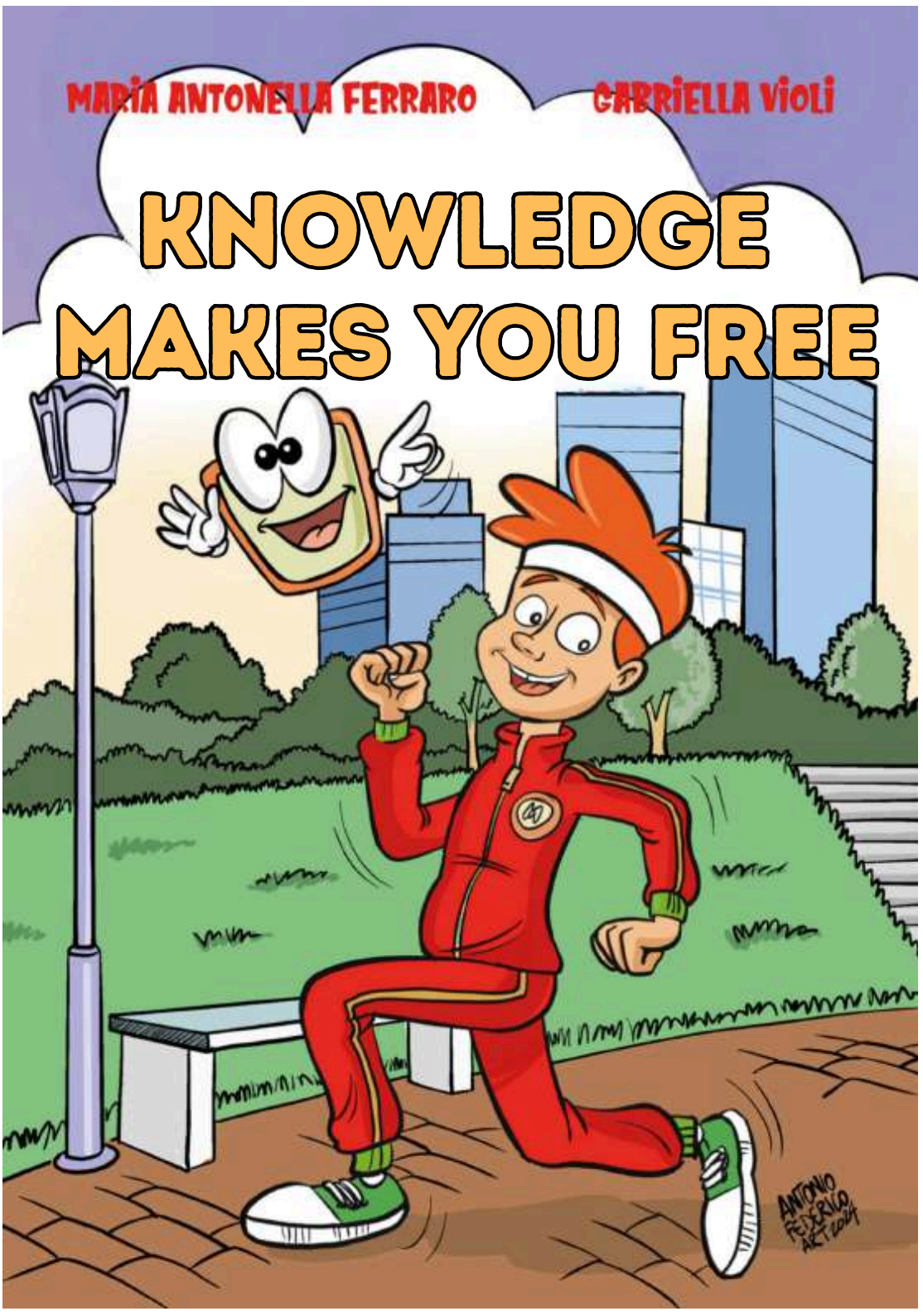
MARIA ANTONELLA FERRARO GABRIELLA VIOLI

KNOWLEDGE MAKES YOU FREE



Watch out For
your health,
you guys!

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Thanks to the invaluable work of Doctor Maria Antonella Ferraro
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JOURNEY TO SUGARLAND

PART II

Associazione per l'aiuto alle persone con Diabete Mellito

Diabaino Vip-vip dello Stretto (ODV)

Sede Legale:
Via Umberto I° n. 100 - 88135
Reggio Calabria

MARCO & MICRO

"KNOWLEDGE MAKES YOU FREE"

Preface

by

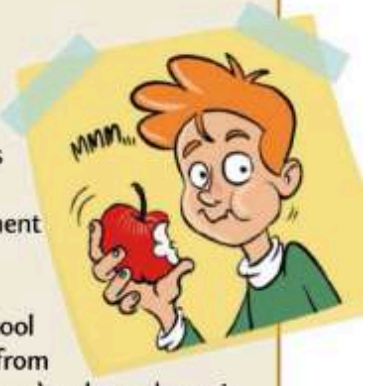
DOCTOR MARIA ANTONELLA FERRARO

The Journey continues...

An important educational lesson: The history of mark and micro is very significant and wants to teach young people and adults with diabetes and not, some basic rules.
This story is an excellent educational opportunity to help readers develop a greater awareness of how to manage diabetes and how to prevent the forms of diseases related to wrong lifestyle habits, such as sedentary lifestyle and obesity: the latter reaches record numbers among young people in Italy.

