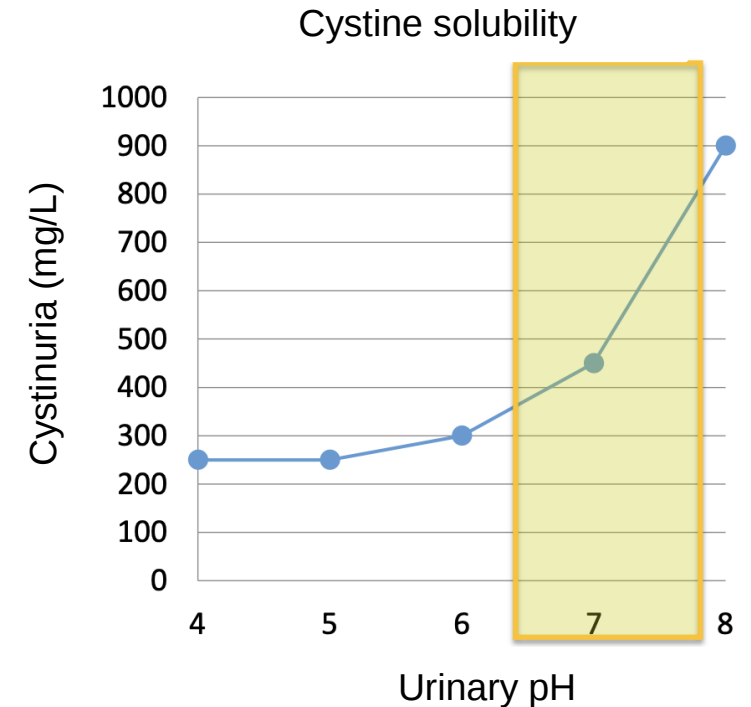


What dietary plan should be followed in cystinuria?

Cystinuria is a genetic disorder. Kidney stones can form at any age and may cause chronic kidney failure if they are numerous and/or recurrent. It is related to a defect in the transport of cystine, a compound that is poorly soluble in urine. Diagnosis is usually made by analyzing the stone or urine crystals.

Essential dietary guidelines are:

- 1- Maintain plentiful fluid intake, spread throughout the day and night, aiming for clear or transparent urine as often as possible.
- 2- **Alkalanize the urine** (target urinary pH of 7.5 or higher) by consuming food low in acid load (low PRAL) and/or using alkalinizing treatments such as potassium citrate or potassium bicarbonate.
- 3- **Control protein and methionine intake** (methionine is a precursor of cystine).
- 4- Follow a **low-salt diet**.



What dietary plan should be followed in cystinuria?

Limiting methionine helps reduce the amount of cystinine in the urine. Methionine is an essential amino acid, so it cannot be completely removed from the diet!

Below is the methionine content in some foods.
(Cf [PNDS Cystinurie](#))

Appendix 6. Methionine content of some foods.

Recommended intake: 1100 to 1500 mg of methionine per day depending on body weight

Food	Methionine (mg/100g)	Methionine (mg per standard serving)
Dried cod	2300	
Horse meat	1300	
Snails	1000	
Crayfish	1000	
Gruyere/Parmesan	900	1 serving of 30g = 300mg
Emmental, Gouda	750	1 serving of 30g = 250mg
Sardines, tuna in oil or smoked fish	700	1 serving of 50g = 350 mg
Meat, poultry, fish	500 to 700	1 serving of 100g = 500 to 700mg
Camembert, blue cheese, munster	500 to 600	1 serving of 30g = 150 to 200mg
Whole eggs	450	2 eggs = 450mg
Almonds, walnuts, peanuts	200 to 300	20g (about 10 almonds) = 50mg
Milk, yogurt	100	1 yogurt = 120 mg
Bread	140	50g = 1/5 baguette = 70mg
Lentils, cooked white beans	60 to 70	200g = 8 tablespoons = 120 to 140mg
Pasta, cooked rice	35 to 50	200g = 8 tablespoons = 70 to 100mg
Vegetables, cooked potatoes	10 to 30	200g = 2 handfuls = 20 to 60mg
Fruits	10 to 20	150g = 1 medium fruit = 15 to 25mg

Here are the alkalinizing foods to favor (foods in green) and those to limit (foods in pink), along with example menus.

(Cf [PNDS Cystinurie](#))

Woman 60 kg = 48 to 50 g of protein per day

Breakfast	Lunch	Dinner
coffee buttered bread 150 ml milk orange water	Cucumbers 80 g chicken Pasta or bread Green beans 1 yogurt water	Vegetable soup Potato salad or bread tomatoes 1/8 camembert cheese Stewed fruit water

Methionine requirement: 780 mg/day
 Recommended nutritional intake: 1140 mg/day
 Methionine intake for this day: 1100 to 1200 mg

Man 80 kg = 62 to 64 g of protein per day

Breakfast	Lunch	Dinner
coffee buttered pain 150 ml milk orange water	Cucumbers 100 g chicken pasta Green beans 1 yogurt bread water	Vegetable soup potato salad tomatoes 1/8 camembert cheese stewed fruit bread water

Methionine requirement: 1040 mg/day
 Recommended nutritional intake: 1520 mg/day
 Methionine intake for this day: 1400 to 1500 mg

Protein content reminder for some foods:

100 g meat = 100 g fish) 100 g poultry = 2 eggs = 20 g protein
 150 ml milk = 1 yogurt = 30 g protein = 5 to 7 g protein
 150 g cooked vegetables = 10 to 12 g protein
 50 g bread = 150 g cooked pasta, rice, semolina, or potatoes = 4 to 6 g protein

Annex 7. The PRAL Index: Acidifying and Alkalinising Potential of Foods

The PRAL index measures the acid load of a food based on the amount of acid and alkaline minerals it provides per 100 grams, as well as its protein content.

Foods with a Negative PRAL index: Alkalinizing	Foods with a PRAL index of 0: Neutral	Foods with a Positive PRAL index: Acidifying
Vegetables: All (PRAL: -2 to -10) Herbs, spices, chillies, peppers: (-15 to -20) Starchy foods: Potatoes (-5), chestnuts, sweet potato, yam, cassava, plantain (-4 to -6) Legumes: White beans (-2.4) and red beans (-1) Fruits: Fresh (-2 to -7), cooked or dried (-10 to -27) Nuts: Hazelnuts (-2), coconut, macadamia nuts Drinks: Tap water, spring water (-1), mineral water, bicarbonate waters such as Vernière (-4.6), Badoit (-4.9), Salvetat and San Pellegrino (-3.7), Vittel (-3.7), Vichy Célestin (-3), Vichy St Yorre (-4.2), Hépar, Contrex, Courmayeur (-8 to -10) Others: Tea, coffee, herbal infusions, wine, beer, cocoa Lemon juice: (-2)	Milk, yogurt Oils Sugar	Drinks: Cola (+0.5) Starchy foods and cereals: Wheat, rice (+2); buckwheat, spelt flour (+10); semolina, pasta (+2.5); bread (+4); viennoiseries, biscuits, pastries Legumes: Lentils (+2), chickpeas Nuts: Walnuts (+5), almonds (+2), pistachios Meat: Meat (+15), poultry, fish (+12) Eggs: (+7) Processed meats: (+3 to +5) Cheese: (+10 to +27) Seeds: Pumpkin, sunflower (+36)

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