



Oral Nutritional Supplements and Oral Health in People with Cystic Fibrosis

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An information booklet

WHAT IS SUGAR?

Sugar is a type of Carbohydrate. Carbohydrates make up 50-55% of our energy (calorie) intake. Carbohydrates can be divided between two types of sugar- simple sugars and complex sugars. The difference between a simple and complex sugar is how quickly it is digested and absorbed.

Simple sugars include: sucrose, fructose, lactose, syrup, sugar, dextrose, glucose, honey, treacle, molasses, corn syrup and fruit juice concentrates. Some simple sugars are found naturally in foods (such as lactose in milk products). While others (such as sucrose) are added to foods and are known as "Added Sugars"

The term complex carbohydrate refers to any starches including the highly refined starches found in bread, cakes and many other food sources. When dietitians advise having complex carbohydrate, they are usually referring to whole grain foods and starchy vegetables.



The WHO recommends reducing the intake of added sugars to less than 10 % of total energy intake and suggests a further reduction of the intake of added sugars to below 5 % of total energy intake may be beneficial¹². Added sugar should be taken sparingly to sweeten high fibre, nutritious foods such as stewed fruit and wholegrain cereals (e.g. porridge). One should limit their consumption of excess sugar found for example in sugary drinks like cola, fizzy orange, sweetened juices and added sugar cordials. It is important to reduce intake of sugary foods and drinks throughout the day to prevent tooth decay. Be careful with 'diet' soft drinks (sugar-free) as they are acidic and if consumed too often they can harm your teeth. Also be careful of food and drinks that advertise themselves as "no added sugar" or "reduced sugar" as these can sometimes still contain significant amounts of sugar-check the label!

NATIONAL HEALTHY EATING GUIDELINES: RECOMMENDED SUGAR LEVELS

The FSAI Recommendations for Healthy Eating Guidelines in Ireland (2011) advise that healthy eating can be enjoyed with limited amounts of treats, i.e not every day and maximum once or twice per week (FSAI guidelines on health eating 2019). These include biscuits, cakes, savoury snacks and confectionery.¹ These foods are rich in calories, fat, salt and sugar.

Table 1. FSAI recommended daily sugar amounts for age/gender groups.

Gender/Age (years)	Calories (energy)	Sugars (% energy)*	Amount of Sugar (teaspoons)
Boys/Girls (5 - 13)	1400 - 2200	<10%	9 - 15
Boys (14 - 18)	2400 - 2800	<10%	16 - 19
Girls (14 - 18)	2000	<10%	13
Men (19 - 50)	2400 - 2200	<10%	16 - 19
Women (19 - 50)	220 - 2400	<10%	13 - 15
Men (51+)	2200 - 2400	<10%	14 - 16
Women (51+)	1800	<10%	10

**Sugars are "added sugars" – table sugar, syrups, fruit juice and sugars added to foods such as cakes, cereals, sweets, soft drinks, tinned and stewed fruit, jams, preserves, yoghurts and milk yoghurts.*



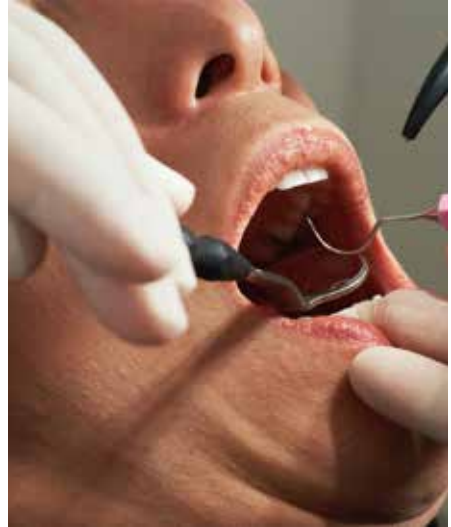
WHAT CAN TOO MUCH SUGAR DO TO MY TEETH?

Dental Cavities

What is a cavity...? Tooth decay (cavities) is the most common chronic disease in young people between the ages of 5 and 17. Untreated tooth decay can lead to pain, infection, and tooth loss. Risk factors for tooth decay include high intake of sugar and high frequency of sugar intake in the diet, i.e. both the amount and frequency are important.

Oral Thrush

Oral thrush produces slightly raised, creamy, white sore patches in your mouth or on your tongue. A dry mouth coupled with higher amount of sugar in the saliva can also make for favourable conditions for Oral Thrush. The use of inhaled medication can also increase the risk of Thrush.



WHY AM I PRESCRIBED ORAL NUTRITIONAL SUPPLEMENT DRINKS?

Having CF means your body needs to work extra hard and requires more energy to maintain a healthy weight and help you feeling well. This is not always the case and modulator drugs, e.g. Kaftrio, are leading to better nutritional outcomes.

However, for some patients, weight loss and low body mass index (BMI) are associated with poor lung function. It is important to aim for a BMI of 22kg/m² for women and 23kg/m² for men.

Sometimes, the amount you eat is not enough to help achieve this alone, leading to the need for Oral Nutrition Supplement (ONS) drinks. The extra energy and protein in these drinks can help you gain weight and achieve your target BMI. This, in turn, will help improve your lung function, muscle mass and overall wellbeing.