Diabetes? Blood sugar, is a chronic disease, as old as the world, from which you can not heal, but it is curable, you just have to learn to live with .
There is no definitive cure, but there are many effective treatments for controlling blood sugar.
The severity, course and response to diabetes therapies are individual.
Today, people with diabetes can lead a life as close to normal.
The key thing is that everyone must be properly informed to be free from prejudice and unnecessary limitations. You must be able tosteer the helm of your boat, have self-control, know, know how, act, and the watchword is VERIFICATION.
Diabetes management requires the active participation of the person concerned, forcing them to stop and reflect. Every day is a challenge to face: control blood sugar levels is a test that requires courage and determination, but it also gives satisfaction, it's like participating in the Olympics every day and get a medal.

Proper nutrition is one of the key keys to education and management of diabetes in the short and long term.



Learning to eat properly, be aware of what we eat, choose healthy foods, know the right portions is the first step for the prevention and protection of health and psycho/ physical harmony, conditions also independent of diabetes.
Another essential component of diabetes management is home-based glycemic self-monitoring, and the interpretation of the obtained glycemic data.
The monitoring of blood glucose is a fundamental tool for prevention and control of the disease, because from the possibility of identifying hyperglycemia (high sugar) or hypoglycemia (low sugar)

The technological evolution of devices for managing diabetes mellitus has changed the treatment landscape.
The ease of use and prevention of errors in use offers us new solutions that are more practical and less invasive than traditional finger-prick measurement. These new devices (CSI) give the possibility to make numerous daily measurements providing large quantities of useful data to the patient.

THE PERSON WITH DIABETES WELL INFORMED AND TRAINED TO A CORRECT NUTRITION, GLYCEMIC MONITORING AND CARBOHYDRATE COUNT, MANAGES TO ASSOCIATE EACH MEAL THE RIGHT DOSE OF INSULIN;

THIS ALLOWS TO HAVE A GOOD QUALITY OF LIFE, AND TO LIVE IN FREEDOM WITH DIABETES.

MARCO
WILL INDICATE US THE ROUTE

Marco is now 16 years old and has entered the transition phase, from pediatric to adult age. After the initial difficulties, he has learned to manage his diabetes and has just completed the Diabetic Guide course and is ready to help others.
He has learned to manage himself thanks to the training course in Counting Carbs

"WHEN THE NUMBERS DON'T ADD UP, COUNT... THEM ON YOU ..."

He is fascinated by the new technologies, especially by the continuous monitoring of blood glucose that constantly, in real time, gives the possibility to know how much sugar there is in the blood and act immediately.

