ADOLESCENT'S NUTRITION

CURIOSITIES ABOUT METABOLISM

Did you know that if you don't sleep enough two consecutive nights, the lack of sleep could affect your metabolism? Have you ever read that organism consumes more energy for digesting natural aliments instead of processed food?

Did you know…?

- Membrane for each cell of organism has molecules of E vitamin, ready to intervene in case of an oxidant attack.
- Scientists have discovered a class of meds, stamens, which block the using of cholesterol, paralyzing the HMG-CA action of reductase? These meds fight against heart-attacks and against stroke.
- Insulin levels less known by normal are necessary, but repeatedly, for producing the hypertrophy (volume increasing) of adipocytes (fat tissue for storage). Another way to say, a candy every day is more harmful than a whole cake consumed at a meal, once a weak.
- Vitamins and nutrients are not one and the same thing.
- Consuming water at least 30 minutes before or after your meal is an ideal.
- At North Pole we would need 5000-8000 cal per day to resist to low temperatures.
- Most of kcal are consumed for digestion of proteins (20 %) and lipids (14 %), the carbohydrates need 6% of caloric costs.

- For being digested, carbohydrates (bread, potatoes, pastas) need another digestive enzymes instead of proteins and lipids.
- There are 14 millions deaths per year, globally, caused by unbalanced and incorrect alimentation.

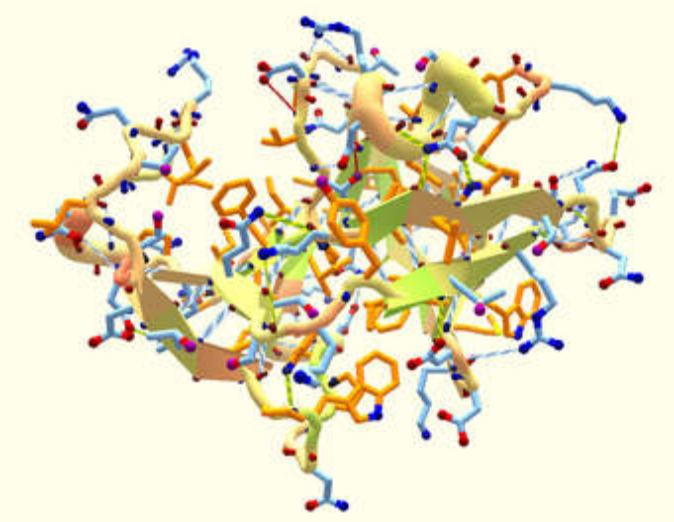
ADOLESCENT'S NUTRITION

The biological and psychological particularities of adolescence impose a series of **specific nutritional recommendations.**

- **The avoidance of diets and self-starvation.** The teenagers who resort to unhealthy ways of losing weight are very vulnerable to the afflictions caused by nutritional deficiencies which appear much easier in this phase characterized through increased nutritional needs for physical and psychological development. Diets, starvation (Lent) or the harsh hypocaloric alimentation, taking out some foods (for example cereal or bread), ``weight loss pills`` that are not prescribed by the doctor etc. These methods could lead to a series of **psychological and nutritional problems:** obesity (diets promote obesity and decrease the chances of an efficient treatment), nutritional and behavioural disorders, anaemia, vitamin deficiencies, skin problems, sexual disorders etc. There are medical methods for losing weight and promoting harmonious growth and they have little to do with widespread diets coming from unlicensed sources (including the Internet; its use is meaningful at this age) that teenagers often resort to.
- **The choice of a diverse alimentation.** All food groups must be represented equally: cereals, meat (including fish), eggs, dairy, fruits and vegetables.

- **The limitation of some components in alimentation.** Reducing the consumption of sugar (first of all through limitation of sweets and juices), salt and of some fats.
- **The consumption of complex carbohydrates.** Bread, potatoes, rice, pasta and cereals are ``complex`` carbohydrate sources, in contrast with the ``simple`` ones. The complex carbohydrate must be an important part of alimentation (at least half of the total calories). In the consumption of those aliments one must keep watch of the way they are prepared, the additives (in the case of commercial products), and their composition.

