

## Position Statement

## Dietary management of people with diabetes mellitus

### Association for Dietetics in Southern Africa (ADSA)

This ADSA Position Statement is a revision of the 1992 Statement entitled 'Nutritional recommendations for individuals with diabetes mellitus'. Revisions have been made in the light of new research data.

### Aim

The aim of these recommendations is to encourage a uniform approach to the nutritional management of diabetes in South Africa.

Although the implementation of these recommendations will vary according to intake of traditional, ethnic and cultural foods, these recommendations apply to all population groups, and should be tailored to individual needs, circumstances and preferences.

### Objectives

- To achieve optimal blood glucose concentrations.
- To achieve optimal blood lipid concentrations.
- To provide appropriate energy for reasonable weight,

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normal growth and development, and pregnancy and lactation.

- To prevent, delay and treat nutrition-related complications.
- To improve health through optimal nutrition.

### Energy

The energy content of the diet should be prescribed to achieve and/or maintain a desirable/reasonable body weight.

For children and adolescents, enough energy should be prescribed for normal growth and development.

During pregnancy and lactation, appropriate adjustments should be made to achieve optimal blood glucose concentrations and optimal weight gain, and to minimise ketone production.

### Carbohydrates

The diet should provide 50 - 65% of the total daily energy intake as carbohydrate, from a variety of sources. The daily consumption of a diet high in complex carbohydrates, and ideally containing approximately 3 g dietary fibre (non-starch polysaccharides) per 1 000 kJ, is recommended.

Foods provide the best means of increasing daily consumption of both soluble and insoluble fibre to the recommended levels. It must be noted that increasing the fibre content of the diet may decrease insulin requirements in some individuals.

More research is needed to determine the effect of the very high carbohydrate content of some traditional diets on glycaemic control.

### Fat

Total fat, especially saturated fat, should be restricted. Total fat should comprise < 30% of the total daily energy intake, with saturated fat < 10% of total, polyunsaturated fat < 10% (preferably 6 - 8%) of total, and mono-unsaturated fat the balance.

A reduction in saturated fatty acids is usually associated with a reduction in intake of dietary cholesterol. More research is needed to define the potential value of the additional intake of mono-unsaturated fat and the use of fat substitutes.

### Protein

The protein content of the diet must be appropriate for the growth requirements, current nutritional status, age, body weight, and specific therapeutic needs of the individual. Protein should provide 10 - 20% of the total daily energy intake. Dietary protein should be derived from both animal and vegetable sources, in line with prudent diet guidelines.

With the onset of nephropathy, lower intakes of protein should be considered (0.8 g/kg/d) — approximately 10% of the total daily energy intake.



## Vitamins, minerals and trace elements

When a person with diabetes is under good metabolic control and dietary intake is adequate, there is generally no need for supplementation. In specific cases, supplements may be needed. This is only when a deficiency can be demonstrated, when the person follows a very-low-energy diet, in uncontrolled diabetes, or in potential groups who are at risk.

There are theoretical reasons to supplement with anti-oxidants and chromium, but evidence for daily supplementation is lacking and more research regarding the specific role of these nutrients in diabetes is necessary.

## Sweeteners

The use of various nutritive and non-nutritive sweeteners in the management of diabetes is acceptable. Limited amounts of sucrose and other nutritive sweeteners may be used as part of an appropriate energy-controlled, high-fibre, low-fat diet.

To distribute any potential risk, the use of a variety of sweeteners in moderate amounts is recommended. More research, however, is needed to identify the effects of long-term use of non-nutritive sweeteners in humans, especially in children and pregnant and lactating women.

## Alcohol

Limited alcohol consumption is allowed in well-controlled diabetes. Alcohol intake should not exceed 6 - 10% of the total daily energy intake, and alcohol must always be ingested in combination with a meal.

Alcohol consumption is contraindicated in conditions such as hypertriglyceridaemia, obesity, neuropathy, poor glycaemic control and pregnancy.

## Meal frequency

A minimum of three meals should be ingested per day. The provision of snacks is determined by the type and time of administration of the medication, and the timing of the last meal of the day. In order to maintain euglycaemia at all times, the ingestion of food must correlate with the duration of peak action of the medication.

## Exercise

Regular exercise should be a part of the lifestyle of people with non-insulin-dependent diabetes mellitus (NIDDM) and insulin-dependent diabetes mellitus (IDDM).

Normal blood glucose concentrations should be maintained before, during and after exercise. In IDDM, exercise can commence when blood glucose concentrations are between 4 mmol/l and 14 mmol/l.

## Education

Methods of education used must be tailored to individual needs and abilities. Education must allow for individuality within the parameters of the dietary guidelines. Self-control must be encouraged through self-choice. A controlled diet plan should only be used when absolutely necessary. Regular follow-up, re-evaluation and counselling must be encouraged.

## Pregnancy and lactation

Successful pregnancy outcomes of women with diabetes depend on adequate dietary intake, frequent glucose monitoring, maintenance of optimal blood glucose concentrations, correct insulin management, and prevention of ketosis and hypoglycaemia.