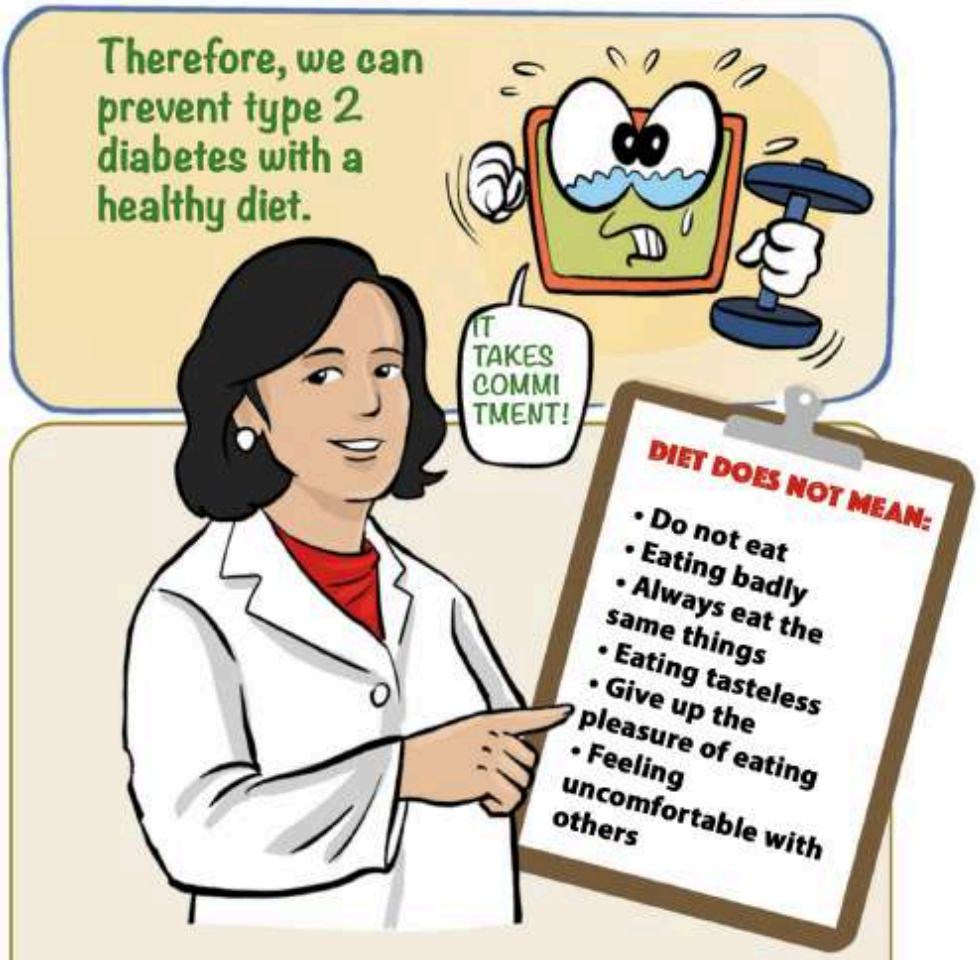

FOR FULL HEALTH
I RECOMMEND A DIET
VARIED AND BALANCED, A
CONSTANT PHYSICAL ACTIVITY
GOOD FOR YOUR BODY AND TO
THE SPIRIT!
SUSCEPTIBILITY TO CERTAIN
DISEASES
CHRONIC IS OFTEN ASSOCIATED
TO AN INCORRECT FEEDING
It's time for a break at Marco's school.
All the kids run to the vending machines to have a snack.
What they contain are cookies, chocolates and sweets in general,
but also fruit juices full of sugar and soft drinks. Marco chose not
to eat these things because he knew the benefits of the
Mediterranean diet.
Think about what you eat!*
CIPS


Ah, ah, ah... what do you want here? You can't eat these good things, come back to your apple!
Hello Marco! How are you? What a sad face...
Hello Micro. I'm sad because my friends make fun of me for diabetes but they do not realize that they also risk it by eating so much with high-calorie snacks full of sugar
Of course Marco, you must warn your companions that at the base of a healthy life there is a varied and balanced diet and constant physical activity. Incorrect eating habits, as well as affecting psycho-physical well-being, are one of the main risk factors for the onset of many chronic diseases, including type 2 diabetes, which is different from yours. In that case, however, there is no need to inject insulin», it is typical of adulthood, but in recent years has an increasing frequency in the adolescent age;

See micro during the course I learned to distinguish diabetes type I and type 2

For reasons unknown, in some children the beta cells are destroyed by an autoimmune process (that is by antibodies directed against them), and the consequence is the failure to produce insulin. Even though glucose is available in the blood and cells can use it, the door through which glucose must enter remains closed because the key, namely insulin, is no longer found.

We talk about Diabetes Mellitus type 1 or insulin-dependent, because the only possible therapy is insulin therapy. This diabetes is different from the diabetes that occurs in adults and elderly people (Type 2 Diabetes), usually overweight and with a history of metabolic disease (hypercholesterolemia, hypertension, etc.). In the latter case insulin is produced and the first therapeutic approach is diet and oral hypoglycemic tablets. Type 2 diabetes, which once appeared after the age of 40, now tends to occur in many adolescents, especially with severe obesity. Type 2 diabetes in obese or overweight adolescents should be distinguished from type 1 diabetes because its treatment involves, in a similar way to that of adults, diet associated with lifestyle changes (a less sedentary life and a balanced diet) and oral drug therapy if necessary.



The word "diet" comes from the Greek "daita" and means rule of life and then...
It SIMPLY MEANS feeding properly according to the needs of your body.
The diet must be balanced in the quantities and qualities of food, it must provide the calories necessary to meet the individual caloric requirements, it must provide all the nutrients in the right proportion, be divided into several parts throughout the day.
THERE IS NO SINGLE FOOD THAT ALONE CONTAINS ALL THE NUTRITIONAL PRINCIPLES.

THE FIRST RULE FOR A PROPER DIET IS TO VARY AND EAT DIFFERENT FOODS. THIS WAY WE CAN BE SURE THAT WE ARE GETTING ALL THE ESSENTIAL NUTRIENTS.

As much as possible,you should prefer fresh and home-made foods, choosing unsaturated fats (ex: raw olive oil) and polyunsaturated (fish, nuts, almonds). It is advisable to reduce the consumption of ready-made foods, foods rich in saturated fats, and cholesterol (butter, lard, cream, bacon, fried, confectionery, etc.) and the so-called "fast-food". Because these fats, if consumed in excess, contribute to vascular damage, increasing the risk already due to diabetes. Vegetables and fruits contain vitamins, trace minerals, antioxidants and fibres. The latter, although not nutritious, have a fundamental role in regulating intestinal transit, reducing the absorption of fats and sugars. They also have a high satiating power. The consumption of fruits and vegetables should therefore be encouraged, as it reduces the risk of metabolic, degenerative and cancer diseases.

HOW MANY MEALS ?

The total quantity of food should be subdivided as follows:
Breakfast should be a full meal, lunch and dinner should be similar in calorie intake. Snacks in the middle of the morning and mid-afternoon are necessary to have energy during the day, especially if we practice any sport activity.

According to the RILN (Reference Intake Levels of Nutrients and energy for the Italian population) the recommended percentages of total caloric intake for carbohydrates, fats and proteins are as follows:

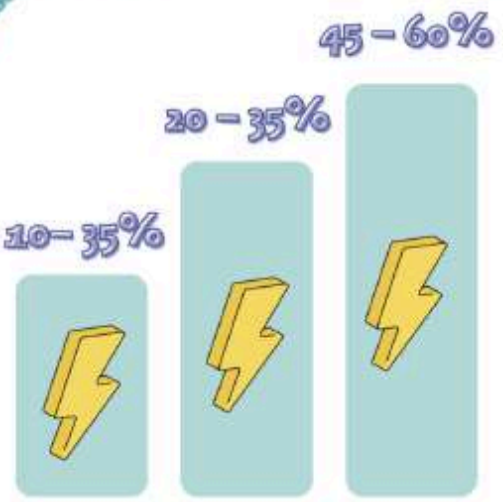
- ***45-60% of total daily energy***
- ***20-35% of total daily energy.***
- ***10%-35% of total daily energy.***

Calculating the ratio of macronutrients to lose weight is similar to counting calories, but the difference is that you consider from which foods they come the calories.

