

*Going Home After Your Autologous Stem
Cell Transplant
A Guide for Patients and their Caregivers*



NYU**Cancer**Institute



GOING HOME AFTER YOUR AUTOLOGOUS STEM CELL TRANSPLANT (adult patient)

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GOING HOME AFTER YOUR AUTOLOGOUS STEM CELL TRANSPLANT (adult patient)

Going home after your stem cell transplant can be both exciting and scary at the same time. Many people share these feelings so you are not alone. Feeling confident and comfortable at home again will take time.

Resuming your home life means getting used to living outside a hospital setting again. The necessary precautions you must take in the months after your transplant can be challenging to you and your caregivers. Try to be as calm and confident as you can while you all try to regain a sense of balance and comfort.

Both you and your caregivers may expect you to feel and act as you did before your illness and treatment. This may not happen right away. Many people after their stem cell transplant feel tired and have a decreased appetite. It will take time to regain your strength.

What is recovery?

Recovery is the long-term process of regaining blood cell production and immune function as well as strength, energy, and appetite after a stem cell transplant. The recovery process may last for months, even years, until your body has regained its highest possible level of functioning. This process begins in the hospital and continues after you are discharged from the hospital. Your stem cell transplant team at NYU Medical Center will decide when you are ready for discharge from the hospital based on your blood counts, your nutritional status, and your overall level of health.

Home health care may be needed during recovery, especially if blood transfusions and blood tests are needed at home. Your doctor will tell you when to return for office visits and the members of the stem cell transplant team will arrange for your home health care. Please call your doctor's office if you have questions or need referrals for social service, physical and occupational therapists, nutritionists, and other departments.

During each outpatient doctor's visit after your transplant, blood counts and medications will be reviewed. You will be evaluated for any new symptoms, side effects or complications. Your doctor and nurse will be glad to answer questions at any time.

If any unusual symptoms develop between your doctor's visits, please call immediately on a 24 hour basis:

Dr. Cook may be reached at 212-731-5184

Dr. Gardner may be reached at 212-263-8400



What do I need to do to take care of myself?

Hygiene

- Shower every day with your own soap, washcloth, and towel. This will reduce bacteria on the skin and lower your risk for infection. Use a gentle, nondrying soap such as Basis or Dove. Avoid harsh soaps such as Ivory and Irish Spring.
- Use hypoallergenic lotion (such as Eucerin, Lubriderm, Cetaphil) twice a day to moisturize your skin. Avoid lotions containing alcohol as these will dry the skin.
- Keep your hands clean by washing them often with soap and water, especially before eating and after using the bathroom. Remind your caregivers and visitors to wash their hands.
- Check your skin every day for rash, bruising, swelling or redness.
- It is preferred you wear eyeglasses rather than contact lenses. Make sure contact lenses are cleaned thoroughly before wearing.
- Makeup products used before transplant, especially eye makeup, should be thrown away and replaced with new ones after transplant.
- Hair and nails usually start to grow back about three months after transplant.
- You may resume sexual intercourse when your platelet level is above 50,000 and your absolute neutrophil count is above 1,000. Women can use a water-based lubricant to help with vaginal dryness. It is recommended that condoms and dental dams be used during sex to reduce the risk for sexually transmitted infections.

Oral hygiene

- To help prevent infection in your mouth, your doctor may prescribe an antifungal antibiotic. Mycostatin (Nystatin) is an oral liquid medication and Mycelex troche is a lozenge. After cleaning your mouth and teeth, swish the Mycostatin in your mouth for two minutes and then swallow it. If your doctor prescribes the Mycelex troche, let the troche dissolve in your mouth. **Do not** eat or drink for 20 minutes after taking either of these medications.
- Check your mouth and lips each day for blisters or sores. Check your tongue for any white patches, cracks or areas of bleeding. Tell your doctor if you have any of these signs.
- Brush your teeth with a soft-bristled toothbrush and non-flavored toothpaste with fluoride such as Biotene or Sensodyne. You may floss when your platelet level is more than 50,000.
- Use non-alcohol based mouthwash such as Biotene or Oasis. You may also choose to use 1 teaspoon of baking soda in 1 quart of water, plain water, or to get a prescription from your doctor for “magic mouthwash” (made of Lidocaine, Benadryl, Mylanta).
- Ask your doctor when you may see your dentist.
- If you need to have any dental work done, have your dentist speak with your transplant doctor first. You may need to take antibiotics to prevent infection while you are having this dental work.

