

Sweeteners

Sweeteners are chemical substances that are added to food and drinks to enhance sweetness. There are many available, and they can be natural or artificially produced. This is a guide to some of their uses. There are two types of sweetener - those that contain calories (nutritive / non-intense), and those which are virtually calorie free (non-nutritive / intense).

Nutritive / Non-intense sweeteners

There are different types of nutritive sweeteners available in the market. Nutritive Sweeteners contain carbohydrate and provide calories. It is therefore best to cut down on foods and drinks that contain high amounts of these, as too many can contribute to weight gain, they affect blood glucose levels and may contribute to tooth decay. They are generally referred to as 'sugars' or 'added sugar' on products' packaging. It is always useful to read the list of ingredients on food packaging as sugar may also appear under a different name, such as: **Glucose/ Fructose/ Sucrose/ Maltose/ Honey and syrup, etc.**

Polyols: This is one group of nutritive sweeteners and includes:

- Erythritol
- Isomalt
- Maltitol
- Mannitol
- Sorbitol
- Xylitol

Polyols can be manufactured naturally or artificially. They contain 2.4 calories per gram compared with 4 calories per gram for sucrose (sugar) and have less of an effect on blood glucose levels than sucrose (sugar). Many products (such as chocolates, preserves, cakes and biscuits) that are labelled as "diabetic" or "suitable for diabetics" contain polyols. These products are usually high in fat and calories and offer minimal benefit. It has been seen that eating large amounts of polyols can have a laxative effect, causing bloating, flatulence and diarrhoea.

Non-nutritive / Intense (virtually calorie-free)

These sweeteners can be used as an alternative to sugar, and they may be hundreds of times sweeter. They can be artificial or naturally sourced, but this may still mean they are processed and refined. Benefits may include a reduced impact on blood glucose level, they may aid weight loss and they have no effect on tooth decay. They come in a variety of forms including:

- Tablets - used for drinks
- Powders/Granules - for sprinkling on puddings, breakfast cereals, stewed fruit, etc.
- Liquid - for adding to puddings, stewed fruit, etc.

Safety

All artificial sweeteners must undergo rigorous safety testing before they can be approved for use in the EU by the European Commission. There must be sufficient evidence to show they:

- **do not** cause any adverse effects (including cancer)
- **do not** affect reproduction
- **do not** cause allergic reactions
- **are not** stored within the body, or metabolised into other potentially unsafe products

An Acceptable Daily Intake (ADI) level is set for each sweetener, which is the maximum amount deemed safe to consume every day, over a lifetime without risk. However, it is unlikely a person would ever meet this upper limit, considering ADIs are set 100 times less than the minimum amount that may cause health concerns. Analysis shows that current levels of intake in the UK levels are safe.

Examples of Non-Nutritive Sweeteners

Some people may prefer to gradually reduce the amount of sugar in their diet to allow them to get used to foods and drinks that taste less sweet. However, if you would like to use sweeteners to help you reduce your sugar intake, then do consider trying a variety to find your preferred taste.



See the following table for examples of sweeteners approved for use in the EU. Different types / forms will be better suited for certain functions (e.g. baking), so see the advantages and disadvantages in the table, and read product labels to help you decide which to use.

Main Ingredient and example products	Forms	Advantages	Disadvantages
<p>ASPARTAME</p> <ul style="list-style-type: none"> ▪ Nutrasweet ▪ Canderel sugary/ granules/tablets (also contains Acefulsame K) ▪ Tesco sweetener ▪ Silver Spoon Sweetener ▪ Hermesetas Gold ▪ Hermesetas granulated 	<p>Tablet or Powder</p>	<p>Tastes like sugar</p>	<p>Not suitable for prolonged cooking (add at end of cooking)</p>
<p>SACCHARIN</p> <ul style="list-style-type: none"> ▪ Sweetex ▪ Hermasetas mini sweeteners ▪ Hermasetas liquid* (Ideal for cooking and baking) ▪ Tesco Everyday Value Sweeteners 	<p>Tablet or Liquid</p>	<p>Cheaper</p>	<p>Some people report a bitter aftertaste Not suitable for cooking (add at end)</p>
<p>ACESULFAME K</p> <ul style="list-style-type: none"> ▪ Hermesetas Gold ▪ Silver Spoon Sweetener ▪ Tesco tablet sweetener (also contains aspartame) ▪ Canderel sugary/ granules/tablets (also contains aspartame) 	<p>Tablet or Powder</p>	<p>Suitable for cooking/baking, withstands high temperatures</p>	<p>Some people report a slight aftertaste Delayed sensation of sweetness</p>
<p>SUCRALOSE</p> <ul style="list-style-type: none"> ▪ Splenda low calorie sweetener ▪ Sainsbury's Sucralose Granulated Sweetener/tablets ▪ Tesco Low Calorie Sucralose-Based Sweetener ▪ ASDA Chosen by You Sweetener ▪ Morrisons Granulated Sweetener – Granulated/tablets 	<p>Tablet or Powder</p>	<p>Can be used in cooking including in the microwave</p>	<p>Doesn't produce browning/ caramelise</p>
<p>STEVIOL GLYCOSIDES (STEVIA)</p> <ul style="list-style-type: none"> ▪ 000 Stevia Sugar (combination of pure Stevia and Erythritol) ▪ Silver Spoon Truvia® Sweetener ▪ Hermesetas Stevia Sweet tablets ▪ Canderel sweet stevia crunchy/ granules/tablets ▪ Tesco Stevia Sweet Granulated Low Calorie Sweetener ▪ ASDA Stevia Sweetener ▪ Whole Earth Sweetener Co. Sweet Granules with Stevia ▪ Morrisons Stevia Sweetener- tablets/granules 	<p>Tablet or Powder</p>	<p>Suitable for cooking/baking (product suitability may vary)</p>	<p>Some people report a bitter aftertaste Brands of stevia may vary - check the list of ingredients, if polyols are also present this could have a laxative effect</p>

Sources of information

Diabetes UK (UK registered charity) - information about sugar, sweeteners and diabetes:
www.diabetes.org.uk/Guide-to-diabetes/Enjoy-food/Carbohydrates-and-diabetes/Sugar-sweeteners-and-diabetes

European Food Safety Authority - information on sweeteners and safety:
www.efsa.europa.eu/en/topics/topic/sweeteners

Important information

This patient information is for guidance purposes only and is not provided to replace professional clinical advice from a qualified practitioner. If further support is required, you may contact the Nutrition & Dietetic Team on 01323 413884 or esh-tr.Dietitians@nhs.net.

Your comments

We are always interested to hear your views about our leaflets. If you have any comments, please contact the Patient Experience Team – Tel: (01323) 417400 Ext: 5860 or by email at: esh-tr.patientexperience@nhs.net

Hand hygiene

The trust is committed to maintaining a clean, safe environment. Hand hygiene is very important in controlling infection. Alcohol gel is widely available at the patient bedside for staff use and at the entrance of each clinical area for visitors to clean their hands before and after entering.

Other formats

If you require any of the Trust leaflets in alternative formats, such as large print or alternative languages, please contact the Equality and Human Rights Department.

Tel: (01424) 755255 Ext: 2620

After reading this information are there any questions you would like to ask? Please list below and ask your nurse or doctor.

Reference

The following clinicians have been consulted and agreed this patient information:
Dietetics and Nutrition Department

The Clinical Specialty/Unit that have agreed this patient information leaflet:
Dietetics and Nutrition Department

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Responsible clinician/author: Dietetics and Nutrition Department

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