The calories content of macronutrients is as follows:

- ***Carbohydrates: 1 gram = 4 calories***
- ***protein: 1 gram = 4 calories***
- ***fat: 1 gram = 9 calories.***

THESE INDICATIONS ARE RECOMMENDATIONS FOR A HEALTHY AND UNSICK POPULATION, WITH THE AIM OF PREVENTION AND MAINTENANCE OF AN EXCELLENT STATE OF HEALTH.



WHAT TO EAT AT THE TABLE:

- Pasta and legumes that are rich in vegetable proteins
- Legumes 2-3 times a week
- Fish 2-3 times a week, preferably blue fish with 'good' omega 3 polyunsaturated fats

- White meat (chicken, turkey and rabbit) and low-fat cheeses such as crescenza, cheese flakes, ricotta etc., which have a low fat content
- To consume the recommended amount of fibre, five servings of fruit and vegetables should be eaten daily
- Extra virgin olive oil containing monounsaturated fats

WHAT ARE CARBOHYDRATES?

Carbohydrates (or sugars or CHO) are an essential nutrient because they provide the main source of energy usable by our body, and are the basis of the Mediterranean diet.
Each gram provides 4 calories, readily available but short-lived energy.
Stored in liver and muscle in small stocks (glycogen) and if excess in the form of fat.

CARBOHYDRATES

SIMPLE are made up of a maximum of two sugar units (disaccharides).
It is advisable to reduce the intake because they are transformed almost immediately into **glucose** in the blood and can cause a sharp increase in glycemia. This glycemic peak is reduced if simple carbohydrates are ingested with other foods rather than on an empty stomach, it is advisable to consume them in moderation and always as substitutes for other carbohydrates
The carbohydrates present in sugar, honey, jam, fruit (sucrose and fructose), fruit juices in milk and yogurt (lactose), and sugary drinks are "simple".

WHERE TO FIND THE MOST COMMON SUGARS:

GLUCOSE	**Honey**
FRUCTOSE	**Fruit**
LACTOSE	**Milk**
SUCROSE	**Table sugar**

COMPLEXES are formed by many sugar units joined together (polysaccharides). Due to their complex structure they are slowly converted into glucose and therefore increase blood sugar more slowly and gradually than simple carbohydrates.
Their absorption during digestion results in an increase of blood glucose (glycemia) level that reaches a peak of 90-120 min. after eating. To use glucose our body needs a hormone, insulin, which allows it to enter the cells.
It should be noted, however, that about two hours after the end of a meal all carbohydrates ingested, whether simple or complex, have been absorbed in the form of glucose.
They are to be consumed every day, at each meal, and are present in cereal derivatives (pasta, rice, bread, baked goods) or legumes (beans, chickpeas, lentils, broad beans, peas).

Low glycemic index foods and whole grain foods rich in fibre should be preferred, which slow down the absorption of sugars, playing a positive role on the control of the glycemic peak due to the absorption of carbohydrates.

The proportion between 45% and 65% of calories consumed daily must come from carbohydrates, less than 15% of which must come from simple sugars.

FATS

Fats help transport and promote the absorption of fat-soluble vitamins K, E, D and A, and protect the organs.
Each gram provides 9 calories, energy available later but long-lasting.
Stored in body fat deposits and burned during fasting and prolonged physical activity.
They are divided into:

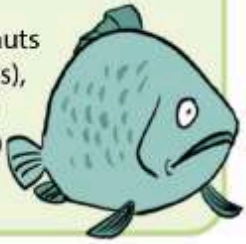
SATURATED FATS (predominantly animal origin: red meat, white meat, cheese and cold meats;
but also vegetable origin: coconut oil and palm oil) They should not exceed 7-10% of the total amount of calories

MONOUNSATURATED FATS They are predominantly vegetable in origin and should contribute up to 20% of the total calories

POLYUNSATURATED FATS Supplied mainly by seed oils, they provide about 7% of the total calories and contain two categories of good fats: Omega 3, in "fat" fish (salmon, tuna, sardines) of which we should consume 0.7-1.5 g per day and Omega 6 (need 4-6 g per day) present in nuts and seeds.

TRANS FATS are derived from vegetable oils that have undergone chemical transformation to obtain a low-cost solid vegetable fat. Less than 1% of total energy intake is recommended.

The sources of fat include:
Extra virgin olive oil, avocado, coconut, nuts and seeds (almonds and pumpkin seeds), Fatty fish (salmon and herring), dairy products (whole yoghurt and cheese)



PROTEINS

Proteins are the building blocks of the human body, they consist of amino acids that join together to form long chains. There are 20 amino acids that help us to form thousands of different proteins in the body. Some amino acids can be 'manufactured' by the body, others, called 'essential', must be taken with food.Proteins do most of their work in the cell and their task is:

• Renewal and repair processes. Amino acids help create new proteins within the body, and they are also used to build and repair tissues and muscles.
• Provide structure. Amino acids provide structure to the body's cell membranes, organs, hair, skin and nails.

They are 'animal proteins':
- Red meat, veal, beef, lamb white meat
- chicken turkey
- fish, seafood, salmon, shrimp and cod
- eggs, especially egg whites
- milk, yogurt and cheese
-

while **vegetable proteins** are those contained in plant foods (especially legumes, including soy, cereals and dried fruits). Protein should account for 10-15% of total caloric requirements, split equally between 'animal protein' and 'plant protein'. the average requirement ranges from 1.5 to 0.7 grams of protein per day per kilogram of body weight.