Caring for your IV catheter (Broviac or Hickman)

- If you go home with a long-term IV catheter, do not let the catheter soak in water while bathing.
- Avoid swimming in pools, oceans, lakes, and hot tubs because these contain bacteria.
- Clean the catheter site thoroughly with Betadine or Chloraprep using friction. Let the Betadine or Chloraprep dry before applying the dressing. This is most important to prevent bacterial growth where the catheter enters the skin. Please speak with your nurse if you are not sure what to do.
- Call your doctor if you notice any difficulty flushing the catheter, redness, tenderness, or swelling at the catheter site.

Bleeding Precautions

- Shave with only an electric razor.
- Blow your nose gently.
- Avoid contact sports or heavy exercise that may cause injury such as horseback riding, weight lifting, or skiing until your platelet level is greater than 50,000 without transfusions.
- Avoid using rectal thermometers, rectal suppositories, and enemas.
- Avoid sharp objects when possible.
- Use a soft –bristled toothbrush or water pic.
- You may floss your teeth when your platelet level is more than 50,000.
- Avoid taking aspirin and products containing aspirin.
- **Call your doctor if you notice any excessive bruising or petechiae (tiny, pinpoint, purplish-red spots on the skin), bleeding gums or nose, blood in urine or stool.**
- If you are platelet transfusion dependent, ask your doctor how often you will need your blood counts checked.

Pets and animals

- Before going home, have your cats and dogs tested for toxoplasmosis and parasites.
- Wash your hands after contact with animals.
- Avoid direct contact with pet saliva, urine, and feces.
- Do not clean litter boxes, cages, turtle tanks, or aquariums.
- Talk to your doctor first before getting any new pets after transplant.

Home environment

- Your home should be thoroughly cleaned before your return especially the floors, carpets, furniture, counter tops, and bathrooms.
- You should avoid housecleaning chores until you have spoken to your doctor about when you can resume these chores.
- Wash your hands after handling trash.
- Do not begin any construction projects in your home. If there is currently construction taking place, avoid these areas.



- Avoid contact with chemicals and fumes such as cleaning supplies, gasoline, paints, pesticides, herbicides, fertilizers, etc.
- Avoid fresh plants or flowers by placing them in rooms you do not use. Do not touch soil or water that has been sitting in pots or buckets because they may contain large amounts of bacteria.

Contact with family, children, and friends

- If you have children or are in contact with children in your home, they should not be immunized with live virus in the first year after your transplant. If a child living with you needs vaccinations, **they should be given inactivated vaccines (such as for polio), not live or oral vaccines.**
- It is important that you **do not come in contact with any babies and children who have been immunized for polio and chicken pox for at least 8 weeks after the immunization.**
- Family members may receive the inactivated or killed flu vaccine shot, **not** the inhaled flu vaccine which contains live viruses.
- Avoid close contact with anyone who may have a contagious illness such as measles, chickenpox, herpes, pink eye, or symptoms such as a cough or stuffy nose.

Outside your home

- Avoid large crowds of people in public places such as stores, malls, movies, schools, and restaurants during peak hours.
- Avoid flying on a plane unless approved by your doctor.
- Limit your exposure to the sun. Sit in the shade. Wear sunscreen with SPF of 15 or greater and reapply frequently. Wear protective clothing such as a wide-brimmed hat, long sleeved tops and long pants to prevent sunburn. Avoid lying out in the sun.
- Avoid gardening and mowing grass.
- Avoid swimming in pools, oceans, lakes, and hot tubs because these contain bacteria.
- Avoid construction areas.

