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## Diet for Wilson's Disease

Wilson's disease is a hereditary disorder in which the body retains too much copper. Copper is essential for good health in tiny amounts. When excess copper accumulates, it is stored in the eyes, brain, kidneys and liver. Excess copper collecting in the liver causes cirrhosis of the liver, which is a serious, life threatening condition. Wilson's disease is treatable with copper. Copper is found in different amounts in a wide variety of foods. Therefore, dietary restriction alone is usually not enough to control Wilson's disease. Medicines such as D-penicillamine and trientine are used to help excrete excess copper with the urine. Still, it is helpful to avoid copper-rich foods as much as possible. The dietary intake of copper should be less than 1.0 mg per day. A low copper diet is generally adequate in all the nutrients necessary for good health. However, patients taking D-penicillamine may develop a deficiency of vitamin B-6, and the physician may prescribe a supplement of 25 mg daily.

### Special Considerations

- Patients with Wilson's disease should have initial and periodic consultations with a registered dietitian to make sure copper in the diet is being adequately controlled.
- Drinking water should be analyzed because it may contain too much copper. If the water contains more than 100 micrograms per liter, then bottled demineralized water should be used.
- Do not use copper cooking utensils.
- Avoid drinking alcohol. It can be harmful to the liver, and the liver may already be damaged from Wilson's disease.
- For better control of copper intake, choose only average portions or serving sizes of foods. Examples of average portions are 3 to 4 oz of meat, fish or poultry; 1/2 cup of vegetables; one slice of bread.

### Food Groups

	<b>Eat as Desired</b> Foods low in copper—less than 0.1mg/portion	<b>6 Portions/Day</b>	<b>Avoid</b>
<b>Meat &amp; Meat Substitutes</b>	Beef, eggs, white meat turkey and chicken, cold cuts and frankfurters that do not contain pork, dark turkey, dark chicken, organ meats; all others not listed on high or moderate list	All fish except shellfish, dark meat turkey and chicken, peanut butter	Lamb, pork, pheasant quail, duck, goose, squid, salmon, organ meats including liver, heart, kidney, brain, shellfish including oysters, scallops, shrimp, lobster, clams, and crabs; meat gelatin, soy protein meat substitutes, tofu, nuts and seeds
<b>Vegetables</b>	Most vegetables including fresh tomatoes	Bean sprouts, beets, spinach cooked and raw, tomato juice and other tomato products, broccoli, asparagus	Vegetable juice cocktail, mushrooms
<b>Fruits</b>	Most fruits except as listed to right fruits dried at home are permitted	Mango, papaya, pear, pineapple	Nectarine, commercially dried fruits including raisins, dates, prunes, avocado
<b>Starches-Breads &amp; Grains</b>	Breads & pasta from refined flour, rice, regular oatmeal, cereals with <0.1 mg of copper per serving (check sweet potatoes, all others not listed on high or moderate list	Whole wheat bread, Melba toast, whole wheat crackers, instant oatmeal, instant Ralston, cereals with 0.2 mg of copper per serving (check label), dehydrated and canned soups, potatoes in any form, pumpkin, parsnips, winter and	Dried beans including soy beans, lima beans, baked beans, garbanzo beans, pinto beans, dried peas, lentils, millet, barley, wheat germ, bran breads and cereals, cereals with >0.2 mg of copper per serving (check label), soy

		summer squash, green peas	flour, soy grits, fresh sweet potatoes
<b>Fats, Oils</b>	Butter, cream, margarine, mayonnaise, non-dairy creamer, sour cream, oils, salad dressings (made from allowed ingredients)	Olives	
<b>Milk &amp; Milk Products</b>	Most milk products, milk flavored with carob, cheeses, cottage cheese	All others	Chocolate milk, soy milk, cocoa
<b>Sweets &amp; Desserts</b>	Most sweets, jams, jellies, candies with allowed ingredients, carob, flavoring extracts	Licorice, syrups	Desserts that contain high amounts of ingredients rich in copper, candy with nuts, chocolate, cocoa
<b>Beverages, Liquids, Misc.</b>	Coffee, tea, fruit juices, fruit-flavored beverages, lemonade, soups made with allowed ingredients	Postum and other cereal beverages, carbonated beverages, ketchup, dehydrated an canned soups	Instant breakfast beverages, mineral water, soy-based beverages, copper-fortified formulas, brewer's yeast, multiple vitamins with copper or minerals

### Sample Menu

Sample Menu Plan	Your Menu
<b>Breakfast</b> 1/2 cup Grapefruit 1 Scrambled Egg 1 Slice White Toast 1 tsp Margarine 1/2 cup Skim Milk 1 cup Coffee Salt/Pepper	
<b>Lunch</b> 2 Slices White Bread 2 oz Roast Beef Lettuce Tomato 1 Tbsp Mayonnaise 6 Carrot Sticks 1 Fresh Orange 1/2 cup Skim Milk	
<b>Dinner</b> 3 oz Chicken Breast 1/2 cup Rice 1/2 cup Green Beans 1 tsp Margarine 1 Slice White Bread 1 tsp Jelly 1 Apple 1 cup Lemonade Salt/Pepper	