Marco: "I like to compare my body to a car the carbohydrates are the fuel, the fats the lubricants and the proteins the spare parts. As with a car, the need for "fuel" in the human body is much greater than that of "lubricants" or "spare parts", and if the necessary information is not available, a person may be able to ingest more fat or protein than necessary. This can cause overwork for the organs of digestion and create an excess of toxins which, by poisoning the blood, form the soil suitable for countless diseases".As easy as drinking a glass of water.!

WATER

Water is a vital element. Proper hydration, combined with a healthy diet, helps to keep the body healthy: drinking water helps eliminate toxins and waste products, also takes part in all metabolic processes, regulates the cell volume, body temperature and is essential for digestion.

FIBER

Fibre does not provide calories, it is present in vegetables and fruits, legumes (beans, lentils, chickpeas) and cereals. They damage satiety, 'cure' the intestine by facilitating intestinal transit and improving bacterial flora, and also play an important role in preventing many diseases including cancers. fibre also slows down and makes the absorption of carbohydrates in the same meal more constant, so that the increase in blood sugar is lower.
Take at least 30 g. per day.

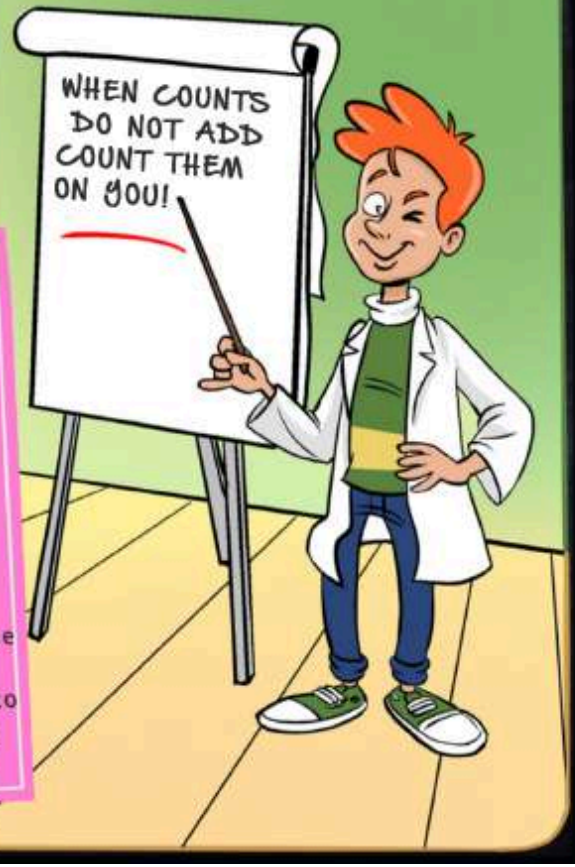
FROM CONSCIOUS EATING ... TO THE PERSON WHO COUNTS

Carbohydrates yes or Carbohydrates no? We, people with diabetes, must know and not avoid carbohydrates, both in quantity and quality and type of sugar.But... a meal with a higher carbohydrate content will require a higher dose of insulin and vice versa.
On their way home, Marco and Micro talk about what they learned from the boy during the course.
Micro: Have you finally learned how to count the CHO?
Marco «Having learned to count carbohydrates, that there is an insulin-carbohydrate ratio that allows you to understand how many grams of carbohydrates are metabolized by a unit of insulin, was fundamental to manage my glycemia without particular fluctuations. It's not the same for everyone, but every person with diabetes will have their own personalized report. You can use the 500 rule, for example, but there are other ways to achieve the same result.The most important thing is to follow a balanced diet, with water in the first place.

DID YOU KNOW ?

The glycemic index of food indicates the speed with which to raise glycemia after the recruitment of a meal.

Marco, who has now become a tutor in Diabetology, begins to illustrate how much he has learned about this world of numbers, (when the counts do not add count...them on you.) Carbohydrates increase, more or less quickly, the blood sugar in the first hours after a meal, so it is important to take into account the quality of carbohydrates taken, choose foods with a low glycemic index (GI) and also take into account the glycemic load (GL) Quality and quantity.



Marco comes home and tells his mother what happened at school and reminds her what to do so that he can eat by checking the values of blood sugar. His mother prepares a plate of pasta and Marco asks her to weigh it.

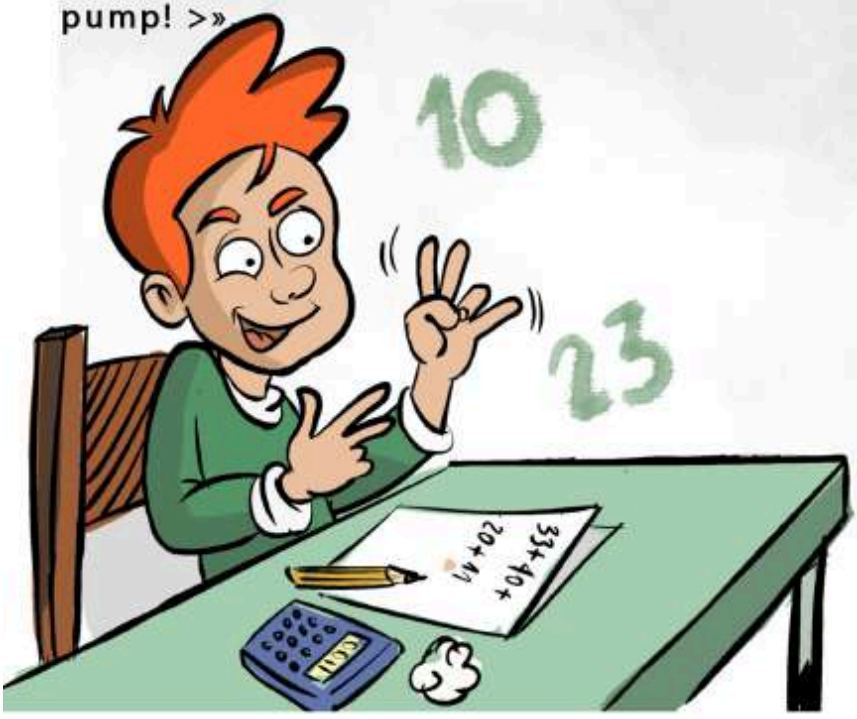
Marco: <Mom, weighing the pasta from my plate, we will know how many carbohydrates will I introduce to calculate the amount of insulin from use».