Nutrition

Please refer to handout on *Food Safety Guidelines for People at High Risk for Infection* provided at the end of this document (pages 8-16) in addition to the following information.

Good nutrition is very important to your recovery. When you get home from the hospital, you may have a decrease in appetite, taste changes, mouth sores, dry mouth, or diarrhea. These problems will improve over time but can make eating more difficult.



- For decreased appetite, eating small, frequent meals of soft, moist foods every one to two hours may work best. Drinking high calorie beverages such as milkshakes and nutritional supplements is a good way to meet nutritional requirements without irritating your mouth. Other foods that may be soft and easy to swallow are soups, scrambled eggs, flaked fish, soft-cooked pastas, and dairy products. The nutritionist can help you choose healthy, high-calorie foods.
- Taste changes or metallic taste will eventually resolve over time. Eating lemons, other tart fruits, and fruit-flavored sourballs may lessen the metallic taste. Thoroughly cleansing your mouth before eating can also help make food taste better. Strong flavorings such as salad dressings and strong seasonings can give food a more pleasant flavor.
- Eat high-protein foods such as chicken, turkey, eggs, fish, custards, peanut butter, ice cream, yogurt, peas, beans, nuts, macaroni and cheese.
- If you have mouth sores, avoid spicy, salty, and highly acidic foods.
- If you have diarrhea after eating, try drinking clear liquids only (these are liquids you can see through such as apple juice, water, ginger ale) for one day. Then, eat small frequent meals and try to figure out which foods cause the diarrhea or make it worse. Call your doctor if you have diarrhea for more than one day.
- **Wash hands and surfaces often. Don't cross-contaminate** (spread germs/bacteria by carrying them from an infected area to a non-infected area such as from cutting board to another food item or from countertop to hands to food item). **Cook to proper temperatures. Refrigerate promptly.**
- Continue a low bacteria diet at home as explained to you in the hospital. Avoid aged cheeses such as blue cheese or Roquefort as these have high bacterial content.
- Fruits and vegetables must be thoroughly washed before peeling. Cut off any bruised areas. Avoid fruits on vines such as grapes and strawberries as these fruits can have fungus around the stem. Avoid raw sprouts.
- Avoid eating moldy or outdated foods. Any food in the refrigerator should be eaten within 2 days or thrown away. Packaged deli meats and cheeses are allowed as long as they are within the expiration date. **DO NOT** buy food from the deli counter. Do not eat hot dogs from vendors.
- Cook or freeze fresh poultry, fish, ground meats, beef, veal, lamb, or pork, within 2 days.
- Avoid unpasteurized dairy products and dairy products that contain molds such as blue cheese.
- Avoid eating rare and medium-rare meats, sushi, sashimi, raw eggs, and raw oysters or other shellfish for at least 6 months after your transplant.
- Avoid eating from fast food restaurants, salad bars, and buffets for at least 6 months.
- Do not share eating or drinking utensils. Wash all utensils thoroughly with hot water and dishwasher detergent.



- Your doctor may want you to boil tap water before drinking it or recommend that you drink bottled water.
- Ask your doctor about when you can change to a regular diet. You can usually stop following these guidelines about 4 weeks after your transplant.
- Talk to your nutritionist if you have questions about your diet.

Physical activity

- Increase your activity level gradually.
- Continue light exercise such as walking while you're in the hospital and after you are discharged.
- Get plenty of rest and take breaks between activities but do try to push your activities.
- Check with your doctor or nurse as to when you may return to work or school.
- Check with your doctor before driving a car or any other kind of vehicle since your energy level may be low and your reflex time may be slow at first. Medications you may be taking such as Ativan or Marinol for nausea can also cause drowsiness as a side effect.
- If you need to talk to a physical therapist, get a prescription from your doctor.

