any food allergies?
- Are you currently taking any vitamin, mineral or herbal supplements?
- Do you exercise daily?
- Do you consume more than three meals daily from a fast food restaurant?
- Do you eat at least five servings of vegetables and fruit daily?
- Do you drink at least six cups of hydrating fluids daily (water, decaff tea, 100 percent fruit juice, sports drinks)?
- Can someone help prepare meals for you or do you have easy to prepare meals readily available?
- Are your teeth/dentures in good condition?
- What type of mental attitude do you have about treatment and outcome?

Be sure to discuss any of the above issues with your healthcare professional or dietitian before starting treatment.

Foods to Keep on Hand

It is always wise to make a list of healthy foods that can help you feel better. Below are some examples of foods you can stock up on to prepare for treatment.

MEATS, BEANS AND NUTS

Kidney and navy beans	Pinto beans	Peanut butter
Skinless chicken breast	Lean ground turkey	Talapia
Tuna	Salmon	Eggs
Lean ground beef		

VEGETABLES

Broccoli	Cauliflower	Carrots
Green beans	Cabbage	Turnips
Bell peppers	Peas	Potatoes
Onions	Spinach	Okra
Squash	Creamed corn	Sweet potatoes
Zucchini	Olives	Avacado

BREAD, CEREALS AND PASTAS

Rice	Grits	Oatmeal
Angel hair pasta	Bread	Cream of wheat
Soft noodles	Cornbread	Pancakes
Soft french toast	Cornflakes	Wheat germ

FRUITS

Apricots	Bananas	Blueberries
Cantaloupe	Cranberry sauce	Canned pears
Watermelon	Cooked figs	Applesauce
Mango	Canned peaches	

DAIRY

Milk	Yogurt	Cottage cheese
Ice cream	Melted cheese	Custard
Pudding	Milkshakes	Butter
Sour cream	Buttermilk	Dry milk powder
Coconut milk		

OTHER

- Oral nutritional supplements
- Creamed soups
- Sports drinks
- Gelatin
- Non-acidic, non-carbonated beverages

During Treatment Recommendations

It is very important that you try to provide your body with adequate nutrition to stay healthy and strong during treatment.

Try to maintain weight during treatment.

- If you are overweight, do not follow a weight loss diet

Consume small frequent meals.

- Eat six small meals throughout the day

Consume more water and non-caffeine containing beverages.

- Drink at least six to eight cups of hydrating fluids to help prevent dehydration
- Reduce or eliminate alcohol-containing beverages

If losing weight, increase intake of foods high in calories and protein.

- Add butter, gravy, regular mayonnaise, or salad dressings to food.
- Eat snacks that include protein such as cheese on crackers, deviled eggs, cottage cheese and fruit, custard, or peanut butter on apple slices.
- Try homemade milkshakes made with ice cream, milk, powdered milk and fruit, or try commercial nutritional supplements such as Ensure High Protein®, Boost Plus®, Glucerna® or Carnation Instant Breakfast Sugar-Free®

Sample Menu Plan

Breakfast

Oatmeal
Butter
Honey
Boiled egg
Milk

Lunch

Tuna salad
Mayonnaise
Split pea soup
Fruit cocktail
Tea

Dinner

Stewed chicken
Gravy
Mashed sweet potato
Steamed broccoli
Water

Snack

Cottage cheese
Canned peaches
Water

Snack

Custard or pudding
Water

Snack

Yogurt and fruit milkshake
Water

Possible Side Effects

Type of Treatment	Possible Side Effect
Surgery	May reduce digestive function Chewing/swallowing problems Reduce food intake Sensitivity to hot or cold food temperatures Tolerance of thin or thick textured foods Weight loss
Radiation Therapy Brain, spinal cord Head or neck region (Tongue, tonsils, voice box, larynx, pharynx, salivary glands, nasal cavity) Chest region (Lung, esophagus, breast) Abdominal region (Stomach, pancreas, pelvis, cervix, rectum)	Nausea Headache Tiredness or fatigue Vomiting Changes in taste Constipation (with routine pain medicine use) Dry mouth Sore mouth/gums Sore throat Poor appetite Trouble swallowing Weight loss Heartburn Poor appetite Swallowing irritation Cramps, bloating, gas Diarrhea Nausea Vomiting
Chemotherapy	Changes in taste Constipation Diarrhea Mouth sores Nausea Sore throat Vomiting Weight gain Weight loss