Pasta was very good. In my plate there was 140 gr. of pasta seasoned with two tablespoons of tomato sauce and a teaspoon of grated cheese, the equivalent of ... carbohydrates.

Marco: «You see, mum, after this calculation, I now know that I will need ... units of insulin to be well».

Micro: With a simple calculation, Marco has solved his problem.

Try using the insulin-carbohydrate ratio to get well. And don't forget to use the holter to know the trend, correct your blood sugar and set the best of your pump! >»



COUNTING OF CARBOHYDRATES

The Carbohydrate Count (CHO counting) and a meal planning method that is based on counting the amount of CHO to be consumed at each meal.
This system allows the acquisition of the ability to:

- Know what carbohydrates are
- Know the foods that contain carbohydrates
- Correctly estimate the weight of foods and their CHO content
- Identify the insulin/carbohydrate ratio
- Quantifying the dose of insulin according to the proportion of carbohydrates introduced with the meal.

WHY DO YOU HAVE TO COUNT CARBS ?

Two concepts are important:

- postprandial increase in blood sugar, after a mixed meal mainly determined by the quantity of CHO consumed

CHO taken –> blood glucose after meal

The pre-prandial insulin requirement is proportional to the content of carbohydrates from the meal itself

gr CHO taken -> insulin before meal

Proteins and fats can also be metabolized to glucose, but their role is the less preponderant and contributing
Low level of insulin requirements; about 50-70% of the proteins are converted into glucoson within 3-4 hours while, as is fat, only 10% turns into glucose at a distance of 6-8 hours

Which role do carbohydrates have over glycemia ?
They are the main responsible for glycemic development, in fact more than 90% of carbohydrates enters the bloodstream in the form of GLUCOSE from 20-90 min after the meal.

THEREFORE, THE EFFECT EXCESS PROTEIN AND FAT ADAPTING INSULIN THERAPY !

It is necessary to know which foods contain carbohydrates and which do not, or if they contain an insignificant part of them so they have little influence on the blood sugar level (see Glycemia). The amount of insulin before a meal is correct if: blood glucose 2 hours after a meal between 30-60 mg/dl from the initial value.

FOODS	CARBOHYDRATES OR SUGARS (CHO)	PROTEINS	ANIMAL FATS	VEGETABLE FATS
MILK AND DAIRY PRODUCTS	Yes, they contain a sugar called lactose	YES	YES	NO
BREAD AND PASTA	Yes, mainly	YES	NO	In very small quantities
CEREALS AND THEIR DERIVATIVES	Yes, mainly	YES	NO	In very small quantities
LEGUMES	YES	YES	NO	YES
MEAT, FISH, EGGS	non existent or very low	YES	YES	NO
FRUIT	Yes, they contain a sugar, fructose	to a negligible extent	NO	to a negligible extent
VEGETABLES	Yes, to a lesser extent considerable, except for potatoes	to a negligible extent	NO	to a negligible extent
SEASONINGS	NO	NO	Butter, margarine, lard, fat, cream	Olive and seed oil

The CHO will start to raise blood glucose within 15 minutes of the beginning of the meal and their absorption differs in relation to the type of dish and if the meal is solid, liquid with or without fibre and also according to the state of cooking, it is estimated that the 90100% of the CHO enters the blood in the form of glucose within 45 minutes/1 hour after intake.

The second step is to know how to determine the amount of carbohydrates in food

Carbohydrates with a predominance of starch (gr. of carbohydrates per 100 food without waste) contain on average:

- bread 55
- pasta 75
- rice 80
- pizza 53
- salted crackers 80
- Rusks 83
- dried vegetables 55
- Corn flakes 88
- dried biscuits 79

Carbohydrates predominantly simple sugars(gr. of carbohydrates per 100 food net of waste)
Sugar for cooking 100

- Sugar tablets
- Milk 5
- Honey 80
- Jam 58.7

Fruit x 100 gr.

- Apricots, oranges, watermelon,strawberries, lemons 6
- Pineapple, cherry,pear,plum, apple 10
-
- Figs, grapes, bananas, mandarins 14

Sugary drinks x 100 gr.