Medicines, drugs, and alcohol

- Your doctor may prescribe antibiotics to take at home such as Bactrim to prevent pneumocystis carinii pneumonia (a fungal infection of the lungs which can occur in people with severely weakened immune systems) and Acyclovir to prevent or treat viral infections such as herpes simplex.
- Avoid aspirin and non-steroidal anti-inflammatory drugs (NSAIDS) such as Advil or Motrin since they can irritate your stomach and interfere with platelet function.
- Take your medicines as prescribed by your doctor. You must tell your doctor or nurse if you are not able to take your medicines for any reason.
- Ask questions about any of your medicines and report any side effects to your doctor.
- Do not take any medicines that are not prescribed by your doctor including over the counter drugs such as laxatives, herbal remedies, etc.
- Do not take "extra" vitamins without talking with your doctor. Vitamin A supplement should be especially avoided.
- Talk with your doctor before receiving a flu shot or pneumonia vaccine. Generally no vaccinations, including flu shots, are recommended until 1 year after transplant.
- Discuss drinking alcohol (such as wine, beer, mixed drinks) with your doctor. Alcohol must be avoided until enough platelet and mucosal recovery has occurred.
- Avoid smoking cigarettes, cigars, pipes, and marijuana because of your increased risk of respiratory infection.



Reimmunizations

Since your immune system has been deeply affected by the transplant, it may no longer “remember” previous exposures to childhood vaccinations. Reimmunization is recommended starting one to two years after your transplant. Your doctor and nurses can give you more information about immunizations when the time comes.

Call your doctor immediately if you have:

- Fever of 100.5 degrees F (38 degrees C) or higher
- Redness, tenderness or swelling anywhere, including your IV catheter site
- Difficulty flushing your IV catheter or any chills noted when flushing it
- Flushed skin, sweating or shaking chills
- Blisters or sores on lips or in mouth, sore throat
- Coughing, sneezing, runny nose, shortness of breath, or chest discomfort
- Diarrhea more than three times a day
- Skin sores, rash or itching
- Bleeding or bruising
- Blood in urine or bowel movement, or with coughing or vomiting
- Rectal pain
- Pain during urination
- Urine that smells bad or is cloudy
- Urinating more often than usual
- Been exposed to chickenpox, shingles, measles

Resuming Life

It is natural for you to have many questions about how and when you will be able to resume your normal life. Most people wonder when they will be able to return to work or school, or travel overseas. Your social worker on the stem cell transplant team can help you with returning to work or school by making any arrangements with your employer, school, or insurance company. Your physical therapist can help outline an activity program. Your nutritionist can plan a diet that has enough protein and calories to help you regain your energy.

You will most likely have questions also about your long-term medical and physical status. The answers to each of these questions will be different for each person. The NYU Medical Center stem cell transplant team is always available to answer any questions you and your family may have, address concerns, and provide suggestions and support.

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AT-HOME FOOD SAFETY GUIDELINES

For

People at High Risk for Infection

Sometimes neutropenic patients need dietary modifications because of the inability to fight infection. **Neutropenia** means that neutrophils (white blood cells that help the body fight bacteria and fungal infections) are low. Some patients can also be immunocompromised. This means they have a reduced ability to fight infection.

Your doctor or nurse may inform you that either your neutrophil count is low or that you are immunocompromised.

Here is a list of food-handling tips and a list of foods that may be included or should be avoided. This will help you to decrease the risk of infection. Your doctor or nurse will tell you when you can resume a regular diet.