Coping With Possible Side Effects

SORE THROAT

- Avoid strongly acidic foods/beverages such as orange juice, lemonade, grapefruit and tomatoes
- Avoid rough textured foods such as fried foods, toast, peanuts, popcorn, granola and most raw vegetables and hard fruits
- Avoid strong spices such as Tabasco® sauce, chili powder, jalapeno peppers, curry, etc.
- Avoid alcohol and alcohol-containing beverages (includes some commercial mouthwashes)
- Choose foods that can be enjoyed at room temperature, lukewarm or cool such as Jell-O®, yogurt, casseroles, creamed soups, watermelon, smoothies, popsicles and puddings
- Blend and moisten foods that are dry into soups, gravies and casseroles
- Try gargling with a solution made up of:
 - 1/2 teaspoon salt
 - 1/2 teaspoon baking soda
 - 1 quart room temperature water

HEARTBURN OR REFLUX

- Wait one hour before or one hour after eating a meal to drink a full beverage
- Do not lie down for at least 30 minutes after a meal
- Avoid eating large meals at one time
- Avoid late evening snacks
- Avoid tobacco and chewing gum
- Consume fat-free foods
- Avoid carbonated beverages, acidic foods, peppermint, jalapeno peppers and strong spices

Foods for Sore or Irritated Throat

- | | |
|--|---|
| Tender, chopped meats | Pudding or custard |
| Alfredo sauce over wheat pasta | Bean dips or hummus |
| Whole grain pancakes | Yogurt with fruit |
| Scrambled and poached eggs | Cottage cheese or cream cheese |
| Applesauce or baked apple | Creamed or broth based soups |
| Soft bananas | Vegetable casseroles |
| Bran muffins with natural fruit spread | Soft cheese cubes |
| Soft whole grain breakfast bars | Thin vegetable slices and dip |
| Soft pasta (whole wheat) salads | Canned peaches or pears |
| Oatmeal with condensed milk | Popsicles |
| Grits or cream of wheat with butter | Non-fat powdered milk mixed in fluid milk |
| Deviled eggs | Frozen yogurt |
| Tuna casserole | Fruit milkshakes |
| Creamy peanut butter | Milk— whole, almond, soy or coconut |
| Diced chicken in vegetable soup | Room temperature liquids |

Foods To Avoid for Sore or Irritated Throat

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|------------------|-------------------|----------------------|
| Tomatoes | Vinegar | Nuts |
| Tomato sauces | Pickles | Coconut |
| Oranges | Chili | Popcorn |
| Orange juice | Salsa | Raw vegetables |
| Grapefruit | Granola | Raw apples |
| Grapefruit juice | Dry toast | Alcohol |
| Pineapple | Hard crust breads | Mouthwashes that |
| Pineapple juice | Potato chips | contain alcohol |
| Lemonade | Pretzels | Hot foods or liquids |

Coping With Possible Side Effects *cont...*

CHANGES IN TASTE

- Rinse and gargle with baking soda and salt solution before and after eating or drinking
- Use plastic forks, knives and cups when eating or drinking
- Marinate meats with fruit juices, Italian salad dressings or other marinades
- Consider adding flavored extracts to food to enhance taste

DRY MOUTH

- Drink more water during the day; keep a glass of water by your bed at night
- Use a humidifier to help keep moisture in the air
- Consume moist foods such as cooked soft vegetables, soups, meats with gravy and smoothies
- Keep your lips moist with lip balms or other moisture agents
- Use alcohol-free mouthwashes and rinse with baking soda/salt/water rinse at least four times daily

LOSS OF APPETITE

- Eat something every two hours
- Keep high calorie/high protein snacks with you at all times
- Drink more beverages that have calories (100 percent fruit juices, milkshakes, creamed soups) if unable to consume solid food
- Consider light exercise or increased movement when not sleeping

DIFFICULTY SWALLOWING

- Try thicker foods such as yogurt, cottage cheese, pureed meats or vegetables, mashed potatoes, cooked cereals and creamed soups
- Eat every two hours and do not skip meals
- Avoid foods such as rice, breads, pancakes, tough meats and other dry foods that require chewing
- Speak with your doctor regarding a referral to a swallowing therapist

Coping With Possible Side Effects *cont...*

CONSTIPATION

- Increase intake of water and other hydrating fluids
- Consume foods high in fiber such as bananas, applesauce, oatmeal and soggy high fiber cereals (should not contain nuts or dried fruit)
- Consume more cooked vegetables such as cooked broccoli, cooked beans and creamed corn
- Consume cooked fruit such as stewed apples or stewed pureed prunes
- Try over the counter fiber supplements such as Benefiber® and Metamucil®, or high fiber cereals such as Fiber One®
- If constipation is related to pain medicine use, speak with your nurse regarding constipation protocol

DIARRHEA

- Drink plenty of fluids such as water, ginger ale or sports drinks (Gatorade®, Powerade® or Pedialyte®)
- Consume foods high in potassium such as baked potatoes, bananas and apricots
- Consume foods low in fiber such as vanilla yogurt, white toast, white rice, cooked string beans and cooked carrots
- Avoid high fiber foods such as raw apples, beans, wheat grains and fried foods