- Fruit juice 15
- Orange juice 8
- Beer 4.5
- Coca cola 11
- Gassosa 10

KNOW HOW MUCH CHO IS IN FOOD

Knowing the amount of carbohydrates you take in each meal and the effect theyhave on blood sugar can allow you to:

-Optimize the hypoglycemic therapy
-Improve blood sugar control
- Vary your diet as much as possible

This makes it easier to live with diabetes.
Here is an example of a meal:

Food	Gr. of raw food	Gr. x CHO :100	Quantity of CHO
Pasta with tomato	60 gr	60 x 75 : 100	45 gr
Roast veal	100 gr	100 x 1 : 100	1 gr
Olive oil	1 teaspoon		
Bread	30 gr	30 x 55 : 100	16,5 gr
Green salad	150 gr	1 x 150 : 100	10 gr
Pear	100 gr	100 x 10: 100	10 gr
		TOTAL CARBOHYDRATES	82,5 gr

ESTIMATE THE QUANTITY OF FOOD

The best way to measure what you eat is to weigh the food; however this is not always possible in everyday life. You can start measuring portions with the balance and, subsequently, learn to estimate the amount of food using common tools such as spoons, glasses, soup plates or using the volumetric method (a fist, a palm, a handful, etc).

READ NUTRITION LABELS

Nutrition labels are a kind of index: they give us information on the type and amount of nutrients present in a food. In addition, they indicate the grams of protein, fat and carbohydrates contained in 100 gr or in a portion of food (recommended amount of food).

THE STEP OF THE VERIFICATION

The next step is to verify, for at least two weeks in normal life conditions we note down in a diary the glucose values according to the scheme suggested by the diabetologist, the amount of carbohydrates consumed at each meal, the dose of insulin administered and possible motor activity or episodes of hypoglycemia.

Customize the dose of insulin based on the amount of carbohydrates introduced with the meal

Carbohydrates are the main component of the diet that affects blood sugar (blood glucose level).

The increase in blood sugar after a mixed meal is related to the amount of carbohydrates introduced.

The pre-meal insulin requirement is determined by the carbohydrate content of the meal.

INSULIN/CARBOHYDRATE RATIO WHAT IS IT?

The insulin/CHO ratio indicates how many grams of CHO are metabolized by 1 UL of insulin.
This relationship varies from individual to individual and in the same individual pub vary for each meal of the day.
Average person with one unit of insulin metabolizes 20 grams of carbohydrates, an overweight person does not reach 10 grams.
The detection of the insulin/carbohydrate ratio is correct when the pre- and post-meal blood glucose levels are stable and in target different methods can be used to calculate the I/CHO ratio:

- The total amount of CHO (daily or at a single meal) divided by the total units & rapid insulin used - I/CHO
- Food diary, in which for each individual meal:
- The amount of carbohydrates taken
- The units of insulin used
- The pre- and post-prandial blood glucose
- Physical activity
- The state of health

Fill in the food diary for a week while maintaining the quota of carbohydrates as much as possible, do not change the insulin dosage.
Then he analyzes with the dietician the accuracy of the calculations made about the amount of CHO at each meal, obviously the diabetologist will then proceed with adjustment of insulin therapy .

OR THE 500 RULE:
The ratio is calculated by dividing the suffix 500 by the average total dose of daily insulin calculated during the last week.

To know how many grams of CHO are metabolized by a unit of insulin, you must add up the units of insulin of the day and divide by 500.
For example, Antonio who does multipoint insulin therapy is regulated as follows:
- Morning 5 Units (fast)
- Lunch 8 Units (fast)
- Dinner 8 units (fast)
- Before going to sleep 12 Units (slow)

Your daily total insulin is 33 U make: (500 divided 33)
Fill in the food diary for a week, keeping the carbohydrate share fixed and as far as possible, do not change the insulin dosage.
Then he analyzes with the dietician the accuracy of the calculations made about the amount of CHO at each meal, obviously the diabetologist will then proceed with/ adjustment of insulin therapy.
The insulin CHO ratio is 15 gr, if you want to consume 30 gr of bread that has 15 gr of CHO, you have to make 1 unit of insulin.

I COUNT ON ME

In therapy with microinfusion (MDI), UI Daily insulin totals: 33 UI
RATIO/ CHO: 500/33 = 15 —> 1 IU COVERS 15 gr CHO
FOR BREAKFAST: Pre-meal glucose 100 mg/d
MILK 200 ml: 10 gr CHO + 8 biscuits: 32 gr CHO = 42 gr CHO
42/15 = 3 UI (check blood sugar after 2 hours)

Postprandial blood glucose is the criterion for verifying the I/CHO ratio
* If the post-prandial blood sugar is between 140-180 mg/d
- Then the I/CHO ratio is CORRECT
* If post-prandial blood sugar > 180 mg/d
- Decrease ratio by 2 (from 1:15 to 1:13)
* If post-prandial blood sugar < 140 mg/d
- The ratio must be increased by 2 (from 1:15 to 1:17)

INSULIN SENSITIVITY FACTOR (ISF)

It's a different ratio /CHO!
Answer the question: "how much does a unit lower me?" or indicate to me how much 1 UL of insulin reduces blood sugar
I use it to correct hyperglycemia and calculate with this rule

Rule of 1800 : TDI (total daily insulin)

$$\text{sensitivity factor} = \frac{1800}{\text{UI/Die}} = \text{low blood sugar (mg/dl) sensitivity to 1 UL of insulin}$$

ES. 1800: 36 U of insulin analogue = 50
1 Unit of Insulin changes my blood sugar by 50 mg.
Remember to always keep in mind the blood sugar targets agreed with your diabetologist.

