PURINE CONTROLLED DIET

INDICATION

This diet has been used in the past as part of the treatment of gout and gouty arthritis but is seldom routinely used today. The purpose of the diet is to lower serum uric acid levels by controlling dietary purines.

More recently, drug therapy has largely replaced the less effective rigid restriction of purine in the diet. Exogenous or dietary sources of purines account for less than half the uric acid in the blood. Drugs such as allopurinol decrease endogenous production of uric acid by interfering with uric acid synthesis in the liver. Other drugs, such as Probenacid, decrease plasma-uric acid by increasing its elimination through the kidneys.

DESCRIPTION

A very low purine diet eliminates glandular meats, dried legumes, lentils, and meat extracts. In addition, other meats, poultry, and fish are restricted to one (2oz.) serving per day, not more than 5 times per week.

An alternative to a very low purine diet is to eliminate only those foods extremely high in protein (see foods listed in Group III).

GENERAL RULES

1. Eliminate foods high in purines (those containing more that 150 mg/100g). See Group III.
2. For low-purine level, allow 1 small serving (2oz.) of food from Group II per day, not more than 5 times per week.
3. For a diet essentially free of purine, eliminate foods from Groups II and III, and use foods only from Group I, Table I.
4. Limit daily protein intake to 1g/kg of ideal body weight or 80 g/day.
5. Weight reduction diet for obese patient. Weight loss should be gradual: fasting or extremely low calorie diets will increase serum uric acid levels.

6. Fluid intake should be at least 2 qt./day to help in eliminating uric acid.

7. Avoid excessive intakes of alcohol which cause the accumulation of lactic acid, which inhibits renal secretion of uric acid. Limit alcohol to less than 100 g/day in a diluted form and taken with food.

8. Avoid excessive intake of fructose. Preliminary reports indicate that fructose appears to increase uric acid production and excretion.

NUTRITIONAL ADEQUACY

If all meat, fish, and poultry are eliminated on a purine-free regimen, the diet is low in iron, thiamin, and niacin. If a low or moderate purine regimen is followed, the diet is adequate in all nutrients from the Recommended Dietary Allowance.

TABLE I: PURINE CONTENT OF FOODS PER 100 GRAMS

Group I Unlimited	Group II 1 Serving/day (2 oz.) (up to 5 times per week)	Group III Eliminate
Breads	Meats	Sweetbreads
Cereals	Fish	Anchovies
except Group II	Seafood	Sardines
Vegetables	Poultry	Shrimp
except Group II	Oatmeal and other whole	Mackerel
Fruits	grain cereals	Liver
Nuts	Asparagus	Kidney
Milk	Cauliflower	Brains
Cheese	Mushrooms	Meat extracts
Fats	Peas	Gravies
Sugars	Spinach	Dry beans
		Dry peas
		Lentils

PURINE-CONTROLLED DIET

Avoid these foods	Allowed in moderate amounts
150-825 mg purines/100 g	50-150 mg purines/100 g
Anchovies	Asparagus
Brains	Baker's or brewer's yeast
Herring	Cauliflower
Kidney	Dried beans/peas/lentils
Liver	Eel
Mackerel	Fish, fresh and salt water
Meat extracts/gravies	Meat-beef, lamb, pork, veal
Sardines	Mushrooms
Scallops	Oatmeal
Sweetbreads	Peas, green
Wild game	Poultry
	Shellfish
	Spinach
	Wheat germ and bran
	Whole grain breads and cereals

Unrestricted
0-15 mg purines/100 g
Beverages-coffee, tea, sodas
Breads and cereals (use whole wheat in moderation)
Cheese
Eggs
Fats
Fruit, fruit juices

Milk

Sugar, sweets

Vegetable, except those previously listed

DIET MODIFICATION

Although drug treatment has largely replaced the need for strict dietary purine restriction, some individuals will benefit from diet modifications. These can include:

- Elimination of foods containing 150 mg purines or more per 100 gm serving.
- Moderate protein intake (0.8 gm/kg/day) with meat restricted to not > 3-4 ounces per meal.
- Liberal carbohydrate intake with low fat intake, as excretion of urates tends to be enhanced by carbohydrates and reduced by fats.
- Gradual weight reduction to achieve and maintain an ideal body weight, as obesity is associated with gout. Fasting to produce rapid weight loss should be avoided as ketosis can elevate serum uric acid levels.
- Avoidance of, or limiting amount and frequency of alcohol because ethanol increases uric acid production. Any alcohol consumed should be with meals.
- Liberal fluid intake to increase urine volume to 2 liters or more per day to reduce the risk of renal calculi formation.