HERE ARE FEW TIPS TO HELP MAINTAIN GOOD DENTAL HYGIENE WHILST TAKING PRESCRIBED DAILY ORAL NUTRITIONAL SUPPLEMENTS

Reading food labels

In food labels, items are listed in descending order of weight. The higher up sugar is on the list, the higher the sugar content. A food high in sugar will have more than 15g sugar per 100g of food. Make use of the traffic light system while shopping to aid you in your decision making.



Nutrient	Green	Amber	Red
Sugar (foods)	5g or less per 100g	5 - 22.5g per 100g	22.5g or more per 100g
Sugar (drinks)	2.5g or less per 100ml	2.5-11.25g per 100ml	11.25g or more per 100ml

Limit Spreading your ONS throughout the day








If possible, and your dietician/doctor has given you permission, try to drink your ONS in one go. Frequent sipping over a prolonged time causes more damage to your teeth than drinking in one short sitting.



Drinking ONS through a straw

Sugary drinks can also wear down your enamel and put you at risk for cavities. Drinking through a straw can help prevent decay, due to the liquid not being held in the mouth for as long.

Brushing your teeth at least TWICE a day

-  Brush your teeth at least twice a day, especially before bedtime.
-  Use a soft toothbrush
-  Focus on the gum line as plaque may gather here
-  Use a fluoride containing toothpaste as it helps strengthen the tooth surface
-  Brush for 2 minutes, or the duration of a song
-  Spit, don't rinse after brushing
-  After consuming your ONS, rinse your mouth with water or have some sugar-free chewing gum



It is important to tell your dentist that you are taking ONS as these may put you at higher risk of decay. If your dentist has any queries, advise them to contact your dietitian.



FLOSS

In order to properly clean in between your teeth and to get into those nooks and crannies, floss/interdental brushes are vital. Using floss/interdental brush in between your teeth can help prevent bad breath, tooth decay and gum disease.

VISIT YOUR DENTIST REGULARLY

With cystic fibrosis, extra care may be needed for your teeth. Your dentist may recommend applying fluoride varnish or fissure sealants to your teeth. They may also recommend use of a fluoride mouthwash to be used separately to your toothpaste. If you already have a number of cavities, your dentist may consider a prescribed high fluoride toothpaste.

Being aware of ONS sugar content

Being aware of the sugar content of your ONS will help you stay within the recommended daily sugar guidelines.

Below is a list of common ONS drinks that you may be taking. This is a guide of the varying types and their sugar content. The ONS your dietitian recommends to you varies depending on your individual clinical condition and nutritional needs.

Amber List: 2.5 - 11.25g per 110ml*

Name	Volume (ml)	Calories (kcal)	Sugar (g)	Teaspoons of sugar
5kcal shots (Fresubin)	90 (3 x 30ml)	450	3.6	1
Calogen® extra shots	120 (3 x 40ml)	480	4.2	1
Fresubin® 2kcal mini drink (Fresenius)	125	250	6.6 - 7.4 dependant on flavour	1.5 - 2
Ensure® Compact (Abbott)	125	300	7.8	2
Altrashot® (Nualtra)	120 (4 x 30ml)	420	8	2
Altraplen® Compact (Nualtra)	125	300	14.5	3.5
Ensure® plus (Abbott)	200	300	13	3
Fortisip® (Nutricia)	200	300	13.4	3.5
Fresubin® Jucy (Fresenius)	200	300	16	4
Ensure® Plus Juice (Abbott)	200	330	20.7	5




Red List: 11.25g or more per 110ml*

Name	Volume (ml)	Calories (kcal)	Sugar (g)	Teaspoons of sugar
Pro-Cal® Shot (Vitaflo)	120 (4 x 30ml)	400	16	4
Fortisip® Compact Protein (Nutricia)	125	300	17.1	4
Fortisip® Compact (Nutricia)	125	300	19.4	4.5
Fortijuice (Nutricia)	200	300	27.2	6.5
Scandishake® (Nutricia)	240	587	28.1 - 28.7	7

**All values correct as of April 2022.*



POINTS TO REMEMBER

-  Be aware of your recommended daily sugar amount depending on your age/gender.
-  Keep in mind your dental hygiene while still consuming your ONS drink(s) to achieve your nutritional requirements.
-  Be aware of how too much dietary sugar in your diet can have major effects on your teeth.

N.B. REMEMBER...

... it is important to keep taking your prescribed Oral Nutritional Support drinks. Restricting your consumption of these drinks can make it more difficult for you to gain weight and potentially puts you at risk of losing weight.

... achieving optimal BMI (Women: 22kg/m² Men: 23kg/m²) will help improve lung function. If you feel hungry or worried about your intake discuss this with your dietitian.

HELPFUL RESOURCES:

Cystic Fibrosis Ireland : <https://www.cfireland.ie>

NOTES

About Cystic Fibrosis Ireland (CFI)

CFI is a registered charity CHY 6350 that was set up by parents in 1963 to improve the treatment and facilities for people with CF in Ireland. It is a national organisation with many Branches around the country.

CFI is committed to working to improve CF services in Ireland and our recent progress includes:

- Lobbying to ensure that the new national adult CF centre in St Vincent's University Hospital was completed with up to 34 in-patient beds for people with CF
- Providing funding towards new CF Units around the country including Crumlin, Drogheda, Galway, Mayo, Waterford, Beaumont and Limerick Hospitals
- Funding research in Cork University Hospital and University College Dublin
- Campaigning to improve the rate of double lung transplantation in Ireland
- Providing advice and expertise



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