FATIGUE

- Consume high protein snacks between meals
- Drink enough water and hydrating fluids
- Consider light daily exercise

NAUSEA

- Ask the doctor if you should have treatment on an empty stomach or consume a light snack
- Consume small meals composed of food that can be consumed at room temperature such as sandwiches, gelatin and crackers
- Sip a small amount of cool liquids with meals and drink more hydrating fluids between meals
- Avoid fried foods, thick sauces, gravies and high fiber foods

Coping With Possible Side Effects *cont...*

VOMITING

- If unable to keep down water, call your doctor to be evaluated for dehydration
- Once vomiting stops, drink clear liquids (broth, gelatin, apple or white grape juice) every two hours for the rest of the day
- Speak with your doctor regarding medications that may help reduce nausea
- Contact the dietitian for a list of foods that should be tolerated

CLEAR LIQUIDS:	Sports drinks	Weak tea
	Fruit ice	Popsicles
	Bouillon	Ginger ale
	Diluted fruit punch	Cranberry juice
	Resource® Breeze	Ensure Clear®

GAINING TOO MUCH WEIGHT

- Consume more water and avoid high calorie sodas and large amounts of fruit juice
- Add larger portions of vegetables and reduce the amount of starchy foods (potatoes, rice, etc.) at lunch and dinner
- Eat fresh fruit or a handful of nuts as snacks
- Choose baked fish and turkey at least twice a week and avoid fried foods, heavy sauces, gravies and sweet desserts
- Increase your activity or exercise as advised per your doctor

LOSING TOO MUCH WEIGHT

- Start to eat on a timed schedule or every two hours
- Consume foods that are easy to bring with you and pack a lot of calories (pudding, peanut butter, smoothies)
- Consider adding butter, gravies and cheese to foods if tolerated
- Speak with a dietitian about high calorie milkshake recipes or various oral supplements such as Ensure Plus®, Boost Plus® or Carnation Instant Breakfast®
- Try drinking **protein fortified milk** or an **instant breakfast milkshake** with every meal (if tolerated)

Protein Fortified Milk Recipe

1 quart whole milk
1 cup nonfat instant dry milk
Pour whole milk into bowl and mix while slowly adding instant dry milk until dissolved. (*Provides 211 calories and 14g protein*)

Instant Breakfast Milkshake Recipe

1 cup whole milk
1 package instant breakfast mix
1/4 cup instant nonfat dry milk
1 cup ice cream
Place in blender and mix until well blended. (*Provides 640 calories and 24g protein*)

After Treatment Recommendations

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Try to maintain your treatment end weight for at least three months post treatment.

Consume more water and non-caffeinated beverages

- Reduce alcohol intake
 - Men:** limit to two drinks per day
 - Women:** limit to one drink per day
- One Drink Equals
 - 5 oz of wine
 - 12 oz of beer
 - 1.5 oz of 80-proof liquor

Consume more vegetables and fruits

- Try to consume at least three servings of vegetables daily and two servings of fruit
- Try to include more vegetables that have a lot of fiber such as broccoli, potato skins, carrots, prunes, apples, etc.

Consume more fish

- Try to consume more baked fish high in omega-3 fat (tuna, salmon, mackerel) and avoid high fat, fried fish

Reduce intake of red meats to 18 oz/week

Avoid processed meats

- Processed meat is defined as red meat that has been preserved by smoking, curing, salting or adding other chemical preservatives
 - Sausage
 - Bacon
 - Hot dogs
 - Ham
 - Bologna
 - Luncheon meat
 - Salami
 - Corned beef

Reduce intake of foods high in salt

- Consume more fresh and frozen vegetables
- Reduce intake of processed foods
- Read food labels and pick foods with less than 20 percent sodium per serving
- Use sodium only when cooking and not at the table
- Use natural herbs and spices to flavor foods in place of salt

Reduce intake of foods high in fat

- Limit intake of junk foods that are processed such as
 - Cookies
 - Chips
 - Candy bars
 - High fat pastries (snack cakes)
 - Cheeseburgers
 - Fried foods
 - Pizza

Exercise daily for at least 30 minutes (with doctor approval)

Frequently Asked Questions

Nutrition is a vital part of your treatment that you control. It is very critical that you supply your body with necessary vitamins, minerals and water to help it “build up” before and during treatment.

Do you have any suggestions about the best foods to eat to prepare for treatment?

Before treatment, your body could use additional calories and protein to help maintain your muscles and keep your immune system strong. The first signs that you are not taking in enough calories or protein are usually shown by changes in weight or loss of muscle. You may also notice that you have less energy and become tired more often. If your appetite is poor, you should start by eating small, high calorie/high protein snacks every one to two hours such as cottage cheese and fruit, deviled or boiled eggs, cheese and crackers, milkshakes made with ice cream and fruit, yogurt and flaxseeds or peanut butter and jelly sandwiches. Make sure you sleep no longer than one hour to avoid sleeping during snack time.