Safe Food Handling

- Wash your hands thoroughly with soap & warm water before and after handling food, and before eating.
 - ▶ Also wash hands thoroughly with soap & warm water after using the bathroom, changing diapers, or handling pets.
- Wash all cooking utensils, cutting boards, can openers, and pots & pans well in hot soapy water. Whenever possible, wash items in a dishwasher.
- Clean countertops with hot water and soap, or a commercial disinfectant.
- Use one cutting board for raw meat, poultry, and seafood, and use a different cutting board for fresh fruits and vegetables and other items that will not be cooked after handling.
- Put cooked food on a clean plate. Bacteria on unwashed plates that held raw meat, poultry, or seafood could contaminate cooked food.
- In the refrigerator, make sure thawing juices from meat & poultry do not drip on other foods. Leave eggs in their carton for storage – do not place them in the door of the refrigerator.
- Store ground meat, poultry, and fish up to 1 or 2 days; other red meats, 3 to 5 days. After cooking, use within 3 to 4 days, or freeze for longer storage.
- Keep food below 40°F and above 140°F. (Bacteria begin to multiply rapidly in the "danger zone" between 40 °F and 140 °F.)
- Discard foods left out at room temperature for more than 2 hours. (1 hour in temperatures above 90°F.)
- Your refrigerator should be at 40° F (4° C) or below and the freezer at 0° F (-18° C). Place an appliance thermometer in the refrigerator, and check the temperature periodically.



- Thoroughly wash raw fruits and vegetables under running water. Use a vegetable brush to wash melons (i.e. cantaloupe, honeydew, etc.) before cutting into them as bacteria from the surface can get onto the knife and then onto the fruit.

For more information on safe food handling, contact: USDA Meat & Poultry Hotline 1-800-535-4555 http://www.fsis.usda.gov/Fact_Sheets/

FDA Seafood Hotline 1-800-332-4010 <http://www.foodsafety.gov/>

FOOD SOURCE	FOODS TO AVOID	FOODS TO INCLUDE
Bread, Rice, Pasta, and Potatoes	Raw grains	Bread (i.e. loaf of bread, rolls, bagels, crackers, etc.), well-cooked rice, pasta, noodles, and potatoes
Milk and Dairy Products	Unpasteurized dairy products (i.e. raw milk). Soft cheeses (i.e. Brie, blue cheese, Roquefort), feta cheese, and goat cheese. Ice-cream and milk shakes from soft-serve machines	Pasteurized milk and milk products, pasteurized yogurt. Nutritional supplements (i.e. Ensure, Ensure Plus, Boost, etc.)
Meat and Meat Substitutes	All cold cuts & processed meats, and other foods from delicatessens. Undercooked and raw meats, poultry, and eggs. Rare or medium-rare cooked foods. Foods from street vendors. Raw shellfish, raw fish (i.e. sushi).	Well-cooked meats, poultry and fish. Thoroughly cooked shellfish and other seafood. Thoroughly cooked eggs.
Fruits and Vegetables	Any fresh or raw fruits & vegetables. Salads from delicatessens and salad bars.	Canned fruits and vegetables. All peeled fruits & vegetables. Fruits & vegetables with skins <i>only if washed thoroughly.</i>
Beverages	Unpasteurized apple cider. Unpasteurized (raw) milk. Unpasteurized fruit or vegetable juices. Well water of any kind.	Canned, bottled or powdered drinks. Bottled water.
Nuts and Dried Fruits	Any nuts or dried fruits sold open or in bulk	Pre-packaged nuts and dried fruits. Nuts in baked goods
Condiments	Raw honey. Whole or grown black pepper.	Salt; sugar; packaged jellies & jams; packaged syrup; packaged ketchup, mustard, mayonnaise; pre-ground packaged black pepper

USDA Food Safety and Inspection Service | FDA Center for Food Safety and Applied Nutrition

National Food Safety Education MonthSM

SEPTEMBER 2002

Four Steps to Food Safety



- Welcome
- Select a Step
- CLEAN**
- SEPARATE
- COOK
- CHILL**
- What's New
- Additional Food Safety Tools

Cold Storage Chart

Product	Refrigerator (40 °F)	Freezer (0 °F)
Eggs		
Fresh, in shell	3 to 5 weeks	Don't freeze
Raw yolks, whites	2 to 4 days	1 year
Hardcooked	1 week	Don't freeze well
Liquid pasteurized eggs, egg substitutes, opened	3 days	Don't freeze well
unopened	10 days	1 year
Mayonnaise		
commercial refrigerate after opening	2 months	Doesn't freeze
Deli & Vacuum-Packed Products		
Store-prepared (or homemade) egg, chicken, ham, tuna, macaroni salads	3 to 5 days	Doesn't freeze well
Hot dogs & Luncheon Meats		
Hot dogs, opened package	1 week	1 to 2 months
unopened package	2 weeks	1 to 2 months
Luncheon meats, opened package	3 to 5 days	1 to 2 months
unopened package	2 weeks	1 to 2 months
Bacon & Sausage		
Bacon	7 days	1 month