- **The suitable contribution of proteins.** Proteins have certain minimal recommended values, seeing as the excess of proteins is not healthy on long term. To cover the minimal needs for the composition and ``maintenance`` of the body, it's recommended that proteins are not neglected. The best source of protein are animal products, but there's also peas, beans, soy products and nuts. An individual following an alimentation in which animal products are excluded (strict vegetarianism or veganism) must take certain measures for covering their protein needs, in particular the ones referring to the input of essential amino acids.



- **The selection of ``good`` fats and their inclusion with balance.** Knowing the types of fats has become a necessity in the modern age. The disposal of the trans fats and the limitation of the saturated and the inclusion of ``good`` fats – monounsaturated (ex. olive oil) and polyunsaturated (ex. sunflower oil) is required for a perfect balance. Then again, a larger than normal quantity of ``good`` fats is also

unhealthy, because fats, no matter their type, imply a big quantity of calories.

- Contribution of calcium. Calcium is necessary for the development and maintenance of teeth and bones. Teenagers consume, in general, less calcium than recommended, the recommended amount being equivalent to 3 cups of milk per day (which means, for example, a cup of milk, a cup yogurt and the cheese in a sandwich). The fortification of some aliments with calcium can contribute, but the bioavailability (the effectiveness of the taking and metabolizing of the organism) is less than the ones coming from natural sources. An alternative for the ones who do not consume milk or dairy (from different reasons: intolerance; vegetarian lifestyle) are the products from soy.

MORE ABOUT PROTEINS

Chemically, the proteins are natural macromolecular compounds, with polypeptide structure, which with the hydrolysis form the amino acids. They contain besides the carbon, hydrogen, oxygen, nitrogen, sulphur, potassium and other halogens. The name `protein` comes from Greek meaning `pro mayor`. Along with carbohydrates and lipids they provide energy for the body, but also help to stricken tissue repair. In addition, they come in all cells with structure and help build and repair cells. Some hormones contain protein and they have a role in regulating the activity of the body. They participate in the process of the formation of antibodies to get rid of toxins and microbes. The formation of some enzymes and leavens requires proteins. And last but not least, they participate in the formation of carbon dioxide, water and the energy intake resulting from burning them.

Daily diet contains a mixture of amino acids. From this mixture, most amino acids can be synthesized by the body, but eight of them can be introduced into the body only through diet.

By eating protein are introduced into the body substances that come from plant and animal sources. Those of animal origin (meat, milk, eggs), that are indispensable in a rational nutrition, have the advantage that are high in protein, but the disadvantage that they are expensive, are made with a high consumption of vegetable products and are deficient in terms of quantity . The vegetable (cereals, oilseeds are the cheapest, so the highest amount available for the global population.

Some plant protein can successfully replace animal proteins, such as egg proteins can be replaced with soybean. Oleaginous seeds, give high percentages of protein (sunflower, peanut, cotton)

The biological value represents the percentage of nitrogen retained by the body. It is determined by the presence or absence

of certain amino acids, in certain proportions. After this biological value, the proteins can be classified in:

- *complete protein* that contains all the essential amino acids (lysine, methionine, isoleucine, tryptophan), the body needs to maintain the balance of proteins in the time scale for the synthesis of the protein balance of the body. In normal amount, they maintain the growth (milk, cheese, eggs)
- *partial complex protein* can also contain all the essential amino acids (lysine, methionine isoleucine, tryptophan), but not in optimal proportions for synthesizing the protein balance of the body. To maintain the body growth, it needs a double intake beside complete proteins (wheat, rice, oats certain dried legumes).
- *incomplete proteins* have a low biological value because of the lack of some essential amino acids and protein that are necessary to maintain the body's balance.

Because of this, it is recommended to use them as a complement to other classes of protein, and not a base class. Because of the imbalance, they can not provide by themselves the body growth (cartilage, tendons, bone gelatine).

Due to the increasing of population, the problem of obtaining food through biosynthesis, or use of alternative sources of food increase too.