Here's how I correct an hyperglycemia (Correction bolus)

I need to know my pre glycemic target
Prandial and postprandial residual insulin
(BLOOD GLUCOSE MEASURED - BLOOD SUGAR DESIRED: FSI =CORRECTION BOLO)
250 - 120 = 130 mg/dl:50 = 2.6 U
Preprandial blood sugar 180 mg/dl

Glycemic target 110 mg/dl FC 50
CHO of the meal 80 g I/CHO 10

- **80:10=8UI** (insulin needed for the meal)
- **180-110=70:50 = 1.4 IU**
- (insulin needed to the
- correction)
- **180 - 110 = 70 /50 = 1.4 IU**
(insulin needed to the correction

Dott.ssa Cristina Campolo It's time for physical activity...what to do?

Sport is good for everyone, because:

- Reduces blood sugar;
- Reduces insulin resistance;
- Reduces body weight.
- Increases HDL cholesterol ("good");
- Reduces blood pressure and the risk of cardiovascular disease;
- Improves states of anxiety and/or depression;
- Regulates the sleep-wake cycle.

If sports is recommended to all, it is even more so in those with diabetes: the benefits lie in the fact that the muscle to move consumes sugar, thus lowering blood glucose and making possible the reduction of therapy.
But which sport should the person with diabetes choose? Simple: the sport you love.
There is no sport better than another: it's fine the one that best suits your physique and your training level, but it's important to be gradual and constant in order to have real benefits on your body and general health.
Although there is no real and absolute contraindication, they are strongly advised to avoid those who have diabetes sports that cause hyperglycemia due to the constant adrenaline rush (es sport contact: wrestling, martial arts in the combat version) both those in which hypoglycemia could produce serious consequences, (for example; motor sports, motorcycling, diving with use of respirator, mountaineering).
It is advisable to choose a fun activity, possibly to do in company, set yourself achievable goals (weight control, mean of the glycemic) and then check them after a few weeks.

It is useful to use technology both as activity control and for motivational purposes (step counter, frequency meter, app).

Here are some recommendations:
150 minutes/ week of moderate aerobic activity (50-70% maximum heart rate);
go minut/ week of intense endurance (50-70% max heart rate in trained subjects.

In both cases, they should be distributed over 3 days a week without 2 consecutive days without activity.
It is useful to always finish the training with a little stretching.

It is important to regularly drink water during the training: about 250-300 ml of water 2 hours before physical activity and 250 ml of water every day.

It is a good rule then:
Check your blood sugar before and after physical activity to learn how to know each other and practice physical activity safely, and do not start training if your blood sugar is above 250 mg/ day or if you have urinary ketones.

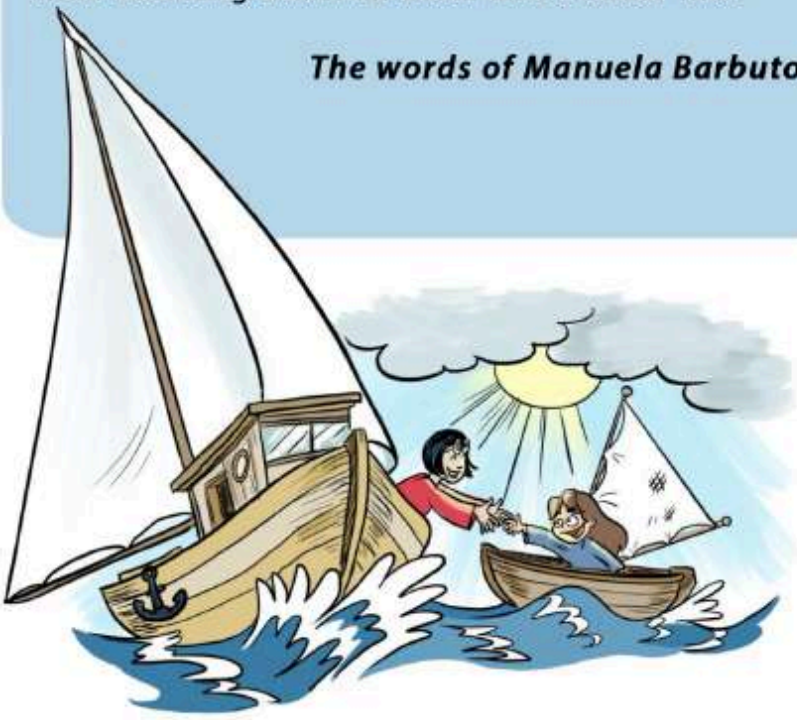
The long-term or intensive exercises must then include a complex carbohydrate snack before physical activity; intake of 10-15 simple sugars per g of exercise.

SO... GOOD WORK OUT TO EVERYONE!

A special thanks goes to Luigia Milano, President of OSDI Calabria and professional nurse at the Diabetology Service ASP of Catanzaro and Dr Cristina Campolo, endocrinologist specialist and Vibo Valentia ASP diabetologist.

Even diabetes, the oldest disease in the world... has its own voice •There is someone who has spent a lifetime killing ignorance, so as to learn that only «knowing» is possible to inflict the real lethal blow to prejudice, never to die, to fight every moment for their ideas. Knowledge is Voice, and brick by brick, advice on advice, experience on experience.
Breaking down a carbohydrate is less complicated than breaking down an atom and... saves life.

The words of Manuela Barbuto



"A vida è a arte do encontro"

"Life is the art of meeting"

"What I learned in school I no longer remember, what I now know I have learned on the fields of life".
Good life to all!

Maria Antonella Ferrari

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