Appetite, weight gain, blood glucose concentrations and insulin requirements should be used as a guide to meal planning. Energy, protein, carbohydrate and fat requirements alter in pregnancy and lactation, and should be treated individually. Vitamin and mineral supplementation is recommended where necessary. Meal frequency should coincide with the insulin required, and the goal should be postprandial blood glucose concentrations not exceeding 6.6 mmol/l.

Suitable exercise, with the doctor's permission, is highly recommended. Breast-feeding should be encouraged. Blood glucose concentrations must be monitored and additional snacks may be indicated during lactation.

## Children

The aim of the diet for children with diabetes is to promote normal growth and development. Energy must be adequate for normal growth and development. Total energy requirements should be based on usual intake rather than theoretical formulae.

Carbohydrate recommendations are similar to those for adults. The carbohydrate/fat ratio must be monitored as a high carbohydrate intake/prescription may necessitate a large volume of food.

Fat intake should be according to the prudent dietary guidelines for children older than 2 years of age. To satisfy energy needs of the infant and toddler, fat intake should be up to 40% of total daily energy intake.

Protein intake should be the same as the Recommended Dietary Allowances (RDA), and be adequate for normal growth and development.

## Foods that make diabetic claims

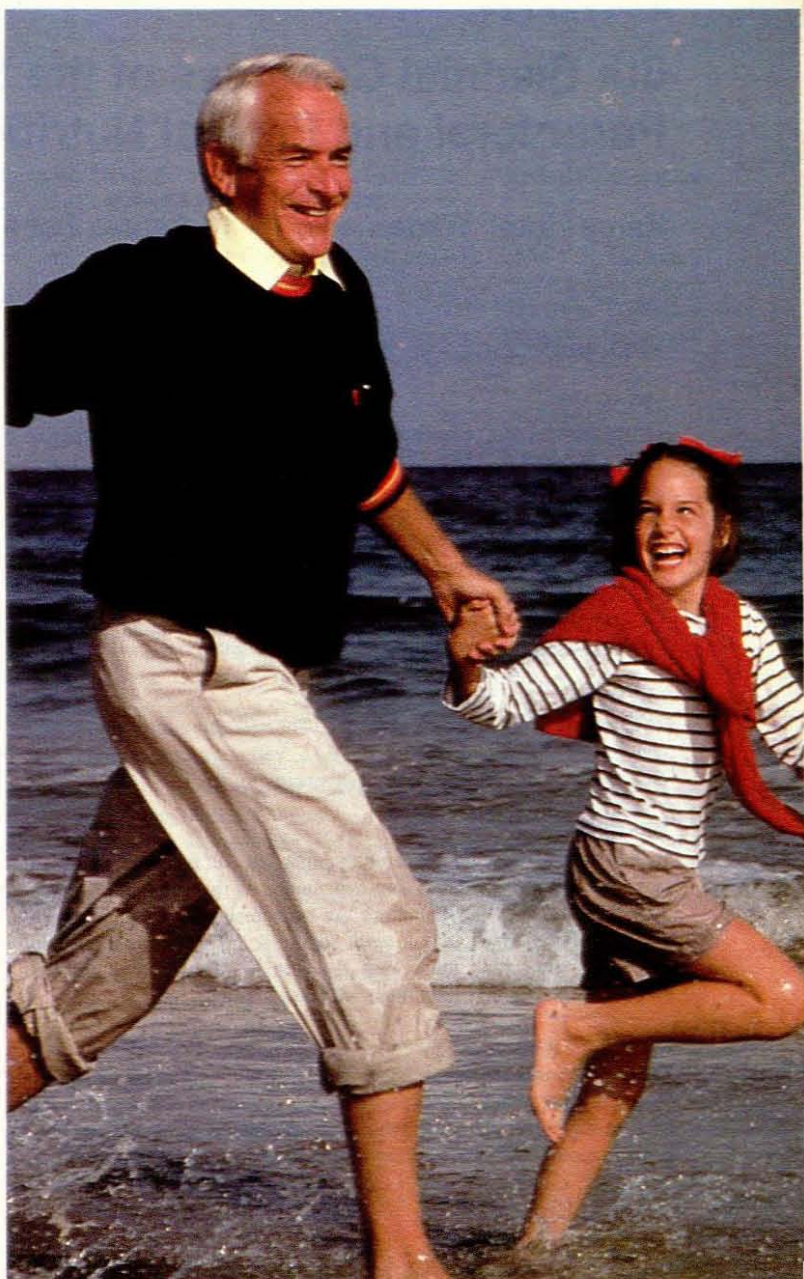
According to legislation, a limited number of foods may claim that they are suitable for people with diabetes. These foods are not essential in the diet of a person with diabetes, and should be used with discretion.



This ADSA Position Statement was adopted on 1 November 1996, and replaces the 1992 Statement. The 1996 Position Statement will be in effect until November 2000 unless review is necessary prior to this date. ADSA authorises re-publication of this Position Statement, *in its entirety*, provided full and proper credit is given to ADSA. Requests to use portions of this Position Statement must be made to the ADSA National Office, PO Box 1310, Cramerview, 2060.

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