Sausage, raw from chicken, turkey, pork, beef	1 to 2 days	1 to 2 months
Smoked breakfast links, patties	7 days	1 to 2 months
Hard sausage--pepperoni, jerky sticks	2 to 3 weeks	1 to 2 months
Summer sausage--labeled "Keep Refrigerated" opened	3 weeks	1 to 2 months
unopened	3 months	1 to 2 months
Ham, Corned Beef		
Corned beef, in pouch with pickling juices	5 to 7 days	Drained, 1 month
Ham, canned--labeled "Keep Refrigerated" opened	3 to 5 days	1 to 2 months
unopened	6 to 9 months	Doesn't freeze
Ham, fully cooked vacuum sealed at plant, undated, unopened	2 weeks	1 to 2 months
Ham, fully cooked vacuum sealed at plant, dated, unopened	"use by" date on package	1 to 2 months
Ham, fully cooked, whole	7 days	1 to 2 months
Ham, fully cooked, half	3 to 5 days	1 to 2 months
Ham, fully cooked, slices	3 to 4 days	1 to 2 months
Hamburger, Ground & Stew Meat		
Hamburger & stew meat	1 to 2 days	3 to 4 months



Ground turkey, veal, pork, lamb & mixtures	1 to 2 days	3 to 4 months
Fresh Beef, Veal, Lamb, Pork		
Steaks	3 to 5 days	6 to 12 months
Chops	3 to 5 days	4 to 6 months
Roasts	3 to 5 days	4 to 12 months
Variety meats--tongue, liver, heart, kidneys, chitterlings	1 to 2 days	3 to 4 months
Pre-stuffed, uncooked pork chops, lamb chops, or chicken breast stuffed with dressing	1 day	Don't freeze well
Soup & Stews		
Vegetable or meat added	3 to 4 days	2 to 3 months
Meat Leftovers		
Cooked meat and meat casseroles	3 to 4 days	2 to 3 months
Gravy and meat broth	1 to 2 days	2 to 3 months
Fresh Poultry		
Chicken or turkey, whole	1 to 2 days	1 year
Chicken or turkey, pieces	1 to 2 days	9 months
Giblets	1 to 2 days	3 to 4 months
Cooked Poultry		
Fried chicken	3 to 4 days	4 months
Cooked poultry casseroles	3 to 4 days	4 to 6 months
Pieces, plain	3 to 4 days	4 months
Pieces covered with broth, gravy	1 to 2 days	6 months



Chicken nuggets, patties	1 to 2 days	1 to 3 months
Pizza		
Pizza	3 to 4 days	1 to 2 months
Stuffing		
Stuffing--cooked	3 to 4 days	1 month
Beverages, Fruit		
Juices in cartons, fruit drinks, punch	3 weeks unopened 7 to 10 days opened	8 to 12 months
Dairy		
Butter	1 to 3 months	6 to 9 months
Buttermilk	7 to 14 days	3 months
Cheese, Hard (such as Cheddar, Swiss)	6 months, unopened 3 to 4 weeks, opened	6 months
Cheese Soft (such as Brie, Bel Paese)	1 week	6 months
Cottage Cheese, Ricotta	1 week	Doesn't freeze well
Cream Cheese	2 weeks	Doesn't freeze well
Cream--Whipped, ultrapasteurized	1 month	Doesn't freeze
Cream--Whipped, Sweetened	1 day	1 to 2 months
Cream--Aerosol can, real whipped cream	3 to 4 weeks	Doesn't freeze
Cream--Aerosol can, non dairy topping	3 months	Doesn't freeze
Cream, Half and Half	3 to 4 days	4 months
Eggnog, commercial	3 to 5 days	6 months



