

Standard

Dietary Guide for Hyperuricemia and Gout Patients (WS/T 560—2017)

1 Scope

This standard specifies the principles of dietary guidance, energy intake, and recommended nutrient intake for patients with hyperuricemia and gout.

This standard is applicable to providing dietary guidance to adult patients with hyperuricemia and gout who do not have compromised kidney function or other concurrent diseases.

2 Terms and definitions

The following terms and definitions are applicable to this document.

2.1 Medical nutritional therapy (MNT)

Nutritional therapeutic measures were undertaken in clinical conditions for specific diseases, including individualized nutritional assessment, diagnosis, and formulation, implementation, and monitoring of nutritional treatment plans for patients.

2.2 Hyperuricemia

A metabolic disorder, caused by purine metabolism abnormalities and closely associated with gout, was an independent risk factor for conditions such as diabetes, metabolic syndrome, dyslipidemia, chronic kidney disease, and stroke. The diagnostic criteria involve obtaining fasting blood samples on separate days under usual dietary conditions, determining blood uric acid levels using uricase method. Levels higher than 420 $\mu\text{mol/L}$ for males or 360 $\mu\text{mol/L}$ for females are considered diagnostic.

2.3 Gout

A crystal-related joint disease was caused by monosodium urate deposition, directly associated with hyperuricemia resulting from disordered purine metabolism and/or reduced uric acid excretion. It falls within the category of metabolic diseases. Gout often presents as acute episodic arthritis, tophus formation, tophaceous chronic arthritis, urate nephropathy, and uric acid urinary tract stones. Severe cases can lead to joint disability and renal insufficiency. The condition may also involve joint damage, impaired kidney function, and often coexist with other manifestations of metabolic syndrome such as abdominal obesity, dyslipidemia, type 2 diabetes, and cardiovascular disease.

3 Objectives of dietary guidance

Through medical nutritional therapy, the goals include reducing exogenous purine intake, lessening blood uric acid burden, decreasing the risk of gout occurrence or acute attacks, delaying the onset and progression of related complications, promoting and maintaining appropriate nutritional status, preventing and supporting the treatment of associated diseases, and improving clinical outcomes.

4 Dietary guidance principles for hyperuricemia and gout patients

4.1 General principles

Based on individualized principles, the establishment of a balanced dietary regimen and healthy lifestyle is recommended. This involves restricting high-purine animal-based foods (for detailed purine content of common foods, refer to Appendix A), controlling energy intake, maintaining a healthy body weight, adhering to regular uric acid-lowering medication, and undergoing periodic follow-up assessments.

4.2 Foods to avoid

It is advised to avoid consuming animal viscera such as liver and kidneys, shellfish and mollusks like oysters and lobsters, and concentrated meat broths and gravies. For patients experiencing acute gout attacks, poor medication control, or chronic tophaceous gout arthritis, alcoholic beverages should also be avoided.

4.3 Foods to limit

4.3.1 Animal-based foods with high purine content, such as beef, lamb, and pork.

4.3.2 Fish and seafood.

4.3.3 Foods high in fructose and sucrose.

4.3.4 Various alcoholic beverages, especially beer and distilled spirits (liquor). The recommended alcohol intake should not exceed 2 standard drinks per day for males and 1 standard drink per day for females. One standard drink is approximately equivalent to 145 mL of 12% alcoholic by volume (ABV) red wine, 497 mL of 3.5% ABV beer, or 43 mL of 40% ABV distilled spirits.

4.4 Recommended food choices

4.4.1 Skimmed or low-fat dairy and dairy products, 300 mL per day.

4.4.2 Eggs, with a limit of one egg per day.

4.4.3 Sufficient intake of fresh vegetables, aiming for 500 g or more per day.

4.4.4 Encouraging the consumption of low glycemic index (GI) grains.

4.4.5 Adequate water intake, including tea and coffee, with a minimum of 2,000 mL per day.

4.5 Weight management

Overweight or obese patients should gradually achieve and maintain a healthy body weight.

4.6 Eating habits

Cultivate healthy eating habits by adhering to regular meal timings and portion sizes, and avoiding overeating and excessive consumption of meat in a single meal. Limit the use of spicy condiments. Discarding the cooking broth of seafood, meats, and high-purine plant-based foods can help reduce purine content.

5 Recommended energy and nutrient intake

5.1 Energy

Energy intake should align with achieving and maintaining a healthy body weight. Estimations should consider factors such as gender, age, height, weight, and physical activity level. For individuals engaged in light physical activities (e.g., office work), daily energy intake should range from 25 kcal/kg to 30 kcal/kg for those with normal weight, 35 kcal/kg for underweight individuals, and 20 kcal/kg to 25 kcal/kg for overweight/obese individuals. For those involved in moderate physical activities (e.g., electrical work), daily energy intake should be 30 kcal/kg to 35 kcal/kg for normal weight, 40 kcal/kg for underweight, and 30 kcal/kg for overweight/obese individuals. For those participating in heavy physical activities (e.g., manual labor), daily energy intake should be 40 kcal/kg for normal weight, 45 kcal/kg to 50 kcal/kg for underweight, and 35 kcal/kg for overweight/obese individuals.

Using body mass index (BMI) to determine weight status, the criteria are as follows: BMI < 18.5 kg/m² indicates underweight, 18.5 ≤ BMI < 24.0 kg/m² is considered normal weight, 24.0 ≤ BMI < 28.0 kg/m² signifies overweight, and BMI ≥ 28.0 kg/m² indicates obesity.

5.2 Carbohydrates

Carbohydrates should contribute 50% to 60% of total energy intake. Added sugar intake should be limited. Opt for low glycemic index (GI) foods. Encourage whole grain foods to constitute more than 30% of daily staple intake. Aim for a dietary fiber intake of 25 g to 30 g throughout the day.

5.3 Protein

Daily dietary protein intake should be 1 g/(kg·d) of body weight, contributing 10% to 20% of total energy intake. Recommended sources of protein include dairy products and eggs.

5.4 Fat

Fat intake should provide 20% to 30% of total daily energy intake. Individuals with obesity or metabolic syndrome should strictly limit their daily fat intake to no more than 25% of total energy, and saturated fatty acids should not exceed 10% of total energy. For individuals with elevated plasma low-density lipoprotein cholesterol (≥ 2.59 mmol/L), saturated fatty acid intake should be kept below 7% of total energy. Trans fatty acid intake should be less than 1% of total energy. Daily intake of linoleic acid and alpha-linolenic acid should respectively account for 5% to 8% and 1% to 2% of total energy. Monounsaturated fatty acids should contribute 10% to 15% of total energy intake.