I have read that sugar feeds cancer. Should I avoid all sugar in my diet?

Recent studies suggest that eating large amounts of simple sugars can cause an increased risk of developing cancer. These studies also point out that cancer development could possibly be related to elevated insulin levels within the body after consumption of large amounts of processed, sugary foods – not the sugar itself. Avoiding all sugar could be harmful because some fruits, vegetables and grains contain simple sugars as well other helpful nutrients such as fiber and antioxidants. So, in order to prevent major elevations of the circulating amount of insulin in the body, consume more fruits, vegetables, whole grain products, beans, nuts and water. Try to limit or avoid sweetened cereals, soft drinks, pastries and other foods that have a lot of added sugar.

Should I eat organic?

Eating organic foods is a choice. One of the benefits of eating organic foods is reduced personal exposure to pesticides. The down side of some organic produce is increased spoilage, price and availability in certain areas. Currently, there is no good research that small amounts of pesticides found on fruits and vegetables are linked to cancer. Eating a wide variety of fruits and vegetables (organic or not) daily should be the main focus during and after treatment.

Frequently Asked Questions *cont...*

I am overweight. Should I lose weight before treatment?

Large fluctuations in weight are not recommended during chemotherapy or radiation. However, slow healthy weight loss of no more than one pound per week under the supervision of a doctor or dietitian may be helpful.

After treatment, a healthy body weight is encouraged.

It would be wise to not lose weight during treatment because of the following:

- The weight you lose may be from muscle, not fat
- Increases fatigue
- Slows healing
- Increases the chance that you will experience side effects
- Makes recovery time longer

Can I take herbal supplements or vitamins during treatment?

Eating adequate amounts of healthy food should be the first priority before and during treatment. Certain herbal and dietary supplements can possibly make you sick, worsen treatment side effects and make cancer treatments more toxic. Supplements that contain higher daily values or additional herbs may cause health problems, interact with other medications or reduce the effectiveness of treatment. Please speak with a doctor or dietitian if you are taking any supplement, herb or vitamin formulation that is not prescribed or monitored by a doctor. For more information, try these online resources:

- Office of Dietary Supplements
(www.ods.od.nih.gov)
- National Center For Complementary and Alternative Medicine
(www.nccam.nih.gov)
- Cancer information about herbs, botanicals and other products: Memorial Sloan Kettering Cancer Center
(www.mskcc.org/mskcc/html/58481.cfm)
- Dietary supplement alerts and safety information
(<http://www.fda.gov/Food/DietarySupplements/Alerts>)

Overall, what is the best way to plan for treatment?

- Remain positive about your treatment and outcome
- Do not be afraid to ask your healthcare professional questions about treatment
- Start eating more fruits and vegetables and drink more water
- Be sure to have ready-to-eat or easy to prepare foods available
- Be willing to let family and friends help

Helpful Resources

Nutrition During Treatment

ONLINE

Eating Hints for Cancer Patients: Before, During and After Treatment – National Cancer Institute (NCI) – www.cancer.gov/cancertopics/eatinghints.com

Caring 4 Cancer – www.caring4cancer.com

BOOKS

Eating Well Through Cancer: Easy Recipes and Recommendations During and After Treatment by Holly Clegg.

National Agencies

AMERICAN LUNG ASSOCIATION

(504) 828-5864

www.lungusa.org

LUNG CANCER ALLIANCE

(800) 298-2436

www.lungcanceralliance.org

AMERICAN INSTITUTE FOR CANCER RESEARCH

www.aicr.org/site/PageServer

AMERICAN CANCER SOCIETY

(800) 227-2345

www.cancer.org

Local Agencies

BATON ROUGE AND GONZALES:

Cancer Services of Greater Baton Rouge

(225) 927-1329

www.cancerservices.org

COVINGTON, HAMMOND AND HOUMA:

Cancer Association of Greater New Orleans

(800) 624-2039

www.cagno.org

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Eldridge B, and Hamilton KK, editors. (2004). *Management of Nutrition Impact Symptoms in Cancer and Educational Handouts*. Chicago, IL: American Dietetic Association.

American Cancer Society. (2006). *Nutrition for the Person With Cancer During Treatment: A Guide for Patients and Families*. Atlanta, GA: American Cancer Society.

National Cancer Institute (US). (2011). *Eating Hints for Cancer Patients: Before, During and After Treatment*. NIH Pub.No.: 11-2079. Rockville, MD: National Cancer Institute, National Institutes of Health, Department of Health & Human Services.

Notes



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Notes



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