Margarine	4 to 5 months	12 months
Milk	7 days	3 months
Pudding	package date; 2 days after opening	Doesn't freeze
Sour cream	7 to 21 days	Doesn't freeze
Yogurt	7 to 14 days	1 to 2 months
Dough		
Tube cans of rolls, biscuits, pizza dough, etc.	Use-by-date	Don't freeze
Ready-to-bake pie crust	Use-by-date	2 months
Cookie dough	Use-by-date unopened or opened	2 months
Fish		
Lean fish (cod, flounder, haddock, sole, etc.)	1 to 2 days	6 months
Fatty fish (bluefish, mackerel, salmon, etc.)	1 to 2 days	2 to 3 months
Cooked fish	3 to 4 days	4 to 6 months
Smoked fish	14 days or date on vacuum package	2 months in vacuum package
Shellfish		
Shrimp, scallops, crayfish, squid, shucked clams, mussels and oysters	1 to 2 days	3 to 6 months
Live clams, mussels, crab, lobster and oysters	2 to 3 days	2 to 3 months
Cooked shellfish	3 to 4 days	3 months

Note: These short but safe time limits will help keep refrigerated foods from spoiling or becoming dangerous to eat. Because freezing keeps food safe indefinitely, recommended storage times are for quality only. Storage times are from date of purchase unless specified on chart. It is not important if a date expires after food is frozen.

Sources:

- USDA, Food Safety and Inspection Service
- *The Food Keeper*, The Food Marketing Institute

U.S. Department of Agriculture
Food Safety and Inspection Service
www.fsis.usda.gov

USDA Meat and Poultry Hotline
1 (800) 535-4555
In Washington, DC: (202) 720-3333
TTY: 1 (800) 256-7072

U.S. Food and Drug Administration
Center for Food Safety and Applied Nutrition
www.cfsan.fda.gov

FDA Food Information Line
1 (888) SAFEFOOD (toll-free)

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Safe Cooking


For safety, the USDA recommends cooking hamburgers and ground beef mixtures such as meat loaf to 160 °F on a meat thermometer. However, whole muscle meats such as steaks and roasts may be cooked to 145 °F (medium rare), 160 °F (medium), 170 °F (well done). For approximate cooking times for use in meal planning, see the following chart compiled from various resources.

Poultry Cooking Temperatures: FSIS is in the process of updating all the pages on its Web site to reflect new cooking recommendations for poultry. For safety, when cooking poultry, use a food thermometer to check the internal temperature. Poultry should reach a safe minimum internal temperature of 165 °F throughout the product.

Cook lamb to 145 °F (medium rare), 160 °F (medium) or to 170 °F (well done), as measured with a food thermometer.

Cook fresh pork to 160 °F (medium) or to 170 °F (well done). Fresh pork cooked to medium doneness as measured with a food thermometer may still be pale pink inside but will be safe. Heating to 160 °F kills foodborne bacteria — such as *Salmonella* — as well as parasites that cause trichinosis and toxoplasmosis.

http://www.safetables.org/Foodborne_Illness/fbi_faq.html



Safe Meat Temperatures

Food	°F
Ground Meat & Meat Mixtures	
Beef, Pork, Veal, Lamb	160
Turkey, Chicken	165
Fresh Beef, Veal, Lamb	
Medium Rare	145
Medium	160
Well Done	170
Poultry	
Chicken & Turkey, whole	180
Poultry breasts, roast	170
Poultry thighs, wings	180
Duck & Goose	180
Stuffing (cooked alone or in bird)	165
Fresh Pork	
Medium	160
Well Done	170
Ham	
Fresh (raw)	160
Pre-cooked (to reheat)	140
Eggs & Egg Dishes	
Eggs	Cook until yolk & white are firm
Egg dishes	160
Other	
Leftovers&Casseroles	165

Retrieved January 10, 2007 from: <http://www.foodsafety.gov/~fsg/f01chart.html>