The aquatic environment is an important alternative source of food with a high percentage of proteins, but for human consumption are no restrictions, only certain species

In countries with an industry high growth, have been developed methods of obtaining single-celled organism in industrial quantities (bacteria, yeasts, molds, algae) conducted thus obtaining a "biomass" an important source of protein. Biomass is a raw material, rich in protein, which is separate from that

environment and then subjected to final processing aimed at obtaining protein concentrates cell mass. The protein concentrates are then transformed by texture in fibbers that will resemble with the ones of beef, pigs, poultry.

CARBOHYDRATES

In scientific terms, the carbohydrates are consisting of carbon, hydrogen and oxygen having at least one saccharide. They are used by the organism to produce glucose. The glucose is transported by the blood at the cells where it is transformed in energy.

CARBOHYDRATES

Good	Vs	Bad
Grains		Refined grains
Brown bread		White bread
Vegetables		Doughnuts
Fruits		Biscuits
Brown rice		Cakes
Oatmeal cookies		Fizzy drinks
Barley		Chips
Beans		Pasta
Lentils		Syrups
Potatoes		

Food pyramid for teenagers

It is recommended to eat more than 5 servings of vegetables every day. Raw orange and dark green vegetables that taste great and are excellent source of vitamins and minerals are a very good option. The more intense the colour of vegetables is, the more nutrients they contain.

A good suggestion for teenagers are frozen vegetables – they are simple to prepare, which will encourage the youth to be active in the kitchen.

Milk and milk products

Milk is an important source of calcium. Calcium is an essential element for the formation and maintenance of bones and teeth, that's why it is so important to consume a lot of milk at a young age. It would be good to check the milk products labels, and also it would be good to choose low fat milk, yogurt and cheese.

Seeds

Half of the bakery products consumed should be whole grains. We must realize that not every bread contains whole grains, so it is the best to always check the list of ingredients. Bread with whole grains is a better solution than white bread because it contains more fibbers. It's not a bad thing to eat bread, but we should eat it with something that doesn't have too many calories.

We should be careful with the cereals for kids that are promoted in advertisements. The best and the healthiest cereals are those of barley, wheat and rye. We can prepare by ourselves colored muesli for breakfast, by adding fresh fruits or dried fruits.

Water instead of soft drinks

It is recommended replacing soft drinks with water. Fewer calories and less artificial colorants.

4 FOODS THAT HELP YOU FOCUS BETTER

1.COFFEE: it can boost your cognitive performance but it shouldn't be consumed in excess because it overstrains your organism so the inability of retaining texts becomes quite high.

2.FISH: especially salmon and mackerel. The Omega-3 fatty acids which are found in fish improve cognitive function.

3.MINT TEA: it improves your concentration. Experts say that the smell of peppermint helps the brain focus and increases intellectual performances. Also, this helps the body resist the overstraining.

4.SEEDS: they are recommended for high senses. Experts say that this is the best source of alpha linoleic acid, a healthy fat that improves the functions of the cerebral cortex, the brain region that processes the information.

9 FOODS THAT KILL YOUR INTELLIGENCE

1.SWEETS: eating too much sugar can lead to neurological problems and can affect learning ability.

2.ALCOHOL: also known as “the liquid that kills the brain cells” which can seriously affect the ability to think or remember.

3.FAST FOOD: contains chemicals, additives and preservatives which affect the brain and can cause hypertension.

4.DEEP FRIED FOODS: slowly killing our brain cells because of the big amount of sunflower oil.

5.SEMI-PREPARED FOODS: it affects our central nervous system and may increase the risk of mental illness, everything because of the use of preservatives and also of flavor additives.

6.SUPER SALTY FOODS : according to the latest research, very salty foods affect our intelligence and cognitive skills.

7.CEREALS(except the ones that are 100% whole grain): they are one of the causes of fast aging and also, because of them, your memory will be affected.

8.ARTIFICIAL SWEETENERS

9.TOBACCO: also enters the category of foods. This can seriously affect the intelligence because nicotine slows down the blood flow

to the brain and also constricts blood vessels. Smoking may cause premature aging and also increases the risk of lung cancer.